

## Petrochemical price monitor

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- **Weaker naphtha price continued to help product spread.** PE/PP product spreads over naphtha were raised by a sharp decline in naphtha price (-6.4% WoW) to a 4-year low of only US\$564/t. This widened product spread by 1.5-3.1% WoW although product prices also slid 0.7-1.6% WoW. Non-integrated producers still did the best, with spread expanding 7.8-14.6% WoW. Weakening oil price will continue to hold back demand for PE resin in the near term given buyer expectations of lower prices and thus reluctance to build inventory.
- **Benzene hardest hit among key petrochemical products.** Aromatics product prices tumbled 1.6-8.6% WoW, especially BZ, which sank to a 4-year low of only US\$953/t on poor buying sentiment in the US and Asia. Near-term outlook remains bearish with weakening feedstock price and poor demand for derivative products like styrene monomer (SM). Sluggish demand during low season for PX pulled price down 1.8% WoW but this was offset by cheaper feedstock cost, which helped product spread stay afloat.
- **Integrated PET/PTA spread driven by better product prices.** The rise in prices of PET and PTA of 1.9-2.6% WoW supported integrated PET/PTA margin to US\$313/t (+5.6% WoW) despite higher MEG price (+6.5% WoW). It is unlikely the favorable product spread will be held long since demand for PET/polyester chain products remains sluggish. More operating cuts throughout the chain can be expected as operators try to curtail the downside from product price and margin.

**Investment view:** A 0.7% WoW slide in the petrochemical sector index led it to underperform the market (+1% WoW) in the past week. Key driver on the downside was IVL (-3.1% WoW) on disappointing earnings and weakening outlook for the PET/polyester chain in 4Q14 and 2015 due to a regional supply glut for PET and PTA. PTTGC share price rose 0.4% WoW to a 10-week high reflecting market optimism on the earnings prospects from its olefins chain. The sector is expected to continue to weaken in coming weeks on seasonally softer demand and oil price.

