# Petrochemicals

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## **Petrochemical price monitor**

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- Wider PE spread on cheaper naphtha. Ethylene and PE prices were steady WoW with weak buying interest and poor downstream demand. Propylene price dropped 1.4% WoW - 2.8% QTD - on concerns of more supply from propane dehydrogenation (PDH) units in China that is lifting supply concurrent with poor buying sentiment in downstream PP markets. Naphtha-based producers continue to benefit from wider PP/PE-naphtha spread, +3.7% WoW, from lower naphtha price (-3.5% WoW). Product spread for non-integrated producers was stable WoW.
- **PX fell to 9-week low.** Abundant supply in the market continued to depress PX price, falling 3.9% WoW and 7.9% QTD to 9-week low of US\$1,370/t. We believe this was due to more supply returning to the market after maintenance shutdowns but demand is low as buyers are reluctant to restock in hopes of a further price decline consistent with weaker PTA price and oil price. This was partially offset by higher BZ spread (+6.8% WoW): BZ price as PX production cut limited BZ supply.
- PET/PTA spread lifted by better price for bottle-grade PET. Integrated PET/PTA spread improved 11.3% WoW and 39% QTD to US\$264/t. Integrated producers are more comfortable, with PET (bottle grade) price rising 1.5% WoW due to limited availability. Lower PX cost also helped improve spread. At the same time, average spread QTD is discouraging, down 11.3% QoQ on weak PET spread.

**Investment view:** The petrochemical sector index edged up 0.5% WoW, underperforming the market (+1.5% WoW). This was led by PTTGC (+1.9% WoW) while IVL fell 2.8% WoW after the Aug 13 XW for free warrants, which we believe was behind the share price rise recently. More acquisitions could be a near term catalyst but this is likely to be offset by the weak product spread in 3Q14. We continue to prefer PTTGC, with a more attractive valuation and improving earnings in 2H14.

