

## Petrochemical price monitor

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- **Naphtha hits 4-year low, slashing olefins price.** The plunge in naphtha price again pulled down olefins product prices, especially ethylene, which fell 5.9% WoW to a 15-month low of US\$1,350/t, the steepest WoW change in more than two years and despite tight regional supply. Ethylene supply will tighten further as naphtha cracker LG Chem in Korea shuts for maintenance, taking 1mtpa off the market for a month from Oct 20. PE/PP prices barely changed (-0.6% WoW) amidst weakening demand in the region. Non-integrated producers continued to benefit from lower ethylene price with PE-ethylene spread up 54-61% WoW.
- **PX price still slipping.** PX price fell to a 4-year low of US\$1,053/t, -5.8% WoW and -26.5% from end-2013. This was in line with lower feedstock cost (naphtha), weak demand and ample supply. Operators will continue to be hit by narrower spread, down 14.7% from 3Q14. PTA production cuts are still playing a crucial role in determining demand for PX, which remains on the downside. According to an industry source, Oriental Petrochemical Taiwan plans to shut its 400ktpa-PTA plant from end-Oct until the end of 2014 due to weak PTA-PX spread.
- **PET/PTA spread heading down from 20-month high.** As expected, integrated PET/PTA spread fell by 6.7% WoW to US\$335/t due to lower PTA and PET prices, down sharply by 5.5-7.7% WoW. This was despite lower feedstock cost (MEG and PX, down 4.5-5.8% WoW). Bottle-grade PET fell 4% WoW to US\$1,190/t, with falling feedstock (PTA and MEG) prices and continued slow demand for PET in Asia.

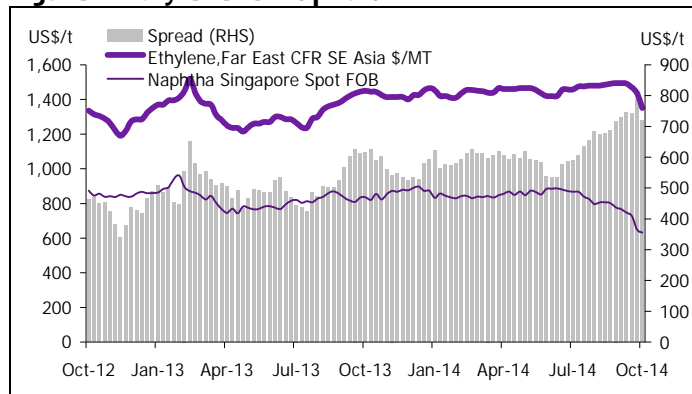
**Investment view:** IVL (-7.9% WoW) led the sector (-3.1% WoW) to underperform the market (-1% WoW). We believe this reflects the market's disappointment in IVL's new acquisition (SASA), which has been put off to 2015, largely because of government red tape. PTTGC fell 1.7% WoW, slightly below the market. We believe concerns on feedstock cost and 3Q14 earnings are mostly priced in but weakening oil price will continue to depress the sector in the near term.