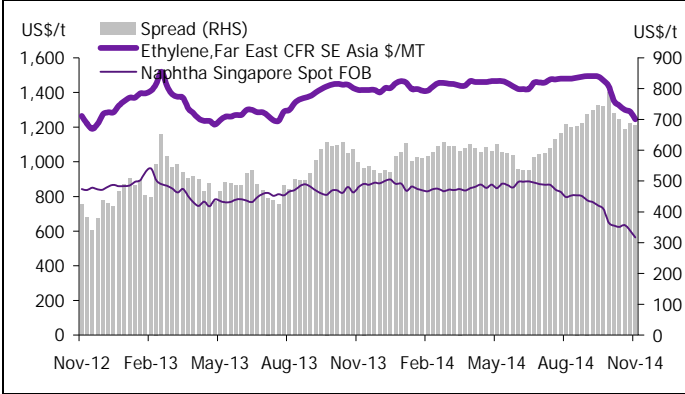
Figure 1: Petrochemical price update

	Current 14-Nov-14	52-week High/Low	-1W	-1M	-3M	-6M	-12M	4Q14 QTD	3Q14	QoQ%	YTD	Chg.	%YoY	2014F projection
<b>Price</b>														
Naphtha Singapore Spot FOB	564	897/564	-6.4%	-10.7%	-29.2%	-33.4%	-34.1%	633	820	-22.7%	811	-16	-1.9%	842
Ethylene, Far East CFR SE Asia \$/MT	1,245	1,495/1,245	-3.5%	-7.8%	-15.9%	-15.0%	-12.0%	1,345	1,478	-9.0%	1,439	95	7.1%	1,440
Propylene (C), Spot CFR F/E US/MT	1,200	1,503/1,200	-2.0%	-5.3%	-14.3%	-15.2%	-18.9%	1,266	1,412	-10.4%	1,405	19	1.4%	1,430
Polye HDPE Inj, South East Asia US/MT	1,520	1,620/1,520	-0.7%	-2.9%	-5.9%	-3.8%	-1.0%	1,553	1,605	-3.2%	1,571	100	6.8%	1,570
Polye LDPE-Film, Spot S.E Asia US/MT	1,520	1,680/1,520	-1.6%	-3.5%	-5.6%	-5.0%	-7.9%	1,556	1,602	-2.8%	1,607	90	5.9%	1,640
Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,510	1,615/1,510	-1.3%	-3.5%	-6.5%	-5.0%	-1.6%	1,550	1,602	-3.2%	1,576	98	6.6%	1,580
PP Film, Spot South East Asia US/MT	1,520	1,625/1,520	-1.3%	-4.1%	-6.5%	-4.4%	-0.7%	1,563	1,613	-3.1%	1,582	71	4.7%	1,570
<b>Related stocks</b>														
			PTTGC (-)	IRPC (+)	SCC (-)	TPICL (+)								
Para-Xylene CFR Chin M. Por Spot \$/MT	989	1,488/989	-1.6%	-6.0%	-27.8%	-17.8%	-29.6%	1,069	1,353	-21.0%	1,265	-242	-16.0%	1,190
Benzene, Far East CFR Spot F/E US/MT	953	1,385/953	-8.6%	-13.8%	-28.4%	-25.4%	-24.7%	1,095	1,296	-15.6%	1,267	-49	-3.7%	1,240
<b>Related stocks</b>														
			PTTGC (-)	TOP (-)	ESSO (-)									
MEG, Far East Spot CFR F/E US/MT	855	1,061/794	6.5%	7.6%	-15.1%	-4.6%	-17.6%	836	973	-14.1%	941	-115	-10.9%	1,110
PTA CFR South East Asia	795	1,040/775	2.6%	1.9%	-22.8%	-8.1%	-20.5%	819	999	-18.1%	932	-155	-14.2%	900
PET (Fibre Grade) A/P Spot CFR NEA \$/MT	1,080	1,313/1,060	1.9%	-4.0%	-15.6%	-8.9%	-18.8%	1,122	1,268	-11.5%	1,231	-178	-12.7%	n.a.
<b>Related stocks</b>														
			PTTGC (+)	IVL (-)										
ABS Asia Pac. India Spot CFR US/MT	1,785	1,950/1,785	-2.2%	-4.8%	-8.5%	-6.3%	-5.1%	1,861	1,925	-3.3%	1,897	-60	-3.1%	n.a.
Polystyrene-GP, Spot Hong Kong US/MT	1,500	1,815/1,500	-1.6%	-6.3%	-13.3%	-13.5%	-15.0%	1,581	1,713	-7.7%	1,717	-136	-7.3%	n.a.
<b>Related stocks</b>														
			IRPC (-)											
PVC, Spot South East Asia US/MT	965	1,070/965	0.0%	-3.0%	-9.4%	-4.9%	-1.5%	982	1,047	-6.2%	1,032	18	1.7%	1,070
<b>Related stocks</b>														
			VNT (+)	TPC (Neutral)										
<b>Product spread</b>														
Ethylene - naphtha	681	786/525	-0.9%	-5.2%	-0.4%	10.2%	21.7%	712	659	8.0%	628	111	21.4%	598
Propylene - naphtha	636	686/530	2.2%	0.0%	5.4%	12.0%	1.8%	633	593	6.7%	595	35	6.3%	588
HDPE - naphtha	956	956/638	3.1%	2.4%	16.8%	30.5%	40.7%	919	785	17.1%	760	115	17.9%	728
LDPE - naphtha	956	956/709	1.5%	1.3%	17.5%	27.0%	20.3%	923	782	18.0%	796	106	15.3%	798
LDPE - Ethylene	275	275/93	7.8%	22.2%	111.5%	103.7%	17.0%	211	123	71.3%	168	-5	-3.0%	200
LLDPE - naphtha	946	946/662	2.0%	1.3%	15.6%	27.4%	39.2%	917	782	17.2%	765	114	17.5%	738
PP - naphtha	956	956/657	2.0%	0.3%	15.4%	28.7%	41.7%	929	793	17.2%	771	87	12.7%	728
PX - naphtha	425	612/304	5.7%	1.0%	-25.9%	19.4%	-22.7%	435	533	-18.4%	455	-226	-33.2%	348
BZ - naphtha	389	535/381	-11.6%	-17.9%	-27.2%	-9.7%	-5.2%	461	477	-3.3%	456	-33	-6.8%	398
MEG - Ethylene	83	193/-58	2959.3%	-292.1%	-6.6%	-745.3%	-48.3%	2	57	-96.9%	49	-174	-78.1%	217
PTA - PX	152	184/53	25.0%	58.7%	9.1%	83.2%	76.0%	124	120	3.6%	109	2	2.3%	103
PET spread	161	253/121	-7.9%	-32.6%	29.2%	-18.3%	-14.0%	191	148	29.3%	175	-17	-9.0%	n.a.
Integrated PET/PTA spread	313	359/190	5.6%	-6.5%	18.6%	11.8%	14.4%	315	268	17.8%	284	-15	-5.0%	n.a.
ABS spread	1,229	1,251/1,070	0.0%	-1.8%	4.5%	10.5%	5.7%	1,238	1,165	6.3%	1,137	-34	-2.9%	n.a.
PS spread	386	386/214	18.1%	15.2%	54.5%	28.4%	8.8%	326	260	25.4%	299	-124	-29.4%	n.a.
PVC - ethylene	343	353/249	7.0%	7.0%	5.4%	21.2%	25.7%	310	308	0.5%	313	-30	-8.7%	350