Figure 1: Petrochemical price update

| <u> </u>                                 |           |  |       |        |         |            |           |           |       |        |       |      |        |            |
|--|-----------|--|-------|--------|---------|------------|-----------|-----------|-------|--------|-------|------|--------|------------|
|  | Current   | 52-week  | -1W   | -1M    | -3M     | -6M        | -12M      | 3Q14      | 2Q14  | QoQ%   | YTD   | Chg. | %YoY   | 2014F      |
|  | 15-Aug-14 | High/Low   |       |        |         |            |           | QTD       |       |        |       |      |        | projection |
| Price                                    |           |  |       |        |         |            |           |           |       |        |       |      |        |            |
| Naphtha Singapore Spot FOB               | 796       | 897/796  | -3.5% | -8.2%  | -6.0%   | -4.1%      | -3.9%     | 850       | 863   | -1.5%  | 853   | 31   | 3.8%   | 842        |
| Ethylene, Far East CFR SE Asia \$/MT     | 1,480     | 1,480/1,340  | 0.0%  | 1.5%   | 1.0%    | 5.0%       | 13.8%     | 1,469     | 1,448 | 1.4%   | 1,449 | 132  | 10.0%  | 1,440      |
| Propylene (C), Spot CFR F/E U\$/MT       | 1,400     | 1,503/1,373  | -1.4% | -4.1%  | -1.1%   | -5.2%      | -2.1%     | 1,446     | 1,420 | 1.8%   | 1,440 | 83   | 6.1%   | 1,430      |
| Polye HDPE Inj, South East Asia U\$/MT   | 1,615     | 1,615/1,475  | 0.0%  | 1.3%   | 2.2%    | 3.5%       | 10.2%     | 1,606     | 1,568 | 2.4%   | 1,568 | 114  | 7.9%   | 1,570      |
| Polye LDPE-Film, Spot S.E Asia U\$/MT    | 1,610     | 1,680/1,565  | 0.0%  | 0.9%   | 0.6%    | -3.0%      | 3.2%      | 1,604     | 1,605 | -0.1%  | 1,619 | 151  | 10.3%  | 1,640      |
| Polye LLDPE Film, F/E Spot SE Asia \$/MT | 1,615     | 1,615/1,490  | 0.0%  | 0.9%   | 1.6%    | 2.9%       | 9.1%      | 1,608     | 1,577 | 1.9%   | 1,578 | 119  | 8.2%   | 1,580      |
| PP Film, Spot South East Asia U\$/MT     | 1,625     | 1,625/1,515  | 0.0%  | 0.9%   | 2.2%    | 3.5%       | 8.3%      | 1,615     | 1,581 | 2.1%   | 1,581 | 80   | 5.3%   | 1,570      |
| Related stocks                           |           | PTTGC (Neutral)   IRPC (+)   SCC (+)   TPIPL (Neutral) |       |        |         |            |           |           |       |        |       |      |        |            |
| Para-Xylene CFR Chin M. Por Spot \$/MT   | 1,370     | 1,515/1,143  | -3.9% | -7.4%  | 13.9%   | 5.1%       | -9.2%     | 1,417     | 1,263 | 12.2%  | 1,305 | -219 | -14.4% | 1,190      |
| Benzene, Far East CFR Spot F/E U\$/MT    | 1,330     | 1,385/1,220  | 0.4%  | -0.7%  | 4.1%    | 0.8%       | 4.3%      | 1,339     | 1,293 | 3.5%   | 1,307 | -21  | -1.6%  | 1,240      |
| Related stocks                           |           |  |       |        | PTTC    | SC (-)   T | OP (-)    | ESSO (-)  |       |        |       |      |        |            |
| MEG, Far East Spot CFR F/E U\$/MT        | 1,006     | 1,091/889  | 2.0%  | 1.9%   | 12.3%   | 2.5%       | -10.5%    | 992       | 939   | 5.6%   | 961   | -93  | -8.8%  | 1,110      |
| PTA CFR South East Asia                  | 1,030     | 1,085/865  | -1.0% | 1.5%   | 19.1%   | 7.9%       | -7.2%     | 1,024     | 920   | 11.3%  | 948   | -155 | -14.0% | 900        |
| PET(Fibre Grade)A/P Spot CFR NEA \$/MT   | 1,280     | 1,420/1,185  | 0.0%  | 0.0%   | 8.0%    | 0.8%       | -9.9%     | 1,282     | 1,217 | 5.4%   | 1,250 | -171 | -12.0% | n.a.       |
| Related stocks                           |           |  |       |        |         | PTTGC (    | +)   IVL  | (+)       |       |        |       |      |        |            |
| ABS Asia Pac. India Spot CFR U\$/MT      | 1,950     | 1,955/1,870  | 0.8%  | 1.8%   | 2.4%    | 2.9%       | -0.3%     | 1,924     | 1,901 | 1.2%   | 1,900 | -67  | -3.4%  | n.a.       |
| Polystyrene-GP, Spot Hong Kong U\$/MT    | 1,730     | 1,915/1,715  | -0.6% | -0.6%  | -0.3%   | -2.8%      | -9.7%     | 1,742     | 1,733 | 0.5%   | 1,752 | -92  | -5.0%  | n.a.       |
| Related stocks                           |           |  |       |        |         | IR         | PC (+)    |           |       |        |       |      |        |            |
| PVC, Spot South East Asia U\$/MT         | 1,065     | 1,070/980  | 0.0%  | 0.0%   | 4.9%    | 3.4%       | 3.4%      | 1,062     | 1,035 | 2.6%   | 1,043 | 29   | 2.8%   | 1,070      |
| Related stocks                           |           |  |       |        | VNT     | (Neutral   | )   TPC ( | (Neutral) |       |        |       |      |        |            |
| Product spread                           |           |  |       |        |         |            |           |           |       |        |       |      |        |            |
| Ethylene - naphtha                       | 684       | 684/500  | 4.5%  | 15.9%  | 10.6%   | 17.9%      | 45.1%     | 619       | 586   | 5.7%   | 596   | 100  | 20.2%  | 598        |
| Propylene - naphtha                      | 604       | 665/530  | 1.5%  | 1.9%   | 6.3%    | -6.8%      | 0.4%      | 596       | 557   | 7.1%   | 588   | 51   | 9.5%   | 588        |
| HDPE - naphtha                           | 819       | 819/615  | 3.7%  | 12.5%  | 11.7%   | 12.2%      | 28.7%     | 757       | 705   | 7.3%   | 716   | 83   | 13.1%  | 728        |
| LDPE - naphtha                           | 814       | 851/709  | 3.7%  | 11.9%  | 8.1%    | -2.0%      | 11.3%     | 754       | 742   | 1.6%   | 766   | 120  | 18.6%  | 798        |
| LDPE - Ethylene                          | 130       | 270/130  | 0.0%  | -5.5%  | -3.7%   | -48.0%     | -50.0%    | 135       | 156   | -13.8% | 170   | 20   | 13.2%  | 200        |
| LLDPE - naphtha                          | 819       | 819/640  | 3.7%  | 11.8%  | 10.2%   | 10.6%      | 25.7%     | 758       | 714   | 6.1%   | 725   | 88   | 13.8%  | 738        |
| PP - naphtha                             | 829       | 829/657  | 3.7%  | 11.6%  | 11.5%   | 12.0%      | 23.4%     | 765       | 718   | 6.5%   | 728   | 48   | 7.1%   | 728        |
| PX - naphtha                             | 574       | 673/304  | -4.3% | -6.3%  | 61.2%   | 21.2%      | -15.7%    | 567       | 400   | 41.9%  | 452   | -250 | -35.6% | 348        |
| BZ - naphtha                             | 534       | 535/381  | 6.8%  | 13.0%  | 24.0%   | 8.9%       | 19.6%     | 489       | 430   | 13.6%  | 454   | -52  | -10.3% | 398        |
| MEG - Ethylene                           | 88        | 257/-20  | 28.3% | 5.4%   | -790.6% | -17.2%     | -72.2%    | 81        | 41    | 97.3%  | 63    | -174 | -73.6% | 217        |
| PTA - PX                                 | 140       | 140/53   | 22.6% | 163.2% | 68.0%   | 29.5%      | 8.3%      | 103       | 100   | 3.5%   | 100   | -13  | -11.3% | 103        |
| PET spread                               | 125       | 253/124  | 0.8%  | -12.7% | -36.8%  | -31.5%     | -22.6%    | 136       | 170   | -20.0% | 174   | -18  | -9.2%  | n.a.       |
| Integrated PET/PTA spread                | 264       | 352/190  | 11.3% | 34.9%  | -5.7%   | -8.8%      | -8.8%     | 239       | 269   | -11.3% | 275   | -30  | -10.0% | n.a.       |
| ABS spread                               | 1,175     | 1,229/1,070  | 1.5%  | 5.3%   | 5.7%    | 9.7%       | -4.7%     | 1,131     | 1,103 | 2.6%   | 1,103 | -53  | -4.6%  | n.a.       |
| PS spread                                | 250       | 500/214  | -5.3% | -3.3%  | -16.9%  | -23.8%     | -52.9%    | 259       | 291   | -11.1% | 300   | -114 | -27.6% | n.a.       |
| PVC - ethylene                           | 325       | 360/258  | 0.0%  | -3.3%  | 15.0%   | 0.0%       | -14.5%    | 328       | 311   | 5.3%   | 318   | -37  | -10.4% | 350        |
| Source: Datastream, SCBS Investment Rese | arch      |  |       |        |         |            |           |           |       |        |       |      |        |            |

