

## Petrochemical price monitor

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- **Ethylene price sets new record.** Ethylene price continued to climb WoW (+0.3%) to US\$1,490/t, supported by constrained product availability in the region. This was as we anticipated, as Reliance plans to shut its 800ktpa cracker in late Sep 2014 for one month. We believe this will lead non-integrated downstream producers to build up ethylene stock for the next month. Higher ethylene price continued to slash margin of ethylene derivatives by 4-15% WoW, especially for MEG, which was also hurt by lower demand in the region. PE-naphtha spread improved 0.5% WoW due to lower naphtha price as oil price simmered, except for LDPE, whose spread declined 0.1% WoW because of subdued demand.
- **Weakening PX trend continues.** PX price fell for its fourth consecutive week, losing 1% WoW to a 13-week low of US\$1,287/t, hit by abundant supply while PTA operators continued to cut operating rates and thus demand for PX. According to ICIS, regional PTA operating rate was at only 52-53%, down from ~60% in June.
- **Lower PET price depressed integrated PET/PTA spread.** Weak sentiment for PET continued to depress the price of bottle grade PET (-1.1% WoW) in the regional market. Behind this was muted demand and lower feedstock cost (PX and MEG). This caused integrated PET/PTA spread to fall 1.1% WoW, though remaining above the comfort zone of US\$300/t. Coupled with lower demand for polyester, PET/PTA spread will continue to narrow in weeks ahead. Average spread QTD in 3Q14 is down 3.8% to US\$259/t.

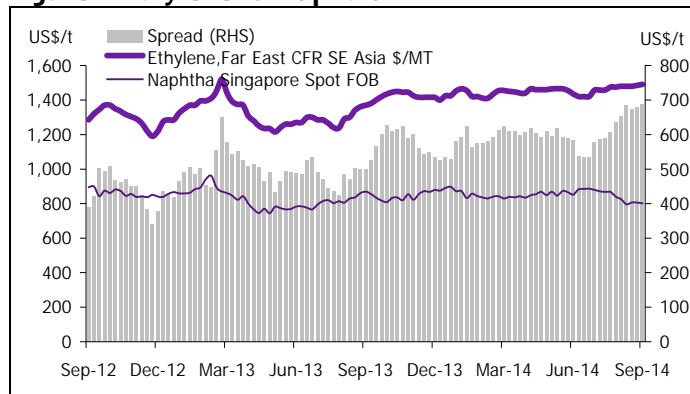
**Investment view:** The petrochemical sector index (+2% WoW) slightly outperformed the market (+1.2% WoW) driven by IVL (+2.8%) as its warrants were listed on the market. PTTGC share price also rose 2% WoW despite continuing concerns price of LPG feedstock will be affected by the energy price reform. Again, we believe the market is too pessimistic about the impact on PTTGC's profitability. Hence, the damage done by a higher LPG price to PTTGC's earnings is largely priced in, in our view.