Source: Datastream, SCBS Investment Research

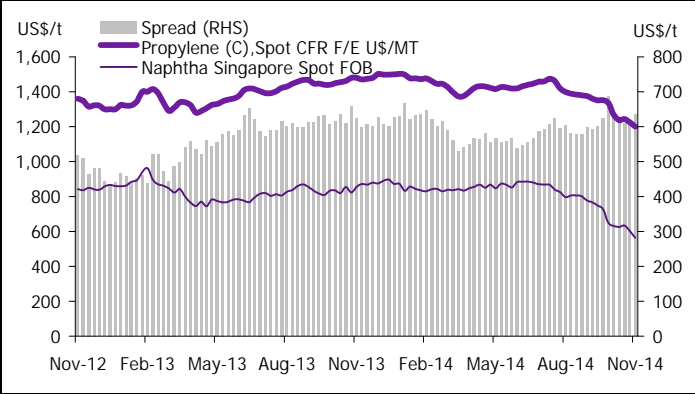
Note: Impact to related stocks is based on WoW performance

Figure 2: Ethylene vs. Naphtha



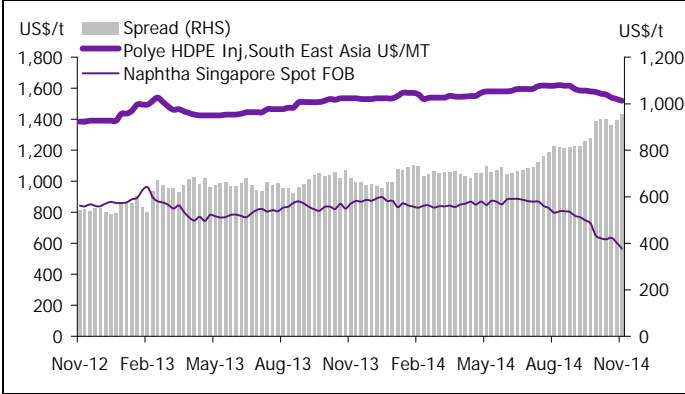
Source: Datastream, SCBS Investment Research

