

1. News Summary (3 page)

2017년 6월 29일

News	
WTI comment	美생산량 감소에 연이틀 반등...WTI 1.1%↑
Headline	靑 "가장 깨끗한 대안 LNG, 세금때문에 비싼 것"
News 1.	Sinopec, 공급 타이트로 동중국 부타디엔 오퍼 가격 9.6% 인상
News 2.	사우디-카타르 '13대 요구' 놓고 설전..."양보없다"vs"근거없다"
News 3.	SK E&S, 신규 LNG발전소에 '호주産 물량' 도입
News 4.	-

Conclusion	
	미국산 LNG 수입 확대로 수입 가격 자체도 낮아질 것으로 전망됨
	부타디엔 가격이 바닥을 찍고 다시 반등하는 모습
	이란과 함께 카타르가 제재 대상으로 부상되는지 주목할 필요 있음
	2019년부터는 점진적으로 미국산 LNG가 호주산을 대체하게 될 것

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	44.7	1.1	5.2	(7.4)	(9.6)	(10.3)
Dubai	\$/bbl	45.3	0.6	2.2	(9.6)	(9.7)	(0.9)
Gasoline	\$/bbl	58.1	(0.3)	2.2	(10.2)	(10.2)	0.7
Diesel	\$/bbl	57.1	1.5	2.1	(5.9)	(7.9)	(1.1)
Complex margin ¹	\$/bbl	7.7	0.1	0.0	0.8	0.5	1.4
1M lagging	\$/bbl	2.6	2.7	2.5	(4.3)	(0.0)	(3.9)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	405	2.5	0.6	(8.5)	(11.7)	(1.9)
Butadiene	\$/t	920	5.1	7.0	(4.7)	(48.9)	(6.1)
HDPE	\$/t	1,080	(0.5)	(0.5)	(2.3)	(6.1)	(4.0)
MEG	\$/t	805	4.1	3.9	6.6	10.3	25.6
PX	\$/t	764	2.7	0.3	(2.3)	(5.7)	(4.5)
SM	\$/t	1,104	1.9	0.5	2.5	(1.9)	7.3
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	3.08	0.5	5.6	(1.0)	(8.9)	1.0
Natural rubber	\$/t	1,400	2.2	2.9	(4.1)	(22.7)	9.4
Cotton	C/lbs	74.4	(0.0)	5.0	(3.3)	(2.3)	15.4

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	06/26	\$/t	875	2.3	(7.9)	(16.3)	(15.7)
Propylene	06/26	\$/t	743	0.7	(2.0)	(6.6)	1.0
Benzene	06/26	\$/t	758	(3.2)	(3.5)	(3.5)	21.2
Toluene	06/26	\$/t	635	(1.6)	(3.1)	(8.0)	3.3
Xylene	06/26	\$/t	613	(1.2)	(4.3)	(13.7)	(1.2)
PP	06/26	\$/t	1,038	(1.9)	0.0	(3.7)	4.8
PVC	06/26	\$/t	870	(1.1)	(1.1)	(7.0)	14.5
ABS	06/26	\$/t	1,790	4.7	14.0	3.5	37.7
SBR	06/26	\$/t	1,425	(1.7)	(14.4)	(45.2)	3.6
SM	06/26	\$/t	1,125	(3.4)	0.9	(8.9)	9.5
BPA	06/26	\$/t	1,458	4.5	1.0	(1.9)	11.0
Caustic	06/26	\$/t	438	0.0	(1.1)	(1.9)	48.3
2-EH	06/26	\$/t	930	0.5	(3.1)	(11.0)	20.8
Caprolactam	06/26	\$/t	1,610	0.6	2.5	(29.1)	26.8
Solar				%	%	%	%
Polysilicon	06/28	\$/kg	13.9	(0.1)	0.1	(5.2)	(16.7)
Module	06/28	\$/W	0.33	(0.6)	(0.9)	(3.5)	(34.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	81.5	0.5	0.1	(0.0)	(0.4)	(10.3)
Shell	EUR	2,074	(0.7)	0.5	(2.1)	(1.8)	8.0
Petrochina	CNY	7.69	(0.1)	(0.4)	(1.4)	(2.0)	7.0
Gazprom	RUB	119.7	0.3	1.5	(2.0)	(7.4)	(14.0)
Petrobras	BRL	12.1	(1.1)	3.8	(11.7)	(13.4)	31.3
Refinery							
Phillips66	USD	81.8	1.6	3.7	5.6	5.0	3.9
Valero	USD	67.5	1.0	4.3	8.0	1.8	30.2
JX	JPY	490.4	0.7	2.6	(0.2)	(6.2)	28.5
Neste Oil	EUR	34.5	(0.4)	(2.8)	(6.2)	(4.6)	13.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	84.0	(0.1)	(2.1)	0.2	(8.0)	27.0
Dow Chemical	USD	63.3	0.3	(0.7)	3.6	(2.7)	30.4
SABIC	SAR	102.3	0.0	(1.7)	5.0	6.2	26.5
Formosa Pla.	TWD	92.4	(1.0)	1.9	2.8	(0.8)	21.6
Shin-Etsu	JPY	10,220	1.0	1.5	3.7	4.5	75.5
Renewable							
Wacker	EUR	96.2	1.1	0.6	(0.5)	(1.5)	26.7
First Solar	USD	40.49	1.1	8.8	9.9	43.2	(12.7)
GCL-Poly	HKD	0.80	0.0	9.6	(7.0)	(22.3)	(20.0)
Tesla Motors	USD	371.2	2.4	(1.4)	14.2	33.8	84.0

4. Coverage Summary

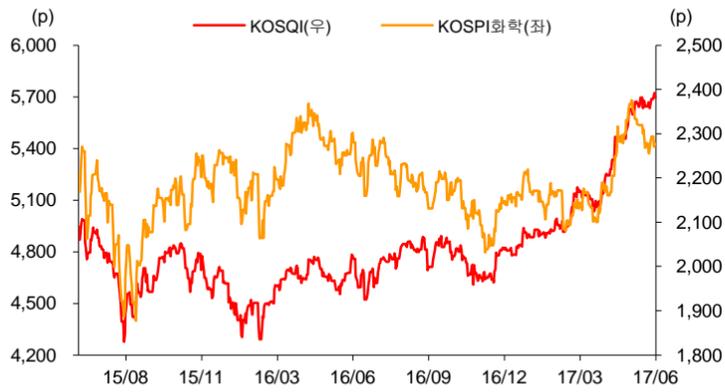
	06/28	1D	1W	1M	3M	6M	12M
KOSPI	2,383	(0.4)	1.1	1.3	10.1	16.7	23.7
KOSPI화학	5,426	(0.0)	0.5	(4.5)	5.6	5.7	5.6
LG화학	280,500	(0.9)	0.2	(9.4)	(5.6)	5.3	17.6
롯데케미칼	329,500	(1.3)	(2.1)	(11.7)	(9.5)	(7.1)	22.3
한화케미칼	30,500	2.3	1.5	2.3	16.2	19.6	33.8
금호석유화학	73,600	1.9	1.0	(9.8)	(6.2)	(9.8)	30.0
KCC	424,000	1.0	2.7	4.2	19.8	14.1	15.2
OCI	91,200	0.7	(3.5)	2.6	8.6	17.1	3.1
SKC	33,750	0.9	1.8	6.8	10.3	0.3	27.1
국도화학	51,800	(0.2)	(5.0)	(0.2)	5.3	(7.5)	(13.4)
SK이노베이션	158,000	1.0	0.6	(7.3)	(4.0)	3.9	14.1
S-Oil	94,100	0.1	0.0	(10.0)	(4.9)	10.1	23.7
GS	68,300	1.2	1.5	(6.6)	18.2	25.6	42.9
SK가스	123,500	(1.2)	(6.8)	2.1	1.6	(1.2)	48.3
포스코대우	22,200	3.3	(0.9)	(7.7)	(2.2)	(21.0)	(5.7)
LG상사	30,350	1.2	(1.0)	(6.9)	(4.3)	2.0	(17.4)
한국전력	40,800	(1.8)	(2.3)	(3.1)	(12.4)	(13.2)	(29.9)
한국가스공사	52,500	1.5	1.2	1.9	16.0	7.0	36.9

투자 의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	330,000	17.6	12.85	1.38
매수	410,000	24.4	10.14	1.18
매수	28,000	(8.2)	13.13	0.89
매수	100,000	35.9	10.86	1.32
매수	450,000	6.1	18.62	0.67
매수	100,000	9.6	15.85	0.69
매수	40,000	18.5	11.65	0.84
매수	70,000	35.1	9.38	0.60
매수	180,000	13.9	10.18	0.82
매수	100,000	6.3	13.21	1.46
매수	70,000	2.5	9.50	1.02
매수	140,000	13.4	11.74	1.10
매수	29,000	30.6	10.98	1.07
매수	42,000	38.4	10.53	0.92
매수	60,000	47.1	7.05	0.32
매수	60,000	14.3	8.91	0.62

