

## Petrochemical price monitor

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- **Sharp upturn in naphtha price sank product spread.** While petrochemical product prices continued to head south (-2% to -5.8% WoW) on lower feedstock cost in previous weeks and seasonally slow demand, naphtha price made a U-turn up (+5.9% WoW). This slashed PE/PP product spreads over naphtha by 5.5-8.2% WoW, especially for polypropylene. Sluggish demand from China continued to play a vital role in depressing regional product prices down by 2-5.8% WoW for olefins and derivative products. Non-integrated PE producers were not spared – their margins narrowed by 1.8-5.5% WoW, the first WoW decline since mid-September.
- **Surprising WoW increase in aromatics prices.** Aromatics product prices turned positive WoW, up 4.7-5.7%, especially PX, lifted by higher downstream prices for PTA and styrene monomer (SM) brought by tight supply in the region. Supply has been crimped by a steady cut in production in an attempt to support market prices. How long this recovery will last is open to question given the abundant PX supply in the region.
- **Higher PTA price unable to absorb higher feedstock cost.** Despite a rise in PTA price (+1.3% WoW) on higher demand for downstream PET, integrated PET/PTA margin plunged 13.2% WoW to US\$272/t on higher feedstock costs for both PX and MEG (+2.2% WoW). We do not expect the higher demand for PET/polyester chain products to stay around very long until solid signs of China's economic improvement are seen.

**Investment view:** Despite weakening product spread, the Petrochemical sector index (+2.6% WoW) was able to outperform the market (+1.3% WoW). This was driven by both key stocks in the sector, PTTGC (+3.1% WoW) and IVL (+2.8%). We believe the market has turned more optimistic about PTTGC's earnings prospects, driven by olefins business and lower concern on feedstock cost from energy price reform. Nonetheless, the outlook for the sector remains clouded by seasonally softer demand and short-term uncertainty of oil price.