Figure 1: Petrochemical price update

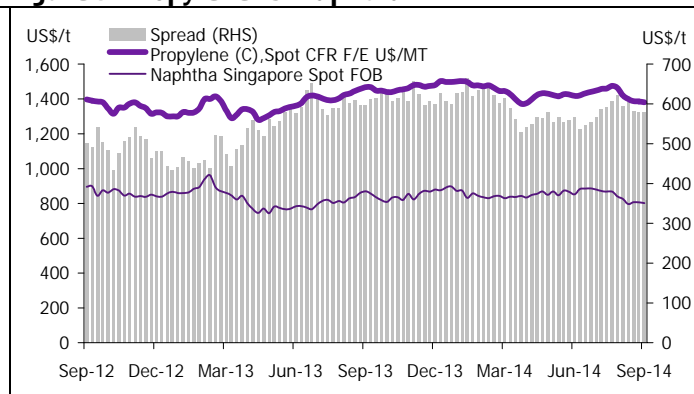
	Current 5-Sep-14	52-week High/Low	-1W	-1M	-3M	-6M	-12M	3Q14 QTD	2Q14	QoQ%	YTD	Chg.	% YoY	2014F projection
Price														
Naphtha Singapore Spot FOB	802	897/796	-0.5%	-2.9%	-5.9%	-3.3%	-7.8%	836	863	-3.1%	849	25	3.0%	842
Ethylene, Far East CFR SE Asia \$/MT	1,490	1,490/1,380	0.3%	0.7%	3.8%	2.4%	8.8%	1,474	1,448	1.7%	1,452	131	9.9%	1,440
Propylene (C), Spot CFR F/E US/MT	1,380	1,503/1,373	-0.4%	-2.8%	-2.6%	-4.5%	-6.0%	1,428	1,420	0.5%	1,436	70	5.1%	1,430
Polye HDPE Inj, South East Asia US/MT	1,615	1,620/1,510	0.0%	0.0%	2.2%	4.9%	7.0%	1,610	1,568	2.6%	1,573	116	7.9%	1,570
Polye LDPE-Film, Spot S.E Asia US/MT	1,605	1,680/1,595	-0.3%	-0.3%	0.3%	0.3%	-1.5%	1,605	1,605	0.0%	1,618	140	9.5%	1,640
Polye LLDPE Film, F/E Spot SE Asia \$/MT	1,605	1,615/1,520	0.0%	-0.6%	0.9%	3.2%	5.6%	1,608	1,577	1.9%	1,580	118	8.1%	1,580
PP Film, Spot South East Asia US/MT	1,615	1,625/1,530	0.0%	-0.6%	1.6%	3.5%	4.9%	1,616	1,581	2.2%	1,584	81	5.4%	1,570
Related stocks			PTTGC (Neutral)   IRPC (+)   SCC (+)   TPIPL (-)											
Para-Xylene CFR Chin M. Por Spot \$/MT	1,287	1,496/1,143	-1.0%	-9.7%	0.2%	3.3%	-14.4%	1,382	1,263	9.5%	1,304	-218	-14.3%	1,190
Benzene, Far East CFR Spot F/E US/MT	1,245	1,385/1,220	-3.1%	-6.0%	-4.4%	-1.4%	-5.1%	1,321	1,293	2.1%	1,305	-20	-1.5%	1,240
Related stocks			PTTGC (-)   TOP (-)   ESSO (-)											
MEG, Far East Spot CFR F/E US/MT	973	1,084/889	-0.6%	-1.4%	0.1%	5.0%	-10.6%	989	939	5.3%	963	-94	-8.9%	1,110
PTA CFR South East Asia	985	1,070/865	-1.5%	-5.3%	1.0%	8.2%	-8.8%	1,020	920	10.8%	953	-148	-13.4%	900
PET(Fibre Grade)A/P Spot CFR NEA \$/MT	1,265	1,400/1,185	-0.8%	-1.2%	1.6%	1.2%	-9.6%	1,280	1,217	5.2%	1,252	-168	-11.8%	n.a.
Related stocks			PTTGC (-)   IVL (-)											
ABS Asia Pac. India Spot CFR US/MT	1,935	1,955/1,870	0.0%	0.0%	1.6%	3.2%	-0.5%	1,928	1,901	1.4%	1,903	-62	-3.2%	n.a.
Polystyrene-GP, Spot Hong Kong US/MT	1,685	1,915/1,685	-1.2%	-3.2%	-1.7%	-3.2%	-11.3%	1,730	1,733	-0.2%	1,748	-101	-5.5%	n.a.
Related stocks			IRPC (+)											
PVC, Spot South East Asia US/MT	1,035	1,070/980	-1.4%	-2.8%	-1.9%	-1.4%	1.5%	1,057	1,035	2.1%	1,043	28	2.7%	1,070
Related stocks			VNT (-)   TPC (-)											
Product spread														
Ethylene - naphtha	688	688/524	1.3%	5.1%	18.0%	10.0%	37.5%	637	586	8.9%	603	107	21.5%	598
Propylene - naphtha	578	665/530	-0.2%	-2.7%	2.2%	-6.0%	-3.3%	591	557	6.2%	587	45	8.3%	588
HDPE - naphtha	813	819/638	0.5%	3.0%	11.7%	14.5%	26.9%	773	705	9.6%	724	91	14.4%	728
LDPE - naphtha	803	851/709	-0.1%	2.4%	7.3%	4.3%	5.6%	769	742	3.6%	769	115	17.7%	798
LDPE - Ethylene	115	270/115	-8.0%	-11.5%	-30.3%	-20.7%	-55.8%	131	156	-15.9%	166	9	5.6%	200
LLDPE - naphtha	803	819/662	0.5%	1.7%	8.8%	10.7%	23.5%	772	714	8.0%	731	93	14.7%	738
PP - naphtha	813	829/657	0.5%	1.7%	10.2%	11.3%	21.3%	780	718	8.6%	735	56	8.2%	728
PX - naphtha	485	673/304	-1.7%	-19.2%	12.1%	16.4%	-23.6%	546	400	36.6%	456	-242	-34.7%	348
BZ - naphtha	443	535/381	-7.5%	-11.3%	-1.7%	2.4%	0.0%	484	430	12.6%	456	-45	-9.0%	398
MEG - Ethylene	49	228/-20	-15.0%	-29.3%	-40.5%	99.6%	-79.5%	75	41	82.2%	62	-175	-73.7%	217
PTA - PX	149	184/53	-4.4%	30.8%	6.0%	48.6%	44.8%	121	100	21.5%	106	-6	-5.6%	103
PET spread	156	253/121	2.4%	26.6%	8.2%	-27.6%	-11.7%	138	170	-18.6%	172	-20	-10.2%	n.a.
Integrated PET/PTA spread	305	352/190	-1.1%	28.6%	7.1%	-3.5%	9.1%	259	269	-3.8%	277	-26	-8.5%	n.a.
ABS spread	1,205	1,229/1,070	1.7%	4.1%	8.2%	11.9%	-1.5%	1,149	1,103	4.2%	1,110	-52	-4.5%	n.a.
PS spread	269	468/214	3.9%	2.0%	-0.2%	-16.0%	-42.2%	259	291	-10.9%	296	-123	-29.3%	n.a.
PVC - ethylene	290	353/258	-5.7%	-10.8%	-14.1%	-10.1%	-13.4%	320	311	2.9%	317	-38	-10.7%	350

