

1. News Summary (3 page)

2017년 9월 5일

News	
WTI comment	휴장
Headline	시노펙, 공급 부족에 동중국 부타디엔 오퍼 가격 3% 인상
News 1.	Valero, Corpus Christi와 Texas city 정제시설 가동률 회복
News 2.	韓 배터리 올해 8번째 탈락...1·2차 도미노 피해
News 3.	-
News 4.	-

Conclusion	
	천연고무와 함께 공급이 부족한 부타디엔 가격 상승 지속될 전망
	하비(Harvey) 피해 복구되며 가솔린 가격 하락 전망
	사드 명분은 지속될 전망이므로 유럽 및 미주 공략하는 것이 유효함
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	47.3	0.0	1.5	(4.3)	(0.2)	6.4
Dubai	\$/bbl	50.6	2.7	0.1	(0.4)	4.7	14.3
Gasoline	\$/bbl	70.4	0.8	2.1	5.4	12.7	21.4
Diesel	\$/bbl	66.2	3.0	3.3	4.2	13.0	20.1
Complex margin	\$/bbl	10.8	(0.1)	1.4	2.4	3.9	4.2
1M lagging	\$/bbl	11.2	2.2	0.2	0.3	5.6	0.2
Petrochemical			%	%	%	%	%
Naphtha	\$/t	487	3.0	1.8	4.4	14.4	29.8
Butadiene	\$/t	1,360	0.0	3.8	49.5	50.3	24.8
HDPE	\$/t	1,175	0.4	1.7	4.9	7.3	3.5
MEG	\$/t	952	2.7	5.2	8.8	28.1	43.4
PX	\$/t	826	1.8	1.8	0.4	7.2	5.9
SM	\$/t	1,438	6.2	13.0	29.5	33.9	40.8
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	3.02	(1.7)	2.0	6.3	(0.6)	(0.1)
Natural rubber	\$/t	1,530	0.0	(0.6)	2.7	7.7	17.7
Cotton	C/lbs	72.6	0.0	3.2	1.9	(4.9)	7.5

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	09/04	\$/t	1,190	0.4	15.5	32.2	9.7
Propylene	09/04	\$/t	800	1.3	3.9	8.1	1.9
Benzene	09/04	\$/t	818	2.8	9.0	6.5	22.9
Toluene	09/04	\$/t	660	0.8	1.5	1.5	6.5
Xylene	09/04	\$/t	635	1.2	0.4	2.4	5.0
PP	09/04	\$/t	1,128	0.9	3.7	7.6	12.8
PVC	09/04	\$/t	935	1.6	8.7	6.3	8.7
ABS	09/04	\$/t	2,010	6.1	8.6	22.6	43.1
SBR	09/04	\$/t	1,690	2.4	13.4	2.4	22.5
SM	09/04	\$/t	1,355	9.1	17.8	20.7	29.4
BPA	09/04	\$/t	1,993	0.0	29.2	36.2	33.5
Caustic	09/04	\$/t	471	0.0	0.7	7.7	47.2
2-EH	09/04	\$/t	990	0.0	3.1	5.3	23.0
Caprolactam	09/04	\$/t	1,740	(1.7)	(1.1)	10.8	23.4
Solar				%	%	%	%
Polysilicon	08/30	\$/kg	16.2	4.2	5.6	17.0	8.7
Module	08/30	\$/W	0.32	0.6	(1.2)	(3.0)	(25.4)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	76.6	0.0	0.1	(4.5)	(3.7)	(12.4)
Shell	EUR	2,123	0.0	(0.9)	(2.7)	1.7	13.5
Petrochina	CNY	8.10	0.1	(1.2)	(1.0)	4.5	8.7
Gazprom	RUB	117.0	(0.3)	(1.5)	(2.1)	(2.2)	(13.7)
Petrobras	BRL	14.2	1.1	2.2	5.7	8.6	4.4
Refinery							
Phillips66	USD	84.4	0.0	0.9	(1.4)	10.6	7.0
Valero	USD	69.2	0.0	1.1	1.0	11.4	26.2
JX	JPY	544.2	0.4	0.1	10.0	9.3	38.9
Neste Oil	EUR	36.7	(0.9)	2.8	3.6	3.5	(2.9)