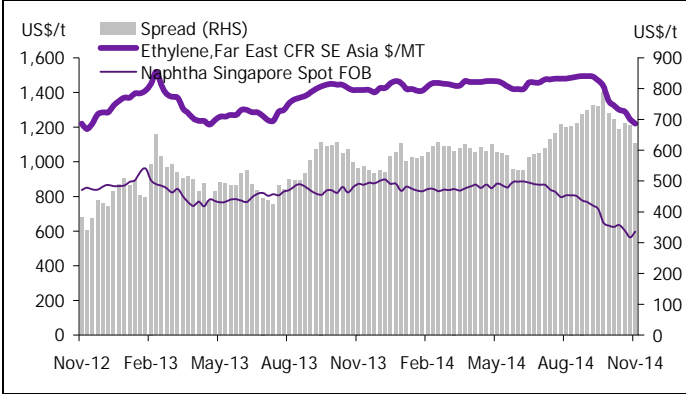
Figure 1: Petrochemical price update

	Current 21-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	597	897/564	5.9%	-4.5%	-26.0%	-31.6%	-31.6%	629	820	-23.3%	806	-21	-2.6%	842
Ethylene, Far East CFR SE Asia \$/MT	1,220	1,495/1,220	-2.0%	-7.9%	-17.6%	-16.7%	-13.8%	1,329	1,478	-10.1%	1,434	89	6.6%	1,440
Propylene (C), Spot CFR F/E US\$/MT	1,130	1,503/1,130	-5.8%	-8.7%	-18.6%	-20.8%	-23.1%	1,249	1,412	-11.6%	1,399	12	0.8%	1,430
Polye HDPE Inj, South East Asia US\$/MT	1,490	1,620/1,490	-2.0%	-4.5%	-8.0%	-5.7%	-2.9%	1,545	1,605	-3.7%	1,569	96	6.6%	1,570
Polye LDPE-Film, Spot S.E Asia US\$/MT	1,480	1,680/1,480	-2.6%	-4.8%	-8.1%	-7.5%	-10.3%	1,547	1,602	-3.4%	1,604	84	5.5%	1,640
Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,475	1,615/1,475	-2.3%	-5.4%	-8.7%	-7.2%	-3.9%	1,541	1,602	-3.8%	1,574	95	6.4%	1,580
PP Film, Spot South East Asia US\$/MT	1,475	1,625/1,475	-3.0%	-6.6%	-9.2%	-7.2%	-3.6%	1,552	1,613	-3.8%	1,580	68	4.5%	1,570
<b>Related stocks</b>														
			PTTGC (-)	IRPC (-)	SCC (-)	TPIPL (-)								
Para-Xylene CFR Chin M. Por Spot \$/MT	1,046	1,488/989	5.7%	-2.3%	-20.6%	-17.0%	-25.8%	1,066	1,353	-21.2%	1,261	-244	-16.2%	1,190
Benzene, Far East CFR Spot F/E US\$/MT	998	1,385/953	4.7%	-10.7%	-23.7%	-22.4%	-23.1%	1,083	1,296	-16.5%	1,261	-55	-4.1%	1,240
<b>Related stocks</b>														
			PTTGC (+)	TOP (+)	ESSO (+)									
MEG, Far East Spot CFR F/E US\$/MT	874	1,061/794	2.2%	4.2%	-12.0%	-4.4%	-14.1%	840	973	-13.7%	939	-116	-11.0%	1,110
PTA CFR South East Asia	805	1,040/775	1.3%	-1.8%	-22.6%	-10.1%	-18.7%	817	999	-18.2%	929	-155	-14.3%	900
PET (Fibre Grade) A/P Spot CFR NEA \$/MT	1,080	1,313/1,060	0.0%	-2.3%	-15.6%	-8.9%	-16.9%	1,117	1,268	-11.9%	1,228	-179	-12.7%	n.a.
<b>Related stocks</b>														
			PTTGC (+)	IVL (-)										
ABS Asia Pac. India Spot CFR US\$/MT	1,755	1,950/1,755	-1.7%	-6.1%	-9.8%	-7.9%	-6.6%	1,848	1,925	-4.0%	1,894	-61	-3.1%	n.a.
Polystyrene-GP, Spot Hong Kong US\$/MT	1,450	1,815/1,450	-3.3%	-8.5%	-15.5%	-15.9%	-18.3%	1,564	1,713	-8.7%	1,711	-140	-7.6%	n.a.
<b>Related stocks</b>														
			IRPC (-)											
PVC, Spot South East Asia US\$/MT	915	1,070/915	-5.2%	-7.1%	-12.9%	-13.3%	-6.6%	974	1,047	-7.0%	1,029	16	1.6%	1,070
<b>Related stocks</b>														
			VNT (-)	TPC (-)										
<b>Product spread</b>														
Ethylene - naphtha	623	786/525	-8.6%	-11.0%	-7.5%	5.3%	14.8%	700	659	6.3%	628	110	21.2%	598
Propylene - naphtha	533	686/530	-16.3%	-13.0%	-8.3%	-3.8%	-10.8%	620	593	4.6%	593	33	5.9%	588
HDPE - naphtha	893	956/638	-6.6%	-4.5%	9.8%	26.4%	34.8%	916	785	16.7%	763	118	18.3%	728
LDPE - naphtha	883	956/709	-7.7%	-5.1%	9.9%	21.5%	13.6%	918	782	17.3%	798	106	15.2%	798
LDPE - Ethylene	260	275/93	-5.5%	13.0%	100.0%	92.6%	10.6%	218	123	76.2%	170	-5	-2.6%	200
LLDPE - naphtha	878	946/670	-7.2%	-6.1%	8.6%	22.5%	32.5%	912	782	16.5%	768	116	17.8%	738
PP - naphtha	878	956/658	-8.2%	-8.1%	7.3%	22.5%	33.5%	923	793	16.4%	774	90	13.1%	728
PX - naphtha	448	612/304	5.4%	0.8%	-12.3%	16.1%	-16.4%	437	533	-18.1%	455	-223	-32.9%	348
BZ - naphtha	400	535/381	3.0%	-18.7%	-20.1%	-2.7%	-5.8%	454	477	-4.9%	455	-33	-6.8%	398
MEG - Ethylene	117	193/-58	41.8%	609.7%	55.3%	2151.9%	-15.9%	16	57	-71.5%	50	-171	-77.3%	217
PTA - PX	125	184/53	-17.6%	0.7%	-31.7%	64.3%	68.4%	124	120	3.7%	109	3	3.3%	103
PET spread	146	253/121	-9.0%	-14.9%	20.7%	-12.4%	-14.9%	186	148	25.5%	174	-18	-9.2%	n.a.
Integrated PET/PTA spread	272	359/190	-13.2%	-8.4%	-10.8%	11.6%	10.3%	310	268	15.8%	284	-14	-4.7%	n.a.
ABS spread	1,179	1,251/1,070	-4.0%	-5.6%	-0.1%	5.8%	2.6%	1,231	1,165	5.6%	1,138	-33	-2.8%	n.a.
PS spread	308	386/214	-20.3%	-3.1%	21.9%	8.1%	-9.3%	324	260	24.6%	299	-122	-29.1%	n.a.
PVC - ethylene	305	353/249	-10.9%	-5.4%	-1.6%	-5.4%	11.9%	309	308	0.3%	312	-28	-8.4%	350