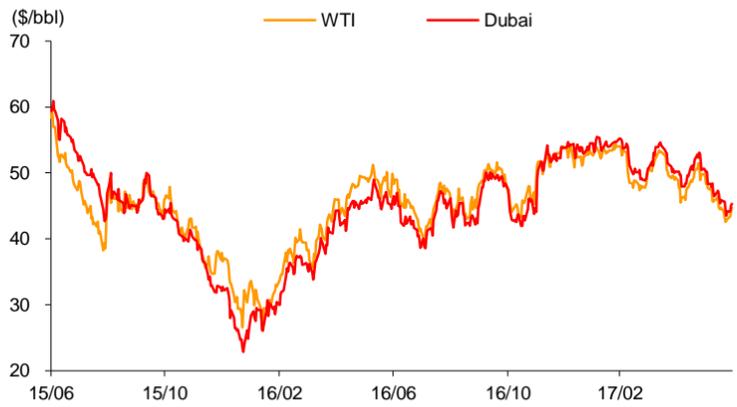
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
· 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

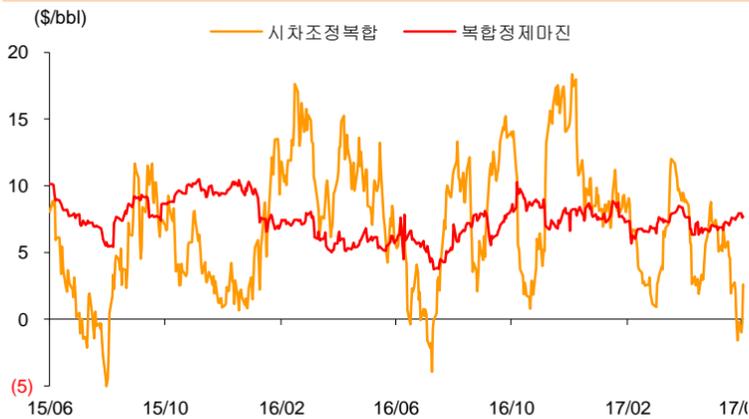
KOSPI/KOSPI화학



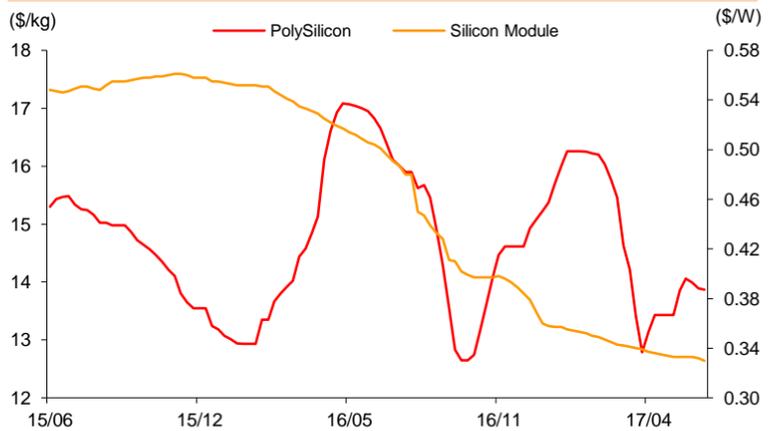
WTI/Dubai



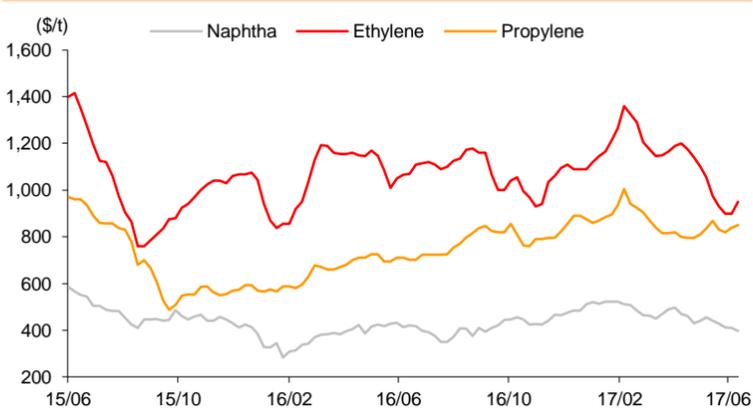
Complex & 1M lagging margin



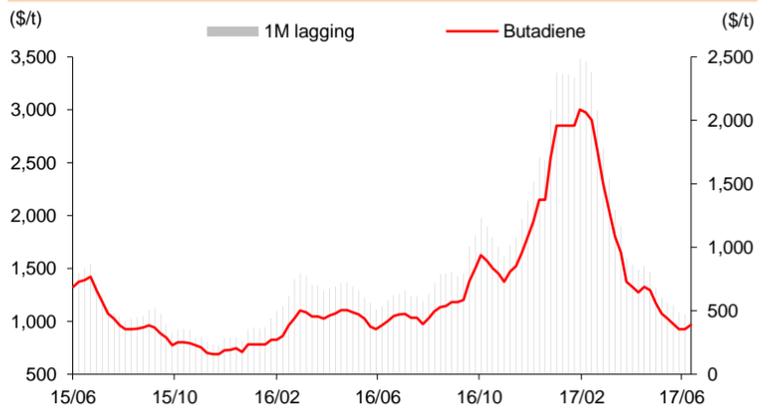
Polysilicon & Module prices



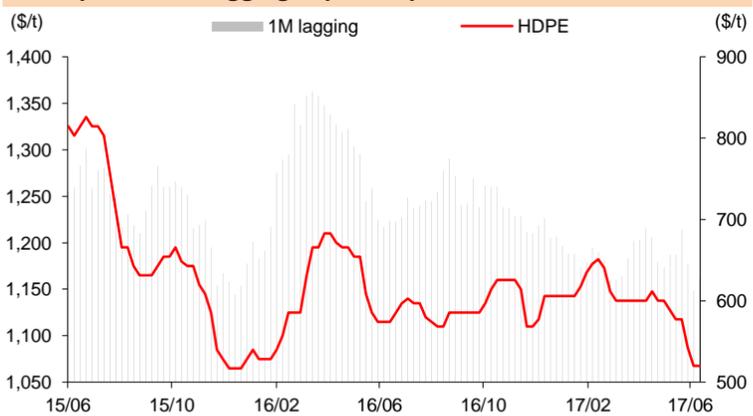
Naphtha/Ethylene/Propylene prices



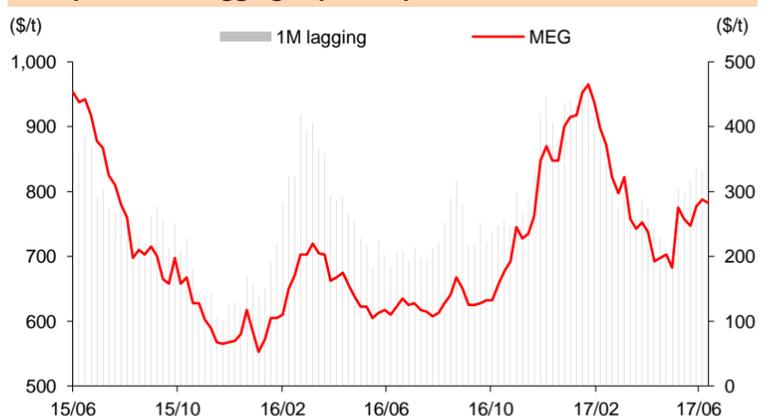
Butadiene price & 1M lagging naphtha spread



