

1. News Summary (3 page)

2017년 8월 28일

News	
WTI comment	허리케인 발생 생산타격 전망에 상승...WTI 0.9%↑
Headline	[주간가격] 에틸렌, WoW 15\$/mt 상승해 CFR NEA 1,280\$/mt로 마감
News 1.	[주간가격] MEG, WoW 33\$/mt 상승해 CFR China 898\$/mt로 마감
News 2.	[주간가격] BD, WoW 120\$/mt 상승해 CFR China 1,370\$/mt로 마감
News 3.	[주간가격] SBR, WoW 110\$/mt 상승해 CFR SEA 1,650\$/mt로 마감
News 4.	[주간가격] PX, WoW 6.17\$/mt 상승해 FOB Korea 811.17\$/mt로 마감

Conclusion	
	하반기에 접어들며 정기보수 종료와 미국 ECC 가동으로 peakout 전망 대만쪽 MEG 공장 정기보수 돌입과 에틸렌 강세 보이며 가격 상승 전망 남아시아 홍수 지속으로 천연고무 쉐티지와 함께 BD도 지속 상승 전망 타이어쪽 수요 강세와 BD 쉐티지로 인한 SBR 강세 지속될 전망 다음 주 설정되는 9월 ACP는 8월 ACP보다 높게 책정될 전망

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	47.9	0.9	(1.3)	(3.7)	(3.9)	0.5
Dubai	\$/bbl	50.6	0.0	2.6	1.7	0.3	13.3
Gasoline	\$/bbl	68.0	0.2	1.1	4.3	5.1	15.4
Diesel	\$/bbl	64.1	0.4	3.5	0.0	4.3	13.8
Complex margin	\$/bbl	9.1	0.2	0.1	0.1	2.1	2.0
1M lagging	\$/bbl	12.4	(0.6)	1.3	(1.3)	5.0	1.3
Petrochemical			%	%	%	%	%
Naphtha	\$/t	476	0.7	2.6	11.7	4.0	18.9
Butadiene	\$/t	1,310	6.5	9.2	44.0	29.7	23.0
HDPE	\$/t	1,145	0.4	1.8	5.0	3.6	0.9
MEG	\$/t	898	2.0	3.8	5.9	19.7	44.4
PX	\$/t	811	0.5	0.8	2.5	1.0	2.9
SM	\$/t	1,240	1.8	5.9	9.9	15.2	21.2
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.89	(1.9)	(0.0)	(1.7)	(13.0)	(4.5)
Natural rubber	\$/t	1,520	0.7	(1.9)	7.8	2.7	21.6
Cotton	C/lbs	68.6	(2.2)	1.2	(2.3)	(11.0)	1.3

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	08/21	\$/t	1,165	3.6	27.3	17.1	8.4
Propylene	08/21	\$/t	775	0.0	2.3	3.7	7.6
Benzene	08/21	\$/t	775	0.3	5.1	(0.6)	14.0
Toluene	08/21	\$/t	655	0.0	4.0	0.0	12.0
Xylene	08/21	\$/t	635	0.0	2.8	0.8	5.8
PP	08/21	\$/t	1,108	0.9	4.7	6.7	13.6
PVC	08/21	\$/t	890	2.3	2.3	1.1	7.2
ABS	08/21	\$/t	1,870	1.1	3.3	14.7	35.5
SBR	08/21	\$/t	1,540	2.0	2.7	(12.0)	9.2
SM	08/21	\$/t	1,193	1.9	1.9	7.2	13.0
BPA	08/21	\$/t	2,023	27.4	32.2	49.8	34.8
Caustic	08/21	\$/t	476	0.7	2.9	6.4	56.1
2-EH	08/21	\$/t	960	0.0	1.1	1.1	26.3
Caprolactam	08/21	\$/t	1,800	0.0	5.9	5.9	32.4
Solar				%	%	%	%
Polysilicon	08/23	\$/kg	15.6	0.0	9.0	15.8	0.6
Module	08/23	\$/W	0.32	(0.6)	(1.8)	(3.6)	(26.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	76.7	0.5	0.1	(4.4)	(6.2)	(12.3)
Shell	EUR	2,143	0.4	1.3	3.0	1.5	14.1
Petrochina	CNY	8.07	1.4	1.5	0.0	2.5	8.9
Gazprom	RUB	117.9	1.1	1.6	(0.5)	(3.1)	(13.0)
Petrobras	BRL	13.9	0.6	2.1	5.0	1.0	10.8
Refinery							
Phillips66	USD	83.4	(0.5)	2.3	(1.2)	7.7	5.5
Valero	USD	67.7	0.3	4.5	(1.1)	7.1	23.0
JX	JPY	542.8	0.5	1.7	10.4	10.2	43.9
Neste Oil	EUR	35.8	2.0	3.4	(3.0)	(4.3)	(6.2)

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.2	(0.4)	1.2	1.5	(2.2)	13.8
Dow Chemical	USD	64.5	0.3	1.8	(3.5)	6.4	19.5
SABIC	SAR	98.7	0.0	0.6	(1.3)	0.5	19.6
Formosa Pla.	TWD	93.9	0.4	1.2	3.0	4.1	18.9
Shin-Etsu	JPY	9,609	(0.0)	(0.0)	(8.4)	(2.8)	34.2
Renewable							
Wacker	EUR	106.8	0.5	2.5	5.9	10.7	27.5
First Solar	USD	47.42	0.5	(1.3)	4.3	25.0	28.0
GCL-Poly	HKD	0.89	(2.2)	(5.3)	2.3	3.5	(20.5)
Tesla Motors	USD	348.1	(1.4)	0.2	2.5	9.9	57.5

4. Coverage Summary

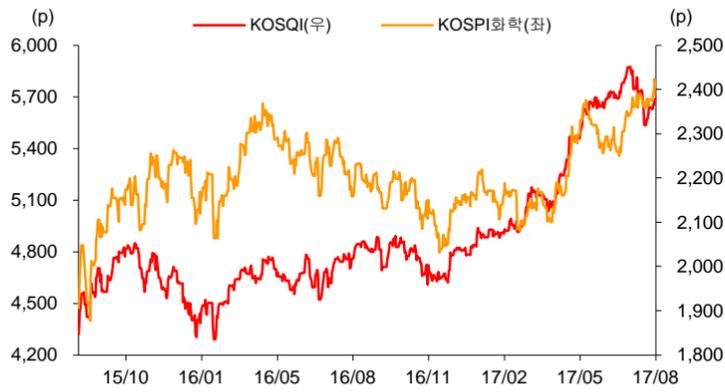
	08/25	1D	1W	1M	3M	6M	12M
KOSPI	2,379	0.1	0.9	(2.3)	1.0	12.9	16.4
KOSPI화학	5,762	(0.7)	1.3	2.2	1.8	12.3	10.2
LG화학	368,500	(1.7)	5.6	12.9	21.0	29.8	38.0
롯데케미칼	389,000	(1.0)	(1.0)	6.4	3.5	2.5	40.9
한화케미칼	35,700	1.4	1.1	8.0	22.1	37.3	32.5
금호석유화학	77,000	0.0	(0.5)	1.3	(6.2)	(1.9)	7.8
KCC	394,000	0.4	(1.6)	(8.9)	(3.4)	15.4	(6.7)
OCI	95,800	2.9	3.2	10.5	6.0	3.2	4.6
SKC	37,500	0.8	0.0	1.6	19.8	13.8	32.7
국도화학	54,000	0.7	(1.5)	(2.2)	6.9	4.2	(5.8)
SK이노베이션	180,500	1.4	5.9	1.7	7.8	15.7	22.0
S-Oil	117,000	(0.4)	3.1	2.2	14.7	38.5	61.4
GS	68,100	0.1	0.1	(9.1)	(5.4)	26.3	37.6
SK가스	110,000	1.9	0.5	(0.9)	(10.2)	5.8	11.1
포스코대우	21,650	(0.7)	(0.5)	(8.6)	(9.8)	(14.3)	(9.8)
LG상사	28,750	0.2	1.4	(7.7)	(13.1)	(11.8)	(15.4)
한국전력	44,250	0.7	(1.3)	(2.0)	4.2	2.1	(22.6)
한국가스공사	45,950	1.0	(0.2)	(6.9)	(11.1)	(5.8)	7.6