Figure 3: Propylene vs. Naphtha



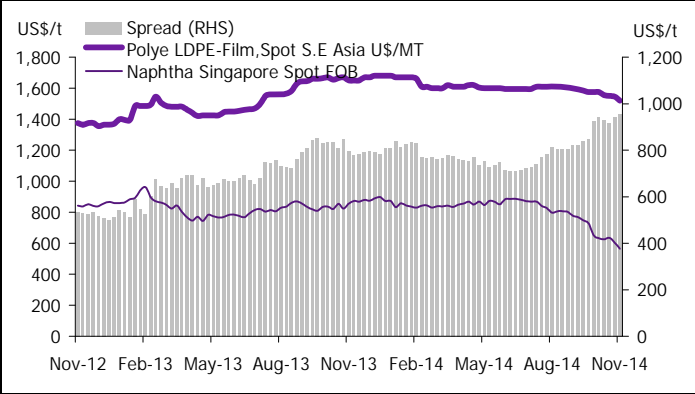
Source: Datastream, SCBS Investment Research

Figure 4: HDPE vs. Naphtha



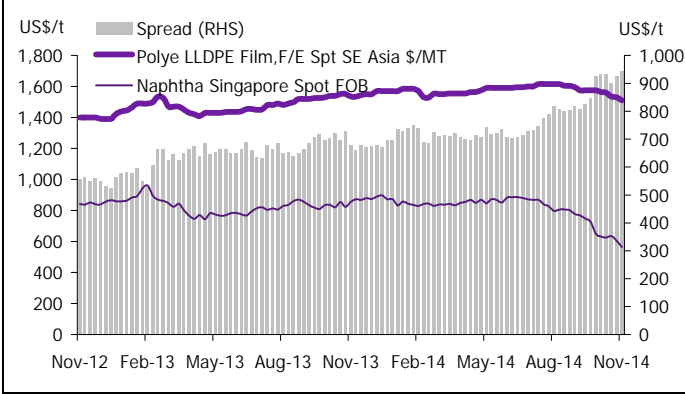
Source: Datastream, SCBS Investment Research

Figure 5: LDPE vs. Naphtha



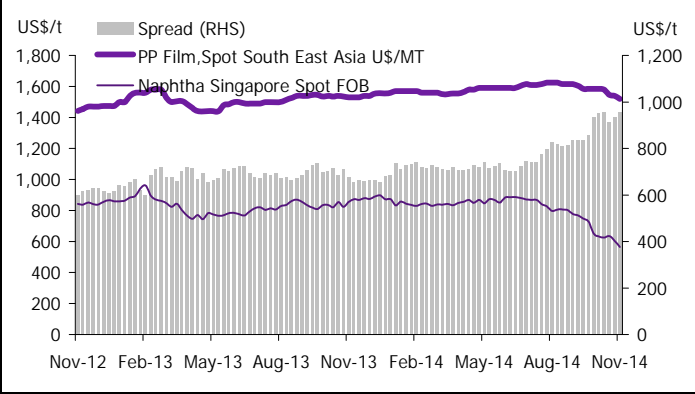
Source: Datastream, SCBS Investment Research

Figure 6: LLDPE vs. Naphtha



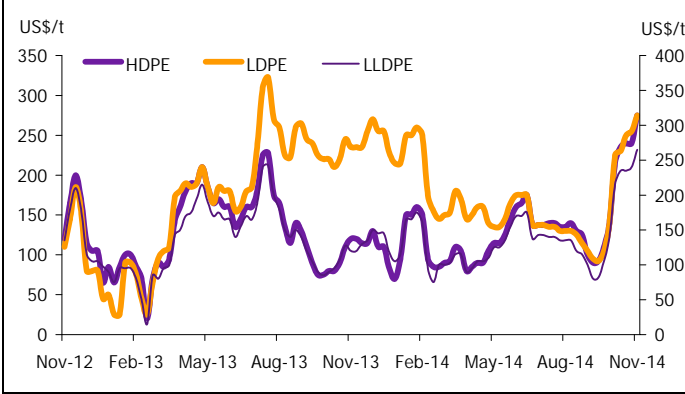
Source: Datastream, SCBS Investment Research