Figure 1: Petrochemical price update

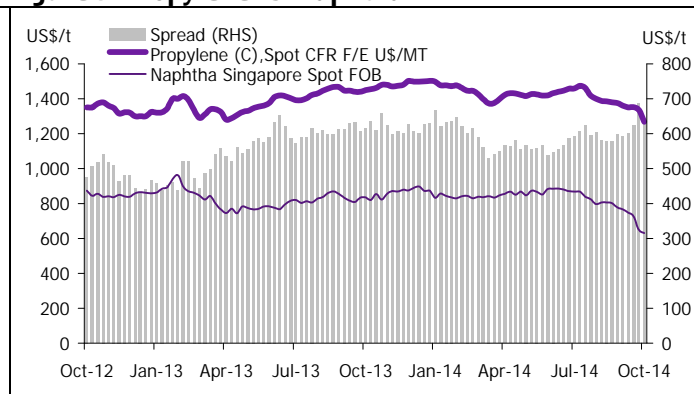
	Current 17-Oct-14	52-week High/Low	-1W	-1M	-3M	-6M	-12M	4Q14 QTD	3Q14	QoQ%	YTD	Chg.	%YoY	2014F projection
Price														
Naphtha Singapore Spot FOB	632	897/632	-2.7%	-17.6%	-27.2%	-26.2%	-24.4%	669	820	-18.3%	830	5	0.6%	842
Ethylene, Far East CFR SE Asia \$/MT	1,350	1,495/1,350	-5.9%	-9.7%	-7.4%	-7.5%	-6.9%	1,418	1,478	-4.1%	1,453	118	8.8%	1,440
Propylene (C), Spot CFR F/E US\$/MT	1,268	1,503/1,268	-5.1%	-6.8%	-13.2%	-10.9%	-12.6%	1,318	1,412	-6.7%	1,422	44	3.2%	1,430
Polye HDPE Inj, South East Asia US\$/MT	1,565	1,620/1,525	-0.6%	-1.3%	-1.9%	1.3%	2.3%	1,573	1,605	-1.9%	1,574	109	7.4%	1,570
Polye LDPE-Film, Spot S.E Asia US\$/MT	1,575	1,680/1,575	0.0%	-0.9%	-1.3%	-2.2%	-5.7%	1,575	1,602	-1.7%	1,613	109	7.3%	1,640
Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,565	1,615/1,530	-0.6%	-0.6%	-2.2%	0.6%	1.6%	1,572	1,602	-1.9%	1,580	108	7.4%	1,580
PP Film, Spot South East Asia US\$/MT	1,585	1,625/1,530	0.0%	-1.2%	-1.6%	1.3%	2.9%	1,585	1,613	-1.7%	1,585	77	5.1%	1,570
Related stocks														
			PTTGC (-)   IRPC (+)   SCC (+)   TPIPL (+)											
Para-Xylene CFR Chin M. Por Spot \$/MT	1,053	1,488/1,053	-5.8%	-15.0%	-28.9%	-13.4%	-25.7%	1,124	1,353	-16.9%	1,288	-227	-15.0%	1,190
Benzene, Far East CFR Spot F/E US\$/MT	1,105	1,385/1,105	-5.2%	-9.4%	-17.5%	-13.2%	-12.6%	1,154	1,296	-11.0%	1,288	-35	-2.6%	1,240
Related stocks														
			PTTGC (-)   TOP (-)   ESSO (-)											
MEG, Far East Spot CFR F/E US\$/MT	794	1,061/794	-4.5%	-14.7%	-19.6%	-14.3%	-26.2%	841	973	-13.6%	951	-107	-10.1%	1,110
PTA CFR South East Asia	780	1,040/780	-7.7%	-15.7%	-23.2%	-12.8%	-22.4%	847	999	-15.3%	944	-150	-13.7%	900
PET (Fibre Grade)A/P Spot CFR NEA \$/MT	1,125	1,360/1,125	-5.5%	-8.2%	-12.1%	-7.0%	-17.3%	1,177	1,268	-7.2%	1,245	-171	-12.1%	n.a.
Related stocks														
			PTTGC (-)   IVL (-)											