투자 의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	330,000	(10.4)	14.67	1.97
매수	410,000	5.4	8.03	1.42
매수	33,000	(7.6)	8.52	1.06
매수	100,000	29.9	14.64	1.46
매수	450,000	14.2	22.41	0.63
매수	100,000	4.4	19.38	0.75
매수	40,000	6.7	14.13	1.00
매수	70,000	29.6	9.06	0.66
매수	180,000	(0.3)	8.11	0.98
매수	100,000	(14.5)	15.71	2.28
매수	80,000	17.5	5.66	1.00
매수	150,000	36.4	6.67	0.80
매수	27,000	24.7	7.52	0.90
매수	42,000	46.1	8.89	0.93
매수	60,000	35.6	7.65	0.35
매수	60,000	30.6	7.80	0.54

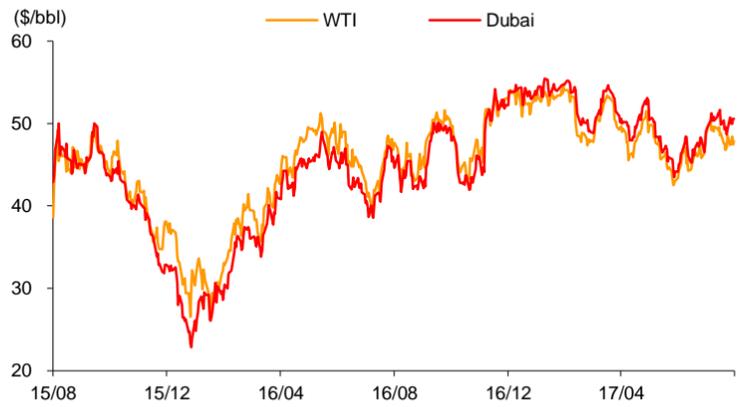
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
· 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

KOSPI/KOSPI화학



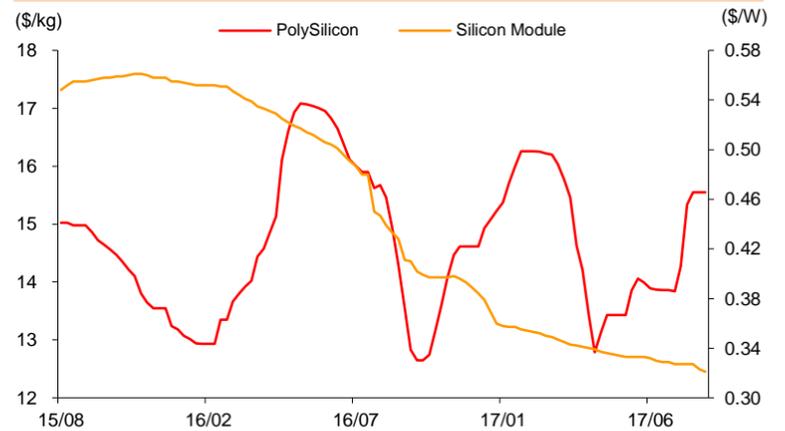
WTI/Dubai



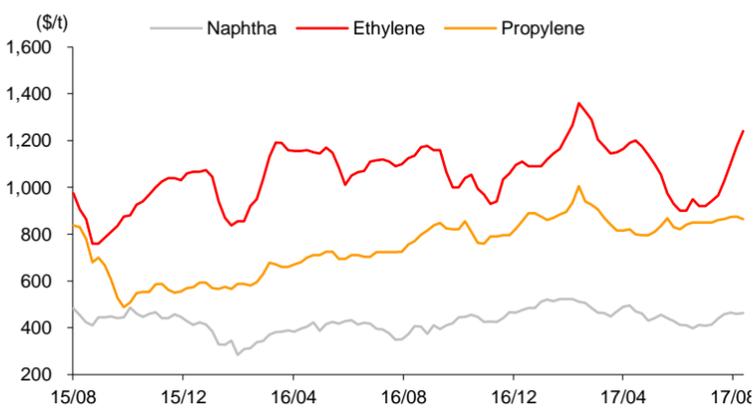
Complex & 1M lagging margin



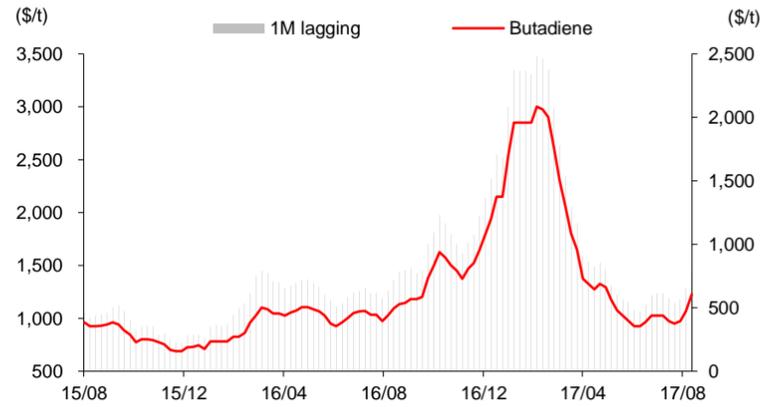
Polysilicon & Module prices



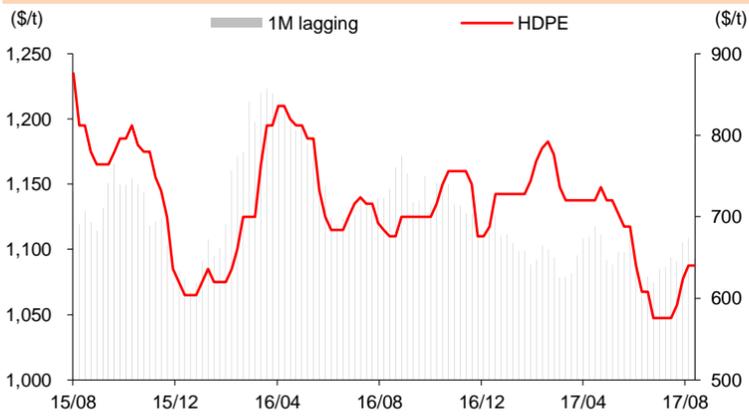
Naphtha/Ethylene/Propylene prices



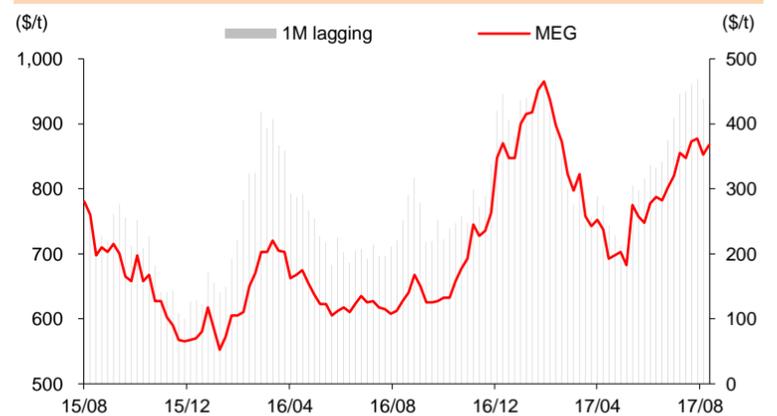
Butadiene price & 1M lagging naphtha spread



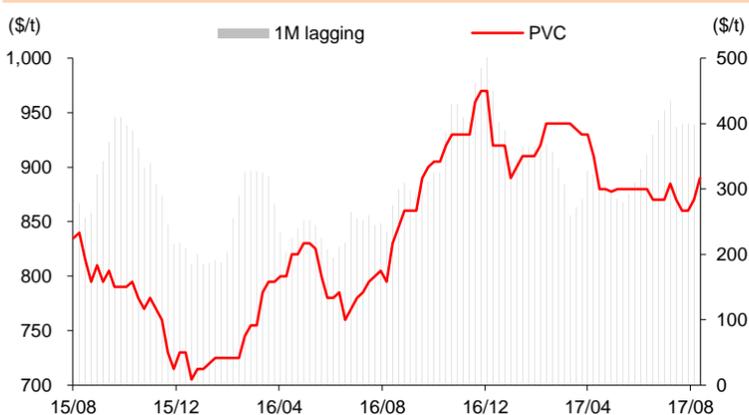
HDPE price & 1M lagging naphtha spread



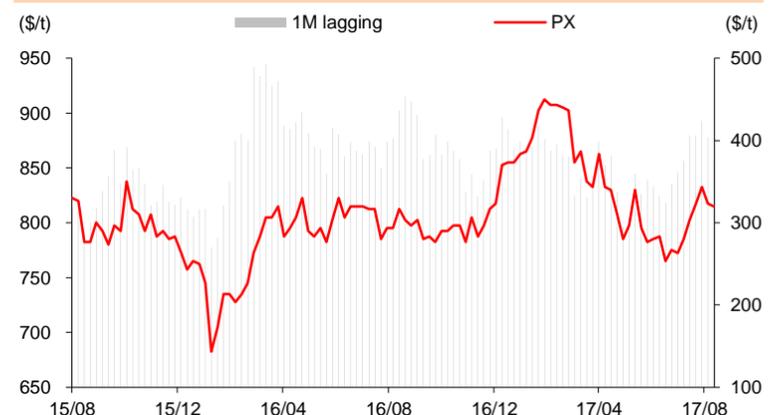
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