Figure 7: PP vs. Naphtha



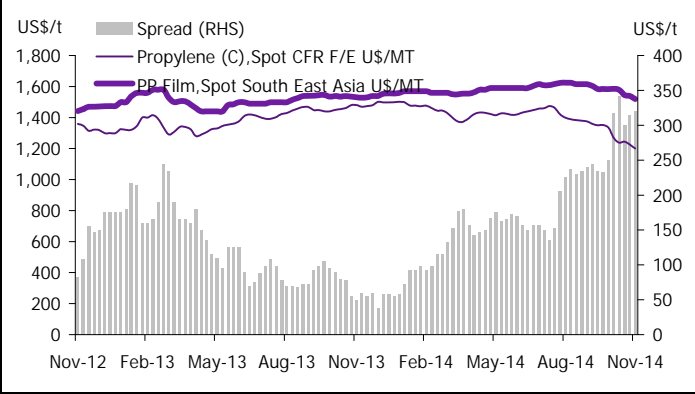
Source: Datastream, SCBS Investment Research

Figure 8: Polyethylene spread over ethylene

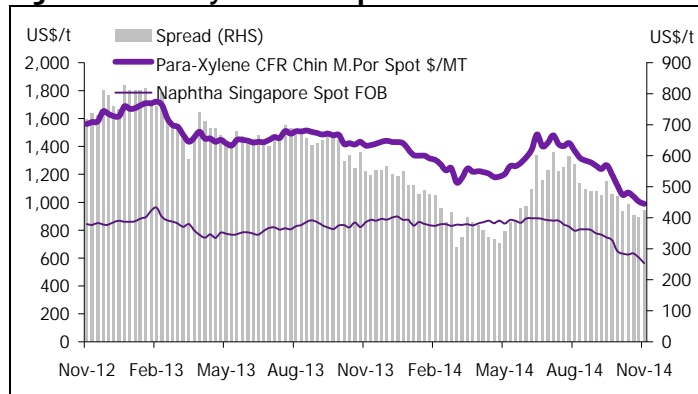


Source: Datastream, SCBS Investment Research

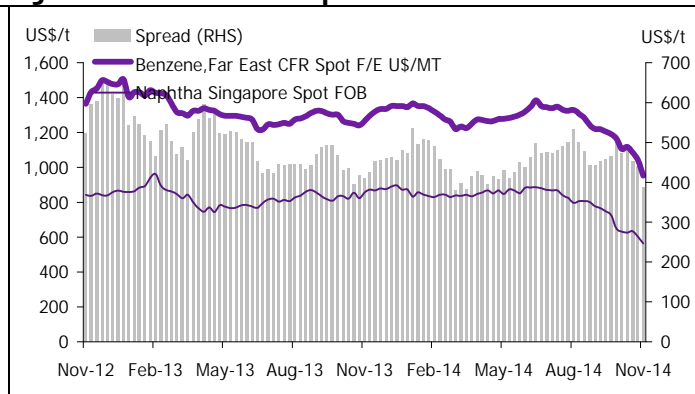
Figure 9: Polypropylene vs. propylene



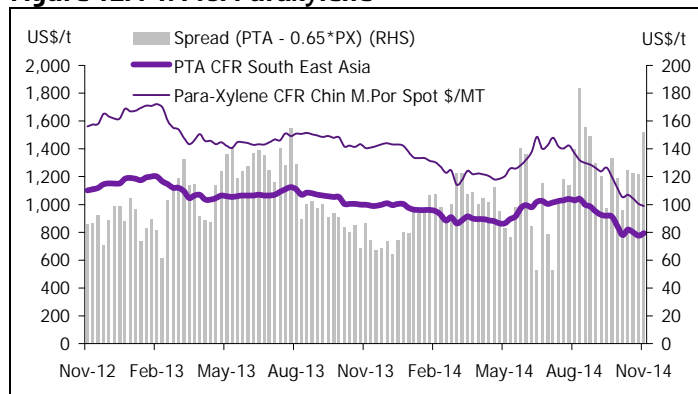
Source: Datastream, SCBS Investment Research