ABS Asia Pac. India Spot CFR US\$/MT	1,875	1,950/1,870	-1.3%	-2.1%	-2.1%	-1.1%	-2.8%	1,897	1,925	-1.5%	1,903	-59	-3.0%	n.a.
Polystyrene-GP, Spot Hong Kong US\$/MT	1,600	1,865/1,600	-1.8%	-3.0%	-8.0%	-8.6%	-14.9%	1,627	1,713	-5.0%	1,733	-124	-6.7%	n.a.
Related stocks														
			IRPC (-)											
PVC, Spot South East Asia US\$/MT	995	1,070/980	0.0%	-2.0%	-6.6%	-3.4%	-2.9%	995	1,047	-5.0%	1,038	21	2.0%	1,070
Related stocks														
			VNT (+)   TPC (Neutral)											
Product spread														
Ethylene - naphtha	718	786/525	-8.6%	-1.3%	21.8%	18.9%	16.9%	749	659	13.7%	623	113	22.1%	598
Propylene - naphtha	636	686/530	-7.3%	7.2%	7.4%	12.2%	3.4%	649	593	9.5%	592	39	7.1%	588
HDPE - naphtha	933	933/638	0.8%	14.1%	28.3%	35.4%	34.4%	904	785	15.1%	744	104	16.2%	728
LDPE - naphtha	943	943/709	1.9%	14.6%	29.7%	25.1%	13.0%	906	782	15.8%	783	105	15.4%	798
LDPE - Ethylene	225	270/93	60.7%	136.8%	63.6%	50.0%	2.3%	157	123	26.9%	160	-8	-4.8%	200
LLDPE - naphtha	933	933/662	0.8%	15.5%	27.5%	33.5%	32.4%	902	782	15.3%	750	104	16.0%	738
PP - naphtha	953	953/657	1.9%	13.7%	28.4%	34.4%	35.3%	916	793	15.4%	755	72	10.5%	728
PX - naphtha	421	612/304	-10.2%	-10.7%	-31.2%	16.9%	-27.7%	455	533	-14.7%	458	-232	-33.6%	348
BZ - naphtha	473	535/381	-8.3%	4.5%	0.2%	13.5%	10.2%	485	477	1.7%	457	-39	-7.9%	398
MEG - Ethylene	-43	193/-58	n.m.	n.m.	n.m.	n.m.	n.m.	-39	57	n.m.	50	-180	-78.1%	217
PTA - PX	96	184/53	-19.2%	-20.3%	80.9%	-8.6%	14.6%	116	120	-3.3%	107	-2	-1.9%	103
PET spread	239	253/121	-0.5%	34.4%	67.3%	27.2%	19.5%	222	148	50.2%	176	-17	-8.6%	n.a.
Integrated PET/PTA spread	335	359/190	-6.7%	12.3%	71.0%	14.4%	18.1%	338	268	26.3%	283	-19	-6.2%	n.a.
ABS spread	1,251	1,251/1,070	1.4%	2.8%	12.1%	15.1%	3.2%	1,239	1,165	6.3%	1,127	-43	-3.6%	n.a.
PS spread	336	455/214	14.3%	32.8%	29.7%	4.4%	-27.1%	304	260	16.8%	294	-130	-30.7%	n.a.
PVC - ethylene	320	353/249	15.3%	19.6%	-4.8%	6.7%	6.7%	286	308	-7.2%	311	-38	-10.9%	350