자료: Bloomberg, Cischem, Petronet, Platts, Pvsights, SK증권
참고: 상기 데이터는 일괄적으로 과거 2년치 적용

News Comment

Headline (출처: Platts)

제목 [주간가격] 에틸렌, WoW 15\$/mt 상승해 CFR NEA 1,280\$/mt로 마감
결론 하반기에 접어들며 정기보수 종료와 미국 ECC 가동으로 peakout 전망
세부

- 1) 아시아 역내 공급 부족과 다운스트림인 SM의 강세로 이번주도 상승함
- 2) 아시아 공급 부족은 3분기 대만 등에서의 정기보수 돌입에 기인함
- 3) 그 영향으로 중국 Changzhou Dohow Chem의 SM 공장 섯다운함
- 4) SM의 가격은 WoW 69\$/mt 상승해 CFR China 1,267\$/mt에 마감
- 5) 하반기에 접어들며 정기보수 종료와 미국 ECC 가동으로 peakout 전망

Issue 1 (출처: Platts)

제목 [주간가격] MEG, WoW 33\$/mt 상승해 CFR China 898\$/mt로 마감
결론 대만쪽 MEG 공장 정기보수 돌입과 에틸렌 강세 보이며 가격 상승 전망
세부

- 1) 높은 다운스트림 수요와 선물 시장의センチ먼트 개선으로 상승 마감함
- 2) 원재료인 에틸렌이 WoW 15\$/mt 상승했지만 MEG 마진은 흑자전환함
- 3) 중국 내수 MEG 가격은 거래량이 늘며 WoW 160yuan/mt 상승함
- 4) PET 공장들은 수요 증가로 가동률을 80-90%까지 끌어올림
- 5) 대만쪽 MEG 공장 정기보수 돌입과 에틸렌 강세 보이며 가격 상승 전망

Issue 3 (출처: Platts)

제목 [주간가격] SBR, WoW 110\$/mt 상승해 CFR SEA 1,650\$/mt로 마감
결론 타이어쪽 수요 강세와 BD 섯티지로 인한 SBR 강세 지속될 전망
세부

- 1) 원재료인 BD 가격이 강세를 보이고 역내 공급 부족으로 상승 마감함
- 2) 동북아 지역 수요 강세와 8월 정기보수 시즌으로 공급이 부족한 상황
- 3) 타이어 생산자들이 가동률을 끌어 올리며 수요가 강세를 보이고 있음
- 4) 인도 시장에서는 낮은 재고 수준으로 인해 수요가 높아지고 있음
- 5) 타이어쪽 수요 강세와 BD 섯티지로 인한 SBR 강세 지속될 전망

Issue 5 (출처: Platts)

제목 [주간가격] PTA, WoW 5\$/mt 상승해 CFR China 635\$/mt로 마감
결론 중국 내 공급 부족 문제로 가동률 낮아지며 PTA 가격 상승 전망
세부

- 1) 선물 시장의センチ먼트가 호조세를 보이며 상승 마감함
- 2) 폴리에스터 생산자들의 수요가 올라갔으며 공급도 부족한 상황임
- 3) 메이저 생산 업체인 Yisheng과 Hengli의 생산 문제로 공급이 부족해짐
- 4) 따라서 중국은 부족분을 대한민국에서 수입해 충당하는 모습 보임
- 5) 중국 내 공급 부족 문제로 가동률 낮아지며 PTA 가격 상승 전망

WTI Comment (출처: 연합뉴스)

제목 허리케인 발생 생산타격 전망에 상승...WTI 0.9%↑
상승 Harvey 영향으로 美 원유생산 과잉이 조금 해소될 수 있다는 전망
요인 허리케인 상륙을 앞두고 텍사스주의 원유생산 시설은 가동이 중단됨

하락
요인

Issue 2 (출처: Platts)

제목 [주간가격] BD, WoW 120\$/mt 상승해 CFR China 1,370\$/mt로 마감
결론 남아시아 홍수 지속으로 천연고무 섯티지와 함께 BD도 지속 상승 전망
세부

- 1) BD 가격이 공급 부족과 다운스트림 수요 강세로 4개월 최고치 기록
- 2) 관계자, "9월 카고가 이미 모두 거래되었으며 아시아 역내 공급 부족"
- 3) 중국 내 ABS 생산자들이 가동률을 끌어 올리며 수요가 증가함
- 4) 대만 Formosa PetChem이 정기보수 진입하며 공급은 더 부족해짐
- 5) 남아시아 홍수 지속으로 천연고무 섯티지와 함께 BD도 지속 상승 전망

Issue 4 (출처: Platts)

제목 [주간가격] PX, WoW 6.17\$/mt 상승해 FOB Korea 811.17\$/mt로 마감
결론 다음 주 설정되는 9월 ACP는 8월 ACP보다 높게 책정될 전망
세부

- 1) 금요일에만 4.17\$/mt 상승하며 견조한 매수センチ먼트를 보이며 마감
- 2) 다운스트림인 PET 마진 개선은 PX 생산자들의 마진은 줄임
- 3) 10월 물량에 대한 거래는 CFR로 824 - 833\$/mt에서 이루어 짐
- 4) 인도 MCPI는 47만톤/년 규모의 PTA 공장을 2주간 정기보수 예정
- 5) 다음 주 설정되는 9월 ACP는 8월 ACP보다 높게 책정될 전망

Issue 6 (출처: PVinsights)

제목 [주간가격] 바이어들의 appetite가 빠지며 태양광 관련 가격 하락 시현
결론 일부 시장을 제외하고 메이저 시장인 중국 내 제품 가격 하락 전망됨
세부

- 1) 중국 기업들이 내수 가격을 내리는 행위로 인해 solar panel 가격 하락
- 2) 약달러로 일부 상쇄되었지만, 일본과 EU 지역 panel 가격 하락도 원인
- 3) 미국 시장에서는 section 21 영향으로 panel 가격이 안정적인 모습
- 4) 중국 2, 3 티어 업체간 경쟁 약화로 인도 시장 모듈 가격은 소폭 흑자
- 5) 일부 시장을 제외하고 메이저 시장인 중국 내 제품 가격 하락 전망됨