Source: Datastream, SCBS Investment Research

Note: Impact to related stocks is based on WoW performance

Figure 2: Ethylene vs. Naphtha

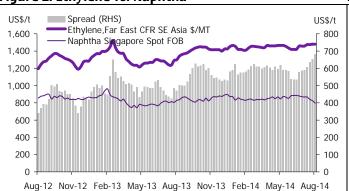
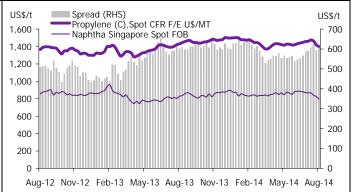


Figure 3: Propylene vs. Naphtha

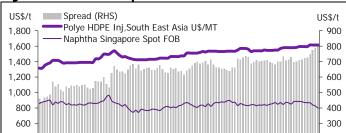


Source: Datastream, SCBS Investment Research

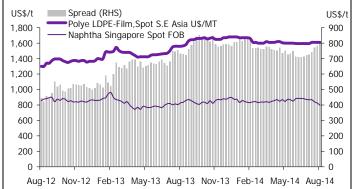
Figure 4: HDPE vs. Naphtha

Source: Datastream, SCBS Investment Research

Figure 5: LDPE vs. Naphtha



Aug-12 Nov-12 Feb-13 May-13 Aug-13 Nov-13 Feb-14 May-14 Aug-14



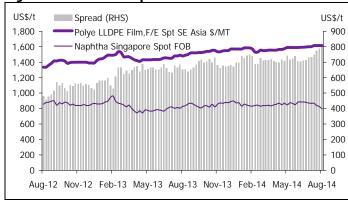
Source: Datastream, SCBS Investment Research

