

1. News Summary (3 page)

2017년 8월 11일

News	
WTI comment	원유생산 증가에 급락...한반도 위기에 급감은 강세
Headline	8일 만에 또...GS칼텍스 여수공장 화재
News 1.	Chevron Phillips Chemical, Arthur 항만 단지 화재 발생 보고
News 2.	-
News 3.	-
News 4.	-

Conclusion	
	중국 PTA 설비 정기보수 종료가 맞물려 PX 솟티지 전망됨
	화재 규모에 따라 일시적으로 공급량이 줄어들 수 있음
	-
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	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	48.6	(2.0)	(0.9)	5.4	1.6	11.7
Dubai	\$/bbl	51.6	0.7	1.6	12.0	4.0	27.5
Gasoline	\$/bbl	67.9	0.4	2.4	13.7	5.6	37.6
Diesel	\$/bbl	64.5	1.2	(0.4)	9.6	6.2	29.4
Complex margin ¹	\$/bbl	8.4	0.0	(0.2)	0.4	1.1	4.2
1M lagging	\$/bbl	14.8	1.2	3.0	7.7	11.8	12.7
Petrochemical			%	%	%	%	%
Naphtha	\$/t	473	0.9	0.8	16.6	9.1	33.5
Butadiene	\$/t	910	0.0	0.0	(6.7)	(25.7)	(9.5)
HDPE	\$/t	1,120	0.0	0.9	3.7	0.0	(0.4)
MEG	\$/t	868	(0.2)	0.6	4.2	23.8	41.8
PX	\$/t	822	0.9	(0.2)	9.4	5.8	5.0
SM	\$/t	1,155	2.8	5.0	1.3	15.7	14.6
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.99	3.5	6.6	1.3	(13.9)	0.5
Natural rubber	\$/t	1,540	3.4	5.5	5.5	4.8	18.5
Cotton	C/lbs	69.3	(3.6)	(3.2)	4.1	(12.5)	(2.8)

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	08/07	\$/t	1,030	5.6	17.7	(5.1)	0.0
Propylene	08/07	\$/t	770	1.0	2.0	6.2	13.2
Benzene	08/07	\$/t	750	1.0	1.0	(0.7)	22.0
Toluene	08/07	\$/t	650	2.4	3.2	(0.8)	14.0
Xylene	08/07	\$/t	633	1.6	2.8	(1.2)	5.4
PP	08/07	\$/t	1,088	1.4	5.8	3.8	7.7
PVC	08/07	\$/t	860	0.0	(1.1)	(2.0)	6.8
ABS	08/07	\$/t	1,850	1.6	3.4	12.8	36.3
SBR	08/07	\$/t	1,490	0.0	2.8	(16.8)	8.0
SM	08/07	\$/t	1,150	(1.9)	(0.9)	8.0	11.1
BPA	08/07	\$/t	1,543	0.2	3.0	13.4	1.0
Caustic	08/07	\$/t	468	1.1	3.3	4.5	55.8
2-EH	08/07	\$/t	960	(1.0)	5.5	3.8	27.2
Caprolactam	08/07	\$/t	1,760	1.7	9.3	(0.6)	34.4
Solar				%	%	%	%
Polysilicon	08/02	\$/kg	15.6	1.4	12.2	15.8	(0.4)
Module	08/02	\$/W	0.33	0.0	(0.6)	(2.4)	(27.3)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	79.0	(1.5)	(1.9)	(1.5)	(3.6)	(8.6)
Shell	EUR	2,164	(2.2)	(0.6)	6.0	2.4	12.9
Petrochina	CNY	8.09	(0.4)	(0.2)	3.2	8.7	11.3
Gazprom	RUB	118.1	(0.5)	(1.3)	(5.0)	(12.0)	(14.1)
Petrobras	BRL	13.2	(2.4)	(0.9)	10.1	(10.5)	14.1
Refinery							
Phillips66	USD	83.6	(1.0)	(2.3)	1.4	4.9	8.7
Valero	USD	66.2	(1.1)	(3.4)	(2.8)	(0.7)	25.1
JX	JPY	516.6	1.6	4.4	6.2	0.8	36.7
Neste Oil	EUR	35.0	1.0	(0.3)	(1.6)	(7.5)	(7.7)

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	79.4	(1.7)	(1.4)	(2.6)	(12.1)	9.9
Dow Chemical	USD	63.1	(0.6)	(0.5)	(2.2)	2.3	18.1
SABIC	SAR	98.2	0.2	1.0	(3.2)	1.4	17.2
Formosa Pla.	TWD	92.6	(0.2)	0.8	0.4	5.0	16.3
Shin-Etsu	JPY	9,541	0.2	(6.4)	(4.3)	(3.3)	34.0
Renewable							
Wacker	EUR	101.4	(1.6)	(1.8)	7.8	1.5	24.4
First Solar	USD	46.75	(1.4)	(1.2)	18.2	27.8	20.9
GCL-Poly	HKD	0.88	(4.3)	2.3	3.5	(7.4)	(17.8)
Tesla Motors	USD	355.4	(2.2)	2.4	12.5	9.3	57.5

4. Coverage Summary

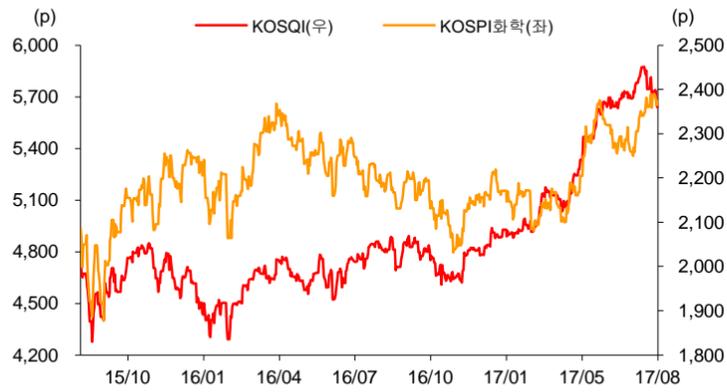
	08/10	1D	1W	1M	3M	6M	12M
KOSPI	2,359	(0.4)	(1.1)	(1.5)	3.2	14.3	15.4
KOSPI화학	5,674	0.4	0.7	5.0	4.2	13.8	8.3
LG화학	337,500	1.5	2.6	12.9	17.4	24.8	31.1
롯데케미칼	378,000	(0.5)	0.4	7.8	7.4	(1.3)	22.9
한화케미칼	33,550	0.1	2.0	5.5	21.6	31.6	28.3
금호석유화학	74,700	1.2	(3.7)	1.1	(1.3)	(3.2)	17.6
KCC	407,000	(1.1)	(5.9)	(1.7)	14.5	26.0	(4.7)
OCI	90,500	(1.6)	(4.9)	3.2	9.2	(0.5)	(3.3)
SKC	37,950	1.1	3.8	10.5	29.5	23.0	19.5
국도화학	55,600	(1.2)	(2.5)	5.5	14.6	4.5	(5.3)
SK이노베이션	172,000	(1.4)	(0.3)	3.9	(0.6)	11.7	13.5
S-Oil	118,000	1.3	4.9	14.6	11.8	44.6	53.6
GS	72,700	(3.1)	(1.1)	1.8	17.3	39.8	49.4
SK가스	115,000	(0.9)	0.0	(3.8)	(2.5)	5.0	34.8
포스코대우	23,300	(0.9)	(0.9)	4.7	(1.3)	(5.7)	5.2
LG상사	29,250	0.2	1.4	(2.2)	(9.7)	(15.9)	(16.8)
한국전력	44,450	0.7	0.6	4.6	2.8	9.5	(27.4)
한국가스공사	51,000	1.2	2.4	0.4	4.9	9.2	18.3