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
F/X	USD/EUR	0.839	0.848	0.850	0.859	0.892	0.947	0.886	0.951	0.901	0.904	0.908	
	Change, %		(1.1)	(1.4)	(2.3)	(6.0)	(11.4)	(5.3)	(11.8)	(7.0)	(7.2)	(7.6)	
	USD/JPY	109.4	109.6	109.2	111.9	111.8	112.1	100.5	117.0	121.1	108.8	112.1	
	Change, %		(0.2)	0.2	(2.3)	(2.2)	(2.5)	8.8	(6.5)	(9.7)	0.6	(2.4)	
	USD/KRW	1,128.4	1,127.8	1,141.3	1,115.4	1,116.5	1,131.1	1,115.7	1,205.8	1,131.2	1,160.5	1,140.1	
	Change, %		0.0	(1.1)	1.2	1.1	(0.2)	1.1	(6.4)	(0.3)	(2.8)	(1.0)	
	Agriculture	Corn	338.8	342.0	352.0	368.8	369.3	364.0	323.5	352.0	376.8	358.5	366.3
		Change, %		(1.0)	(3.8)	(8.1)	(8.3)	(6.9)	4.7	(3.8)	(10.1)	(5.5)	(7.5)
Soybean		939.0	941.3	937.5	981.5	939.5	1,013.5	998.3	996.5	945.4	987.5	977.8	
Change, %			(0.2)	0.2	(4.3)	(0.1)	(7.4)	(5.9)	(5.8)	(0.7)	(4.9)	(4.0)	
	Wheat	409.5	409.0	416.0	474.0	430.8	431.3	401.3	408.0	508.1	436.4	441.4	
	Change, %		0.1	(1.6)	(13.6)	(4.9)	(5.0)	2.1	0.4	(19.4)	(6.2)	(7.2)	
	Rice	12.4	12.4	12.1	12.3	10.9	9.4	9.8	9.4	11.1	10.3	10.5	
	Change, %		0.2	2.1	0.8	13.4	31.5	26.7	32.5	12.1	19.8	17.6	
	Oats	241.3	239.3	254.8	282.0	242.0	251.8	172.8	228.5	250.2	196.3	253.6	
	Change, %		0.8	(5.3)	(14.5)	(0.3)	(4.2)	39.7	5.6	(3.6)	22.9	(4.9)	
	MYR/mt	Palm Oil	2,733.0	2,750.0	2,675.0	2,646.0	2,876.0	2,977.0	2,804.0	3,218.0	2,190.3	2,653.8	2,860.7
		Change, %		(0.6)	2.2	3.3	(5.0)	(8.2)	(2.5)	(15.1)	24.8	3.0	(4.5)
Cocoa		1,962.0	1,924.0	1,922.0	1,926.0	1,877.0	2,028.0	3,025.0	2,126.0	3,091.6	2,854.0	1,995.0	
Change, %			2.0	2.1	1.9	4.5	(3.3)	(35.1)	(7.7)	(36.5)	(31.3)	(1.7)	
	Cotton	68.6	70.2	67.8	69.6	77.2	75.4	67.8	70.7	63.3	65.6	74.6	
	Change, %		(2.2)	1.2	(1.4)	(11.1)	(9.0)	1.3	(2.9)	8.4	4.6	(8.0)	
	Sugar	14.0	14.0	13.4	13.9	15.7	19.8	20.6	19.5	13.1	18.2	16.6	
	Change, %		0.1	4.6	0.9	(10.4)	(29.1)	(31.7)	(28.1)	6.8	(22.7)	(15.3)	
	Coffee	130.2	126.7	128.1	130.6	129.3	144.4	143.5	137.1	132.6	136.1	136.4	
	Change, %		2.8	1.7	(0.3)	0.7	(9.8)	(9.3)	(5.0)	(1.8)	(4.3)	(4.5)	
	Energy	WTI	47.9	47.4	48.5	47.9	48.9	54.0	47.3	53.7	48.8	43.4	49.5
		Change, %		0.9	(1.3)	(0.0)	(2.1)	(11.3)	1.1	(10.9)	(2.0)	10.3	(3.3)
Brent		52.4	52.0	52.7	50.2	51.5	56.0	49.7	56.8	53.7	45.1	52.2	
Change, %			0.7	(0.6)	4.4	1.8	(6.4)	5.5	(7.8)	(2.4)	16.3	0.3	
	Natural Gas	2.9	2.9	2.9	2.9	3.2	2.6	2.8	3.7	2.6	2.6	3.1	
	Change, %		(1.9)	(0.0)	(1.8)	(9.2)	10.1	1.6	(22.3)	10.0	13.3	(5.7)	
	Ethanol	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.5	1.5	
	Change, %		(0.7)	(0.5)	(0.3)	0.1	(0.3)	3.6	(6.6)	(0.6)	(1.0)	(2.4)	
	RBOB Gasoline	166.7	166.4	162.4	159.6	160.9	151.5	151.1	166.5	163.6	140.0	158.6	
	Change, %		0.2	2.6	4.4	3.6	10.0	10.3	0.1	1.9	19.1	5.1	
	Coal	98.6	98.4	98.3	86.8	74.5	80.0	67.5	88.4	59.0	65.5	83.1	
	Change, %		0.2	0.3	13.6	32.4	23.3	46.2	11.5	67.3	50.6	18.6	
Metal	Gold	1,291.4	1,286.3	1,284.0	1,250.1	1,255.7	1,257.2	1,321.9	1,152.3	1,160.6	1,248.5	1,243.3	
	Change, %		0.4	0.6	3.3	2.8	2.7	(2.3)	12.1	11.3	3.4	3.9	
	Silver	17.1	17.0	17.0	16.5	17.2	18.4	18.6	15.9	15.7	17.1	17.1	
	Change, %		0.5	0.6	3.5	(0.5)	(7.1)	(8.0)	7.2	8.6	(0.2)	(0.5)	
	Copper	6,666.0	6,688.0	6,486.0	6,225.0	5,724.0	5,928.0	4,626.0	5,535.5	5,503.1	4,872.0	5,882.2	
	Change, %		(0.3)	2.8	7.1	16.5	12.4	44.1	20.4	21.1	36.8	13.3	
	Nickel	729.3	748.9	704.0	642.9	582.0	723.7	656.7	682.0	759.5	646.4	645.6	
	Change, %		(2.6)	3.6	13.4	25.3	0.8	11.1	6.9	(4.0)	12.8	13.0	
	Zinc	3,063.5	3,118.0	3,124.0	2,836.0	2,633.0	2,829.0	2,298.0	2,576.0	1,941.9	2,097.5	2,738.5	
	Change, %		(1.7)	(1.9)	8.0	16.4	8.3	33.3	18.9	57.8	46.1	11.9	
	Lead	2,306.3	2,338.8	2,346.3	2,304.8	2,076.3	2,257.5	1,856.0	2,003.5	1,791.2	1,868.3	2,240.3	
	Change, %		(1.4)	(1.7)	0.1	11.1	2.2	24.3	15.1	28.8	23.4	2.9	
	Aluminum	16,465.0	16,475.0	16,200.0	14,430.0	13,955.0	13,640.0	12,445.0	12,765.0	12,184.0	12,373.5	14,008.2	
	Change, %		(0.1)	1.6	14.1	18.0	20.7	32.3	29.0	35.1	33.1	17.5	
	Cobalt	60,750.0	60,000.0	60,296.0	56,940.0	55,350.0	47,750.0	26,000.0	32,734.0	28,444.4	25,480.1	51,804.7	
	Change, %		1.3	0.8	6.7	9.8	27.2	133.7	85.6	113.6	138.4	17.3	
	HR Coil	621.0	621.0	621.0	615.0	613.0	620.0	591.0	633.0	461.5	519.3	620.6	
	Change, %		0.0	0.0	1.0	1.3	0.2	5.1	(1.9)	34.6	19.6	0.1	
	Scrap	372.0	372.0	371.0	355.0	350.0	350.0	265.0	302.0	252.9	275.7	342.9	
	Change, %		0.0	0.3	4.8	6.3	6.3	40.4	23.2	47.1	34.9	8.5	