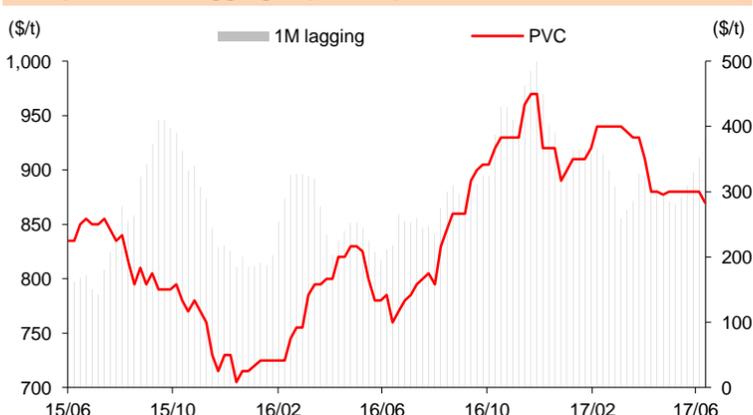
HDPE price & 1M lagging naphtha spread



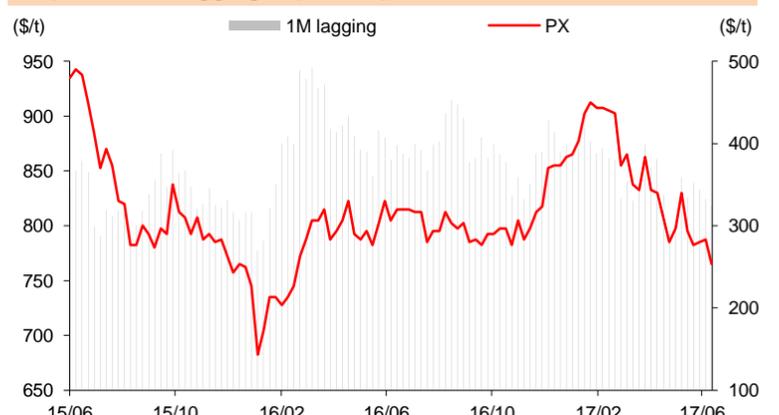
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline (출처: 머니투데이)

제목 靑 "가장 깨끗한 대안 LNG, 세금때문에 비싼 것"
결론 미국산 LNG 수입 확대로 수입 가격 자체도 낮아질 것으로 전망됨
세부

- 1) 청와대, "전력수급에 대한 불안감 조장은 다른 저의가 의심된다"
- 2) LNG와 발전용 석탄 관련 세제를 손볼 가능성도 열어놓음
- 3) 청와대는 또 탈원전·탈석탄 대안으로 LNG 발전 확대 가능성을 시사
- 4) 관계자, "노후 석탄발전소 8기를 한 달 중지해도 전력수급 문제 없다"
- 5) 미국산 LNG 수입 확대로 수입 가격 자체도 낮아질 것으로 전망됨

Issue 1 (출처: Platts)

제목 Sinopec, 공급 타이트로 동중국 부타디엔 오퍼 가격 9.6% 인상
결론 부타디엔 가격이 바닥을 찍고 다시 반등하는 모습
세부

- 1) Sinopec이 동중국 부타디엔 오퍼 가격을 985\$/mt로 9.6% 인상
- 2) Sinopec은 지난 6월 13일에 500yuan/mt 인하한 바 있음
- 3) 중국 내 공급 부족은 엔드 유저들이 7월 말 물량 스팟 카고를 찾기 때문
- 4) 중국 5월 부타디엔 수입은 YoY 66.3% 증가한 것으로 밝혀짐
- 5) 부타디엔 가격이 바닥을 찍고 다시 반등하는 모습

Issue 3 (출처: 파이낸셜뉴스)

제목 SK E&S, 신규 LNG발전소에 '호주산 물량' 도입
결론 2019년부터는 점진적으로 미국산 LNG가 호주산을 대체하게 될 것
세부

- 1) SK E&S가 5년간 신규 LNG 발전소의 연료로 호주산 LNG 물량을 들여옴
- 2) 지난 4~5월 두 차례에 걸쳐 호주 고르곤산 LNG 장기 물량 13만t 들여옴
- 3) 파주, 위례발전소의 연료를 이번에 직도입한 호주산 연료로 운영할 것
- 4) 2019년부터는 미국산 셰일가스와 병행할 계획
- 5) 2019년부터는 점진적으로 미국산 LNG가 호주산을 대체하게 될 것

Issue 5

제목
결론
세부

- 1)
- 2)
- 3)
- 4)
- 5)

WTI Comment (출처: 연합뉴스)

제목 美생산량 감소에 연이틀 반등...WTI 1.1%↑
상승 미국의 원유 생산량이 925만b/d로 평균 10만 배럴 감소했다는 소식
요인 아열대 폭풍 '신디'의 영향으로 원유재고가 감소할 것으로 전망

하락
요인

Issue 2 (출처: 연합뉴스)

제목 사우디-카타르 '13대 요구' 놓고 설전... "양보없다"vs "근거없다"
결론 이란과 함께 카타르가 제재 대상으로 부상되는지 주목할 필요 있음
세부

- 1) 사우디 외무장관, "13개 요구사항에 대한 협상이 불가능하다"
- 2) 사우디 외무장관, "태도를 바꿀지는 카타르의 결정에 달려있다"
- 3) 카타르 외무장관, "아랍국가들이 근거 없는 주장을 제시하고 있다"
- 4) 美 톰러슨, "아랍국가들의 요구사항 일부는 카타르가 요인하기 어려움"
- 5) 이란과 함께 카타르가 제재 대상으로 부상되는지 주목할 필요 있음

Issue 4

제목
결론
세부

- 1)
- 2)
- 3)
- 4)
- 5)

Issue 6

제목
결론
세부

- 1)
- 2)
- 3)
- 4)
- 5)