투자 의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	330,000	(2.2)	13.43	1.81
매수	410,000	8.5	7.81	1.38
매수	33,000	(1.6)	8.01	1.00
매수	100,000	33.9	14.20	1.42
매수	450,000	10.6	23.15	0.66
매수	100,000	10.5	18.31	0.70
매수	40,000	5.4	14.30	1.01
매수	70,000	25.9	9.33	0.68
매수	180,000	4.7	7.73	0.94
매수	100,000	(15.3)	15.85	2.30
매수	80,000	10.0	6.04	1.07
매수	150,000	30.4	6.98	0.83
매수	27,000	15.9	8.10	0.96
매수	42,000	43.6	9.04	0.95
매수	60,000	35.0	7.68	0.35
매수	60,000	17.6	8.66	0.60

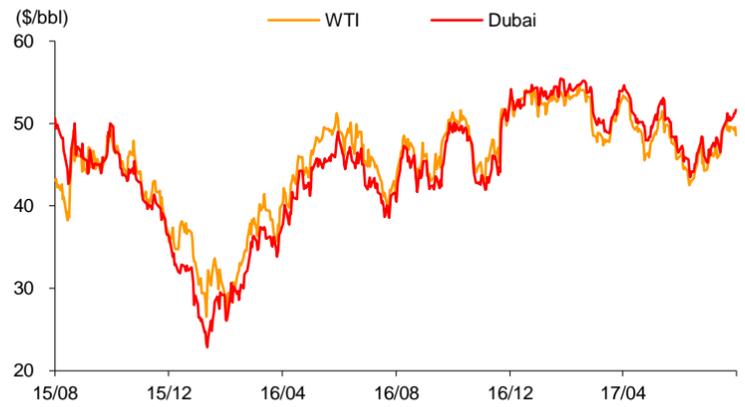
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
· 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

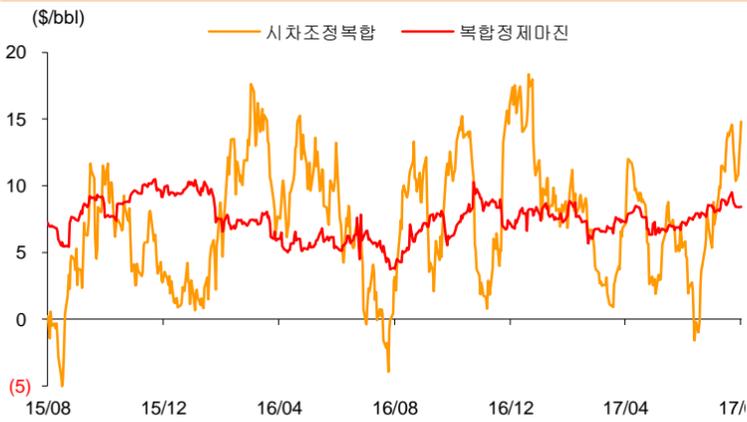
KOSPI/KOSPI화학



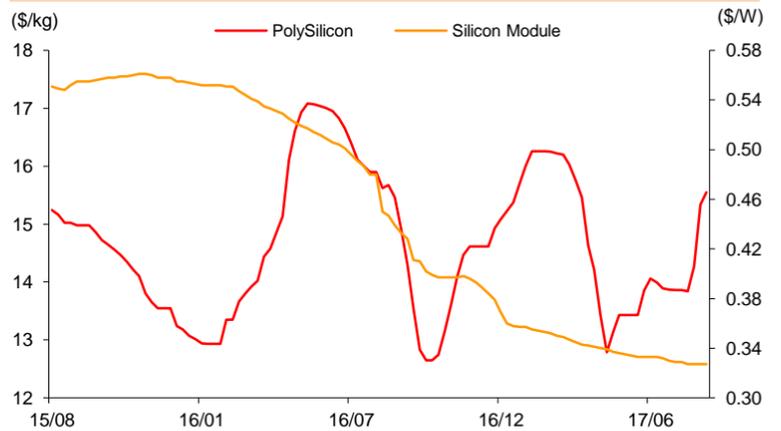
WTI/Dubai



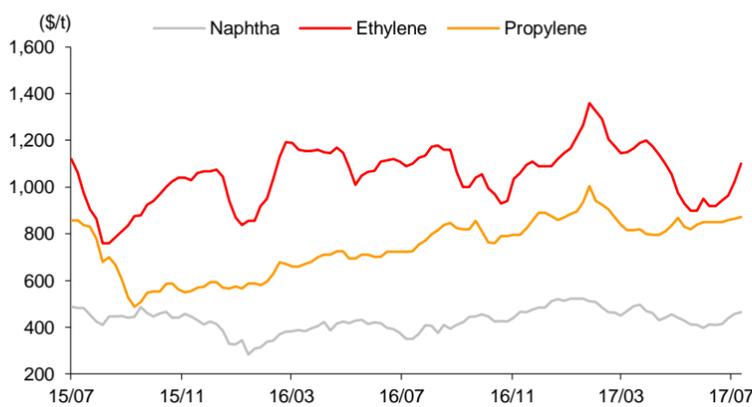
Complex & 1M lagging margin



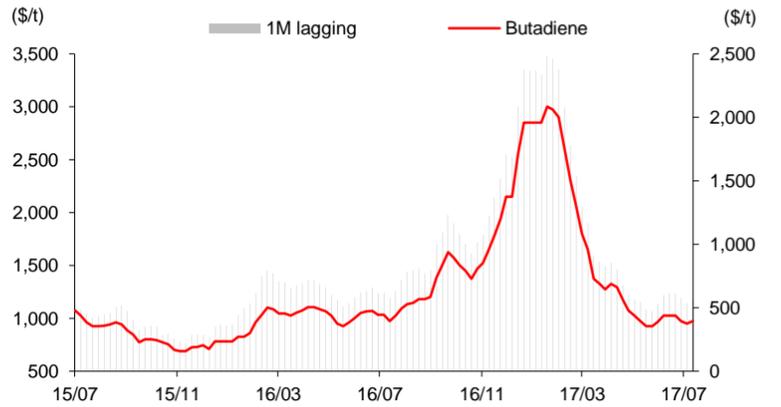
Polysilicon & Module prices



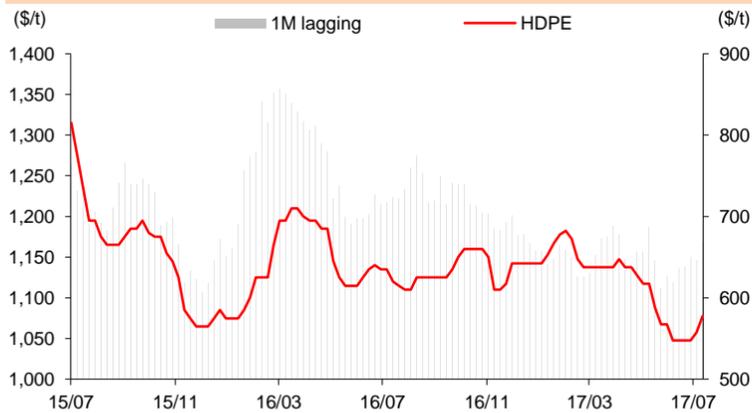
Naphtha/Ethylene/Propylene prices



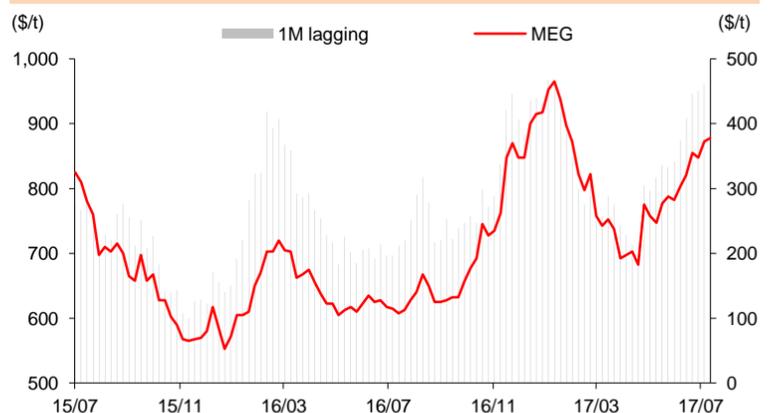
Butadiene price & 1M lagging naphtha spread