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		08/25	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Crude Oil	WTI	47.9	47.4	48.5	49.7	49.8	54.0	47.6	53.7	48.8	43.4	49.4	
	<i>Change, %</i>		0.9	(1.3)	(3.7)	(3.9)	(11.3)	0.5	(10.9)	(1.9)	10.4	(3.1)	
	Dubai	50.6	50.6	49.3	49.7	50.4	54.7	44.6	53.8	50.8	41.3	50.7	
	<i>Change, %</i>		0.0	2.6	1.7	0.3	(7.6)	13.3	(6.1)	(0.4)	22.4	(0.4)	
Crude Oil Product	Gasoline(휘발유)	68.0	67.9	67.2	65.2	64.7	68.5	58.9	69.8	69.5	56.3	65.5	
	<i>Change, %</i>		0.2	1.1	4.3	5.1	(0.7)	15.4	(2.7)	(2.2)	20.8	3.8	
	Kerosene(등유)	63.7	63.1	61.8	63.0	61.7	66.6	56.4	66.4	64.7	52.9	62.1	
	<i>Change, %</i>		1.0	3.1	1.2	3.3	(4.3)	13.0	(4.1)	(1.6)	20.5	2.6	
	Diesel(경유)	64.1	63.8	61.9	64.1	61.4	67.3	56.3	65.5	64.8	52.1	62.7	
	<i>Change, %</i>		0.4	3.5	0.0	4.3	(4.8)	13.8	(2.2)	(1.1)	22.9	2.1	
	Bunker-C	47.4	47.3	46.5	47.3	47.4	49.6	39.9	52.1	45.3	35.5	47.5	
	<i>Change, %</i>		0.1	1.8	0.3	0.0	(4.5)	18.9	(9.0)	4.7	33.4	(0.3)	
	Naphtha	51.0	50.6	49.7	49.1	47.9	55.2	42.9	53.5	52.6	42.6	50.4	
	<i>Change, %</i>		0.9	2.7	3.9	6.6	(7.6)	19.0	(4.5)	(3.0)	19.8	1.3	
	Dubai Spread	Gasoline(휘발유)	17.4	17.3	18.0	15.5	14.3	13.8	14.3	16.0	18.7	14.9	14.7
		<i>Change</i>		0.1	(0.5)	2.0	3.1	3.7	3.1	1.4	(1.3)	2.5	2.7
Kerosene(등유)		13.2	12.5	12.5	13.3	11.3	11.9	11.8	12.6	14.0	11.6	11.4	
<i>Change</i>			0.6	0.6	(0.1)	1.9	1.3	1.4	0.6	(0.8)	1.6	1.8	
Diesel(경유)		13.5	13.3	12.7	14.3	11.0	12.6	11.7	11.7	14.0	10.8	12.0	
<i>Change</i>			0.2	0.8	(0.8)	2.5	0.9	1.8	1.8	(0.5)	2.7	1.5	
Dubai Spread	Bunker-C	(3.2)	(3.2)	(2.7)	(2.5)	(3.0)	(5.1)	(4.8)	(1.8)	(5.5)	(5.8)	(3.2)	
	<i>Change</i>		0.1	(0.5)	(0.7)	(0.1)	1.9	1.6	(1.4)	2.4	2.6	0.1	
	Naphtha	0.5	0.0	0.4	(0.6)	(2.6)	0.5	(1.7)	(0.4)	1.8	1.3	(0.4)	
<i>Change</i>		0.4	0.0	1.1	3.0	(0.1)	2.2	0.9	(1.3)	(0.8)	0.9		
Refining Margin	Simple(단순)	4.0	3.8	4.0	4.2	2.7	2.2	2.3	3.8	3.3	1.9	3.0	
	<i>Change</i>		0.2	(0.0)	(0.3)	1.3	1.8	1.7	0.1	0.7	2.0	1.0	
	Complex(복합)	9.1	9.0	9.0	9.0	7.1	7.3	7.1	8.3	9.3	7.0	7.7	
	<i>Change</i>		0.2	0.1	0.1	2.1	1.9	2.0	0.9	(0.1)	2.2	1.5	
Refining Margin	Complex(lagging)	12.4	13.0	11.1	13.7	7.4	8.0	11.1	18.0	7.3	8.5	7.5	
	<i>Change</i>		(0.6)	1.3	(1.3)	5.0	4.4	1.3	(5.6)	5.2	3.9	4.9	

자료 : Petronet, SK증권

참고 1) Crude Oil 가격은 현물(spot) 기준으로 선물(future) 가격과 다를 수 있음

참고 2) Gasoline은 95RON, 경유는 L/P 0.5%, Bunker-C는 380cst/4.0% 기준임

Petrochemical Price Data

Daily Price			08/25	08/24	08/23	08/22	08/21	08/18	08/17	08/16	08/15	08/14	
Spot Price	Naphtha	CFR Japan	476.0	472.5	463.4	466.0	470.3	464.0	454.3	460.5	460.8	468.8	
	Ethylene	CFR SE Asia	1,125.0	1,125.0	1,125.0	1,125.0	1,110.0	1,110.0	1,100.0	1,100.0	1,100.0	1,100.0	
	Propylene	FOB Korea	869.0	867.0	865.0	860.0	858.0	859.0	861.0	858.0	858.0	858.0	
	Butadiene	FOB Korea	1,310.0	1,230.0	1,230.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,090.0	1,070.0	1,051.0
	HDPE	CFR FE Asia	1,145.0	1,140.0	1,140.0	1,140.0	1,130.0	1,125.0	1,125.0	1,120.0	1,110.0	1,110.0	1,110.0
	LDPE	CFR FE Asia	1,180.0	1,180.0	1,180.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,160.0	1,160.0
	LLDPE	CFR FE Asia	1,130.0	1,130.0	1,130.0	1,130.0	1,125.0	1,120.0	1,110.0	1,110.0	1,100.0	1,100.0	1,100.0
	MEG	CFR China	898.0	880.0	868.0	875.0	875.0	865.0	865.0	857.0	845.0	840.0	825.0
	PP	CFR FE Asia	1,100.0	1,100.0	1,080.0	1,070.0	1,055.0	1,040.0	1,040.0	1,040.0	1,025.0	1,020.0	1,020.0
	PX	CFR China	811.2	807.0	800.7	803.7	808.0	805.0	802.7	802.7	799.7	793.3	804.3
	PTA	CFR China	635.0	633.0	633.0	630.0	630.0	630.0	630.0	631.0	629.0	635.0	635.0
	Benzene	FOB Korea	795.5	771.5	768.0	770.0	766.0	761.0	761.0	757.0	753.0	754.0	755.0
	Toluene	FOB Korea	637.5	623.5	622.5	622.5	628.5	624.5	624.5	620.5	622.5	619.0	624.0
	Xylene	FOB Korea	656.0	649.5	648.5	651.5	651.5	650.5	650.5	650.5	647.0	649.0	651.0
	SM	FOB Korea	1,240.0	1,218.0	1,193.0	1,203.0	1,187.0	1,171.0	1,171.0	1,175.5	1,151.5	1,144.0	1,141.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	462.0	459.0	438.5	455.0	470.5	407.5	484.5	493.0	399.5	464.4
	<i>Change, %</i>			0.7	5.4	1.5	(1.8)	13.4	(4.6)	(6.3)	15.6	(0.5)
	Ethylene	CFR SE Asia	1,165.0	1,125.0	915.0	995.0	1,095.0	1,075.0	990.0	1,103.7	1,040.9	1,026.3
	<i>Change, %</i>			3.6	27.3	17.1	6.4	8.4	17.7	5.6	11.9	13.5
	Propylene	CFR SE Asia	775.0	775.0	757.5	747.5	725.0	720.0	815.0	770.0	705.7	861.0
	<i>Change, %</i>			0.0	2.3	3.7	6.9	7.6	(4.9)	0.6	9.8	(10.0)
	Butadiene	CFR SE Asia	1,175.0	1,015.0	925.0	1,025.0	1,225.0	1,055.0	2,100.0	877.5	1,116.8	1,635.3
	<i>Change, %</i>			15.8	27.0	14.6	(4.1)	11.4	(44.0)	33.9	5.2	(28.1)
	Benzene	CFR SE Asia	775.0	772.5	737.5	780.0	802.5	680.0	822.5	690.0	646.7	839.3
	<i>Change, %</i>			0.3	5.1	(0.6)	(3.4)	14.0	(5.8)	12.3	19.8	(7.7)
	Toluene	CFR SE Asia	655.0	655.0	630.0	655.0	680.0	585.0	690.0	700.8	630.5	682.5
	<i>Change, %</i>			0.0	4.0	0.0	(3.7)	12.0	(5.1)	(6.5)	3.9	(4.0)
	Xylene	CFR SE Asia	635.0	635.0	617.5	630.0	670.0	600.0	675.0	699.3	627.7	668.7
	<i>Change, %</i>			0.0	2.8	0.8	(5.2)	5.8	(5.9)	(9.2)	1.2	(5.0)

Spread	Ethylene	-Naphtha	703.0	666.0	476.5	540.0	624.5	667.5	505.5	610.6	641.4	561.8
	<i>Change, %</i>			5.6	47.5	30.2	12.6	5.3	39.1	15.1	9.6	25.1
	Propylene	-Naphtha	313.0	316.0	319.0	292.5	254.5	312.5	330.5	277.0	306.2	396.6
	<i>Change, %</i>			(0.9)	(1.9)	7.0	23.0	0.2	(5.3)	13.0	2.2	(21.1)
	Butadiene	-Naphtha	713.0	556.0	486.5	570.0	754.5	647.5	1,615.5	384.5	717.3	1,170.9
	<i>Change, %</i>			28.2	46.6	25.1	(5.5)	10.1	(55.9)	85.5	(0.6)	(39.1)
	Benzene	-Naphtha	313.0	313.5	299.0	325.0	332.0	272.5	338.0	197.0	247.2	374.9
	<i>Change, %</i>			(0.2)	4.7	(3.7)	(5.7)	14.9	(7.4)	58.9	26.6	(16.5)
	Toluene	-Naphtha	193.0	196.0	191.5	200.0	209.5	177.5	205.5	207.8	231.0	218.1
	<i>Change, %</i>			(1.5)	0.8	(3.5)	(7.9)	8.7	(6.1)	(7.1)	(16.5)	(11.5)
	Xylene	-Naphtha	173.0	176.0	179.0	175.0	199.5	192.5	190.5	206.3	228.2	204.3
	<i>Change, %</i>			(1.7)	(3.4)	(1.1)	(13.3)	(10.1)	(9.2)	(16.1)	(24.2)	(15.3)