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
F/X	USD/EUR	0.879	0.882	0.895	0.894	0.925	0.960	0.904	0.951	0.901	0.904	0.924	
	Change, %		(0.3)	(1.8)	(1.7)	(4.9)	(8.5)	(2.7)	(7.5)	(2.5)	(2.7)	(4.9)	
	USD/JPY	112.3	112.4	111.4	111.3	111.2	117.3	102.8	117.0	121.1	108.8	112.4	
	Change, %		(0.0)	0.9	0.9	1.1	(4.2)	9.3	(4.0)	(7.2)	3.3	(0.1)	
	USD/KRW	1,143.9	1,136.6	1,144.0	1,120.8	1,113.2	1,210.0	1,171.1	1,205.8	1,131.2	1,160.5	1,142.1	
	Change, %		0.6	(0.0)	2.1	2.8	(5.5)	(2.3)	(5.1)	1.1	(1.4)	0.2	
	Agriculture	Corn	356.8	359.3	368.8	374.3	357.8	348.3	385.3	352.0	376.8	358.5	365.9
		Change, %		(0.7)	(3.3)	(4.7)	(0.3)	2.4	(7.4)	1.3	(5.3)	(0.5)	(2.5)
Soybean		914.0	911.3	918.8	926.5	972.0	1,006.8	1,150.5	996.5	945.4	987.5	981.2	
Change, %			0.3	(0.5)	(1.3)	(6.0)	(9.2)	(20.6)	(8.3)	(3.3)	(7.4)	(6.8)	
	Wheat	457.3	453.3	464.5	438.3	424.5	401.5	443.8	408.0	508.1	436.4	431.4	
	Change, %		0.9	(1.6)	4.3	7.7	13.9	3.0	12.1	(10.0)	4.8	6.0	
	Rice	11.4	11.3	11.2	11.0	9.8	9.3	10.7	9.4	11.1	10.3	10.0	
	Change, %		1.2	2.2	4.1	17.1	23.5	7.0	22.1	3.3	10.5	13.7	
	Oats	266.5	246.5	258.8	244.3	235.0	227.8	206.0	228.5	250.2	196.3	245.8	
	Change, %		8.1	3.0	9.1	13.4	17.0	29.4	16.6	6.5	35.8	8.4	
	MYR/mt	Palm Oil	2,585.0	2,589.0	2,587.0	2,840.0	2,859.0	3,213.0	2,440.0	3,218.0	2,190.3	2,653.8	2,929.3
		Change, %		(0.2)	(0.1)	(9.0)	(9.6)	(19.5)	5.9	(19.7)	18.0	(2.6)	(11.8)
Cocoa		1,835.0	1,827.0	1,813.0	1,911.0	2,129.0	2,205.0	3,050.0	2,126.0	3,091.6	2,854.0	2,013.8	
Change, %			0.4	1.2	(4.0)	(13.8)	(16.8)	(39.8)	(13.7)	(40.6)	(35.7)	(8.9)	
	Cotton	74.4	74.4	70.9	77.1	76.9	69.8	64.7	70.7	63.3	65.6	76.1	
	Change, %		(0.0)	5.0	(3.5)	(3.2)	6.7	15.1	5.3	17.6	13.4	(2.2)	
	Sugar	12.6	12.7	13.1	15.1	17.6	19.0	19.8	19.5	13.1	18.2	17.4	
	Change, %		(0.8)	(3.9)	(16.6)	(28.5)	(33.9)	(36.6)	(35.7)	(4.5)	(30.9)	(28.0)	
	Coffee	122.8	122.8	119.4	131.2	138.9	133.5	138.9	137.1	132.6	136.1	137.6	
	Change, %		0.0	2.8	(6.4)	(11.6)	(8.1)	(11.6)	(10.4)	(7.5)	(9.8)	(10.8)	
	Energy	WTI	44.8	44.2	42.5	49.8	48.4	54.1	47.9	53.7	48.8	43.4	50.1
		Change, %		1.4	5.4	(10.0)	(7.3)	(17.1)	(6.3)	(16.5)	(8.2)	3.4	(10.6)
Brent		47.4	46.7	44.8	52.2	51.3	56.2	48.6	56.8	53.7	45.1	52.8	
Change, %			1.7	5.8	(9.1)	(7.6)	(15.7)	(2.4)	(16.5)	(11.7)	5.2	(10.3)	
	Natural Gas	3.1	3.0	2.9	3.2	3.1	3.9	2.9	3.7	2.6	2.6	3.1	
	Change, %		1.0	6.0	(5.2)	(0.9)	(22.0)	5.1	(17.6)	16.7	20.2	(1.5)	
	Ethanol	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	
	Change, %		(2.1)	(2.8)	(3.2)	(5.6)	(6.2)	(8.5)	(8.3)	(2.5)	(2.8)	(4.2)	
	RBOB Gasoline	148.9	146.0	141.1	164.3	163.5	167.5	151.0	166.5	163.6	140.0	158.4	
	Change, %		2.0	5.6	(9.3)	(8.9)	(11.1)	(1.4)	(10.6)	(9.0)	6.4	(6.0)	
	Coal	80.7	80.6	80.7	74.5	80.8	87.7	55.3	88.4	59.0	65.5	80.8	
	Change, %		0.1	(0.1)	8.3	(0.1)	(8.0)	46.0	(8.8)	36.8	23.2	(0.2)	
Metal	Gold	1,249.2	1,247.1	1,246.6	1,266.9	1,251.9	1,141.7	1,311.8	1,152.3	1,160.6	1,248.5	1,238.7	
	Change, %		0.2	0.2	(1.4)	(0.2)	9.4	(4.8)	8.4	7.6	0.1	0.8	
	Silver	16.8	16.7	16.5	17.4	18.2	16.1	17.8	15.9	15.7	17.1	17.4	
	Change, %		0.9	1.8	(3.1)	(7.6)	4.5	(5.5)	5.6	6.9	(1.8)	(3.1)	
	Copper	5,881.0	5,858.0	5,742.0	5,657.5	5,873.0	5,545.0	4,818.0	5,535.5	5,503.1	4,872.0	5,770.4	
	Change, %		0.4	2.4	4.0	0.1	6.1	22.1	6.2	6.9	20.7	1.9	
	Nickel	593.7	593.0	578.2	584.8	648.1	687.0	630.1	682.0	759.5	646.4	644.3	
	Change, %		0.1	2.7	1.5	(8.4)	(13.6)	(5.8)	(12.9)	(21.8)	(8.1)	(7.9)	
	Zinc	2,734.0	2,747.0	2,640.0	2,640.0	2,823.0	2,581.0	2,075.0	2,576.0	1,941.9	2,097.5	2,695.2	
	Change, %		(0.5)	3.6	3.6	(3.2)	5.9	31.8	6.1	40.8	30.3	1.4	
	Lead	2,293.0	2,281.8	2,176.0	2,114.8	2,325.0	2,016.5	1,731.0	2,003.5	1,791.2	1,868.3	2,217.9	
	Change, %		0.5	5.4	8.4	(1.4)	13.7	32.5	14.4	28.0	22.7	3.4	
	Aluminum	13,860.0	13,745.0	13,850.0	14,015.0	13,555.0	12,755.0	12,550.0	12,765.0	12,184.0	12,373.5	13,725.5	
	Change, %		0.8	0.1	(1.1)	2.3	8.7	10.4	8.6	13.8	12.0	1.0	
	Cobalt	59,300.0	58,750.0	58,250.0	55,850.0	53,750.0	32,729.0	23,646.5	32,734.0	28,444.4	25,480.1	49,592.8	
	Change, %		0.9	1.8	6.2	10.3	81.2	150.8	81.2	108.5	132.7	19.6	
	HR Coil	589.0	589.0	589.0	613.0	638.0	633.0	628.0	633.0	461.5	519.3	619.5	
	Change, %		0.0	0.0	(3.9)	(7.7)	(7.0)	(6.2)	(7.0)	27.6	13.4	(4.9)	
	Scrap	350.0	350.0	350.0	350.0	345.0	302.0	255.0	302.0	252.9	275.7	337.9	
	Change, %		0.0	0.0	0.0	1.4	15.9	37.3	15.9	38.4	27.0	3.6	

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		06/28	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	44.7	44.2	42.5	48.3	49.5	54.1	49.9	53.7	48.8	43.4	50.1
	<i>Change, %</i>		<i>1.1</i>	<i>5.2</i>	<i>(7.4)</i>	<i>(9.6)</i>	<i>(17.2)</i>	<i>(10.3)</i>	<i>(16.7)</i>	<i>(8.3)</i>	<i>3.2</i>	<i>(10.7)</i>
	Dubai	45.3	45.0	44.3	50.1	50.1	53.7	45.7	53.8	50.8	41.3	51.4
	<i>Change, %</i>		<i>0.6</i>	<i>2.2</i>	<i>(9.6)</i>	<i>(9.7)</i>	<i>(15.7)</i>	<i>(0.9)</i>	<i>(15.8)</i>	<i>(10.8)</i>	<i>9.7</i>	<i>(11.9)</i>
Crude Oil Product	Gasoline(휘발유)	58.1	58.2	56.8	64.7	64.7	69.4	57.7	69.8	69.5	56.3	65.9
	<i>Change, %</i>		<i>(0.3)</i>	<i>2.2</i>	<i>(10.2)</i>	<i>(10.2)</i>	<i>(16.3)</i>	<i>0.7</i>	<i>(16.9)</i>	<i>(16.5)</i>	<i>3.2</i>	<i>(11.9)</i>
	Kerosene(등유)	56.4	55.9	55.6	60.9	61.3	66.6	57.8	66.4	64.7	52.9	62.4
	<i>Change, %</i>		<i>1.0</i>	<i>1.5</i>	<i>(7.4)</i>	<i>(8.0)</i>	<i>(15.3)</i>	<i>(2.3)</i>	<i>(15.1)</i>	<i>(12.9)</i>	<i>6.7</i>	<i>(9.7)</i>
	Diesel(경유)	57.1	56.3	56.0	60.7	62.0	65.3	57.7	65.5	64.8	52.1	63.0
	<i>Change, %</i>		<i>1.5</i>	<i>2.1</i>	<i>(5.9)</i>	<i>(7.9)</i>	<i>(12.6)</i>	<i>(1.1)</i>	<i>(12.8)</i>	<i>(11.8)</i>	<i>9.6</i>	<i>(9.3)</i>
	Bunker-C	45.1	44.8	44.2	46.7	44.9	51.8	39.3	52.1	45.3	35.5	47.8
	<i>Change, %</i>		<i>0.6</i>	<i>2.0</i>	<i>(3.5)</i>	<i>0.4</i>	<i>(12.9)</i>	<i>14.7</i>	<i>(13.4)</i>	<i>(0.4)</i>	<i>26.9</i>	<i>(5.7)</i>
	Naphtha	43.3	43.2	43.5	47.9	50.2	53.5	45.0	53.5	52.6	42.6	51.3
	<i>Change, %</i>		<i>0.1</i>	<i>(0.6)</i>	<i>(9.6)</i>	<i>(13.8)</i>	<i>(19.0)</i>	<i>(3.8)</i>	<i>(19.0)</i>	<i>(17.7)</i>	<i>1.6</i>	<i>(15.6)</i>
Dubai Spread	Gasoline(휘발유)	12.8	13.2	12.5	14.6	14.5	15.6	12.0	16.0	18.7	14.9	14.5
	<i>Change</i>		<i>(0.4)</i>	<i>0.3</i>	<i>(1.8)</i>	<i>(1.8)</i>	<i>(2.9)</i>	<i>0.8</i>	<i>(3.3)</i>	<i>(6.0)</i>	<i>(2.2)</i>	<i>(1.8)</i>
	Kerosene(등유)	11.1	10.8	11.3	10.8	11.2	12.8	12.0	12.6	14.0	11.6	11.0
	<i>Change</i>		<i>0.3</i>	<i>(0.1)</i>	<i>0.3</i>	<i>(0.1)</i>	<i>(1.7)</i>	<i>(0.9)</i>	<i>(1.5)</i>	<i>(2.8)</i>	<i>(0.5)</i>	<i>0.1</i>
	Diesel(경유)	11.8	11.2	11.7	10.6	11.9	11.6	12.0	11.7	14.0	10.8	11.6
	<i>Change</i>		<i>0.6</i>	<i>0.2</i>	<i>1.2</i>	<i>(0.0)</i>	<i>0.2</i>	<i>(0.2)</i>	<i>0.1</i>	<i>(2.2)</i>	<i>1.0</i>	<i>0.3</i>
Refining Margin	Bunker-C	(0.2)	(0.2)	(0.1)	(3.4)	(5.2)	(2.0)	(6.4)	(1.8)	(5.5)	(5.8)	(3.6)
	<i>Change</i>		<i>(0.0)</i>	<i>(0.1)</i>	<i>3.2</i>	<i>5.0</i>	<i>1.8</i>	<i>6.2</i>	<i>1.6</i>	<i>5.3</i>	<i>5.6</i>	<i>3.4</i>
	Naphtha	(2.0)	(1.8)	(0.8)	(2.2)	0.0	(0.3)	(0.8)	(0.4)	1.8	1.3	(0.1)
	<i>Change</i>		<i>(0.2)</i>	<i>(1.2)</i>	<i>0.2</i>	<i>(2.1)</i>	<i>(1.8)</i>	<i>(1.3)</i>	<i>(1.6)</i>	<i>(3.8)</i>	<i>(3.3)</i>	<i>(1.9)</i>
Refining Margin	Simple(단순)	4.2	4.1	4.2	2.5	2.1	3.7	1.4	3.8	3.3	1.9	2.7
	<i>Change</i>		<i>0.1</i>	<i>(0.1)</i>	<i>1.7</i>	<i>2.1</i>	<i>0.5</i>	<i>2.8</i>	<i>0.4</i>	<i>0.9</i>	<i>2.2</i>	<i>1.5</i>
	Complex(복합)	7.7	7.6	7.7	6.9	7.2	8.1	6.3	8.3	9.3	7.0	7.4
	<i>Change</i>		<i>0.1</i>	<i>0.0</i>	<i>0.8</i>	<i>0.5</i>	<i>(0.4)</i>	<i>1.4</i>	<i>(0.5)</i>	<i>(1.6)</i>	<i>0.7</i>	<i>0.3</i>
Refining Margin	Complex(lagging)	2.6	(0.1)	0.0	6.9	2.6	15.9	6.5	18.0	7.3	8.5	6.5
	<i>Change</i>		<i>2.7</i>	<i>2.5</i>	<i>(4.3)</i>	<i>(0.0)</i>	<i>(13.3)</i>	<i>(3.9)</i>	<i>(15.4)</i>	<i>(4.7)</i>	<i>(5.9)</i>	<i>(3.9)</i>