Source: Datastream, SCBS Investment Research

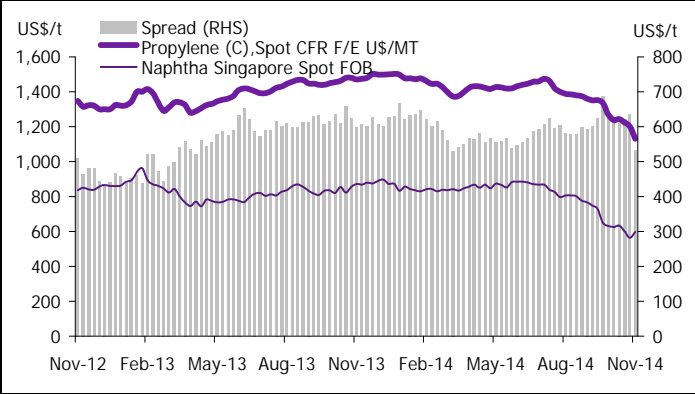
Note: Impact to related stocks is based on WoW performance

Figure 2: Ethylene vs. Naphtha



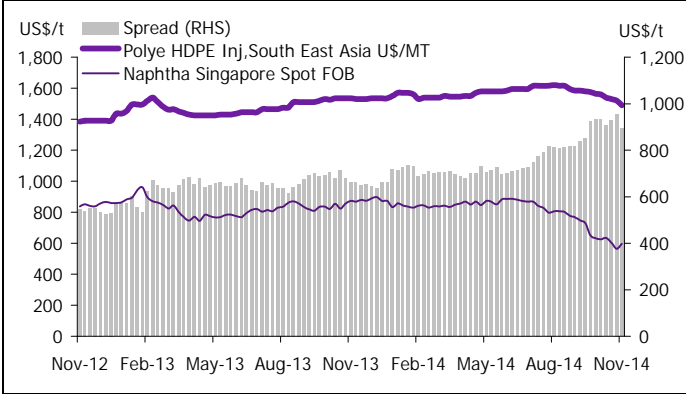
Source: Datastream, SCBS Investment Research