Source: Datastream, SCBS Investment Research

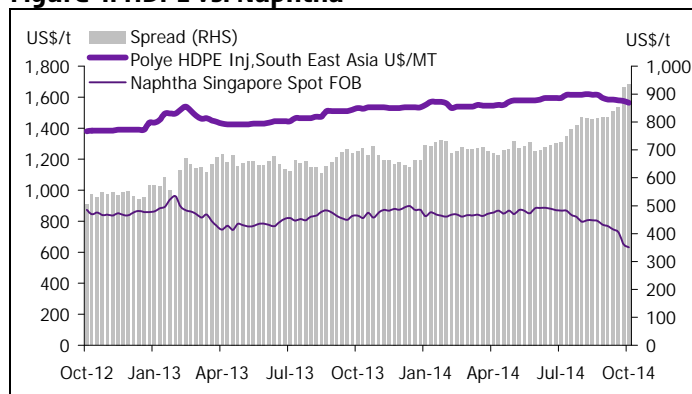
Note: Impact to related stocks is based on WoW performance

**Figure 2: Ethylene vs. Naphtha**

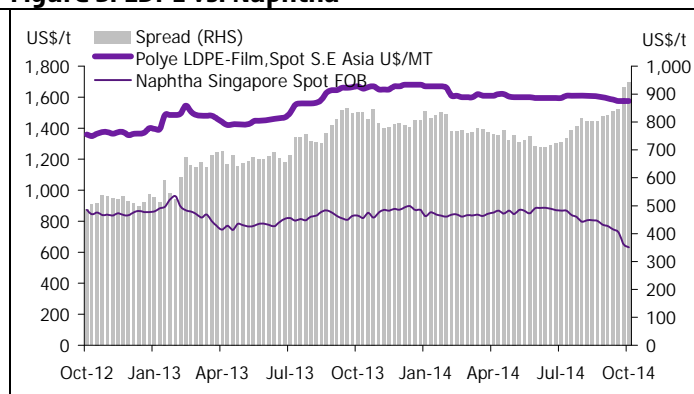
Source: Datastream, SCBS Investment Research

**Figure 3: Propylene vs. Naphtha**

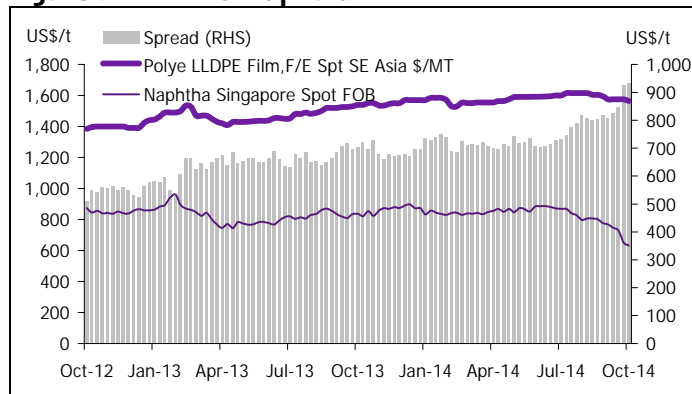
Source: Datastream, SCBS Investment Research

**Figure 4: HDPE vs. Naphtha**

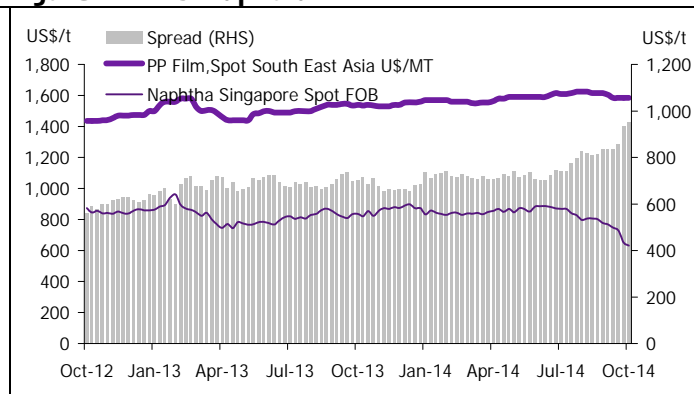
Source: Datastream, SCBS Investment Research

**Figure 5: LDPE vs. Naphtha**

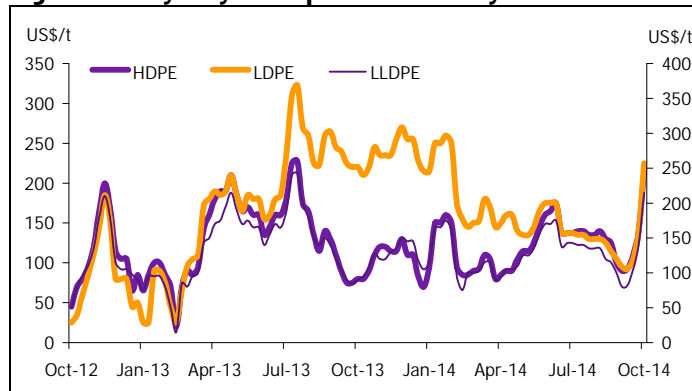
Source: Datastream, SCBS Investment Research