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			06/28	06/27	06/23	06/22	06/21	06/20	06/19	06/16	06/15	06/14	
Spot Price	Naphtha	CFR Japan	405.4	403.1	395.6	399.0	403.0	409.0	414.0	411.3	409.0	417.8	
	Ethylene	CFR SE Asia	880.0	880.0	880.0	880.0	880.0	880.0	880.0	880.0	880.0	880.0	
	Propylene	FOB Korea	830.0	831.0	831.0	830.0	835.0	835.0	835.0	825.0	815.0	804.0	
	Butadiene	FOB Korea	920.0	910.0	910.0	875.0	860.0	825.0	825.0	825.0	865.0	865.0	
	HDPE	CFR FE Asia	1,080.0	1,080.0	1,080.0	1,085.0	1,085.0	1,075.0	1,075.0	1,080.0	1,090.0	1,090.0	
	LDPE	CFR FE Asia	1,130.0	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	1,135.0	1,140.0	1,140.0	
	LLDPE	CFR FE Asia	1,055.0	1,070.0	1,075.0	1,075.0	1,075.0	1,050.0	1,050.0	1,050.0	1,075.0	1,075.0	
	MEG	CFR China	805.0	793.0	778.0	773.0	775.0	760.0	750.0	785.0	805.0	810.0	
	PP	CFR FE Asia	965.0	965.0	960.0	960.0	965.0	965.0	965.0	965.0	960.0	960.0	970.0
	PX	CFR China	763.7	760.7	748.7	743.7	761.3	770.3	776.3	777.0	774.7	783.0	
	PTA	CFR China	609.0	604.0	607.0	612.0	612.0	614.0	614.0	617.0	620.0	620.0	
	Benzene	FOB Korea	730.5	733.5	735.0	726.0	733.0	750.0	752.5	749.5	763.0	778.0	
	Toluene	FOB Korea	575.0	577.0	574.0	576.0	594.0	603.0	605.0	609.0	608.0	610.0	
	Xylene	FOB Korea	622.5	620.5	617.5	619.5	630.5	633.5	636.5	636.5	636.0	640.0	
	SM	FOB Korea	1,103.5	1,108.5	1,083.5	1,082.5	1,098.5	1,095.5	1,093.5	1,104.0	1,126.0	1,132.0	

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	397.5	409.5	441.0	449.0	507.0	420.5	484.5	493.0	399.5	472.1
	<i>Change, %</i>			(2.9)	(9.9)	(11.5)	(21.6)	(5.5)	(18.0)	(19.4)	(0.5)	(15.8)
	Ethylene	CFR SE Asia	875.0	855.0	950.0	1,045.0	1,185.0	1,037.5	990.0	1,103.7	1,040.9	1,040.0
	<i>Change, %</i>			2.3	(7.9)	(16.3)	(26.2)	(15.7)	(11.6)	(20.7)	(15.9)	(15.9)
	Propylene	CFR SE Asia	742.5	737.5	757.5	795.0	1,042.5	735.0	815.0	770.0	705.7	861.1
	<i>Change, %</i>			0.7	(2.0)	(6.6)	(28.8)	1.0	(8.9)	(3.6)	5.2	(13.8)
	Butadiene	CFR SE Asia	915.0	875.0	975.0	1,750.0	2,850.0	960.0	2,100.0	877.5	1,116.8	1,836.0
	<i>Change, %</i>			4.6	(6.2)	(47.7)	(67.9)	(4.7)	(56.4)	4.3	(18.1)	(50.2)
	Benzene	CFR SE Asia	757.5	782.5	785.0	785.0	992.5	625.0	822.5	690.0	646.7	866.3
	<i>Change, %</i>			(3.2)	(3.5)	(3.5)	(23.7)	21.2	(7.9)	9.8	17.1	(12.6)
	Toluene	CFR SE Asia	635.0	645.0	655.0	690.0	755.0	615.0	690.0	700.8	630.5	695.8
	<i>Change, %</i>			(1.6)	(3.1)	(8.0)	(15.9)	3.3	(8.0)	(9.4)	0.7	(8.7)
	Xylene	CFR SE Asia	612.5	620.0	640.0	710.0	730.0	620.0	675.0	699.3	627.7	682.8
	<i>Change, %</i>			(1.2)	(4.3)	(13.7)	(16.1)	(1.2)	(9.3)	(12.4)	(2.4)	(10.3)

Spread	Ethylene	-Naphtha	477.5	445.5	509.0	596.0	678.0	617.0	505.5	610.6	641.4	567.9
	<i>Change, %</i>			7.2	(6.2)	(19.9)	(29.6)	(22.6)	(5.5)	(21.8)	(25.6)	(15.9)
	Propylene	-Naphtha	345.0	328.0	316.5	346.0	535.5	314.5	330.5	277.0	306.2	388.9
	<i>Change, %</i>			5.2	9.0	(0.3)	(35.6)	9.7	4.4	24.6	12.7	(11.3)
	Butadiene	-Naphtha	517.5	465.5	534.0	1,301.0	2,343.0	539.5	1,615.5	384.5	717.3	1,363.8
	<i>Change, %</i>			11.2	(3.1)	(60.2)	(77.9)	(4.1)	(68.0)	34.6	(27.9)	(62.1)
	Benzene	-Naphtha	360.0	373.0	344.0	336.0	485.5	204.5	338.0	197.0	247.2	394.1
	<i>Change, %</i>			(3.5)	4.7	7.1	(25.8)	76.0	6.5	82.8	45.7	(8.7)
	Toluene	-Naphtha	237.5	235.5	214.0	241.0	248.0	194.5	205.5	207.8	231.0	223.6
	<i>Change, %</i>			0.8	11.0	(1.5)	(4.2)	22.1	15.6	14.3	2.8	6.2
	Xylene	-Naphtha	215.0	210.5	199.0	261.0	223.0	199.5	190.5	206.3	228.2	210.7
	<i>Change, %</i>			2.1	8.0	(17.6)	(3.6)	7.8	12.9	4.2	(5.8)	2.1