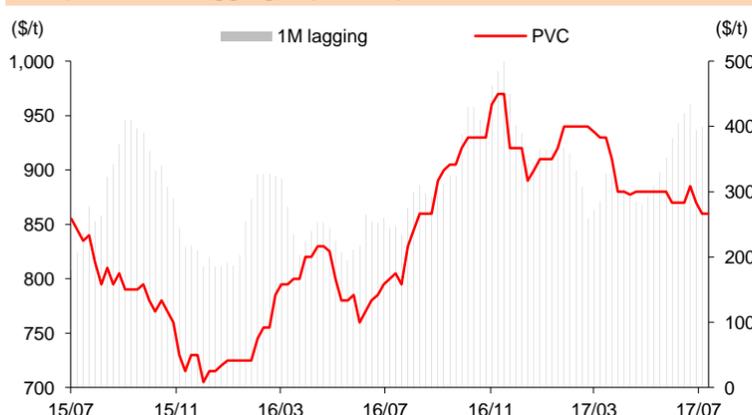
HDPE price & 1M lagging naphtha spread



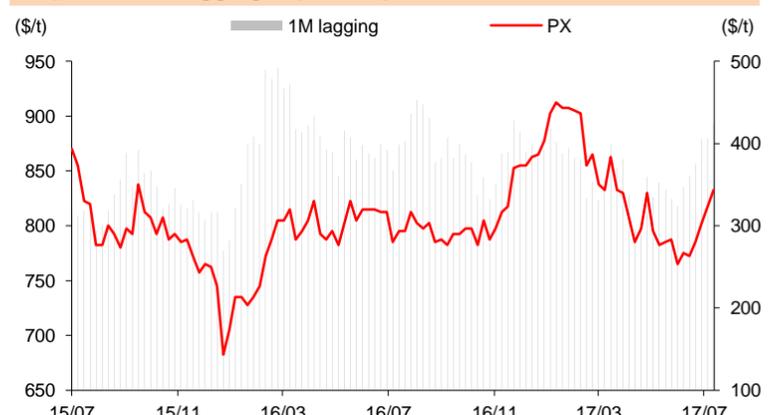
MEG price & 1M lagging naphtha spread



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: 연합뉴스)

제목 8일 만에 또'...GS칼텍스 여수공장 화재

결론 중국 PTA 설비 정기보수 종료가 맞물려 PX 솟티지 전망됨

세부

- 1) 10일 오전 6시 38분께 여수국가산단 GS칼텍스 2공장에서 화재 발생
- 2) 제3중질유분해시설(VRHCR)의 냉각기 인근 배관에서 최초 화재 발생
- 3) 지난 2일 오전에도 BTX(벤젠·톨루엔·자일렌) 공정 변전실에서 화재 발생
- 4) 변전실과 연결된 공정의 전기 공급이 끊어지면서 생산시설 가동 중단됨
- 5) 중국 PTA 설비 정기보수 종료가 맞물려 PX 솟티지 전망됨

Issue 1 (출처: Platts)

제목 Chevron Phillips Chemical, Arthur 항만 단지 화재 발생 보고

결론 화재 규모에 따라 일시적으로 공급량이 줄어들 수 있음

세부

- 1) 목요일 텍사스의 Arthur 항만 단지에서 화재 발생
- 2) 화재 영향으로 피해를 입은 설비에 대한 언론 보도는 없음
- 3) 사측에서도 피해 규모와 구체적인 화재 발생 원인에 대해서 언급 없음
- 4) Arthur 항구의 설비들은 83만톤/년 규모의 에틸렌 생산 capa 보유중임
- 5) 화재 규모에 따라 일시적으로 공급량이 줄어들 수 있음

Issue 3

제목

결론

세부

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

Issue 5

제목

결론

세부

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

WTI Comment (출처: 연합뉴스)