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.2	(0.3)	0.3	0.4	(3.6)	12.4
DowDuPont	USD	67.2	0.0	3.9	4.8	6.6	24.0
SABIC	SAR	98.9	0.0	(0.1)	1.8	0.6	20.2
Formosa Pla.	TWD	94.5	0.9	0.0	2.3	5.7	21.2
Shin-Etsu	JPY	9,583	(0.9)	(0.2)	(4.6)	(5.6)	29.4
Renewable							
Wacker	EUR	108.8	(0.2)	3.1	4.5	8.1	29.3
First Solar	USD	47.84	0.0	(0.4)	(0.3)	24.8	25.3
GCL-Poly	HKD	0.88	1.1	0.0	3.5	10.0	(18.5)
Tesla Motors	USD	355.4	0.0	2.8	(0.4)	4.6	79.7

4. Coverage Summary

	09/04	1D	1W	1M	3M	6M	12M
KOSPI	2,330	(1.2)	(1.7)	(2.7)	(1.6)	12.1	14.3
KOSPI화학	5,788	(0.4)	(0.3)	1.3	4.5	17.4	10.3
LG화학	370,000	(0.8)	0.1	8.0	26.9	31.2	40.7
롯데케미칼	410,500	1.9	4.5	4.1	17.3	12.3	48.2
한화케미칼	34,800	(1.7)	(0.6)	5.1	18.0	40.9	41.5
금호석유화학	78,900	1.2	(0.5)	0.4	2.6	5.5	16.5
KCC	389,500	(0.4)	(1.6)	(9.6)	(3.0)	14.1	(4.9)
OCI	99,200	(0.8)	3.1	4.2	13.6	20.1	18.8
SKC	36,450	0.4	(1.6)	(3.2)	17.4	17.2	31.8
국도화학	52,200	(2.8)	(3.3)	(8.4)	1.2	3.0	(8.6)
SK이노베이션	189,500	0.5	3.3	5.3	17.0	21.9	29.4
S-Oil	124,500	0.4	3.8	5.5	25.6	42.4	71.7
GS	67,700	(1.6)	(1.6)	(9.5)	(7.5)	23.1	36.2
SK가스	108,500	(2.7)	(2.7)	(5.7)	(8.8)	4.3	7.4
포스코대우	21,150	(0.9)	(2.5)	(12.1)	(10.6)	(12.1)	(8.4)
LG상사	28,500	(0.7)	0.0	(1.6)	(12.3)	(11.6)	(16.3)
한국전력	42,550	(1.3)	(4.1)	(4.3)	(1.0)	(0.9)	(25.5)
한국가스공사	44,500	(1.3)	(2.5)	(11.5)	(12.4)	(6.3)	6.3

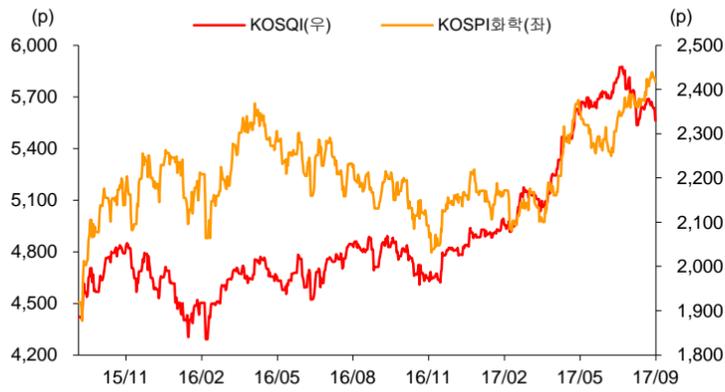
투자 의견	TP	%	P/E	P/B
매수	330,000	(10.8)	14.73	1.98
매수	410,000	(0.1)	8.48	1.49
매수	33,000	(5.2)	8.30	1.03
매수	100,000	26.7	15.00	1.50
매수	450,000	15.5	22.15	0.63
매수	100,000	0.8	20.07	0.77
매수	40,000	9.7	13.74	0.97
매수	70,000	34.1	8.76	0.63
매수	180,000	(5.0)	8.52	1.03
매수	100,000	(19.7)	16.72	2.43
매수	80,000	18.2	5.63	1.00
매수	150,000	38.2	6.58	0.78
매수	27,000	27.7	7.35	0.88
매수	42,000	47.4	8.81	0.92
매수	60,000	41.0	7.35	0.34
매수	60,000	34.8	7.55	0.53

* 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.