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	1,067.5	1,067.5	1,117.5	1,137.5	1,182.5	1,115.0	1,142.5	1,230.1	1,134.6	1,136.3
	Change, %			0.0	(4.5)	(6.2)	(9.7)	(4.3)	(6.6)	(13.2)	(5.9)	(6.1)
	MEG	CFR SE Asia	782.5	787.5	757.5	757.5	872.5	622.5	847.5	780.8	660.8	809.2
	Change, %			(0.6)	3.3	3.3	(10.3)	25.7	(7.7)	0.2	18.4	(3.3)
	PVC	CFR SE Asia	870.0	880.0	880.0	935.0	940.0	760.0	920.0	820.8	823.4	905.9
	Change, %			(1.1)	(1.1)	(7.0)	(7.4)	14.5	(5.4)	6.0	5.7	(4.0)
	PP	CFR SE Asia	1,037.5	1,057.5	1,037.5	1,077.5	1,142.5	990.0	1,032.5	1,109.8	978.4	1,070.2
	Change, %			(1.9)	0.0	(3.7)	(9.2)	4.8	0.5	(6.5)	6.0	(3.1)
	2-EH	CFR Korea	930.0	925.0	960.0	1,045.0	970.0	770.0	865.0	930.1	772.4	950.4
	Change, %			0.5	(3.1)	(11.0)	(4.1)	20.8	7.5	(0.0)	20.4	(2.1)
	ABS	CFR SE Asia	1,790.0	1,710.0	1,570.0	1,730.0	1,940.0	1,300.0	1,635.0	1,431.1	1,347.1	1,745.8
	Change, %			4.7	14.0	3.5	(7.7)	37.7	9.5	25.1	32.9	2.5
	SBR	CFR SE Asia	1,425.0	1,450.0	1,665.0	2,600.0	2,950.0	1,375.0	2,000.0	1,332.1	1,483.0	2,332.1
	Change, %			(1.7)	(14.4)	(45.2)	(51.7)	3.6	(28.8)	7.0	(3.9)	(38.9)
	SM	CFR SE Asia	1,125.0	1,165.0	1,115.0	1,235.0	1,420.0	1,027.5	1,205.0	1,100.7	1,064.6	1,245.9
	Change, %			(3.4)	0.9	(8.9)	(20.8)	9.5	(6.6)	2.2	5.7	(9.7)
	Caustic	FOB NEA	437.5	437.5	442.5	446.0	436.0	295.0	422.5	296.8	316.6	436.0
	Change, %			0.0	(1.1)	(1.9)	0.3	48.3	3.6	47.4	38.2	0.3
	PX	CFR SE Asia	765.0	787.5	795.0	837.5	905.0	815.0	855.0	842.9	790.4	844.1
	Change, %			(2.9)	(3.8)	(8.7)	(15.5)	(6.1)	(10.5)	(9.2)	(3.2)	(9.4)
PO	CFR China	1,457.5	1,395.0	1,442.5	1,485.0	1,420.0	1,312.5	1,562.5	1,683.4	1,396.8	1,480.1	
Change, %			4.5	1.0	(1.9)	2.6	11.0	(6.7)	(13.4)	4.3	(1.5)	
Caprolactam	CFR SE Asia	1,610.0	1,600.0	1,570.0	2,270.0	2,305.0	1,270.0	1,850.0	1,581.5	1,344.9	1,980.2	
Change, %			0.6	2.5	(29.1)	(30.2)	26.8	(13.0)	1.8	19.7	(18.7)	
PTA	CFR SE Asia	625.0	635.0	632.5	667.5	692.5	622.5	642.5	648.0	613.7	658.3	
Change, %			(1.6)	(1.2)	(6.4)	(9.7)	0.4	(2.7)	(3.6)	1.8	(5.1)	
Spread	HDPE		670.0	658.0	676.5	688.5	675.5	694.5	658.0	737.1	735.1	664.2
	Change, %			1.8	(1.0)	(2.7)	(0.8)	(3.5)	1.8	(9.1)	(8.9)	0.9
	MEG		385.0	378.0	316.5	308.5	365.5	202.0	363.0	287.8	261.3	337.1
	Change, %			1.9	21.6	24.8	5.3	90.6	6.1	33.8	47.4	14.2
	PVC		472.5	470.5	439.0	486.0	433.0	339.5	435.5	327.8	423.9	433.7
	Change, %			0.4	7.6	(2.8)	9.1	39.2	8.5	44.1	11.5	8.9
	PP		640.0	648.0	596.5	628.5	635.5	569.5	548.0	616.8	578.9	598.1
	Change, %			(1.2)	7.3	1.8	0.7	12.4	16.8	3.8	10.5	7.0
	2-EH		532.5	515.5	519.0	596.0	463.0	349.5	380.5	437.0	372.9	478.3
	Change, %			3.3	2.6	(10.7)	15.0	52.4	39.9	21.8	42.8	11.3
	ABS		1,392.5	1,300.5	1,129.0	1,281.0	1,433.0	879.5	1,150.5	938.1	947.6	1,273.6
	Change, %			7.1	23.3	8.7	(2.8)	58.3	21.0	48.4	46.9	9.3
	SBR	BD spread	510.0	575.0	690.0	850.0	100.0	415.0	(100.0)	454.7	366.2	496.2
	Change, %			(11.3)	(26.1)	(40.0)	410.0	22.9	(610.0)	12.2	39.3	2.8
	SM		727.5	755.5	674.0	786.0	913.0	607.0	720.5	607.7	665.1	773.7
	Change, %			(3.7)	7.9	(7.4)	(20.3)	19.9	1.0	19.7	9.4	(6.0)
	Caustic											
	Change, %											
	PX		367.5	378.0	354.0	388.5	398.0	394.5	370.5	349.9	390.9	372.0
	Change, %			(2.8)	3.8	(5.4)	(7.7)	(6.8)	(0.8)	5.0	(6.0)	(1.2)
PO	propylene spread	715.0	657.5	685.0	690.0	377.5	577.5	747.5	913.4	691.1	619.0	
Change, %			8.7	4.4	3.6	89.4	23.8	(4.3)	(21.7)	3.5	15.5	
Caprolactam	benzene spread	852.5	817.5	785.0	1,485.0	1,312.5	645.0	1,027.5	891.6	698.2	1,113.9	
Change, %			4.3	8.6	(42.6)	(35.0)	32.2	(17.0)	(4.4)	22.1	(23.5)	
PTA	px spread	89.5	83.8	76.0	81.3	59.0	52.0	44.0	58.0	60.4	67.4	
Change, %			6.9	17.8	10.2	51.7	72.1	103.4	54.3	48.1	32.8	