Source: Datastream, SCBS Investment Research

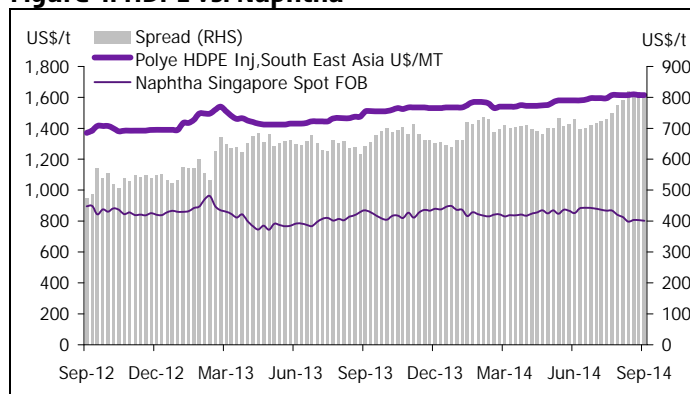
Note: Impact to related stocks is based on WoW performance

**Figure 2: Ethylene vs. Naphtha**

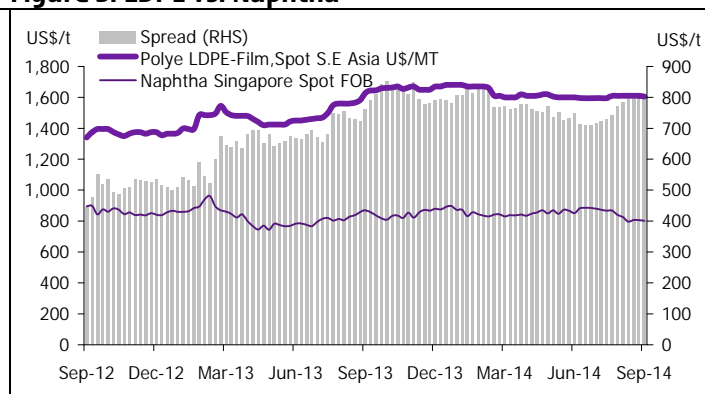
Source: Datastream, SCBS Investment Research