제목 원유생산 증가에 급락...한반도 위기에 금값은 강세

상승

요인

하락 OPEC 지난달 생산량은 3천287만b/d로, 전달 대비 약 17만3천b 증가

요인 리비아와 나이지리아, 사우디아라비아가 생산 증가를 주도

Issue 2

제목

결론

세부

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

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	0.850	0.850	0.843	0.877	0.920	0.940	0.895	0.951	0.901	0.904	0.912	
	Change, %		(0.1)	0.8	(3.2)	(7.7)	(9.6)	(5.1)	(10.6)	(5.7)	(6.0)	(6.9)	
	USD/JPY	109.2	110.1	110.1	114.0	114.3	113.2	101.3	117.0	121.1	108.8	112.3	
	Change, %		(0.8)	(0.8)	(4.2)	(4.4)	(3.6)	7.8	(6.6)	(9.8)	0.4	(2.7)	
	USD/KRW	1,141.8	1,135.2	1,128.6	1,149.5	1,135.9	1,151.0	1,095.1	1,205.8	1,131.2	1,160.5	1,140.3	
	Change, %		0.6	1.2	(0.7)	0.5	(0.8)	4.3	(5.3)	0.9	(1.6)	0.1	
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	Agriculture	Corn	357.3	372.3	363.5	391.8	365.3	374.5	322.5	352.0	376.8	358.5	367.4
Change, %			(4.0)	(1.7)	(8.8)	(2.2)	(4.6)	10.8	1.5	(5.2)	(0.4)	(2.8)	
Soybean		930.8	963.0	950.5	1,020.3	961.8	1,059.0	1,017.0	996.5	945.4	987.5	980.9	
Change, %			(3.3)	(2.1)	(8.8)	(3.2)	(12.1)	(8.5)	(6.6)	(1.6)	(5.7)	(5.1)	
Wheat		440.5	459.5	457.8	530.5	424.0	449.0	421.8	408.0	508.1	436.4	443.1	
Change, %			(4.1)	(3.8)	(17.0)	3.9	(1.9)	4.4	8.0	(13.3)	0.9	(0.6)	
Rice		12.3	12.3	12.4	11.8	10.1	9.6	9.5	9.4	11.1	10.3	10.4	
Change, %			(0.5)	(1.1)	4.2	21.8	28.1	28.7	30.9	10.8	18.4	17.6	
Oats		266.0	270.5	285.3	306.0	248.5	254.5	172.0	228.5	250.2	196.3	253.8	
Change, %			(1.7)	(6.7)	(13.1)	7.0	4.5	54.7	16.4	6.3	35.5	4.8	
MYR/mt		Palm Oil	2,663.0	2,628.0	2,588.0	2,705.0	2,850.0	3,268.0	2,630.0	3,218.0	2,190.3	2,653.8	2,872.7
		Change, %		1.3	2.9	(1.6)	(6.6)	(18.5)	1.3	(17.2)	21.6	0.3	(7.3)
	Cocoa	1,967.0	2,002.0	2,061.0	1,801.0	1,984.0	1,939.0	3,020.0	2,126.0	3,091.6	2,854.0	1,999.7	
	Change, %		(1.7)	(4.6)	9.2	(0.9)	1.4	(34.9)	(7.5)	(36.4)	(31.1)	(1.6)	
	Cotton	69.3	71.8	71.6	67.7	76.5	75.8	71.2	70.7	63.3	65.6	75.0	
	Change, %		(3.6)	(3.2)	2.3	(9.5)	(8.7)	(2.7)	(2.0)	9.5	5.6	(7.7)	
	Sugar	13.2	13.6	14.3	13.6	15.8	20.4	19.6	19.5	13.1	18.2	16.8	
	Change, %		(2.9)	(7.5)	(2.4)	(16.4)	(35.2)	(32.6)	(32.1)	0.8	(27.1)	(21.1)	
	Coffee	138.5	142.7	140.2	126.3	134.3	145.8	138.7	137.1	132.6	136.1	136.8	
	Change, %		(2.9)	(1.2)	9.7	3.1	(5.0)	(0.1)	1.1	4.4	1.8	1.3	
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Energy	WTI	48.6	49.6	49.0	44.4	47.3	53.9	41.7	53.7	48.8	43.4	49.6	
	Change, %		(2.0)	(0.9)	9.4	2.7	(9.8)	16.5	(9.5)	(0.5)	12.0	(2.0)	
	Brent	51.9	52.7	52.0	46.9	50.2	56.7	44.1	56.8	53.7	45.1	52.3	
	Change, %		(1.5)	(0.2)	10.7	3.3	(8.5)	17.8	(8.7)	(3.3)	15.1	(0.7)	
	Natural Gas	3.0	2.9	2.8	2.9	3.3	3.0	2.6	3.7	2.6	2.6	3.1	
	Change, %		3.5	6.6	1.9	(9.3)	(1.6)	16.6	(19.8)	13.5	17.0	(3.0)	
	Ethanol	1.6	1.6	1.6	1.6	1.5	1.6	1.4	1.6	1.5	1.5	1.5	
	Change, %		(2.6)	(0.6)	(0.2)	6.1	(3.2)	9.4	(3.5)	2.7	2.3	0.9	
	RBOB Gasoline	160.3	162.0	163.2	150.1	154.0	159.0	130.1	166.5	163.6	140.0	158.4	
	Change, %		(1.1)	(1.8)	6.8	4.1	0.8	23.2	(3.7)	(2.0)	14.5	1.2	
	Coal	95.9	95.2	94.6	82.4	74.1	80.1	66.3	88.4	59.0	65.5	82.1	
	Change, %		0.7	1.4	16.4	29.4	19.7	44.6	8.4	62.6	46.4	16.8	
<hr/>													
Metal	Gold	1,286.3	1,277.3	1,268.5	1,214.4	1,219.2	1,233.7	1,346.6	1,152.3	1,160.6	1,248.5	1,240.2	
	Change, %		0.7	1.4	5.9	5.5	4.3	(4.5)	11.6	10.8	3.0	3.7	
	Silver	17.1	17.0	16.7	15.7	16.2	18.0	20.2	15.9	15.7	17.1	17.2	
	Change, %		1.0	2.8	9.2	5.7	(4.6)	(15.0)	7.6	8.9	0.1	(0.2)	
	Copper	6,423.0	6,455.0	6,352.0	5,824.0	5,500.5	6,090.0	4,821.0	5,535.5	5,503.1	4,872.0	5,835.7	
	Change, %		(0.5)	1.1	10.3	16.8	5.5	33.2	16.0	16.7	31.8	10.1	
	Nickel	697.2	686.7	660.9	581.1	591.0	710.8	722.6	682.0	759.5	646.4	641.2	
	Change, %		1.5	5.5	20.0	18.0	(1.9)	(3.5)	2.2	(8.2)	7.9	8.7	
	Zinc	2,938.0	2,931.5	2,792.0	2,780.5	2,600.0	2,924.0	2,286.0	2,576.0	1,941.9	2,097.5	2,716.0	
	Change, %		0.2	5.2	5.7	13.0	0.5	28.5	14.1	51.3	40.1	8.2	
	Lead	2,346.0	2,331.3	2,350.0	2,304.5	2,185.5	2,419.0	1,810.5	2,003.5	1,791.2	1,868.3	2,232.7	
	Change, %		0.6	(0.2)	1.8	7.3	(3.0)	29.6	17.1	31.0	25.6	5.1	
	Aluminum	15,970.0	15,870.0	14,615.0	14,020.0	13,715.0	13,625.0	12,605.0	12,765.0	12,184.0	12,373.5	13,854.3	
	Change, %		0.6	9.3	13.9	16.4	17.2	26.7	25.1	31.1	29.1	15.3	
	Cobalt	57,200.0	57,200.0	58,000.0	59,750.0	54,550.0	39,850.0	26,500.0	32,734.0	28,444.4	25,480.1	51,292.3	
	Change, %		0.0	(1.4)	(4.3)	4.9	43.5	115.8	74.7	101.1	124.5	11.5	
HR Coil	621.0	619.0	620.0	620.0	610.0	620.0	596.0	633.0	461.5	519.3	620.6		
Change, %		0.3	0.2	0.2	1.8	0.2	4.2	(1.9)	34.6	19.6	0.1		
Scrap	373.8	365.0	354.0	365.8	356.1	305.7	264.3	302.0	252.9	275.7	341.2		
Change, %		2.4	5.6	2.2	5.0	22.3	41.4	23.8	47.8	35.6	9.6		

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		08/10	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	48.6	49.6	49.0	46.1	47.8	53.0	43.5	53.7	48.8	43.4	49.5
	<i>Change, %</i>		(2.0)	(0.9)	5.4	1.6	(8.3)	11.7	(9.5)	(0.4)	12.1	(1.9)
	Dubai	51.6	51.2	50.8	46.1	49.6	53.8	40.5	53.8	50.8	41.3	50.8
	<i>Change, %</i>		0.7	1.6	12.0	4.0	(4.0)	27.5	(4.1)	1.6	25.0	1.6
Crude Oil Product	Gasoline(휘발유)	67.9	67.7	66.3	59.7	64.3	71.1	49.4	69.8	69.5	56.3	65.3
	<i>Change, %</i>		0.4	2.4	13.7	5.6	(4.5)	37.6	(2.8)	(2.3)	20.7	3.9
	Kerosene(등유)	64.0	63.4	64.0	57.0	59.5	65.7	49.9	66.4	64.7	52.9	62.1
	<i>Change, %</i>		0.9	0.0	12.4	7.6	(2.6)	28.2	(3.7)	(1.2)	21.0	3.1
	Diesel(경유)	64.5	63.8	64.7	58.9	60.7	66.2	49.9	65.5	64.8	52.1	62.7
	<i>Change, %</i>		1.2	(0.4)	9.6	6.2	(2.6)	29.4	(1.5)	(0.4)	23.8	2.9
	Bunker-C	48.3	48.3	47.3	44.9	46.8	49.1	34.0	52.1	45.3	35.5	47.5
	<i>Change, %</i>		(0.0)	2.2	7.6	3.3	(1.6)	42.3	(7.2)	6.7	36.0	1.6
	Naphtha	50.9	50.4	50.5	43.5	48.4	56.6	37.6	53.5	52.6	42.6	50.4
	<i>Change, %</i>		0.9	0.7	17.1	5.1	(10.1)	35.5	(4.8)	(3.3)	19.5	1.0
Dubai Spread	Gasoline(휘발유)	16.3	16.4	15.5	13.6	14.7	17.3	8.9	16.0	18.7	14.9	14.5
	<i>Change</i>		(0.1)	0.8	2.7	1.6	(1.1)	7.4	0.3	(2.4)	1.3	1.8
	Kerosene(등유)	12.4	12.2	13.1	10.9	9.9	11.9	9.4	12.6	14.0	11.6	11.3
	<i>Change</i>		0.2	(0.8)	1.5	2.5	0.5	3.0	(0.2)	(1.6)	0.8	1.1
	Diesel(경유)	12.9	12.5	13.9	12.8	11.1	12.4	9.4	11.7	14.0	10.8	11.9
	<i>Change</i>		0.4	(1.0)	0.1	1.8	0.5	3.5	1.2	(1.1)	2.1	1.0
Dubai Spread	Bunker-C	(3.3)	(2.9)	(3.5)	(1.2)	(2.9)	(4.7)	(6.5)	(1.8)	(5.5)	(5.8)	(3.3)
	<i>Change</i>		(0.4)	0.2	(2.1)	(0.4)	1.4	3.2	(1.5)	2.2	2.5	(0.0)
	Naphtha	(0.7)	(0.8)	(0.3)	(2.6)	(1.2)	2.8	(2.9)	(0.4)	1.8	1.3	(0.4)
	<i>Change</i>		0.1	(0.4)	1.9	0.5	(3.6)	2.2	(0.4)	(2.5)	(2.0)	(0.3)
Refining Margin	Simple(단순)	3.5	3.5	3.6	4.0	2.8	2.9	0.1	3.8	3.3	1.9	3.0
	<i>Change</i>		(0.1)	(0.2)	(0.5)	0.7	0.5	3.4	(0.4)	0.2	1.5	0.5
	Complex(복합)	8.4	8.4	8.6	8.0	7.3	8.5	4.2	8.3	9.3	7.0	7.6
	<i>Change</i>		0.0	(0.2)	0.4	1.1	(0.0)	4.2	0.2	(0.8)	1.5	0.8
Refining Margin	Complex(lagging)	14.8	13.6	11.8	7.1	3.0	7.9	2.1	18.0	7.3	8.5	7.2
	<i>Change</i>		1.2	3.0	7.7	11.8	6.9	12.7	(3.1)	7.6	6.3	7.7