자료 : Ciscem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	06/28	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	63.3	0.3	(0.7)	3.6	(2.7)	9.2	30.4	10.5	77,273	15.6	14.2	2.9	2.7	8.8	8.3	
Du Pont	USD	81.3	0.7	0.4	4.4	(0.7)	9.3	29.5	10.7	70,472	21.2	19.9	6.2	5.5	12.9	12.2	
Eastman	USD	84.3	0.9	1.2	5.4	5.5	11.5	26.7	12.0	12,287	11.3	10.5	2.4	2.3	8.7	8.3	
BASF	EUR	84.0	(0.1)	(2.1)	0.2	(8.0)	(4.1)	27.0	(4.9)	87,764	15.0	14.2	2.3	2.2	7.9	7.7	
Akzo Nobel	EUR	77.2	(0.7)	(1.5)	1.3	(0.5)	30.0	42.6	30.0	22,195	17.8	17.1	3.0	2.9	9.7	9.4	
Arkema	EUR	93.8	(0.5)	(2.0)	(0.4)	1.7	0.1	40.6	0.9	8,079	14.2	12.8	1.6	1.5	6.6	6.2	
Lanxess	EUR	67.2	0.9	0.5	6.2	8.3	5.9	75.8	7.7	6,995	19.0	15.1	2.3	2.1	5.9	5.8	
Sumitomo Chemical	JPY	619	0.5	1.6	5.5	(1.3)	9.8	49.9	11.3	9,131	10.2	9.5	1.1	1.1	7.8	7.4	
Mitsubishi Chemical	JPY	920	3.1	3.1	11.3	5.9	18.4	104.6	21.3	12,342	9.3	8.9	1.1	1.0	6.4	6.2	
Shin-Etsu Chemical	JPY	10,220	1.0	1.5	3.7	4.5	9.9	75.5	12.7	39,349	21.0	18.7	1.9	1.8	9.1	8.0	
Asahi Kasei	JPY	1,216	0.9	2.6	15.9	10.2	17.7	74.5	19.3	15,197	14.8	13.9	1.4	1.3	7.1	6.7	
JSR	JPY	1,934	1.4	4.5	3.3	(1.6)	4.0	45.9	4.9	3,896	15.6	14.3	1.1	1.1	6.9	6.2	
Nitto Denko	JPY	9,023	0.4	0.7	1.1	4.0	(1.1)	46.7	0.6	13,970	20.3	18.0	2.1	2.0	8.5	7.8	
SABIC	SAR	102.3	0.0	(1.7)	5.0	6.2	10.8	26.5	11.8	81,827	15.2	14.3	1.8	1.7	7.5	7.2	
Yansab	SAR	55.8	0.0	(0.3)	2.4	0.1	3.8	38.5	2.4	8,365	13.5	13.6	1.9	1.8	8.5	8.5	
Formosa Plastics	TWD	92.4	(1.0)	1.9	2.8	(0.8)	4.4	21.6	3.6	19,357	14.5	14.7	1.8	1.8	19.6	20.0	
Formosa Fiber	TWD	94.8	(0.5)	3.0	3.9	0.3	(0.5)	17.0	(1.6)	18,285	12.9	13.6	1.7	1.6	10.5	11.0	
Nan Ya Plastics	TWD	75.3	0.7	3.9	5.5	3.7	6.1	25.5	5.8	19,653	16.4	16.7	1.7	1.7	17.6	16.2	
Sinopec Shanghai	CNY	6.58	0.0	1.2	(0.3)	2.3	0.2	11.7	2.2	8,897	12.6	12.3	2.5	2.2	7.1	7.2	
Sinopec Yizheng(Fiber)	CNY	3.37	0.9	(2.0)	(14.0)	(9.9)	(19.4)	(12.0)	(17.8)	6,291	#N/A	N/A	38.7	6.5	6.5	22.9	15.4
Reliance	INR	1,399	(2.7)	(1.7)	4.6	12.3	33.2	46.0	29.2	70,496	15.7	13.1	1.5	1.4	10.6	8.7	
Industries Qatar	QAR	95.5	0.0	3.8	(9.0)	(13.7)	(18.0)	(3.1)	(18.7)	15,532	14.5	13.1	1.7	1.7	47.7	46.2	
PTT Chemical	THB	68.8	(1.1)	0.7	(5.8)	(3.2)	9.1	17.5	9.1	9,029	10.1	9.9	1.2	1.2	5.2	5.0	
Petronas	MYR	7.1	(0.7)	(0.7)	(4.1)	(6.6)	3.3	9.9	1.7	13,212	16.0	15.7	2.0	1.8	8.7	8.5	
LG화학	KRW	280,500	(0.9)	0.2	(7.9)	(4.1)	7.5	17.6	7.5	17,368	11.8	11.1	1.4	1.3	5.0	4.7	
롯데케미칼	KRW	329,500	(1.3)	(2.1)	(12.4)	(8.5)	(9.4)	24.1	(10.7)	9,906	5.2	5.2	1.0	0.8	3.4	3.1	
한화케미칼	KRW	30,500	2.3	1.5	4.3	17.3	20.8	31.2	23.5	4,409	6.0	6.2	0.8	0.8	7.4	6.8	
금호석유	KRW	73,600	1.9	1.0	(10.4)	(2.0)	(9.7)	28.0	(10.2)	1,967	14.5	11.9	1.4	1.2	9.3	8.0	
SKC	KRW	33,750	0.9	1.8	7.8	9.2	2.0	26.6	2.3	1,111	10.9	8.6	0.8	0.8	8.7	7.3	
국도화학	KRW	51,800	(0.2)	(5.0)	2.6	5.7	(5.6)	(12.6)	(5.6)	264	11.4	8.3	0.7	0.6	3.1	2.8	
효성	KRW	5,710	0.2	(1.9)	(15.7)	(34.4)	(12.2)	62.2	(16.0)	5,113	8.8	8.0	1.4	1.2	7.0	6.4	
Average			0.2	0.4	0.7	(0.0)	4.7	33.7	5.0								
Refinery																	
Valero	USD	67.5	1.0	4.3	8.0	1.8	(1.7)	30.2	(1.2)	30,175	14.7	11.5	1.5	1.5	6.5	5.6	
Conoco Phillips	USD	44.0	(0.0)	(2.2)	(3.1)	(3.1)	(13.4)	4.8	(12.3)	54,383	90.8	24.5	1.6	1.6	8.0	6.7	
Formosa Petrochemical	TWD	105.0	(10.6)	(4.5)	(0.9)	(1.9)	(2.8)	20.6	(6.3)	32,916	15.7	18.3	3.1	3.2	8.9	11.0	
Tesoro	USD	94.5	1.0	3.6	13.2	15.7	6.5	27.6	8.0	15,107	19.0	13.2	1.7	1.6	7.9	6.4	
Marathon Petroleum	USD	52.6	1.5	1.7	(0.4)	7.3	4.5	47.4	4.5	27,296	18.2	14.8	2.0	1.7	8.4	7.4	
Devon Energy	USD	30.6	0.7	1.3	(14.7)	(22.9)	(33.9)	(15.1)	(33.1)	16,060	16.3	12.4	2.3	1.9	7.7	6.6	
Hollyfrontier	USD	27.9	0.9	7.9	12.7	4.1	(16.0)	16.8	(14.8)	4,950	21.6	12.5	1.0	1.1	8.3	6.5	
Phillips 66	USD	81.8	1.6	3.7	5.6	5.0	(6.1)	3.9	(5.3)	41,956	19.2	13.4	1.9	1.9	10.0	8.2	
Murphy Oil	USD	24.8	2.2	0.5	(2.1)	(9.1)	(22.6)	(17.6)	(20.4)	4,276	135.4	31.1	0.8	0.8	4.4	4.1	
JX Holdings	JPY	490.4	0.7	2.6	(0.2)	(6.2)	(1.7)	28.5	(0.9)	14,974	7.6	7.1	0.6	0.6	7.5	7.2	
Idemitsu	JPY	3,225.0	1.1	2.5	0.0	(15.1)	2.1	40.1	3.9	4,598	6.2	6.0	0.8	0.7	8.6	8.0	
Nesteoil	EUR	34.5	(0.4)	(2.8)	(6.2)	(4.6)	(5.7)	13.4	(5.4)	0	13.1	12.9	2.1	2.0	7.5	7.6	
Ashland	USD	66.5	(0.3)	(0.5)	0.1	10.3	24.2	23.5	24.4	4,138	15.5	20.3	1.0	1.0	7.7	9.5	
Fuchs Petrolub	EUR	49.0	(0.8)	(3.6)	(0.1)	9.8	22.6	43.0	22.7	7,208	25.2	24.0	5.1	4.6	14.2	13.6	
SK이노베이션	KRW	158,000	1.0	0.6	(5.7)	(3.1)	6.8	12.1	7.8	12,815	6.2	6.5	0.8	0.7	3.7	3.4	
S-Oil	KRW	94,100	0.1	0.0	(7.7)	(4.1)	12.3	23.7	11.1	9,292	8.9	8.0	1.6	1.4	6.8	5.7	
GS	KRW	68,300	1.2	1.5	(5.1)	20.0	27.0	44.9	26.2	5,566	6.4	6.1	0.8	0.7	7.1	6.7	
Average			0.0	1.0	(0.4)	0.2	0.1	20.4	0.5								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	06/28	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	82	0.5	0.1	(0.0)	(0.4)	(9.7)	(10.3)	(9.7)	345,464	21.3	18.4	2.0	1.9	9.0	8.3		