**Figure 10: Paraxylene vs. Naphtha**

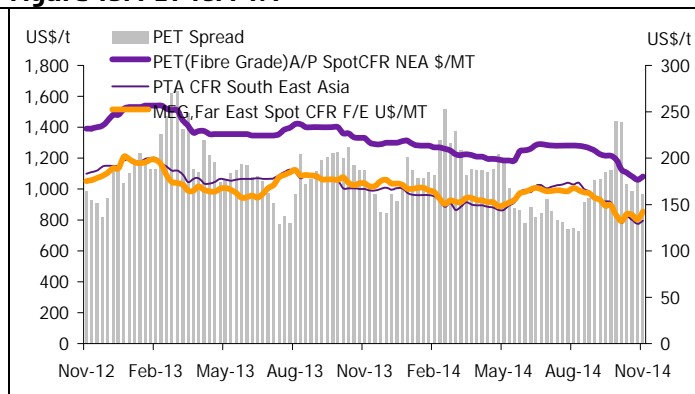
Source: Datastream, SCBS Investment Research

**Figure 11: Benzene vs. Naphtha**

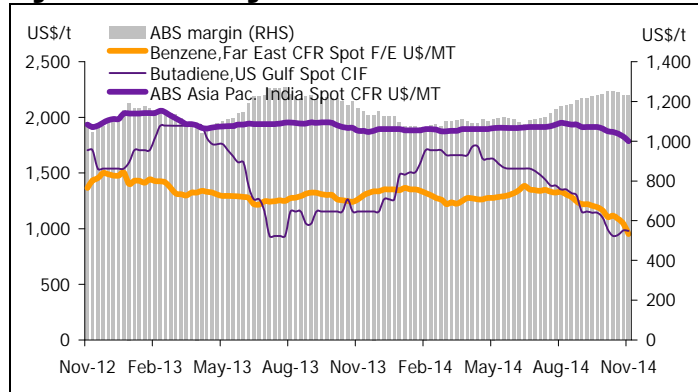
Source: Datastream, SCBS Investment Research

**Figure 12: PTA vs. Paraxylene**

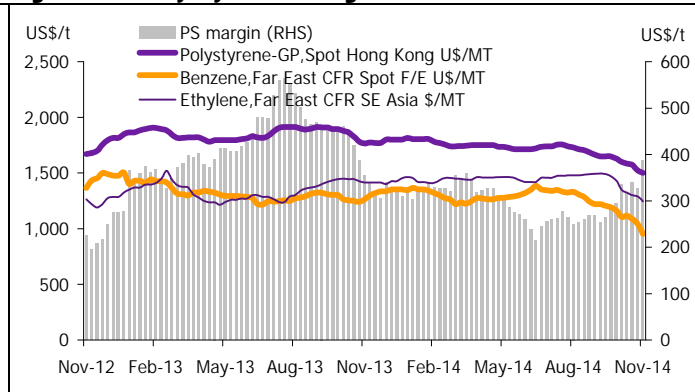
Source: Datastream, SCBS Investment Research

**Figure 13: PET vs. PTA**

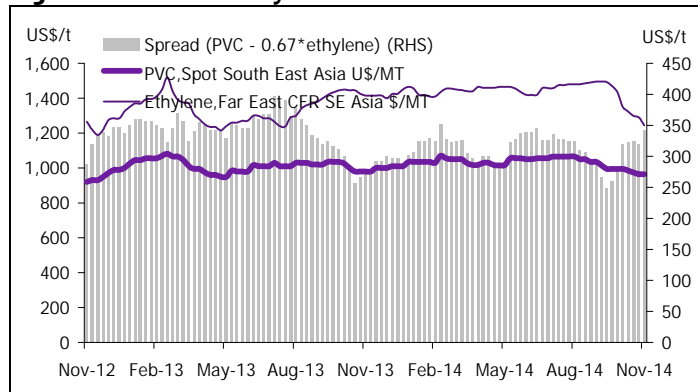
Source: Datastream, SCBS Investment Research