Figure 3: Propylene vs. Naphtha



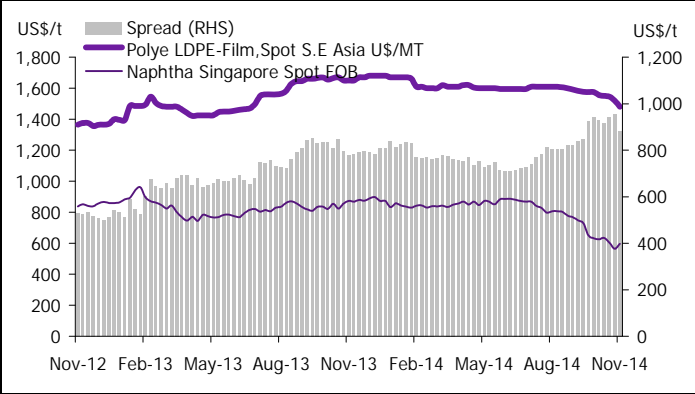
Source: Datastream, SCBS Investment Research

Figure 4: HDPE vs. Naphtha



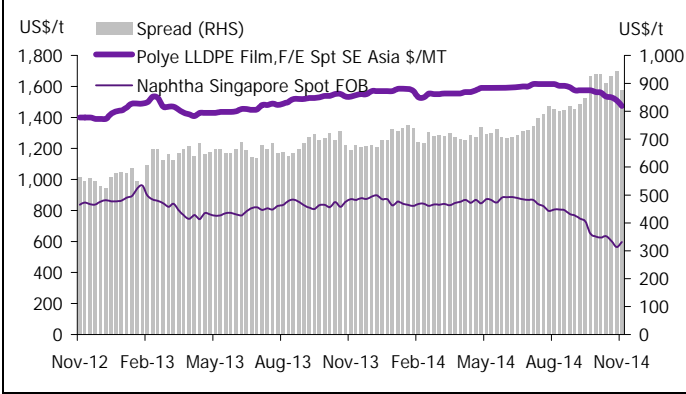
Source: Datastream, SCBS Investment Research

Figure 5: LDPE vs. Naphtha



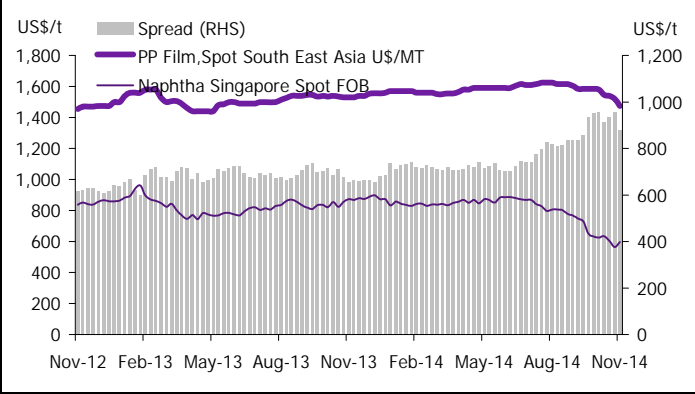
Source: Datastream, SCBS Investment Research

Figure 6: LLDPE vs. Naphtha



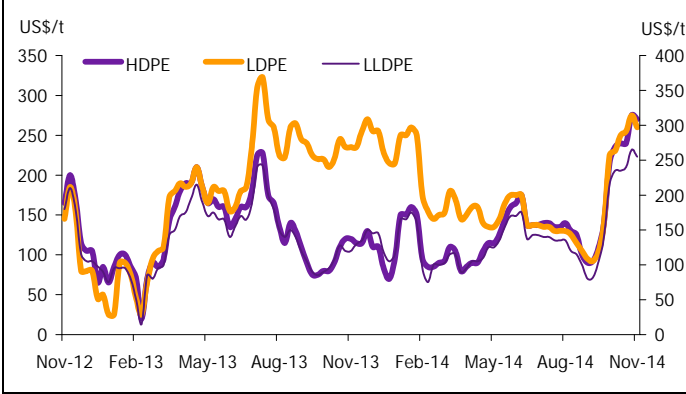
Source: Datastream, SCBS Investment Research