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			08/10	08/09	08/08	08/07	08/04	08/03	08/02	08/01	07/31	07/28	
Spot Price	Naphtha	CFR Japan	472.5	468.3	468.3	464.5	466.8	468.8	463.8	476.3	467.3	458.5	
	Ethylene	CFR SE Asia	1,020.0	1,020.0	1,020.0	1,020.0	1,020.0	1,010.0	970.0	940.0	905.0	905.0	
	Propylene	FOB Korea	858.0	857.0	857.0	855.0	857.0	850.0	850.0	849.0	855.0	856.0	
	Butadiene	FOB Korea	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	
	HDPE	CFR FE Asia	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,110.0	1,110.0	1,110.0	1,105.0	1,100.0	
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,150.0	1,150.0	1,140.0
	LLDPE	CFR FE Asia	1,120.0	1,120.0	1,120.0	1,120.0	1,110.0	1,100.0	1,100.0	1,100.0	1,095.0	1,090.0	1,090.0
	MEG	CFR China	868.0	870.0	870.0	880.0	875.0	863.0	877.0	880.0	880.0	867.0	870.0
	PP	CFR FE Asia	1,030.0	1,025.0	1,025.0	1,020.0	1,020.0	1,010.0	1,020.0	1,020.0	1,020.0	1,010.0	1,005.0
	PX	CFR China	821.5	814.2	814.2	817.7	822.5	823.2	824.0	824.0	818.3	807.7	804.7
	PTA	CFR China	637.0	636.0	636.0	636.0	638.0	637.0	640.0	640.0	642.0	645.0	645.0
	Benzene	FOB Korea	760.0	755.0	755.0	751.0	746.0	739.0	727.0	727.0	731.0	732.5	728.5
	Toluene	FOB Korea	630.0	642.0	642.0	644.0	643.0	627.0	624.0	624.0	606.0	602.5	596.5
	Xylene	FOB Korea	672.0	670.0	670.0	670.0	669.0	662.0	658.0	658.0	656.0	655.0	653.0
	SM	FOB Korea	1,155.0	1,124.0	1,124.0	1,110.0	1,110.0	1,100.0	1,109.0	1,109.0	1,113.0	1,122.5	1,128.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Spot Price	Naphtha	CFR Japan	464.0	456.5	409.0	430.5	490.0	350.0	484.5	493.0	399.5	464.7	
		<i>Change, %</i>		1.6	13.4	7.8	(5.3)	32.6	(4.2)	(5.9)	16.1	(0.1)	
	Ethylene	CFR SE Asia	1,030.0	975.0	875.0	1,085.0	1,050.0	1,030.0	990.0	990.0	1,103.7	1,040.9	1,018.8
		<i>Change, %</i>		5.6	17.7	(5.1)	(1.9)	0.0	4.0	(6.7)	(1.0)	1.1	
	Propylene	CFR SE Asia	770.0	762.5	755.0	725.0	760.0	680.0	815.0	815.0	770.0	705.7	860.5
		<i>Change, %</i>		1.0	2.0	6.2	1.3	13.2	(5.5)	0.0	9.1	(10.5)	
	Butadiene	CFR SE Asia	925.0	900.0	975.0	1,245.0	1,325.0	935.0	2,100.0	2,100.0	877.5	1,116.8	1,669.1
		<i>Change, %</i>		2.8	(5.1)	(25.7)	(30.2)	(1.1)	(56.0)	5.4	(17.2)	(44.6)	
	Benzene	CFR SE Asia	750.0	742.5	742.5	755.0	862.5	615.0	822.5	822.5	690.0	646.7	843.4
		<i>Change, %</i>		1.0	1.0	(0.7)	(13.0)	22.0	(8.8)	8.7	16.0	(11.1)	
	Toluene	CFR SE Asia	650.0	635.0	630.0	655.0	675.0	570.0	690.0	690.0	700.8	630.5	684.2
		<i>Change, %</i>		2.4	3.2	(0.8)	(3.7)	14.0	(5.8)	(7.2)	3.1	(5.0)	
	Xylene	CFR SE Asia	632.5	622.5	615.0	640.0	710.0	600.0	675.0	675.0	699.3	627.7	670.8
		<i>Change, %</i>		1.6	2.8	(1.2)	(10.9)	5.4	(6.3)	(9.5)	0.8	(5.7)	

Spread	Ethylene	-Naphtha	566.0	518.5	466.0	654.5	560.0	680.0	505.5	610.6	641.4	554.2
		<i>Change, %</i>		9.2	21.5	(13.5)	1.1	(16.8)	12.0	(7.3)	(11.8)	2.1
	Propylene	-Naphtha	306.0	306.0	346.0	294.5	270.0	330.0	330.5	277.0	306.2	395.8
		<i>Change, %</i>		0.0	(11.6)	3.9	13.3	(7.3)	(7.4)	10.5	(0.1)	(22.7)
	Butadiene	-Naphtha	461.0	443.5	566.0	814.5	835.0	585.0	1,615.5	384.5	717.3	1,204.4
		<i>Change, %</i>		3.9	(18.6)	(43.4)	(44.8)	(21.2)	(71.5)	19.9	(35.7)	(61.7)
	Benzene	-Naphtha	286.0	286.0	333.5	324.5	372.5	265.0	338.0	197.0	247.2	378.7
		<i>Change, %</i>		0.0	(14.2)	(11.9)	(23.2)	7.9	(15.4)	45.2	15.7	(24.5)
	Toluene	-Naphtha	186.0	178.5	221.0	224.5	185.0	220.0	205.5	207.8	231.0	219.6
		<i>Change, %</i>		4.2	(15.8)	(17.1)	0.5	(15.5)	(9.5)	(10.5)	(19.5)	(15.3)
Xylene	-Naphtha	168.5	166.0	206.0	209.5	220.0	250.0	190.5	206.3	228.2	206.1	
	<i>Change, %</i>		1.5	(18.2)	(19.6)	(23.4)	(32.6)	(11.5)	(18.3)	(26.2)	(18.3)	