Source: Datastream, SCBS Investment Research

### Figure 6: LLDPE vs. Naphtha

400

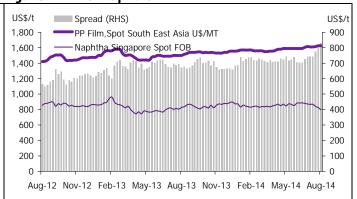
200



#### Figure 7: PP vs. Naphtha

200

100



Source: Datastream, SCBS Investment Research

Figure 8: Polyethylene spread over ethylene

Source: Datastream, SCBS Investment Research

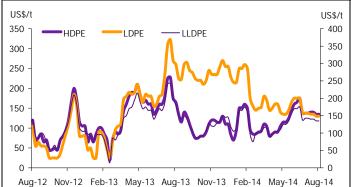
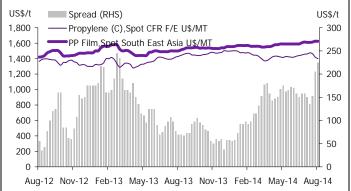


Figure 9: Polypropylene vs. propylene



Source: Datastream, SCBS Investment Research

Source: Datastream, SCBS Investment Research



Figure 10: Paraxylene vs. Naphtha

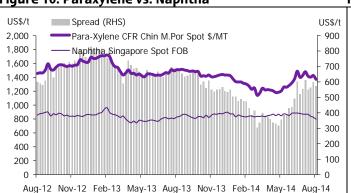
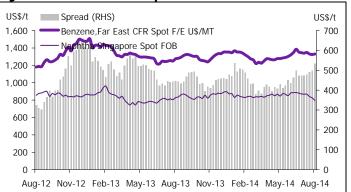


Figure 11: Benzene vs. Naphtha



Source: Datastream, SCBS Investment Research

Source: Datastream, SCBS Investment Research

Figure 12: PTA vs. Paraxylene

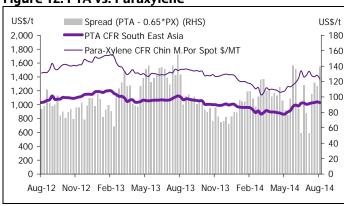
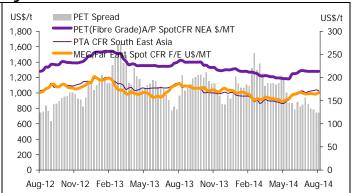


Figure 13: PET vs. PTA



Source: Datastream, SCBS Investment Research

Source: Datastream, SCBS Investment Research

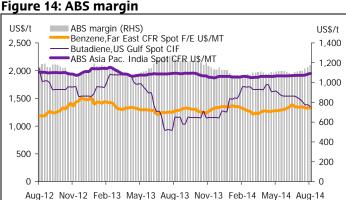
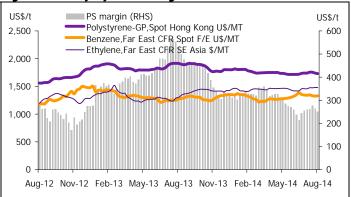