**Figure 6: LLDPE vs. Naphtha**

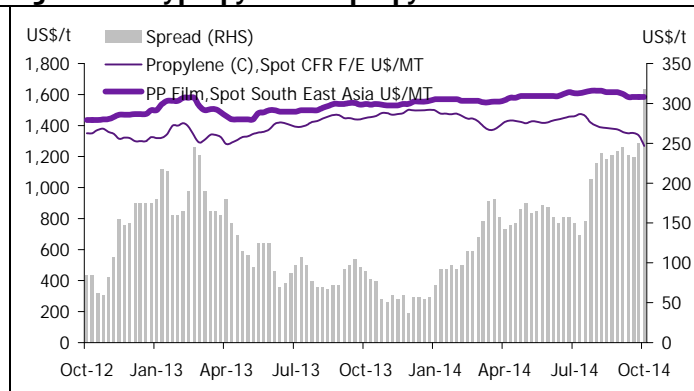
Source: Datastream, SCBS Investment Research

**Figure 7: PP vs. Naphtha**

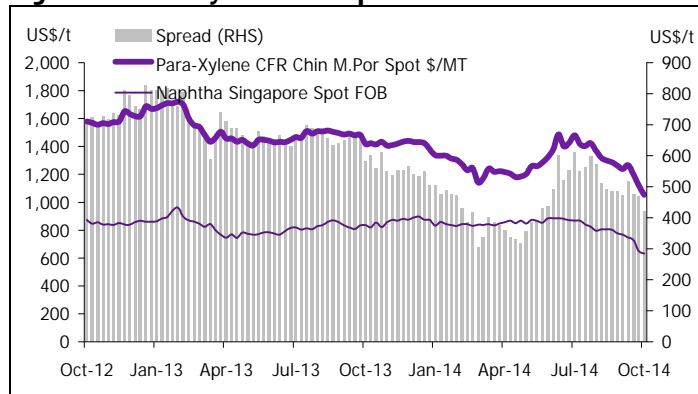
Source: Datastream, SCBS Investment Research

**Figure 8: Polyethylene spread over ethylene**

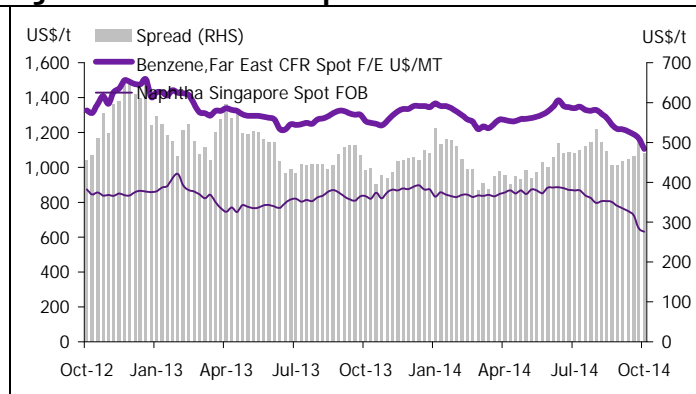
Source: Datastream, SCBS Investment Research

**Figure 9: Polypropylene vs. propylene**

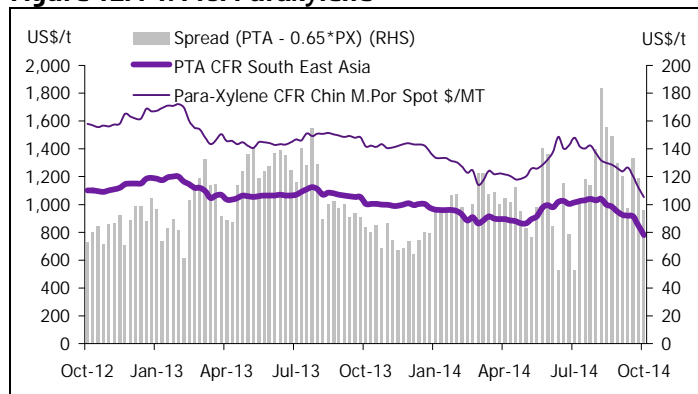
Source: Datastream, SCBS Investment Research