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	1,077.5	1,057.5	1,047.5	1,137.5	1,137.5	1,120.0	1,142.5	1,230.1	1,134.6	1,120.9
	Change, %			1.9	2.9	(5.3)	(5.3)	(3.8)	(5.7)	(12.4)	(5.0)	(3.9)
	MEG	CFR SE Asia	877.5	872.5	820.0	702.5	752.5	607.5	847.5	780.8	660.8	816.1
	Change, %			0.6	7.0	24.9	16.6	44.4	3.5	12.4	32.8	7.5
	PVC	CFR SE Asia	860.0	860.0	870.0	877.5	930.0	805.0	920.0	820.8	823.4	899.0
	Change, %			0.0	(1.1)	(2.0)	(7.5)	6.8	(6.5)	4.8	4.4	(4.3)
	PP	CFR SE Asia	1,087.5	1,072.5	1,027.5	1,047.5	1,087.5	1,010.0	1,032.5	1,109.8	978.4	1,067.3
	Change, %			1.4	5.8	3.8	0.0	7.7	5.3	(2.0)	11.1	1.9
	2-EH	CFR Korea	960.0	970.0	910.0	925.0	1,010.0	755.0	865.0	930.1	772.4	948.5
	Change, %			(1.0)	5.5	3.8	(5.0)	27.2	11.0	3.2	24.3	1.2
	ABS	CFR SE Asia	1,850.0	1,820.0	1,790.0	1,640.0	1,690.0	1,357.5	1,635.0	1,431.1	1,347.1	1,757.8
	Change, %			1.6	3.4	12.8	9.5	36.3	13.1	29.3	37.3	5.2
	SBR	CFR SE Asia	1,490.0	1,490.0	1,450.0	1,790.0	2,290.0	1,380.0	2,000.0	1,332.1	1,483.0	2,170.8
	Change, %			0.0	2.8	(16.8)	(34.9)	8.0	(25.5)	11.9	0.5	(31.4)
	SM	CFR SE Asia	1,150.0	1,172.5	1,160.0	1,065.0	1,217.5	1,035.0	1,205.0	1,100.7	1,064.6	1,231.3
	Change, %			(1.9)	(0.9)	8.0	(5.5)	11.1	(4.6)	4.5	8.0	(6.6)
	Caustic	FOB NEA	467.5	462.5	452.5	447.5	456.0	300.0	422.5	296.8	316.6	440.2
	Change, %			1.1	3.3	4.5	2.5	55.8	10.7	57.5	47.7	6.2
	PX	CFR SE Asia	832.5	817.5	772.5	785.0	862.5	795.0	855.0	842.9	790.4	835.4
	Change, %			1.8	7.8	6.1	(3.5)	4.7	(2.6)	(1.2)	5.3	(0.3)
PO	CFR China	1,542.5	1,540.0	1,497.5	1,360.0	1,540.0	1,527.5	1,562.5	1,683.4	1,396.8	1,487.7	
Change, %			0.2	3.0	13.4	0.2	1.0	(1.3)	(8.4)	10.4	3.7	
Caprolactam	CFR SE Asia	1,760.0	1,730.0	1,610.0	1,770.0	2,220.0	1,310.0	1,850.0	1,581.5	1,344.9	1,922.0	
Change, %			1.7	9.3	(0.6)	(20.7)	34.4	(4.9)	11.3	30.9	(8.4)	
PTA	CFR SE Asia	657.5	667.5	635.0	627.5	667.5	617.5	642.5	648.0	613.7	657.6	
Change, %			(1.5)	3.5	4.8	(1.5)	6.5	2.3	1.5	7.1	(0.0)	
Spread	HDPE		613.5	601.0	638.5	707.0	647.5	770.0	658.0	737.1	735.1	656.3
	Change, %			2.1	(3.9)	(13.2)	(5.3)	(20.3)	(6.8)	(16.8)	(16.5)	(6.5)
	MEG		413.5	416.0	411.0	272.0	262.5	257.5	363.0	287.8	261.3	351.4
	Change, %			(0.6)	0.6	52.0	57.5	60.6	13.9	43.7	58.3	17.7
	PVC		396.0	403.5	461.0	447.0	440.0	455.0	435.5	327.8	423.9	434.3
	Change, %			(1.9)	(14.1)	(11.4)	(10.0)	(13.0)	(9.1)	20.8	(6.6)	(8.8)
	PP		623.5	616.0	618.5	617.0	597.5	660.0	548.0	616.8	578.9	602.7
	Change, %			1.2	0.8	1.1	4.4	(5.5)	13.8	1.1	7.7	3.5
	2-EH		496.0	513.5	501.0	494.5	520.0	405.0	380.5	437.0	372.9	483.9
	Change, %			(3.4)	(1.0)	0.3	(4.6)	22.5	30.4	13.5	33.0	2.5
	ABS		1,386.0	1,363.5	1,381.0	1,209.5	1,200.0	1,007.5	1,150.5	938.1	947.6	1,293.2
	Change, %			1.7	0.4	14.6	15.5	37.6	20.5	47.8	46.3	7.2
	SBR	BD spread	565.0	590.0	475.0	545.0	965.0	445.0	(100.0)	454.7	366.2	501.7
	Change, %			(4.2)	18.9	3.7	(41.5)	27.0	(665.0)	24.3	54.3	12.6
	SM		686.0	716.0	751.0	634.5	727.5	685.0	720.5	607.7	665.1	766.6
	Change, %			(4.2)	(8.7)	8.1	(5.7)	0.1	(4.8)	12.9	3.1	(10.5)
	Caustic											
	Change, %											
	PX		368.5	361.0	363.5	354.5	372.5	445.0	370.5	349.9	390.9	370.7
	Change, %			2.1	1.4	3.9	(1.1)	(17.2)	(0.5)	5.3	(5.7)	(0.6)
PO	propylene spread	772.5	777.5	742.5	635.0	780.0	847.5	747.5	913.4	691.1	627.3	
Change, %			(0.6)	4.0	21.7	(1.0)	(8.8)	3.3	(15.4)	11.8	23.2	
Caprolactam	benzene spread	1,010.0	987.5	867.5	1,015.0	1,357.5	695.0	1,027.5	891.6	698.2	1,078.7	
Change, %			2.3	16.4	(0.5)	(25.6)	45.3	(1.7)	13.3	44.7	(6.4)	
PTA	px spread	74.8	95.3	94.3	78.0	63.8	61.0	44.0	58.0	60.4	72.8	
Change, %			(21.5)	(20.7)	(4.2)	17.3	22.5	69.9	28.9	23.7	2.7	