자료 : Cischem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차이임

Weekly Price		Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Spot Price	HDPE	CFR SE Asia	1,087.5	1,087.5	1,047.5	1,127.5	1,137.5	1,110.0	1,142.5	1,230.1	1,134.6	1,119.0
	Change, %			0.0	3.8	(3.5)	(4.4)	(2.0)	(4.8)	(11.6)	(4.1)	(2.8)
	MEG	CFR SE Asia	867.5	852.5	847.5	775.0	692.5	627.5	847.5	780.8	660.8	818.7
	Change, %			1.8	2.4	11.9	25.3	38.2	2.4	11.1	31.3	6.0
	PVC	CFR SE Asia	890.0	870.0	870.0	880.0	880.0	830.0	920.0	820.8	823.4	897.9
	Change, %			2.3	2.3	1.1	1.1	7.2	(3.3)	8.4	8.1	(0.9)
	PP	CFR SE Asia	1,107.5	1,097.5	1,057.5	1,037.5	1,067.5	975.0	1,032.5	1,109.8	978.4	1,069.4
	Change, %			0.9	4.7	6.7	3.7	13.6	7.3	(0.2)	13.2	3.6
	2-EH	CFR Korea	960.0	960.0	950.0	950.0	965.0	760.0	865.0	930.1	772.4	949.2
	Change, %			0.0	1.1	1.1	(0.5)	26.3	11.0	3.2	24.3	1.1
	ABS	CFR SE Asia	1,870.0	1,850.0	1,810.0	1,630.0	1,665.0	1,380.0	1,635.0	1,431.1	1,347.1	1,763.8
	Change, %			1.1	3.3	14.7	12.3	35.5	14.4	30.7	38.8	6.0
	SBR	CFR SE Asia	1,540.0	1,510.0	1,500.0	1,750.0	2,050.0	1,410.0	2,000.0	1,332.1	1,483.0	2,132.8
	Change, %			2.0	2.7	(12.0)	(24.9)	9.2	(23.0)	15.6	3.8	(27.8)
	SM	CFR SE Asia	1,192.5	1,170.0	1,170.0	1,112.5	1,127.5	1,055.0	1,205.0	1,100.7	1,064.6	1,228.3
	Change, %			1.9	1.9	7.2	5.8	13.0	(1.0)	8.3	12.0	(2.9)
	Caustic	FOB NEA	476.0	472.5	462.5	447.5	447.5	305.0	422.5	296.8	316.6	442.2
	Change, %			0.7	2.9	6.4	6.4	56.1	12.7	60.4	50.4	7.6
	PX	CFR SE Asia	815.0	817.5	802.5	830.0	830.0	812.5	855.0	842.9	790.4	834.3
	Change, %			(0.3)	1.6	(1.8)	(1.8)	0.3	(4.7)	(3.3)	3.1	(2.3)
PO	CFR China	2,022.5	1,587.5	1,530.0	1,350.0	1,330.0	1,500.0	1,562.5	1,683.4	1,396.8	1,506.4	
Change, %			27.4	32.2	49.8	52.1	34.8	29.4	20.1	44.8	34.3	
Caprolactam	CFR SE Asia	1,800.0	1,800.0	1,700.0	1,700.0	1,970.0	1,360.0	1,850.0	1,581.5	1,344.9	1,914.9	
Change, %			0.0	5.9	5.9	(8.6)	32.4	(2.7)	13.8	33.8	(6.0)	
PTA	CFR SE Asia	652.5	657.5	672.5	647.5	647.5	617.5	642.5	648.0	613.7	657.4	
Change, %			(0.8)	(3.0)	0.8	0.8	5.7	1.6	0.7	6.3	(0.7)	
Spread	HDPE		625.5	628.5	609.0	672.5	667.0	702.5	658.0	737.1	735.1	654.6
	Change, %			(0.5)	2.7	(7.0)	(6.2)	(11.0)	(4.9)	(15.1)	(14.9)	(4.4)
	MEG		405.5	393.5	409.0	320.0	222.0	220.0	363.0	287.8	261.3	354.3
	Change, %			3.0	(0.9)	26.7	82.7	84.3	11.7	40.9	55.2	14.5
	PVC		428.0	411.0	431.5	425.0	409.5	422.5	435.5	327.8	423.9	433.5
	Change, %			4.1	(0.8)	0.7	4.5	1.3	(1.7)	30.6	1.0	(1.3)
	PP		645.5	638.5	619.0	582.5	597.0	567.5	548.0	616.8	578.9	605.0
	Change, %			1.1	4.3	10.8	8.1	13.7	17.8	4.7	11.5	6.7
	2-EH		498.0	501.0	511.5	495.0	494.5	352.5	380.5	437.0	372.9	484.8
	Change, %			(0.6)	(2.6)	0.6	0.7	41.3	30.9	13.9	33.6	2.7
	ABS		1,408.0	1,391.0	1,371.5	1,175.0	1,194.5	972.5	1,150.5	938.1	947.6	1,299.4
	Change, %			1.2	2.7	19.8	17.9	44.8	22.4	50.1	48.6	8.4
	SBR	BD spread	365.0	495.0	575.0	725.0	825.0	355.0	(100.0)	454.7	366.2	497.5
	Change, %			(26.3)	(36.5)	(49.7)	(55.8)	2.8	(465.0)	(19.7)	(0.3)	(26.6)
	SM		730.5	711.0	731.5	657.5	657.0	647.5	720.5	607.7	665.1	763.9
	Change, %			2.7	(0.1)	11.1	11.2	12.8	1.4	20.2	9.8	(4.4)
	Caustic											
	Change, %											
	PX		353.0	358.5	364.0	375.0	359.5	405.0	370.5	349.9	390.9	369.9
	Change, %			(1.5)	(3.0)	(5.9)	(1.8)	(12.8)	(4.7)	0.9	(9.7)	(4.6)
PO	propylene spread	1,247.5	812.5	772.5	602.5	605.0	780.0	747.5	913.4	691.1	645.4	
Change, %			53.5	61.5	107.1	106.2	59.9	66.9	36.6	80.5	93.3	
Caprolactam	benzene spread	1,025.0	1,027.5	962.5	920.0	1,167.5	680.0	1,027.5	891.6	698.2	1,075.6	
Change, %			(0.2)	6.5	11.4	(12.2)	50.7	(0.2)	15.0	46.8	(4.7)	
PTA	px spread	82.0	85.3	110.8	66.5	66.5	48.8	44.0	58.0	60.4	73.4	
Change, %			(3.8)	(26.0)	23.3	23.3	68.2	86.4	41.4	35.7	11.7	