**Figure 3: Propylene vs. Naphtha**

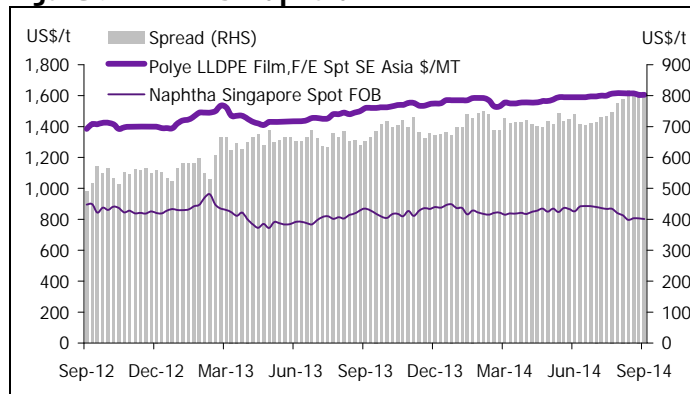
Source: Datastream, SCBS Investment Research

**Figure 4: HDPE vs. Naphtha**

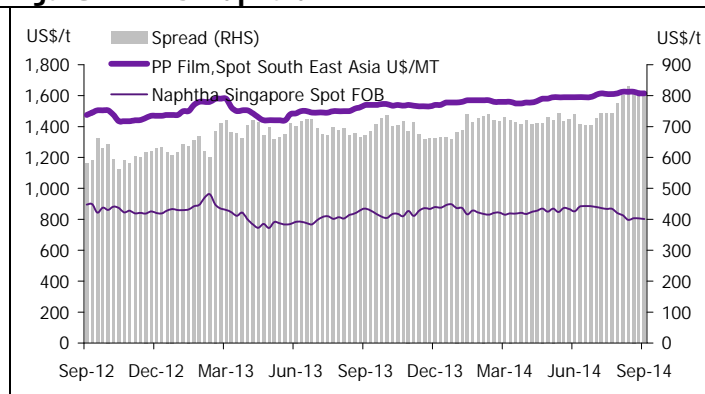
Source: Datastream, SCBS Investment Research

**Figure 5: LDPE vs. Naphtha**

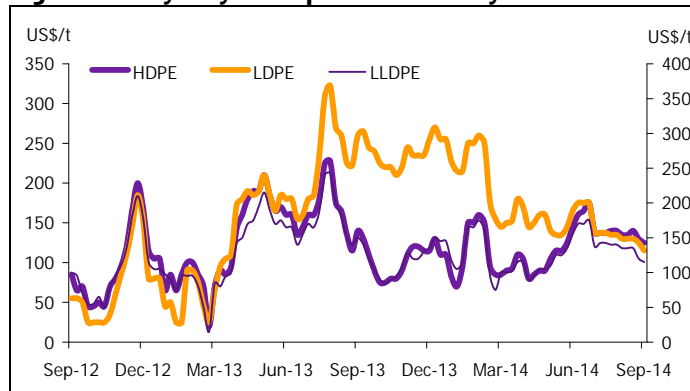
Source: Datastream, SCBS Investment Research