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	08/10	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	63.1	(0.6)	(0.5)	(2.2)	2.3	3.1	18.1	10.3	77,212	15.6	14.2	2.9	2.7	8.8	8.1	
Du Pont	USD	80.8	(0.6)	(0.6)	(2.1)	2.1	4.7	17.0	10.1	70,127	20.7	19.6	6.4	5.4	13.3	12.5	
Eastman	USD	83.3	(1.2)	(0.8)	(1.6)	5.7	4.9	28.4	10.7	12,061	11.1	10.2	2.4	2.2	8.5	8.2	
BASF	EUR	79.4	(1.7)	(1.4)	(2.6)	(12.1)	(10.3)	9.9	(10.1)	85,741	13.7	13.5	2.2	2.0	7.6	7.4	
Akzo Nobel	EUR	75.5	(1.0)	(2.1)	(2.2)	(0.3)	17.1	28.8	27.2	22,583	17.5	17.0	3.0	2.9	9.8	9.4	
Arkema	EUR	94.0	(1.1)	(1.7)	(2.6)	(4.9)	1.3	18.4	1.1	8,370	13.8	12.7	1.6	1.5	6.2	5.9	
Lanxess	EUR	64.5	(3.3)	(2.7)	(3.7)	(6.3)	(3.7)	42.9	3.5	6,943	17.3	14.6	2.2	2.0	7.4	7.3	
Sumitomo Chemical	JPY	627	(0.2)	(1.4)	(3.1)	(2.8)	(0.9)	48.9	12.8	9,496	10.2	9.4	1.2	1.1	7.4	7.0	
Mitsubishi Chemical	JPY	932	(0.2)	(2.2)	(2.4)	3.3	12.8	60.8	22.9	12,841	9.3	9.1	1.1	1.1	6.3	6.2	
Shin-Etsu Chemical	JPY	9,541	0.2	(6.4)	(4.3)	(3.3)	(2.8)	34.0	5.2	37,719	19.2	17.2	1.8	1.7	8.2	7.2	
Asahi Kasei	JPY	1,285	1.2	(0.4)	6.1	16.2	16.9	56.7	26.0	16,484	15.3	14.5	1.5	1.4	7.3	7.0	
JSR	JPY	1,916	0.9	0.2	(2.0)	(3.7)	(5.7)	32.1	4.0	3,963	15.2	14.2	1.1	1.1	7.9	7.3	
Nitto Denko	JPY	9,803	(0.0)	(6.2)	0.9	6.6	3.7	41.2	9.3	15,584	20.2	18.3	2.3	2.1	8.8	8.2	
SABIC	SAR	98.2	0.2	1.0	(3.2)	1.4	2.2	17.2	7.4	78,570	14.7	14.2	1.7	1.7	7.4	7.2	
Yansab	SAR	54.9	(0.3)	0.8	2.2	0.3	(3.7)	25.0	0.7	8,228	14.0	13.2	2.3	2.2	8.7	8.2	
Formosa Plastics	TWD	92.6	(0.2)	0.8	0.4	5.0	0.1	16.3	3.8	19,413	14.4	14.7	1.8	1.8	19.0	19.6	
Formosa Fiber	TWD	91.5	(1.3)	(0.2)	1.8	3.3	(7.6)	8.5	(5.0)	17,662	12.6	13.2	1.6	1.6	10.1	10.5	
Nan Ya Plastics	TWD	75.4	(1.0)	0.0	1.1	7.6	(2.3)	20.8	5.9	19,693	15.9	16.4	1.7	1.7	16.7	16.1	
Sinopec Shanghai	CNY	6.93	(0.9)	1.9	3.9	10.4	4.4	13.2	7.6	9,705	14.3	13.4	2.7	2.3	7.5	7.4	
Sinopec Yizheng(Fiber)	CNY	3.20	(1.2)	(0.6)	(3.0)	1.6	(17.1)	(17.3)	(22.0)	6,138	#N/A	N/A	47.1	6.9	7.2	37.7	17.5
Reliance	INR	1,584	(0.9)	(4.0)	6.1	16.6	53.8	57.9	46.4	80,358	17.6	14.4	1.7	1.5	11.7	9.4	
Industries Qatar	QAR	93.4	(0.1)	(2.7)	(1.7)	(9.4)	(17.7)	(16.8)	(20.5)	15,520	14.7	13.0	1.6	1.6	49.7	45.8	
PTT Chemical	THB	72.0	(0.3)	(0.3)	2.9	(2.0)	6.7	18.0	14.3	9,660	10.1	10.1	1.3	1.2	5.3	5.1	
Petronas	MYR	7.0	0.3	0.9	2.0	(1.8)	(2.5)	5.9	0.7	13,105	15.8	15.8	1.9	1.8	8.5	8.4	
LG화학	KRW	337,500	1.5	2.6	15.8	21.4	20.1	27.1	29.3	20,816	13.2	12.8	1.7	1.5	5.8	5.4	
롯데케미칼	KRW	378,000	(0.5)	0.4	8.9	9.4	(7.1)	23.9	2.4	11,320	5.9	5.9	1.1	1.0	3.9	3.5	
한화케미칼	KRW	33,550	0.1	2.0	6.0	29.0	26.4	27.1	35.8	4,831	6.3	6.5	0.9	0.8	7.6	7.0	
금호석유	KRW	74,700	1.2	(3.7)	0.9	(0.8)	(9.0)	21.1	(8.9)	1,989	14.6	13.1	1.4	1.3	9.8	8.6	
SKC	KRW	37,950	1.1	3.8	9.2	31.5	14.1	21.4	15.0	1,245	10.9	9.4	0.9	0.9	9.0	7.7	
국도화학	KRW	55,600	(1.2)	(2.5)	5.1	15.2	5.5	(5.1)	1.3	282	9.1	9.8	0.7	0.7	5.3	5.3	
효성	KRW	6,160	(2.5)	(7.4)	12.8	(11.7)	(23.7)	22.2	(9.4)	5,354	10.2	8.8	1.5	1.4	7.8	6.9	
Average			(0.4)	(1.1)	1.6	4.2	2.7	23.3	7.7								
Refinery																	
Valero	USD	66.2	(1.1)	(3.4)	(2.8)	(0.7)	(1.9)	25.1	(3.1)	29,238	16.2	12.0	1.5	1.5	6.5	5.5	
Conoco Phillips	USD	45.0	(1.5)	0.1	4.0	(5.5)	(10.3)	10.8	(10.3)	54,726	247.1	34.9	1.8	1.8	8.8	6.7	
Formosa Petrochemical	TWD	103.5	(1.4)	(1.0)	0.5	1.5	(3.7)	5.6	(7.6)	32,470	15.9	18.4	3.2	3.1	9.6	10.9	
Andeavor	USD	93.8	(1.6)	(4.0)	(2.4)	12.9	7.4	23.9	7.3	14,722	18.9	13.2	1.6	1.5	8.9	7.1	
Marathon Petroleum	USD	52.2	(1.5)	(6.6)	(3.5)	(0.2)	4.1	27.4	3.7	26,432	19.2	15.5	2.1	1.8	8.7	7.6	
Devon Energy	USD	31.8	(1.0)	(1.6)	6.8	(17.6)	(30.1)	(19.7)	(30.5)	16,693	18.8	14.9	2.4	2.1	8.2	7.5	
Hollyfrontier	USD	28.4	(2.3)	(7.0)	4.1	0.7	(5.7)	7.6	(13.2)	5,040	22.7	13.0	1.0	1.1	8.3	6.2	
Phillips 66	USD	83.6	(1.0)	(2.3)	1.4	4.9	4.7	8.7	(3.2)	42,783	20.2	14.8	1.9	1.9	10.0	8.3	
Murphy Oil	USD	25.7	(1.8)	(0.2)	4.3	(6.3)	(9.9)	(7.3)	(17.5)	4,430	#N/A	N/A	98.0	0.9	1.0	4.8	4.6
JX Holdings	JPY	516.6	1.6	4.4	6.2	0.8	(1.8)	36.7	4.4	16,197	8.0	7.6	0.8	0.7	8.4	8.0	
Idemitsu	JPY	2,639.0	1.0	0.2	(6.7)	(32.7)	(22.4)	43.5	(15.0)	5,022	5.1	4.9	0.7	0.6	9.3	8.7	
Nesteoil	EUR	35.0	1.0	(0.3)	(1.6)	(7.5)	1.1	(7.7)	(4.1)	0	13.5	13.3	2.2	2.0	7.7	8.1	
Ashland	USD	61.1	(0.5)	(2.7)	(7.1)	0.7	5.2	9.0	14.2	3,811	13.8	16.6	1.0	1.0	8.1	9.2	
Fuchs Petrolub	EUR	47.0	(1.5)	(1.1)	(3.2)	(3.4)	8.2	15.6	17.9	7,227	24.2	22.8	4.8	4.3	14.1	13.3	
SK이노베이션	KRW	172,000	(1.4)	(0.3)	7.5	1.5	10.3	11.3	17.4	13,896	7.2	7.1	0.9	0.8	4.3	3.9	
S-Oil	KRW	118,000	1.3	4.9	18.0	15.7	40.5	55.3	39.3	11,607	12.7	9.8	2.1	1.9	9.7	7.2	
GS	KRW	72,700	(3.1)	(1.1)	4.6	23.9	35.1	49.4	34.4	5,902	6.2	6.1	0.9	0.8	7.2	6.8	
Average			(0.9)	(1.3)	1.8	(0.7)	1.8	17.4	2.0								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/10	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	79	(1.5)	(1.9)	(1.5)	(3.6)	(4.3)	(8.6)	(12.5)	334,604	22.8	20.3	1.9	1.9	9.6	8.8