Figure 7: PP vs. Naphtha



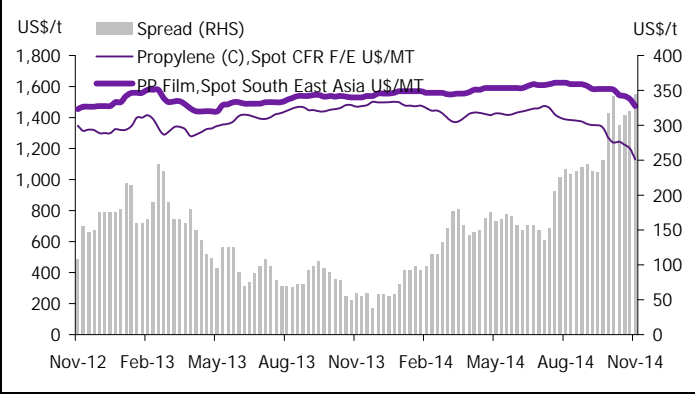
Source: Datastream, SCBS Investment Research

Figure 8: Polyethylene spread over ethylene

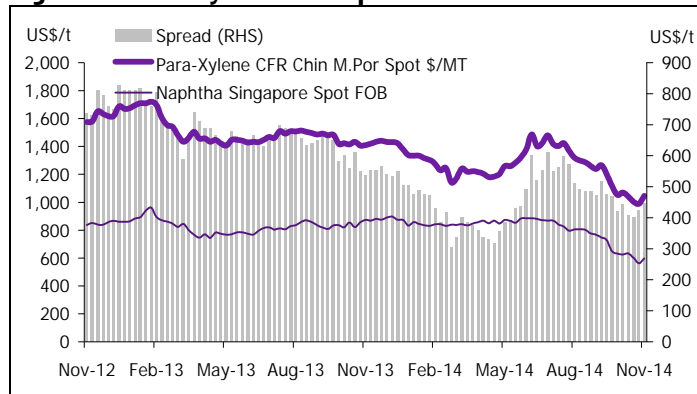


Source: Datastream, SCBS Investment Research

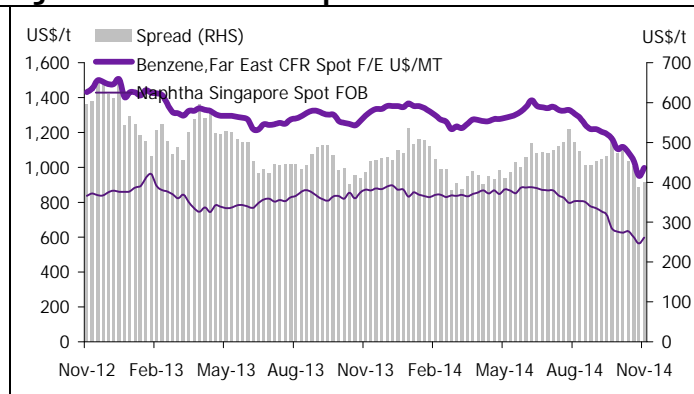
Figure 9: Polypropylene vs. propylene



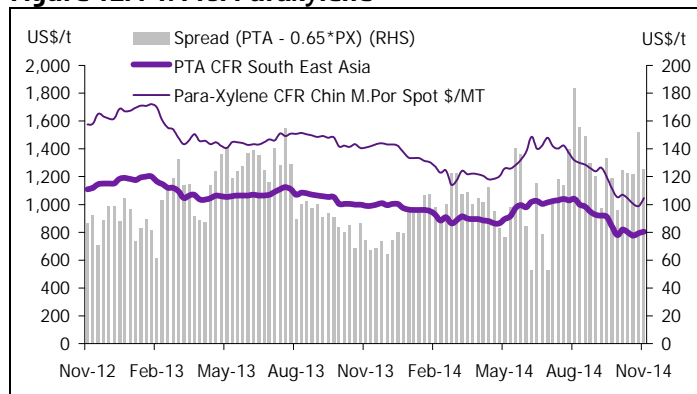
Source: Datastream, SCBS Investment Research