**Figure 6: LLDPE vs. Naphtha**

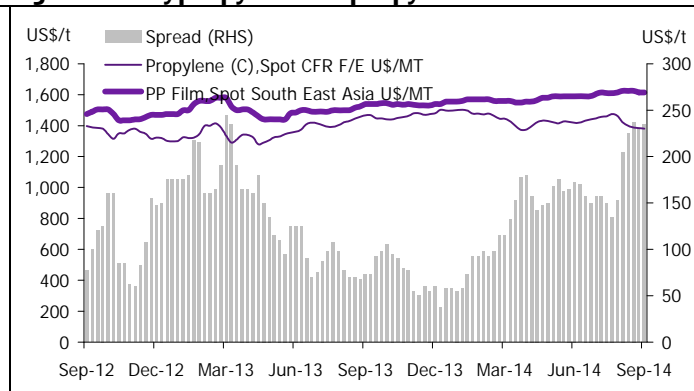
Source: Datastream, SCBS Investment Research

**Figure 7: PP vs. Naphtha**

Source: Datastream, SCBS Investment Research

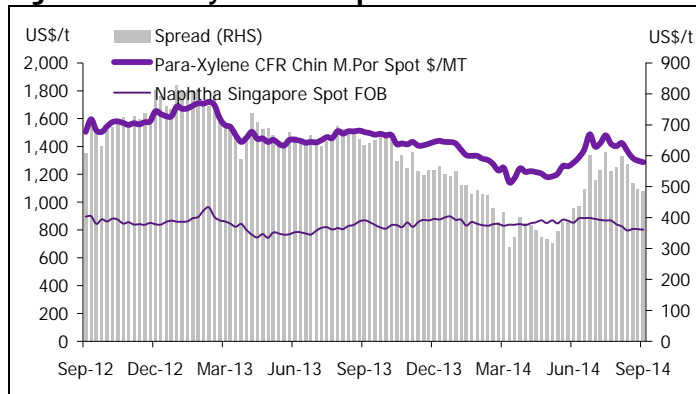
**Figure 8: Polyethylene spread over ethylene**

Source: Datastream, SCBS Investment Research

**Figure 9: Polypropylene vs. propylene**

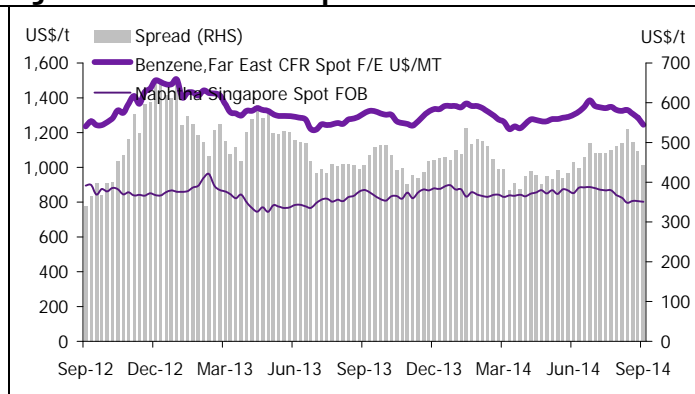
Source: Datastream, SCBS Investment Research

Figure 10: Paraxylene vs. Naphtha



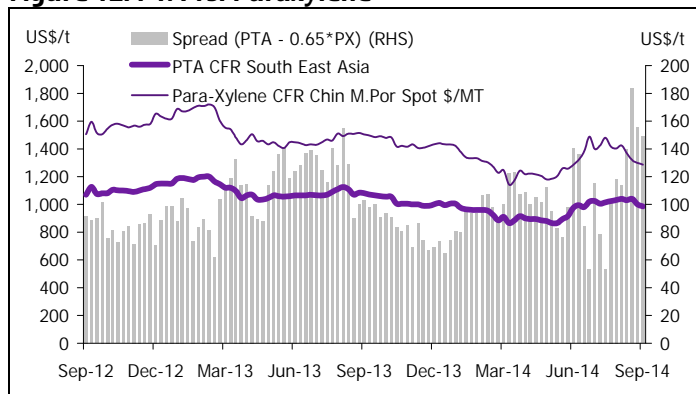
Source: Datastream, SCBS Investment Research