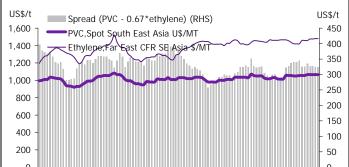
Figure 15: Polystyrene margin



Source: Datastream, SCBS Investment Research

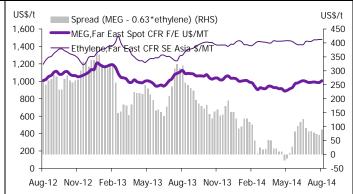
Figure 16: PVC vs. ethylene

Source: Datastream, SCBS Investment Research



Aug-12 Nov-12 Feb-13 May-13 Aug-13 Nov-13 Feb-14 May-14 Aug-14

Figure 17: MEG vs. ethylene



Source: Datastream, SCBS Investment Research

Source: Datastream, SCBS Investment Research



Figure 18: Selected product price/spread of listed companies

| Company | Key products       | % of total | Product price/spread                    | 3Q14  | 2Q14  | QoQ% | YTD   | 12MMA | 2014F      | Momentum |
|---------|--------------------|------------|---|-------|-------|------|-------|-------|------------|----------|
|         |                    |            |   | QTD   |       |      |       |       | projection |          |
| PTTGC   | Ethylene/Propylene | 21%        | Ethylene, Far East CFR SE Asia \$/MT    | 1,469 | 1,448 | 1%   | 1,449 | 1,436 | 1,440      | 7        |
|         |                    |            | Propylene (C),Spot CFR F/E U\$/MT       | 1,446 | 1,420 | 2%   | 1,440 | 1,450 | 1,430      | 7        |
|         | HDPE               | 19%        | Polye HDPE Inj, South East Asia U\$/MT  | 1,606 | 1,568 | 2%   | 1,568 | 1,551 | 1,570      | 7        |
|         | LLDPE              | 7%         | Polye LLDPE Film, F/E Spt SE Asia \$/MT | 1,608 | 1,577 | 2%   | 1,578 | 1,562 | 1,580      | 7        |
|         | LDPE               | 4%         | Polye LDPE-Film, Spot S.E Asia U\$/MT   | 1,604 | 1,605 | 0%   | 1,619 | 1,631 | 1,640      | 7        |
|         | MEG                | 6%         | MEG, Far East Spot CFR F/E U\$/MT       | 992   | 939   | 6%   | 961   | 995   | 1,110      | 7        |
|         | PX                 | 28%        | PX - naphtha                            | 567   | 400   | 42%  | 452   | 507   | 348        | <b>→</b> |
|         | BZ                 | 15%        | BZ - naphtha                            | 489   | 430   | 14%  | 454   | 452   | 398        | 7        |
| IRPC    | Ethylene/Propylene | 15%        | Ethylene - naphtha                      | 619   | 586   | 6%   | 596   | 583   | 598        | 7        |
|         |                    |            | Propylene - naphtha                     | 596   | 557   | 7%   | 588   | 597   | 588        | 7        |
|         | HDPE               | 12%        | HDPE - naphtha                          | 757   | 705   | 7%   | 716   | 698   | 728        | 7        |
|         | PP                 | 28%        | PP - naphtha                            | 765   | 718   | 7%   | 728   | 712   | 728        | 7        |
|         | ABS                | 7%         | ABS spread                              | 1,131 | 1,103 | 3%   | 1,103 | 1,133 | n.a.       | 7        |
|         | BTX                | 23%        | BZ - naphtha                            | 489   | 430   | 14%  | 454   | 452   | 398        | 7        |
|         | PS                 | 12%        | PS spread                               | 259   | 291   | -11% | 300   | 339   | n.a.       | 7        |
| SCC     | HDPE               | 40%        | HDPE - naphtha                          | 757   | 705   | 7%   | 716   | 698   | 728        | 7        |
|         | LDPE               | 3%         | LDPE - naphtha                          | 754   | 742   | 2%   | 766   | 778   | 798        | 7        |
|         | LLDPE              | 3%         | LLDPE - naphtha                         | 758   | 714   | 6%   | 725   | 710   | 738        | 7        |
|         | PP                 | 25%        | PP - naphtha                            | 765   | 718   | 7%   | 728   | 712   | 728        | 7        |
|         | PVC                | 28%        | PVC - Ethylene/EDC                      | 442   | 405   | 9%   | 419   | 414   | n.a.       | →        |
| TPIPL   | LDPE               | 60%        | LDPE - Ethylene                         | 135   | 156   | -14% | 170   | 195   | 200        | 7        |
| TOP     | PX                 | 60%        | PX - naphtha                            | 567   | 400   | 42%  | 452   | 507   | 348        | <b>→</b> |
|         | BZ                 | 21%        | BZ - naphtha                            | 489   | 430   | 14%  | 454   | 452   | 398        | 7        |
| IVL     | PTA                | 25%        | PTA - PX                                | 103   | 100   | 4%   | 100   | 94    | 103        | 7        |
|         | PET/Polyester      | 67%        | PET spread                              | 136   | 170   | -20% | 174   | 177   | n.a.       | 7        |
|         | MEG                | 8%         | •                                       |       |       |      |       |       |            |          |
| VNT     | PVC                | 63%        | PVC - ethylene                          | 328   | 311   | 5%   | 318   | 313   | 350        | <b>→</b> |
| TPC     | PVC                | 100%       | PVC - Ethylene/EDC                      | 442   | 405   | 9%   | 419   | 414   | n.a.       | <b>→</b> |

Source: Datastream, SCBS Investment Research

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