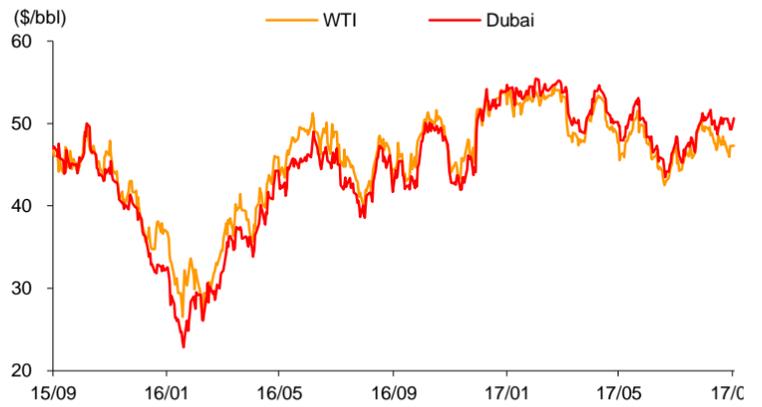
* 추정치는 12M fwd 기준임
* 모든 coverage 업체의 실적은 연결기준임

Key Chart

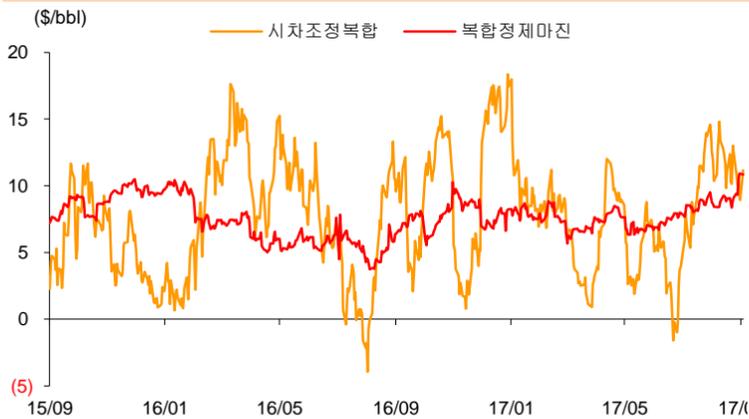
KOSPI/KOSPI화학



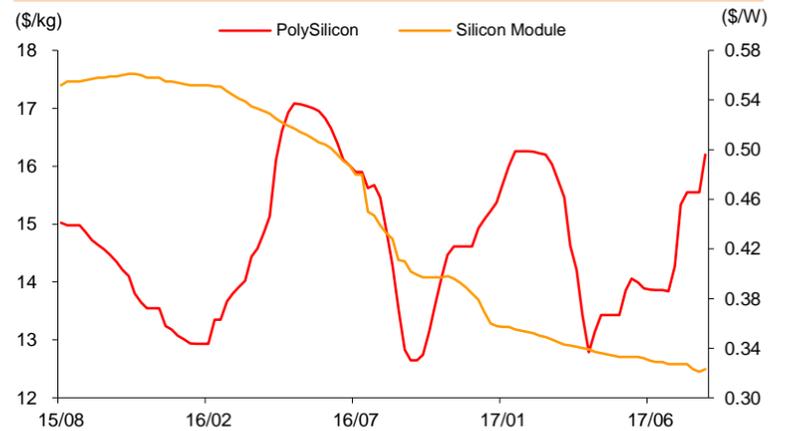
WTI/Dubai



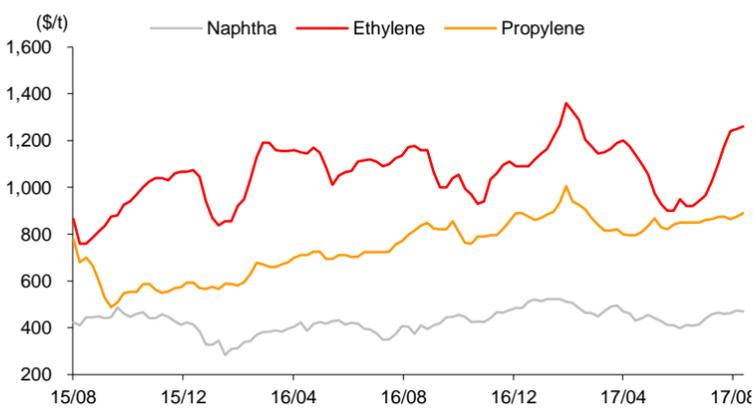
Complex & 1M lagging margin