Figure 11: Benzene vs. Naphtha



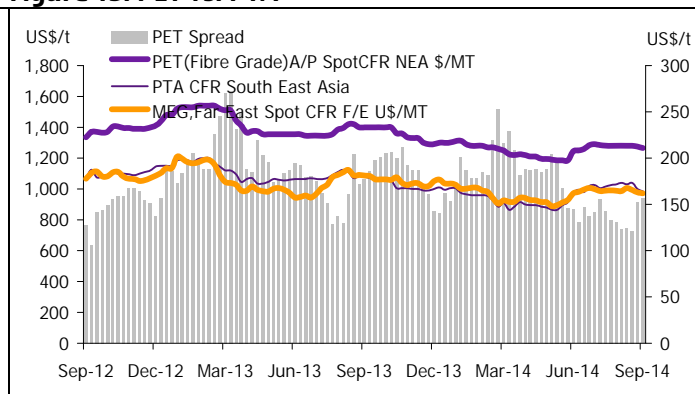
Source: Datastream, SCBS Investment Research

Figure 12: PTA vs. Paraxylene



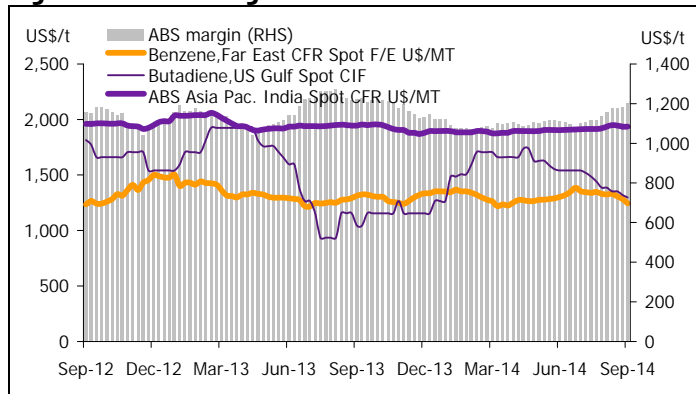
Source: Datastream, SCBS Investment Research

Figure 13: PET vs. PTA



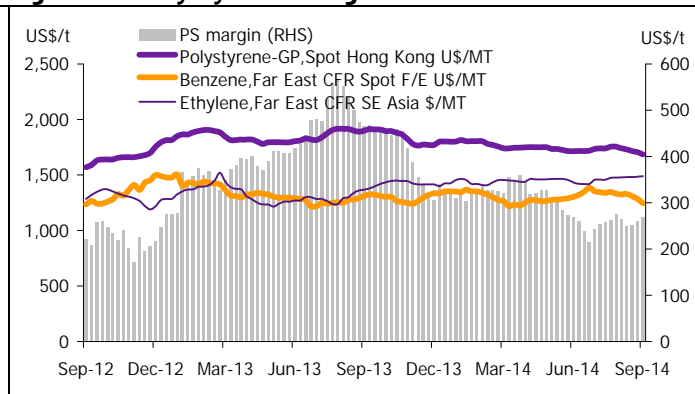
Source: Datastream, SCBS Investment Research

Figure 14: ABS margin



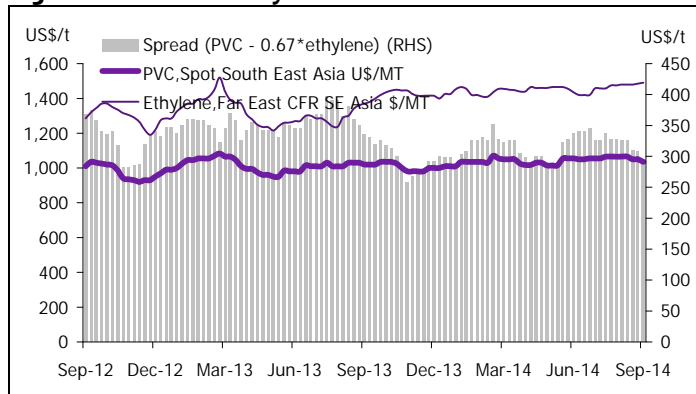
Source: Datastream, SCBS Investment Research