**Figure 10: Paraxylene vs. Naphtha**

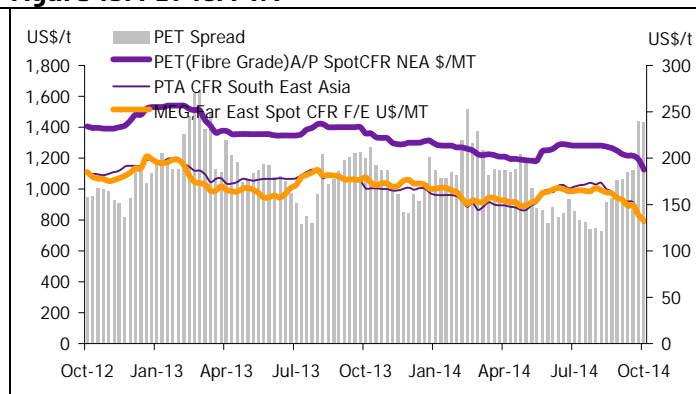
Source: Datastream, SCBS Investment Research

**Figure 11: Benzene vs. Naphtha**

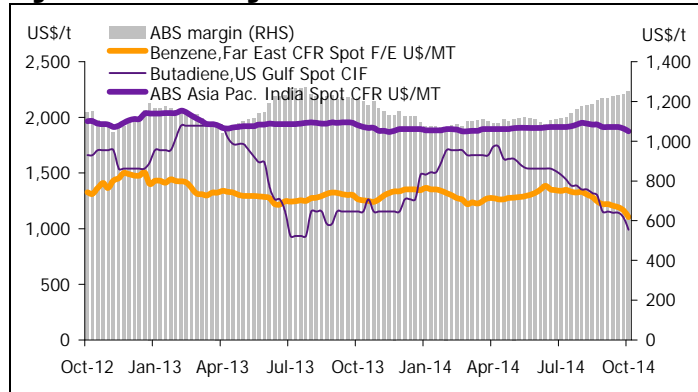
Source: Datastream, SCBS Investment Research

**Figure 12: PTA vs. Paraxylene**

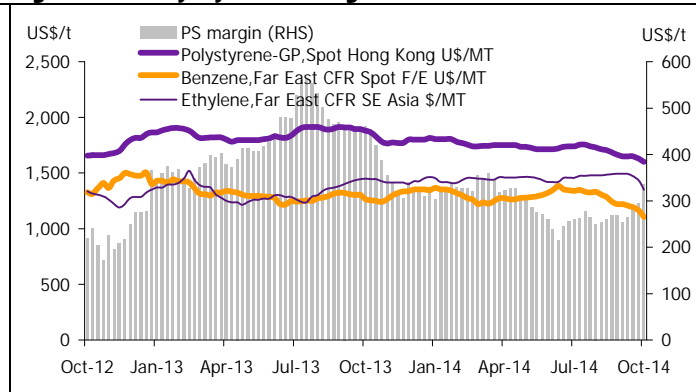
Source: Datastream, SCBS Investment Research

**Figure 13: PET vs. PTA**

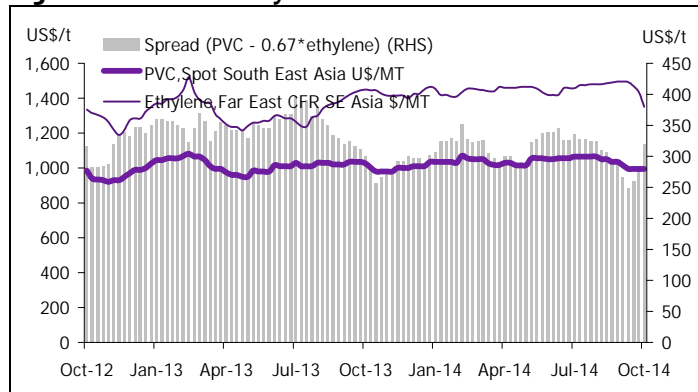
Source: Datastream, SCBS Investment Research