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	08/25	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA		
											17E	18E	17E	18E	17E	18E	
Petrochemical																	
Dow Chemical	USD	64.5	0.3	1.8	(3.5)	6.4	1.6	19.5	12.8	78,961	15.9	14.5	2.9	2.7	9.0	8.3	
Du Pont	USD	82.7	0.3	1.8	(3.3)	6.8	3.6	17.7	12.6	71,733	21.1	19.9	6.5	5.5	13.6	12.7	
Eastman	USD	84.9	0.1	2.4	(1.5)	6.5	5.9	25.3	12.8	12,296	11.3	10.4	2.5	2.3	8.7	8.3	
BASF	EUR	82.2	(0.4)	1.2	1.5	(2.2)	(6.0)	13.8	(6.9)	89,745	14.1	13.9	2.2	2.1	7.8	7.6	
Akzo Nobel	EUR	78.2	(0.1)	1.3	3.4	2.9	24.7	30.9	31.7	23,649	18.2	17.6	3.1	3.1	10.1	9.7	
Arkema	EUR	93.2	(1.2)	(1.4)	(4.5)	(0.7)	2.3	17.8	0.3	8,393	13.6	12.6	1.7	1.6	6.2	5.9	
Lanxess	EUR	65.1	0.4	4.0	(0.5)	2.5	1.8	35.7	4.4	7,082	17.1	14.7	2.2	2.1	7.5	7.4	
Sumitomo Chemical	JPY	658	0.8	1.2	(1.3)	9.5	2.5	50.9	18.3	9,974	10.4	9.7	1.2	1.1	7.5	7.2	
Mitsubishi Chemical	JPY	1,003	2.9	6.5	3.0	21.0	14.4	67.6	32.3	13,834	9.5	9.3	1.2	1.1	6.3	6.2	
Shin-Etsu Chemical	JPY	9,609	(0.0)	(0.0)	(8.4)	(2.8)	(1.5)	34.2	6.0	38,020	19.4	17.4	1.8	1.7	8.2	7.3	
Asahi Kasei	JPY	1,265	0.1	0.9	(0.1)	18.8	14.3	48.6	24.0	16,240	15.0	14.2	1.4	1.3	7.2	6.9	
JSR	JPY	2,115	2.7	3.7	11.4	12.2	7.5	46.3	14.8	4,379	16.3	15.3	1.2	1.2	8.4	7.8	
Nitto Denko	JPY	9,647	0.5	(0.0)	(1.9)	7.9	1.3	40.0	7.6	15,349	19.5	17.9	2.2	2.1	8.6	8.0	
SABIC	SAR	98.7	0.0	0.6	(1.3)	0.5	1.3	19.6	7.9	78,940	14.8	14.3	1.8	1.7	7.5	7.3	
Yansab	SAR	55.8	0.0	1.5	2.5	0.5	(2.1)	29.7	2.5	8,370	14.3	13.5	2.3	2.3	8.8	8.4	
Formosa Plastics	TWD	93.9	0.4	1.2	3.0	4.1	1.4	18.9	5.3	19,874	14.5	14.9	1.9	1.8	19.2	19.7	
Formosa Fiber	TWD	93.8	0.0	2.2	3.5	3.1	(3.5)	12.9	(2.6)	18,279	12.9	13.4	1.7	1.6	10.3	10.8	
Nan Ya Plastics	TWD	75.3	(0.9)	0.5	1.1	5.5	0.9	22.0	5.8	19,855	15.8	16.2	1.7	1.7	16.8	16.0	
Sinopec Shanghai	CNY	6.43	0.2	(4.7)	(6.4)	(2.6)	(4.0)	5.2	(0.2)	9,161	13.1	12.2	2.4	2.1	6.8	6.7	
Sinopec Yizheng(Fiber)	CNY	3.20	0.0	0.0	1.9	(13.0)	(19.0)	(17.3)	(22.0)	6,165	#N/A	N/A	47.1	6.9	7.2	37.8	17.5
Reliance	INR	1,568	0.0	(0.5)	(2.1)	20.4	32.6	54.8	44.9	79,632	17.4	14.3	1.7	1.5	11.6	9.3	
Industries Qatar	QAR	92.5	0.0	(0.8)	(8.5)	(12.0)	(23.6)	(18.1)	(21.3)	15,367	14.8	13.0	1.6	1.5	52.8	48.2	
PTT Chemical	THB	74.0	(0.3)	0.3	4.6	1.4	1.0	21.3	17.5	9,929	10.2	10.3	1.3	1.2	5.4	5.2	
Petronas	MYR	7.2	0.0	0.0	3.2	(2.8)	(3.1)	7.2	2.9	13,444	15.8	15.8	2.0	1.9	8.6	8.5	
LG화학	KRW	368,500	(1.7)	5.6	12.0	24.5	31.1	37.5	41.2	23,197	14.4	13.9	1.8	1.6	6.3	5.9	
롯데케미칼	KRW	389,000	(1.0)	(1.0)	6.1	3.3	7.3	38.4	5.4	11,890	6.1	6.0	1.2	1.0	4.0	3.6	
한화케미칼	KRW	35,700	1.4	1.1	8.8	21.8	39.5	33.2	44.5	5,247	6.1	6.4	1.0	0.9	7.6	7.1	
금호석유	KRW	77,000	0.0	(0.5)	1.2	(3.5)	(0.3)	10.0	(6.1)	2,092	15.0	13.4	1.4	1.3	9.9	8.7	
SKC	KRW	37,500	0.8	0.0	2.5	20.0	14.5	31.6	13.6	1,255	10.6	9.2	0.9	0.9	9.0	7.6	
국도화학	KRW	54,000	0.7	(1.5)	0.7	7.6	4.0	(5.9)	(1.6)	280	8.8	9.5	0.7	0.7	5.1	5.2	
효성	KRW	7,200	2.0	7.3	17.1	3.4	(11.1)	28.1	5.9	4,995	9.4	8.1	1.4	1.2	7.5	6.6	
Average			0.3	1.1	1.4	5.5	4.5	25.1	10.1								
Refinery																	
Valero	USD	67.7	0.3	4.5	(1.1)	7.1	1.4	23.0	(1.0)	29,887	16.5	12.3	1.5	1.6	6.7	5.7	
Conoco Phillips	USD	43.6	0.6	1.1	(0.2)	(3.3)	(7.4)	1.9	(13.1)	53,035	230.6	35.9	1.8	1.8	8.8	6.6	
Formosa Petrochemical	TWD	105.0	1.0	2.9	1.4	(0.9)	(1.9)	10.6	(6.3)	33,256	15.9	18.6	3.2	3.2	9.8	11.1	
Andeavor	USD	95.5	0.5	2.9	(2.4)	13.4	8.6	28.9	9.2	14,981	18.7	13.0	1.5	1.3	9.0	6.8	
Marathon Petroleum	USD	51.7	1.2	3.2	(7.7)	(1.4)	3.4	23.4	2.7	26,183	19.2	15.2	2.1	2.0	8.7	7.5	
Devon Energy	USD	31.2	0.1	2.5	(5.5)	(12.8)	(27.2)	(29.8)	(31.8)	16,378	18.4	15.0	2.3	2.0	8.2	7.3	
Hollyfrontier	USD	29.6	2.3	6.9	3.4	15.9	2.1	15.1	(9.8)	5,240	23.6	14.0	1.1	1.1	8.6	6.5	
Phillips 66	USD	83.4	(0.5)	2.3	(1.2)	7.7	6.9	5.5	(3.5)	42,670	20.3	15.1	1.9	1.9	10.0	8.3	
Murphy Oil	USD	23.2	(0.7)	(3.7)	(10.0)	(8.0)	(17.8)	(20.0)	(25.6)	3,995	#N/A	N/A	361.7	0.9	0.9	4.4	4.2
JX Holdings	JPY	542.8	0.5	1.7	10.4	10.2	2.0	43.9	9.7	17,033	8.6	8.1	0.8	0.8	8.4	7.9	
Idemitsu	JPY	2,718.0	(0.3)	5.2	1.4	(16.8)	(24.3)	48.8	(12.5)	5,177	5.8	5.8	0.7	0.6	7.9	7.6	
Nesteoil	EUR	35.8	2.0	3.4	(3.0)	(4.3)	5.2	(6.2)	(1.9)	0	13.8	13.6	2.2	2.0	7.9	8.2	
Ashland	USD	61.5	0.2	0.8	(8.3)	(7.8)	3.1	8.2	15.0	3,836	15.4	18.7	1.0	1.0	8.5	9.3	
Fuchs Petrolub	EUR	47.3	(0.2)	0.3	(3.7)	(3.7)	8.7	16.5	18.7	7,340	24.3	23.0	4.9	4.4	14.1	13.3	
SK이노베이션	KRW	180,500	1.4	5.9	3.4	6.5	18.0	26.7	23.2	14,883	7.5	7.5	0.9	0.8	4.5	4.1	
S-Oil	KRW	117,000	(0.4)	3.1	6.4	13.6	39.0	66.0	38.1	11,746	12.6	9.7	2.1	1.9	9.6	7.2	
GS	KRW	68,100	0.1	0.1	(6.2)	(4.9)	26.1	35.1	25.9	5,642	6.3	6.0	0.8	0.7	7.3	6.9	
Average			0.5	2.5	(1.3)	0.6	2.7	17.5	2.2								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/25	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											17E	18E	17E	18E	17E	18E