BP	GBP	455	(1.1)	(0.3)	(4.1)	0.4	(10.5)	12.6	(10.7)	116,279	17.7	14.1	1.2	1.2	5.7	5.0		
Shell	EUR	2,074	(0.7)	0.5	(2.1)	(1.8)	(7.1)	8.0	(7.5)	223,333	15.2	12.8	1.2	1.1	6.1	5.5		
Chevron	USD	104	0.2	(0.2)	(0.4)	(2.7)	(11.6)	2.6	(11.4)	197,565	23.3	18.7	1.4	1.3	7.1	6.4		
Total	EUR	44	0.1	0.1	(6.3)	(4.3)	(8.8)	7.4	(8.8)	125,569	12.4	11.1	1.2	1.1	5.8	5.2		
Sinopec	CNY	6	0.2	(0.5)	(3.7)	4.2	6.5	27.6	9.2	102,892	13.0	11.9	1.0	0.9	4.6	4.5		
Petrochina	CNY	8	(0.1)	(0.4)	(1.4)	(2.0)	(4.2)	7.0	(3.3)	196,119	38.1	25.4	1.2	1.1	6.5	6.2		
CNOOC	CNY	11	0.1	(2.4)	(11.4)	(14.1)	(14.9)	(10.1)	(15.2)	48,801	13.5	10.5	0.9	0.8	3.8	3.4		
Gazprom	RUB	120	0.3	1.5	(2.0)	(7.4)	(20.7)	(14.0)	(22.5)	47,791	4.2	3.7	0.2	0.2	3.6	3.2		
Rosneft	RUB	332	1.6	4.4	9.3	5.7	(16.5)	1.7	(17.5)	59,413	9.4	6.9	0.9	0.8	4.8	4.1		
Anadarko	USD	44	(0.0)	(3.4)	(15.5)	(28.4)	(38.0)	(14.4)	(37.2)	24,537	#N/A	N/A	94.8	1.6	1.5	6.5	5.5	
Petrobras	BRL	12	(1.1)	3.8	(11.7)	(13.4)	(18.3)	31.3	(18.8)	49,547	8.6	7.6	0.5	0.5	4.9	4.5		
Lukoil	USD	2,875	2.7	5.4	2.8	(5.9)	(14.0)	9.4	(16.7)	41,048	5.6	5.0	0.6	0.6	N/A	N/A		
Kinder	USD	19	0.6	2.8	(1.2)	(11.2)	(8.2)	7.4	(8.2)	47,497	28.7	25.7	1.2	1.2	11.5	10.9		
Statoil	NOK	141	0.3	0.4	(5.8)	(1.4)	(11.8)	2.6	(11.0)	54,534	16.1	13.7	1.5	1.4	3.1	2.8		
BHP	AUD	23	1.9	3.6	(4.7)	(4.2)	(10.0)	27.0	(8.7)	88,336	14.4	14.9	1.5	1.5	5.8	5.9		
PTT E&P	THB	87	0.3	0.3	(5.9)	(5.9)	(8.2)	7.4	(9.6)	10,169	13.7	11.8	0.8	0.8	2.9	2.6		
Petronas gas	MYR	19	(1.0)	0.1	(1.3)	(6.2)	(12.0)	(14.3)	(12.1)	8,616	20.8	19.3	3.0	2.8	11.9	11.0		
Chesapeake	USD	5	1.3	7.5	(8.1)	(9.8)	(32.8)	13.6	(30.8)	4,413	5.9	4.5	#N/A	N/A	#N/A	N/A	7.2	5.9
Noble Energy	USD	28	0.9	(0.4)	(4.9)	(18.0)	(27.8)	(20.1)	(26.4)	13,629	#N/A	N/A	66.6	1.3	1.3	7.7	6.5	
Average		0	0.3	1.1	(3.9)	(6.3)	(13.9)	4.1	(13.8)									
PV																		
WACKER	EUR	96.2	1.1	0.6	(0.5)	(1.5)	(2.0)	26.7	(2.7)	5,708	25.3	20.1	1.7	1.6	5.9	5.7		
GCL-Poly	HKD	0.8	0.0	9.6	(7.0)	(22.3)	(14.0)	(20.0)	(14.0)	1,905	6.8	6.6	0.6	0.5	5.5	5.0		
SunPower	USD	9.6	4.4	24.7	20.5	56.8	39.2	(35.0)	44.9	1,336	#N/A	N/A	122.8	2.0	3.7	35.6	10.8	
Canadian Solar	USD	16.0	3.8	14.2	20.7	38.1	28.7	10.1	31.2	927	11.8	6.8	0.9	0.9	9.7	9.2		
JA Solar	USD	6.4	(0.2)	(0.2)	(7.4)	1.4	31.4	(1.8)	34.5	304	25.6	13.1	1.6	1.6	4.3	3.2		
Yingli	USD	2.3	1.3	11.1	4.1	4.5	(12.5)	(39.8)	(11.5)	42	#N/A	N/A	#N/A	N/A	#N/A	N/A	39.8	23.6
First Solar	USD	40.5	1.1	8.8	9.9	43.2	23.4	(12.7)	26.2	4,223	72.6	59.3	0.8	0.8	9.5	7.0		
한화큐셀	USD	7.5	0.7	10.5	5.1	3.9	(15.1)	(45.9)	(8.7)	620	40.3	32.4	#N/A	N/A	#N/A	N/A	6.8	6.5
OCI	KRW	91,200	0.7	(3.5)	0.9	8.8	16.5	2.9	15.9	1,908	22.7	17.7	0.7	0.6	7.7	7.2		
웅진에너지	KRW	6,850	(2.7)	(2.1)	0.7	37.7	45.4	(27.8)	44.7	150	N/A	0.7	0.6	7.7	7.2	8.8		
신성솔라에너지	KRW	2,250	5.4	9.0	10.6	23.0	3.9	2.0	1.8	341	N/A	0.6	7.7	7.2	8.8	8.0		
Average			1.4	7.5	5.2	17.6	13.2	(12.8)	14.7									
Gas Company																		
Towngas China	HKD	5.1	(0.6)	0.8	5.2	13.4	25.5	21.0	24.3	1,762	11.9	11.1	0.9	0.9	11.3	10.7		
Kulun	HKD	6.4	(1.2)	0.3	(9.7)	(10.5)	9.9	4.7	10.7	6,641	10.8	10.0	1.1	1.1	5.4	5.2		
Beijing Enterprise	HKD	37.6	0.3	0.0	3.4	(9.1)	6.7	(5.8)	2.6	6,081	7.4	6.9	0.7	0.7	13.2	12.7		
ENN Energy	HKD	46.6	(1.2)	9.4	12.6	3.3	48.7	27.7	45.9	6,452	12.9	11.8	2.5	2.1	8.3	7.8		
China Resources Gas	HKD	26.8	(1.5)	11.9	8.3	(2.7)	23.8	19.4	22.7	7,623	15.4	13.9	2.8	2.5	9.6	8.8		
China Gas Holdings	HKD	15.3	0.0	17.7	28.6	21.2	47.1	39.6	45.4	9,741	15.1	13.3	3.0	2.6	12.4	11.2		
Shenzen Gas	HKD	14.5	(0.8)	1.1	15.1	25.3	27.9	30.5	28.1	3,736	12.7	11.8	1.4	1.3	8.9	8.3		
Shann Xi	CNY	8.8	(0.2)	(2.0)	4.2	(7.6)	(8.1)	(15.2)	(8.4)	1,435	17.3	15.3	1.8	1.6	#N/A	N/A	#N/A	N/A
Suntien	HKD	1.4	(0.7)	(3.5)	(8.6)	(3.5)	36.3	73.8	39.0	662	6.9	6.0	0.5	0.5	8.7	7.5		
China Oil & Gas	HKD	0.5	0.0	3.8	(5.3)	(8.5)	(11.5)	(6.9)	(11.5)	403	9.3	8.1	0.9	0.8	6.0	5.3		
Average			(0.6)	4.0	5.4	2.1	20.6	18.9	19.9									
EV																		
LG화학	KRW	280,500	(0.9)	0.2	(7.9)	(4.1)	7.5	17.6	7.5	17,368	11.0	10.5	1.4	1.2	5.1	4.9		
삼성SDI	KRW	170,500	(3.1)	7.9	6.9	25.8	58.6	68.0	56.4	10,284	19.0	12.8	1.1	1.0	19.2	12.5		
Panasonic	JPY	1562.5	0.2	2.9	12.6	26.8	28.3	83.1	31.4	34,152	19.6	15.7	2.0	1.8	6.1	5.3		
GS Yuasa	JPY	489.0	0.4	(1.6)	(3.6)	(7.0)	(0.4)	30.7	0.6	1,802	14.6	13.5	1.2	1.1	6.7	6.2		
NEC	JPY	292.0	0.7	0.7	1.4	4.3	(6.7)	28.6	(5.8)	6,777	21.3	16.6	0.9	0.9	7.8	6.8		
BYD Auto	CNY	50.6	(1.8)	(0.8)	3.0	1.3	2.6	(16.2)	1.8	19,168	25.3	19.0	2.5	2.2	12.5	10.0		
Tesla Motors	USD	371.2	2.4	(1.4)	14.2	33.8	68.9	84.0	73.7	60,980	#N/A	N/A	#N/A	N/A	12.8	11.2	71.9	29.6
Kandi Technologies	USD	4.5	4.7	12.7	4.7	18.7	(13.6)	(32.9)	(9.2)	214	#N/A	N/A	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			0.3	2.6	3.9	12.4	18.1	32.9	19.5									

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임