Figure 15: Polystyrene margin



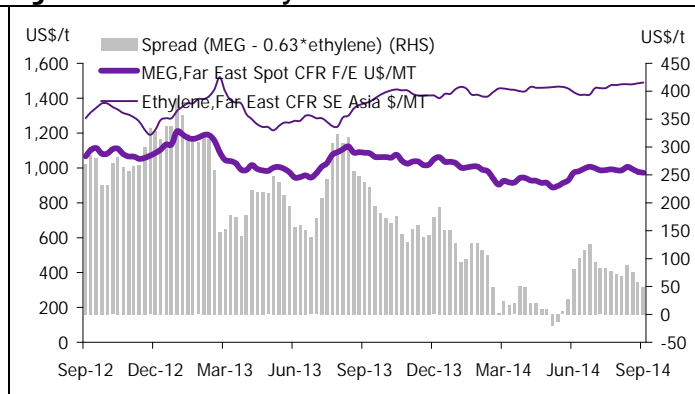
Source: Datastream, SCBS Investment Research

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	3Q14 QTD	2Q14	QoQ%	YTD	12MMA	2014F projection	Momentum
PTTGC	Ethylene/Propylene	21%	Ethylene, Far East CFR SE Asia \$/MT	1,474	1,448	2%	1,452	1,443	1,440	↗
			Propylene (C), Spot CFR F/E US/MT	1,428	1,420	1%	1,436	1,446	1,430	↘
	HDPE	19%	Polye HDPE Inj, South East Asia US/MT	1,610	1,568	3%	1,573	1,558	1,570	→
	LLDPE	7%	Polye LLDPE Film, F/E Spt SE Asia \$/MT	1,608	1,577	2%	1,580	1,568	1,580	→
	LDPE	4%	Polye LDPE-Film, Spot S.E Asia US/MT	1,605	1,605	0%	1,618	1,631	1,640	→
	MEG	6%	MEG, Far East Spot CFR F/E US/MT	989	939	5%	963	989	1,110	→
	PX	28%	PX - naphtha	546	400	37%	456	498	348	→
IRPC	BZ	15%	BZ - naphtha	484	430	13%	456	454	398	↘
	Ethylene/Propylene	15%	Ethylene - naphtha	637	586	9%	603	593	598	↗
			Propylene - naphtha	591	557	6%	587	596	588	→
	HDPE	12%	HDPE - naphtha	773	705	10%	724	709	728	↗
	PP	28%	PP - naphtha	780	718	9%	735	721	728	↗
	ABS	7%	ABS spread	1,149	1,103	4%	1,110	1,131	n.a.	↗
	BTX	23%	BZ - naphtha	484	430	13%	456	454	398	↘
SCC	PS	12%	PS spread	259	291	-11%	296	326	n.a.	→
	HDPE	40%	HDPE - naphtha	773	705	10%	724	709	728	↗
	LDPE	3%	LDPE - naphtha	769	742	4%	769	782	798	↗
	LLDPE	3%	LLDPE - naphtha	772	714	8%	731	719	738	↗
	PP	25%	PP - naphtha	780	718	9%	735	721	728	↗
	PVC	28%	PVC - Ethylene/EDC	437	405	8%	419	408	n.a.	↘
TPIPL	LDPE	60%	LDPE - Ethylene	131	156	-16%	166	188	200	↘
TOP	PX	60%	PX - naphtha	546	400	37%	456	498	348	→
	BZ	21%	BZ - naphtha	484	430	13%	456	454	398	↘
IVL	PTA	25%	PTA - PX	121	100	21%	106	98	103	↗
	PET/Polyester	67%	PET spread	138	170	-19%	172	175	n.a.	↗
	MEG	8%								
VNT	PVC	63%	PVC - ethylene	320	311	3%	317	310	350	↘
TPC	PVC	100%	PVC - Ethylene/EDC	437	405	8%	419	408	n.a.	↘

Source: Datastream, SCBS Investment Research

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