E&P/Shale																
Exxon Mobil	USD	77	0.5	0.1	(4.4)	(6.2)	(5.4)	(12.3)	(15.0)	325,071	22.4	19.6	1.8	1.8	9.5	8.6
BP	GBP	446	0.5	1.3	(0.2)	(5.8)	(0.4)	3.1	(12.6)	113,365	20.4	15.3	1.2	1.2	5.9	5.3
Shell	EUR	2,143	0.4	1.3	3.0	1.5	3.4	14.1	(4.5)	229,331	16.0	14.0	1.2	1.2	6.3	5.7
Chevron	USD	108	0.7	1.6	3.7	3.0	(1.7)	6.2	(8.0)	205,096	26.7	22.0	1.4	1.4	7.9	7.1
Total	EUR	43	(0.3)	1.6	0.8	(9.2)	(9.2)	1.7	(11.1)	128,833	13.0	11.9	1.2	1.1	6.1	5.4
Sinopec	CNY	6	1.2	1.9	(0.8)	(2.1)	3.8	21.8	11.5	105,838	14.2	12.9	1.0	1.0	4.8	4.7
Petrochina	CNY	8	1.4	1.5	0.0	2.5	(2.3)	8.9	1.5	210,154	56.0	31.9	1.2	1.2	6.8	6.5
CNOOC	CNY	11	0.4	1.2	1.8	(6.9)	(14.3)	(7.6)	(11.6)	53,430	13.5	11.6	0.9	0.9	3.7	3.5
Gazprom	RUB	118	1.1	1.6	(0.5)	(3.1)	(13.8)	(13.0)	(23.7)	47,613	4.3	3.8	0.2	0.2	3.5	3.2
Rosneft	RUB	302	0.2	0.5	(4.0)	(1.6)	(12.1)	(13.4)	(25.1)	54,532	9.3	6.6	0.8	0.7	4.9	4.1
Anadarko	USD	42	(0.7)	0.5	(7.3)	(18.6)	(34.6)	(23.2)	(39.3)	23,737	#N/A	#N/A	1.6	1.6	6.7	6.1
Petrobras	BRL	14	0.6	2.1	5.0	1.0	(8.6)	10.8	(6.7)	59,037	10.3	8.3	0.5	0.6	5.3	4.8
Lukoil	USD	2,915	0.7	3.0	2.8	4.2	(8.4)	(4.4)	(15.5)	41,937	5.9	5.2	0.6	0.6	N/A	N/A
Kinder	USD	19	0.6	3.3	(5.3)	(1.3)	(9.7)	(10.9)	(7.4)	47,497	29.5	27.2	1.2	1.2	11.5	11.0
Statoil	NOK	146	(0.1)	1.0	3.3	(4.5)	(0.7)	10.6	(7.8)	61,771	16.5	17.5	1.6	1.6	3.4	3.3
BHP	AUD	27	0.3	5.1	8.6	8.9	6.5	26.9	6.5	107,128	18.3	19.2	1.9	1.8	6.7	6.7
PTT E&P	THB	86	(0.3)	1.2	(1.2)	(9.0)	(7.3)	5.6	(11.2)	10,209	12.9	11.8	0.8	0.8	3.1	2.8
Petronas gas	MYR	19	(0.5)	0.4	0.0	(1.5)	(8.1)	(14.9)	(11.4)	8,744	21.1	19.7	3.0	2.8	12.0	11.1
Chesapeake	USD	4	(1.8)	(4.3)	(21.9)	(26.8)	(33.0)	(40.1)	(46.0)	3,443	5.4	4.8	#N/A	#N/A	16.5	7.2
Noble Energy	USD	24	0.5	0.0	(18.5)	(20.5)	(35.7)	(33.8)	(37.9)	11,507	#N/A	#N/A	1.2	1.2	8.0	6.6
Average		0	0.3	1.2	(1.8)	(4.8)	(9.6)	(3.2)	(13.8)							
PV																
WACKER	EUR	106.8	0.5	2.5	5.9	10.7	4.5	27.5	8.0	6,618	29.2	21.8	1.8	1.7	6.7	6.3
GCL-Poly	HKD	0.9	(2.2)	(5.3)	2.3	3.5	(16.8)	(20.5)	(4.3)	2,115	7.3	6.9	0.6	0.6	5.6	5.2
SunPower	USD	9.2	(0.3)	(0.6)	(16.5)	11.5	3.3	(6.7)	38.9	1,281	#N/A	#N/A	1.8	1.8	41.0	13.6
Canadian Solar	USD	15.5	(0.6)	(7.0)	(6.6)	12.8	4.5	19.2	27.0	897	12.0	7.8	0.9	0.8	9.7	9.2
JA Solar	USD	6.4	1.3	2.6	0.5	(11.3)	20.2	(14.8)	34.0	304	#N/A	#N/A	1.6	1.5	4.3	3.0
Yingli	USD	2.5	0.4	1.2	7.7	14.0	(6.6)	(34.3)	(2.7)	46	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	47.4	0.5	(1.3)	4.3	25.0	25.1	28.0	47.8	4,951	22.7	42.9	0.9	0.9	8.3	9.3
한화큐셀	USD	7.4	1.6	1.2	(16.6)	3.3	(22.1)	(40.9)	(9.1)	618	67.5	57.1	#N/A	#N/A	7.4	7.4
OCI	KRW	95,800	2.9	3.2	10.2	6.4	4.6	5.9	21.7	2,037	15.5	20.9	0.7	0.7	7.8	7.3
웅진에너지	KRW	8,700	(0.6)	5.6	5.5	39.2	85.3	3.0	83.7	193	N/A	0.7	0.7	7.8	7.3	9.4
신성솔라에너지	KRW	2,170	2.6	1.6	(8.8)	8.2	13.0	(6.3)	(1.8)	335	N/A	0.7	7.8	7.3	9.4	8.1
Average			0.6	0.3	(1.1)	11.2	10.4	(3.6)	22.1							
Gas Company																
Towngas China	HKD	5.1	(1.7)	(0.4)	(8.6)	6.9	20.0	12.1	25.2	1,809	11.7	10.8	1.0	0.9	11.1	10.3
Kulun	HKD	7.1	1.6	(3.8)	(7.2)	0.1	5.8	24.0	22.9	7,359	11.2	10.9	1.3	1.2	5.9	5.7
Beijing Enterprise	HKD	40.9	(0.4)	2.0	0.7	10.4	(0.2)	(8.4)	11.5	6,592	8.0	7.6	0.8	0.8	13.6	13.1
ENN Energy	HKD	48.8	(1.9)	(6.0)	(6.4)	19.0	24.6	17.6	53.0	6,749	13.1	11.7	2.5	2.1	8.4	7.6
China Resources Gas	HKD	26.8	(0.2)	(8.4)	(8.2)	9.2	11.5	3.7	22.7	7,606	15.3	13.6	2.9	2.5	9.1	8.3
China Gas Holdings	HKD	18.5	(0.5)	(2.9)	(0.2)	55.8	55.0	42.4	75.7	11,739	16.9	14.4	3.7	3.1	13.6	11.8
Shenzen Gas	HKD	14.9	1.5	5.2	10.5	18.6	31.2	26.7	31.9	3,851	12.3	11.8	1.4	1.3	9.5	9.0
Shann Xi	CNY	8.6	0.5	(0.3)	(1.2)	2.3	(11.7)	(18.2)	(10.5)	1,436	18.1	16.3	1.7	1.6	#N/A	#N/A
Suntien	HKD	1.7	(2.9)	(5.1)	1.2	12.7	28.0	50.9	69.0	803	6.9	5.8	0.6	0.6	9.0	7.7
China Oil & Gas	HKD	0.5	3.9	3.9	(5.4)	(5.4)	(15.9)	(11.7)	(13.1)	395	9.1	7.9	0.9	0.8	5.9	5.3
Average			(0.0)	(1.6)	(2.5)	13.0	14.8	13.9	28.8							
EV																
LG화학	KRW	368,500	(1.7)	5.6	12.0	24.5	31.1	37.5	41.2	23,197	13.7	13.5	1.8	1.6	6.5	6.2
삼성SDI	KRW	191,000	0.0	8.2	4.9	22.0	52.8	57.2	75.2	11,712	20.0	13.1	1.2	1.1	22.7	14.4
Panasonic	JPY	1454.5	0.0	(0.4)	(2.7)	3.4	15.6	42.7	22.3	32,671	18.9	14.5	2.0	1.8	6.1	5.3
GS Yuasa	JPY	527.0	(0.4)	(0.4)	4.2	5.4	2.3	31.4	8.4	1,996	15.9	14.6	1.3	1.2	7.2	6.7
NEC	JPY	292.0	0.7	(1.4)	(1.0)	4.7	3.9	11.9	(5.8)	6,964	18.3	16.4	0.9	0.8	6.9	6.1
BYD Auto	CNY	48.7	1.4	0.3	(1.4)	(0.1)	(3.1)	(16.4)	(2.0)	18,900	24.2	17.5	2.4	2.2	13.3	10.8
Tesla Motors	USD	348.1	(1.4)	0.2	2.5	9.9	35.4	57.5	62.9	58,085	#N/A	#N/A	11.7	10.1	73.9	25.9
Kandi Technologies	USD	3.6	0.0	(2.7)	(13.4)	(18.4)	(14.5)	(42.6)	(27.6)	170	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			(0.2)	1.2	0.6	6.4	15.5	22.4	21.8							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임