BP	GBP	458	(2.4)	(0.6)	3.2	(0.6)	(0.4)	8.2	(10.2)	117,341	21.0	16.0	1.2	1.2	6.1	5.5
Shell	EUR	2,164	(2.2)	(0.6)	6.0	2.4	(0.1)	12.9	(3.5)	233,710	16.2	14.2	1.2	1.2	6.4	5.8
Chevron	USD	110	(0.7)	0.6	6.9	3.4	(2.6)	10.0	(6.4)	208,659	26.9	21.9	1.4	1.4	8.0	7.2
Total	EUR	44	0.2	(0.1)	1.8	(9.6)	(9.1)	1.1	(10.6)	128,056	12.9	11.8	1.2	1.1	6.0	5.4
Sinopec	CNY	6	0.8	(0.3)	(1.1)	6.3	3.4	24.4	12.2	106,237	14.2	13.0	1.0	1.0	4.8	4.7
Petrochina	CNY	8	(0.4)	(0.2)	3.2	8.7	(4.1)	11.3	1.8	210,349	56.6	31.5	1.2	1.2	7.0	6.6
CNOOC	CNY	11	(1.0)	0.5	0.5	5.2	(14.0)	(7.5)	(12.2)	50,202	15.9	12.1	0.9	0.8	3.9	3.6
Gazprom	RUB	118	(0.5)	(1.3)	(5.0)	(12.0)	(16.0)	(14.1)	(23.6)	46,537	4.3	3.8	0.2	0.2	3.5	3.2
Rosneft	RUB	305	(1.4)	(3.8)	(4.8)	(3.2)	(19.2)	(6.6)	(24.3)	53,827	9.5	6.7	0.8	0.7	4.9	4.2
Anadarko	USD	44	(0.9)	(0.2)	0.3	(16.1)	(37.0)	(17.0)	(37.3)	24,488	#N/A	#N/A	1.7	1.7	6.8	6.2
Petrobras	BRL	13	(2.4)	(0.9)	10.1	(10.5)	(15.3)	14.1	(11.3)	55,560	9.6	7.9	0.6	0.6	5.2	4.7
Lukoil	USD	2,902	(1.3)	(1.0)	1.5	(0.5)	(10.6)	6.0	(15.9)	41,414	5.8	5.1	0.6	0.6	N/A	N/A
Kinder	USD	19	(1.8)	(4.2)	1.6	(4.0)	(13.7)	(5.2)	(6.4)	47,497	30.1	27.2	1.2	1.2	11.5	11.1
Statoil	NOK	148	(0.2)	(0.9)	7.7	(2.4)	(1.7)	10.9	(6.5)	61,191	16.5	17.5	1.6	1.6	3.3	3.2
BHP	AUD	26	(0.5)	1.7	6.3	10.9	0.7	27.5	4.0	103,732	17.5	17.9	1.8	1.8	6.7	6.7
PTT E&P	THB	86	(0.6)	(1.7)	1.8	(8.8)	(8.0)	5.8	(10.6)	10,269	13.0	11.9	0.8	0.8	3.1	2.8
Petronas gas	MYR	19	0.0	0.9	(0.6)	1.5	(8.3)	(15.3)	(11.8)	8,659	20.9	19.4	3.0	2.8	11.9	11.0
Chesapeake	USD	4	(5.3)	(8.0)	(11.2)	(28.0)	(35.1)	(13.8)	(41.0)	3,761	5.7	4.8	#N/A	#N/A	138.0	7.3
Noble Energy	USD	25	(1.4)	(3.7)	(10.1)	(20.8)	(35.9)	(26.4)	(34.5)	12,125	#N/A	#N/A	1.2	1.2	7.8	6.7
Average		0	(1.2)	(1.3)	0.8	(4.1)	(11.6)	0.9	(13.0)							
PV																
WACKER	EUR	101.4	(1.6)	(1.8)	7.8	1.5	(8.9)	24.4	2.5	6,214	27.7	20.6	1.7	1.7	6.4	6.0
GCL-Poly	HKD	0.9	(4.3)	2.3	3.5	(7.4)	(15.4)	(17.8)	(5.4)	2,092	7.2	6.9	0.6	0.6	5.6	5.2
SunPower	USD	9.0	(4.0)	0.9	0.7	22.4	25.1	(13.1)	35.6	1,250	#N/A	#N/A	1.8	1.8	44.4	13.5
Canadian Solar	USD	16.6	(3.8)	(0.4)	5.6	20.9	32.7	25.8	35.9	960	12.9	8.0	0.9	0.9	10.1	9.7
JA Solar	USD	6.1	(2.4)	(0.3)	(0.5)	(17.9)	29.6	(20.0)	27.9	290	901.2	15.6	1.5	1.5	4.9	3.5
Yingli	USD	2.3	5.0	(1.3)	0.0	(2.1)	(17.5)	(41.7)	(11.2)	42	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	46.8	(1.4)	(1.2)	18.2	27.8	42.3	20.9	45.7	4,882	24.5	44.8	0.9	0.9	8.5	9.1
한화큐셀	USD	7.9	(6.5)	(2.2)	15.8	15.5	(1.1)	(34.8)	(3.1)	658	79.1	36.8	#N/A	#N/A	7.7	7.4
OCI	KRW	90,500	(1.6)	(4.9)	4.5	11.7	(1.4)	(2.0)	15.0	1,886	15.1	19.9	0.7	0.6	7.6	7.1
웅진에너지	KRW	8,110	(2.1)	0.5	18.7	56.0	69.0	(4.0)	71.3	176	N/A	0.7	0.6	7.6	7.1	10.2
신성솔라에너지	KRW	2,200	0.0	1.9	2.3	18.9	18.9	(5.2)	(0.5)	333	N/A	0.6	7.6	7.1	10.2	8.8
Average			(2.1)	(0.6)	7.0	13.4	15.8	(6.1)	19.4							
Gas Company																
Towngas China	HKD	5.4	(1.6)	(2.5)	4.2	10.4	26.6	21.0	32.8	1,920	12.4	11.5	1.0	0.9	11.4	10.6
Kulun	HKD	7.6	(0.7)	(1.2)	8.1	9.5	16.0	28.3	31.2	7,858	12.2	11.3	1.4	1.3	5.9	5.6
Beijing Enterprise	HKD	40.1	(1.6)	(0.9)	2.7	7.9	(0.2)	(14.3)	9.4	6,474	7.8	7.5	0.8	0.7	13.5	13.0
ENN Energy	HKD	52.8	(1.3)	(2.3)	1.6	24.1	40.1	36.6	65.5	7,306	14.2	12.7	2.8	2.3	9.0	8.1
China Resources Gas	HKD	28.6	(2.1)	(4.8)	1.2	10.4	19.5	24.9	31.0	8,122	16.3	14.5	3.1	2.7	10.0	9.0
China Gas Holdings	HKD	19.0	(2.3)	(0.2)	9.8	52.1	67.0	52.8	81.0	12,101	17.4	14.8	3.8	3.2	13.9	12.1
Shenzen Gas	HKD	13.9	(2.0)	6.3	1.6	5.6	21.0	25.0	23.2	3,600	11.9	11.2	1.3	1.2	7.6	7.2
Shann Xi	CNY	8.7	(1.5)	(1.7)	(0.7)	3.8	(9.4)	(17.9)	(9.7)	1,447	18.3	16.4	1.7	1.6	#N/A	#N/A
Suntien	HKD	1.7	(1.2)	(3.5)	8.6	4.4	27.9	79.3	65.0	784	7.1	6.1	0.6	0.6	8.6	7.3
China Oil & Gas	HKD	0.5	0.0	0.0	1.9	(5.3)	(14.3)	(5.3)	(11.5)	402	9.3	8.1	0.9	0.8	6.0	5.3
Average			(1.4)	(1.1)	3.9	12.3	19.4	23.0	31.8							
EV																
LG화학	KRW	337,500	1.5	2.6	15.8	21.4	20.1	27.1	29.3	20,816	12.6	12.5	1.6	1.5	6.0	5.8
삼성SDI	KRW	171,000	0.3	(2.6)	(2.8)	20.8	36.8	43.1	56.9	10,274	17.9	11.7	1.1	1.0	19.8	12.4
Panasonic	JPY	1475.5	(0.7)	(2.4)	(1.1)	7.5	21.1	46.8	24.0	33,115	19.3	14.9	2.0	1.8	6.2	5.4
GS Yuasa	JPY	552.0	0.7	8.0	12.0	6.8	13.3	37.3	13.6	2,089	16.6	15.4	1.3	1.3	7.5	7.0
NEC	JPY	299.0	(1.3)	(1.3)	1.4	4.5	10.7	17.3	(3.5)	7,125	21.1	16.9	0.9	0.9	7.2	6.2
BYD Auto	CNY	48.7	(0.8)	0.1	(2.6)	1.5	(1.8)	(17.3)	(1.9)	19,050	23.9	17.3	2.4	2.2	13.6	10.6
Tesla Motors	USD	355.4	(2.2)	2.4	12.5	9.3	32.0	57.5	66.3	59,312	#N/A	#N/A	12.1	10.6	73.4	26.4
Kandi Technologies	USD	3.7	(2.6)	(6.3)	(15.9)	(10.8)	(9.2)	(47.0)	(24.5)	178	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			(0.7)	0.1	2.4	7.6	15.4	20.6	20.0							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임