**Figure 10: Paraxylene vs. Naphtha**

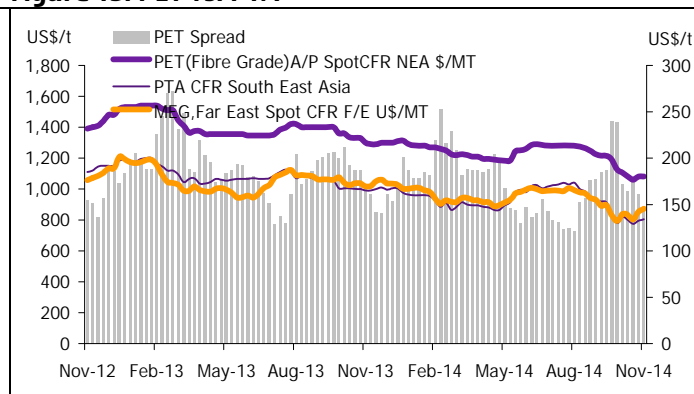
Source: Datastream, SCBS Investment Research

**Figure 11: Benzene vs. Naphtha**

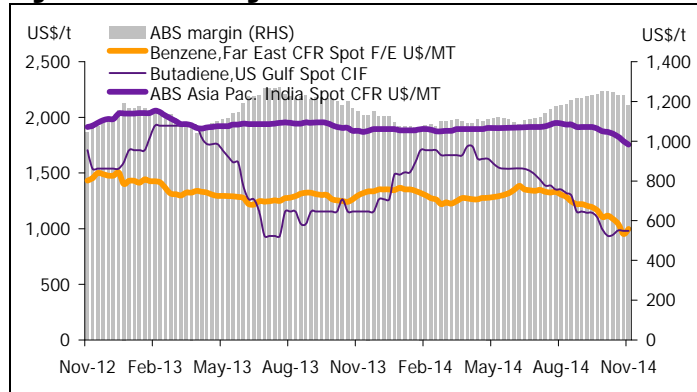
Source: Datastream, SCBS Investment Research

**Figure 12: PTA vs. Paraxylene**

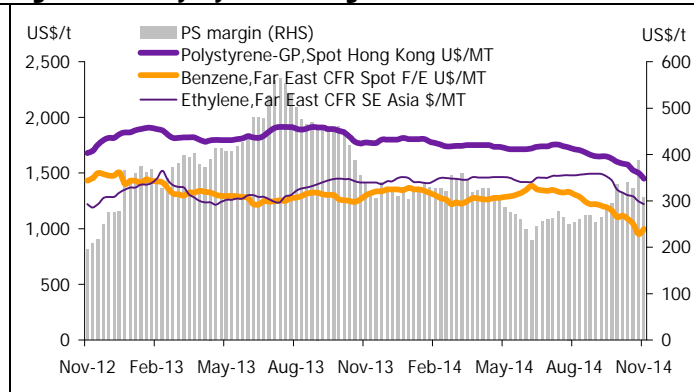
Source: Datastream, SCBS Investment Research

**Figure 13: PET vs. PTA**

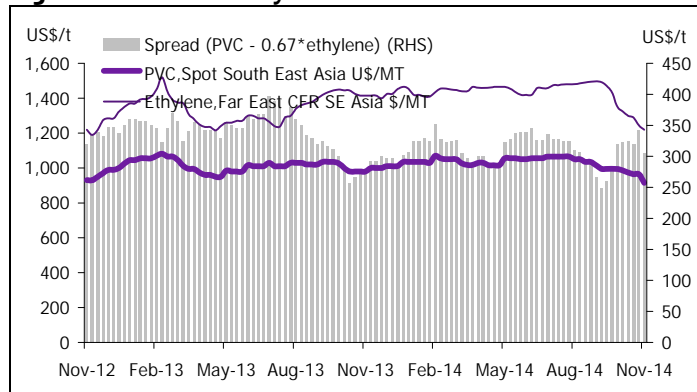
Source: Datastream, SCBS Investment Research