**Figure 14: ABS margin**

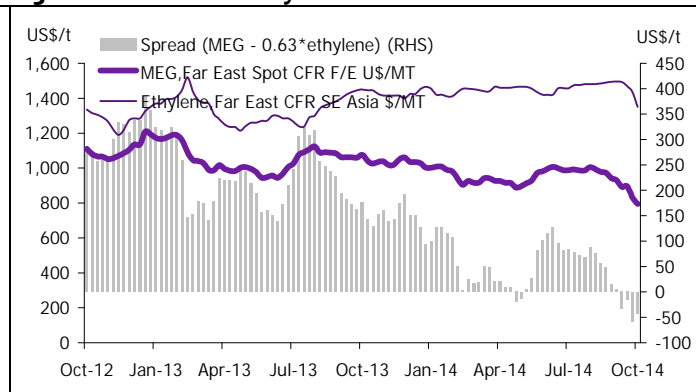
Source: Datastream, SCBS Investment Research

**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	1,418	1,478	-4%	1,453	1,447	1,440	↘
			Propylene (C), Spot CFR F/E US\$/MT	1,318	1,412	-7%	1,422	1,433	1,430	↘
	HDPE	19%	Polye HDPE Inj, South East Asia US\$/MT	1,573	1,605	-2%	1,574	1,566	1,570	↘
	LLDPE	7%	Polye LLDPE Film, F/E Spt SE Asia \$/MT	1,572	1,602	-2%	1,580	1,574	1,580	↘
	LDPE	4%	Polye LDPE-Film, Spot S.E Asia US\$/MT	1,575	1,602	-2%	1,613	1,623	1,640	↘
	MEG	6%	MEG, Far East Spot CFR F/E US\$/MT	841	973	-14%	951	967	1,110	↘
	PX	28%	PX - naphtha	455	533	-15%	458	478	348	↘
IRPC	BZ	15%	BZ - naphtha	485	477	2%	457	454	398	↗
	Ethylene/Propylene	15%	Ethylene - naphtha	749	659	14%	623	611	598	↗
			Propylene - naphtha	649	593	9%	592	597	588	↗
	HDPE	12%	HDPE - naphtha	904	785	15%	744	729	728	↗
	PP	28%	PP - naphtha	916	793	15%	755	740	728	↗
	ABS	7%	ABS spread	1,239	1,165	6%	1,127	1,132	n.a.	↗
	BTX	23%	BZ - naphtha	485	477	2%	457	454	398	↗
SCC	PS	12%	PS spread	304	260	17%	294	306	n.a.	↗
	HDPE	40%	HDPE - naphtha	904	785	15%	744	729	728	↗
	LDPE	3%	LDPE - naphtha	906	782	16%	783	786	798	↗
	LLDPE	3%	LLDPE - naphtha	902	782	15%	750	738	738	↗
	PP	25%	PP - naphtha	916	793	15%	755	740	728	↗
	PVC	28%	PVC - Ethylene/EDC	396	428	-8%	416	394	n.a.	↗
	TPIPL	60%	LDPE - Ethylene	157	123	27%	160	176	200	↗
TOP	PX	60%	PX - naphtha	455	533	-15%	458	478	348	↘
	BZ	21%	BZ - naphtha	485	477	2%	457	454	398	↗
IVL	PTA	25%	PTA - PX	116	120	-3%	107	101	103	↗
	PET/Polyester	67%	PET spread	222	148	50%	176	175	n.a.	↗
	MEG	8%								
VNT	PVC	63%	PVC - ethylene	286	308	-7%	311	306	350	↗
TPC	PVC	100%	PVC - Ethylene/EDC	396	428	-8%	416	394	n.a.	↗

Source: Datastream, SCBS Investment Research

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