**Figure 14: ABS margin**

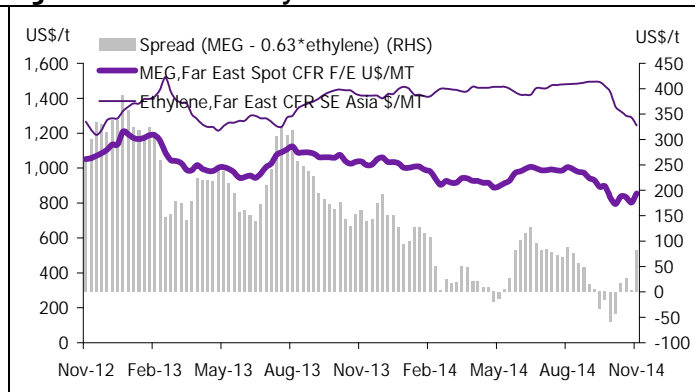
Source: Datastream, SCBS Investment Research

**Figure 15: Polystyrene margin**

Source: Datastream, SCBS Investment Research

**Figure 16: PVC vs. ethylene**

Source: Datastream, SCBS Investment Research

**Figure 17: MEG vs. ethylene**

Source: Datastream, SCBS Investment Research

**Figure 18: Selected product price/spread of listed companies**

Company	Key products	% of total	Product price/spread	4Q14 QTD	3Q14	QoQ%	YTD	12MMA	2014F projection	Momentum
PTTGC	Ethylene/Propylene	21%	Ethylene, Far East CFR SE Asia \$/MT	1,345	1,478	-9%	1,439	1,436	1,440	↘
			Propylene (C), Spot CFR F/E US/MT	1,266	1,412	-10%	1,405	1,415	1,430	↘
	HDPE	19%	Polye HDPE Inj, South East Asia US/MT	1,553	1,605	-3%	1,571	1,566	1,570	↘
	LLDPE	7%	Polye LLDPE Film, F/E Spt SE Asia \$/MT	1,550	1,602	-3%	1,576	1,573	1,580	↘
	LDPE	4%	Polye LDPE-Film, Spot S.E Asia US/MT	1,556	1,602	-3%	1,607	1,614	1,640	↘
	MEG	6%	MEG, Far East Spot CFR F/E US/MT	836	973	-14%	941	952	1,110	→
	PX	28%	PX - naphtha	435	533	-18%	455	465	348	→
IRPC	BZ	15%	BZ - naphtha	461	477	-3%	456	456	398	↘
	Ethylene/Propylene	15%	Ethylene - naphtha	712	659	8%	628	617	598	↘
			Propylene - naphtha	633	593	7%	595	596	588	↗
	HDPE	12%	HDPE - naphtha	919	785	17%	760	748	728	↗
	PP	28%	PP - naphtha	929	793	17%	771	759	728	↗
	ABS	7%	ABS spread	1,238	1,165	6%	1,137	1,136	n.a.	→
	BTX	23%	BZ - naphtha	461	477	-3%	456	456	398	↘
SCC	PS	12%	PS spread	326	260	25%	299	301	n.a.	↗
	HDPE	40%	HDPE - naphtha	919	785	17%	760	748	728	↗
	LDPE	3%	LDPE - naphtha	923	782	18%	796	795	798	↗
	LLDPE	3%	LLDPE - naphtha	917	782	17%	765	755	738	↗
	PP	25%	PP - naphtha	929	793	17%	771	759	728	↗
	PVC	28%	PVC - Ethylene/EDC	414	428	-3%	417	392	n.a.	→
	TPIPL	60%	LDPE - Ethylene	211	123	71%	168	178	200	↗
TOP	PX	60%	PX - naphtha	435	533	-18%	455	465	348	↗
	BZ	21%	BZ - naphtha	461	477	-3%	456	456	398	↘
IVL	PTA	25%	PTA - PX	124	120	4%	109	105	103	↗
	PET/Polyester	67%	PET spread	191	148	29%	175	173	n.a.	→
	MEG	8%								
VNT	PVC	63%	PVC - ethylene	310	308	1%	313	310	350	→
TPC	PVC	100%	PVC - Ethylene/EDC	414	428	-3%	417	392	n.a.	→

Source: Datastream, SCBS Investment Research

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