**Figure 14: ABS margin**

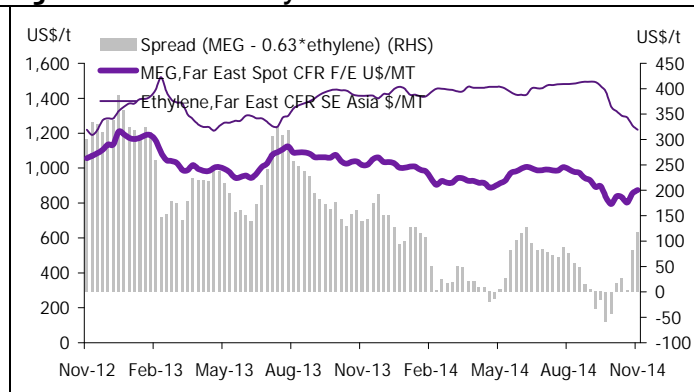
Source: Datastream, SCBS Investment Research

**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	1,329	1,478	-10%	1,434	1,432	1,440	↘
			Propylene (C), Spot CFR F/E US/MT	1,249	1,412	-12%	1,399	1,408	1,430	↘
	HDPE	19%	Polye HDPE Inj, South East Asia US/MT	1,545	1,605	-4%	1,569	1,565	1,570	↘
	LLDPE	7%	Polye LLDPE Film, F/E Spt SE Asia \$/MT	1,541	1,602	-4%	1,574	1,572	1,580	↘
	LDPE	4%	Polye LDPE-Film, Spot S.E Asia US/MT	1,547	1,602	-3%	1,604	1,611	1,640	↘
	MEG	6%	MEG, Far East Spot CFR F/E US/MT	840	973	-14%	939	949	1,110	→
	PX	28%	PX - naphtha	437	533	-18%	455	464	348	→
IRPC	BZ	15%	BZ - naphtha	454	477	-5%	455	455	398	↘
	Ethylene/Propylene	15%	Ethylene - naphtha	700	659	6%	628	619	598	↘
			Propylene - naphtha	620	593	5%	593	595	588	↘
	HDPE	12%	HDPE - naphtha	916	785	17%	763	752	728	→
	PP	28%	PP - naphtha	923	793	16%	774	763	728	→
	ABS	7%	ABS spread	1,231	1,165	6%	1,138	1,137	n.a.	↘
	BTX	23%	BZ - naphtha	454	477	-5%	455	455	398	↘
SCC	PS	12%	PS spread	324	260	25%	299	301	n.a.	→
	HDPE	40%	HDPE - naphtha	916	785	17%	763	752	728	→
	LDPE	3%	LDPE - naphtha	918	782	17%	798	797	798	→
	LLDPE	3%	LLDPE - naphtha	912	782	17%	768	759	738	→
	PP	25%	PP - naphtha	923	793	16%	774	763	728	→
	PVC	28%	PVC - Ethylene/EDC	410	428	-4%	416	392	n.a.	↘
	TPIPL	60%	LDPE - Ethylene	218	123	76%	170	178	200	↗
TOP	PX	60%	PX - naphtha	437	533	-18%	455	464	348	→
	BZ	21%	BZ - naphtha	454	477	-5%	455	455	398	↘
IVL	PTA	25%	PTA - PX	124	120	4%	109	106	103	→
	PET/Polyester	67%	PET spread	186	148	26%	174	172	n.a.	→
	MEG	8%								
VNT	PVC	63%	PVC - ethylene	309	308	0%	312	311	350	↘
TPC	PVC	100%	PVC - Ethylene/EDC	410	428	-4%	416	392	n.a.	↘

Source: Datastream, SCBS Investment Research

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