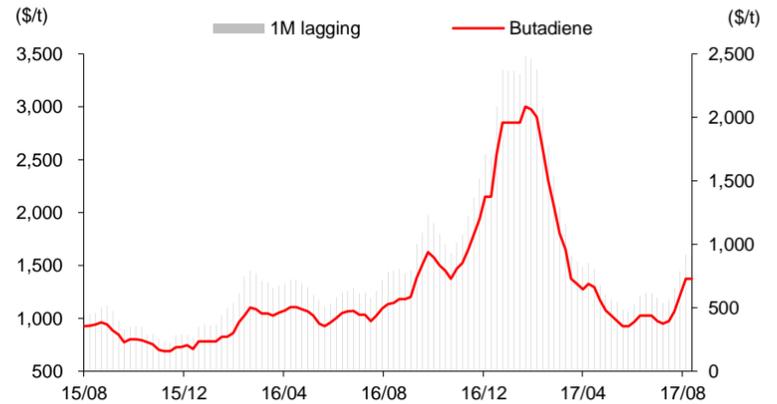
Polysilicon & Module prices



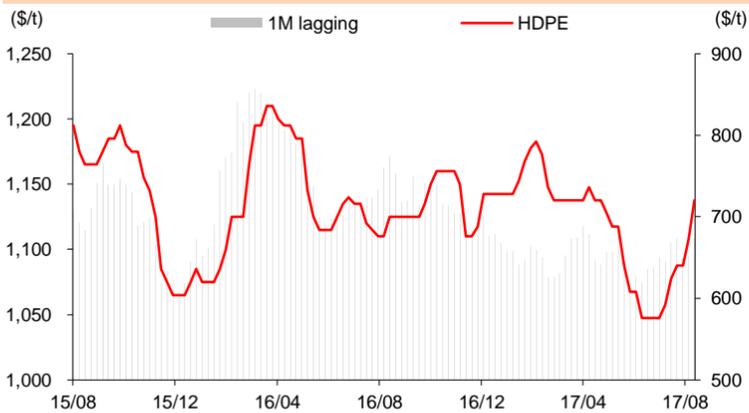
Naphtha/Ethylene/Propylene prices



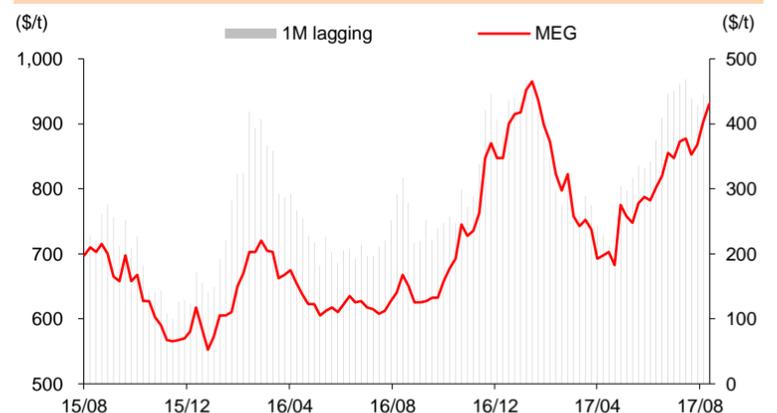
Butadiene price & 1M lagging naphtha spread



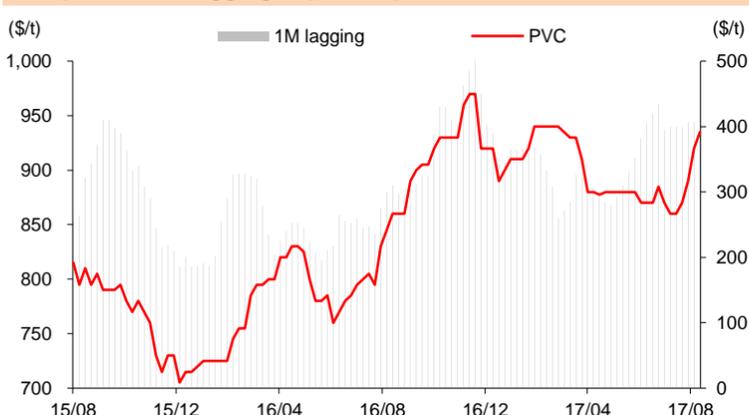
HDPE price & 1M lagging naphtha spread



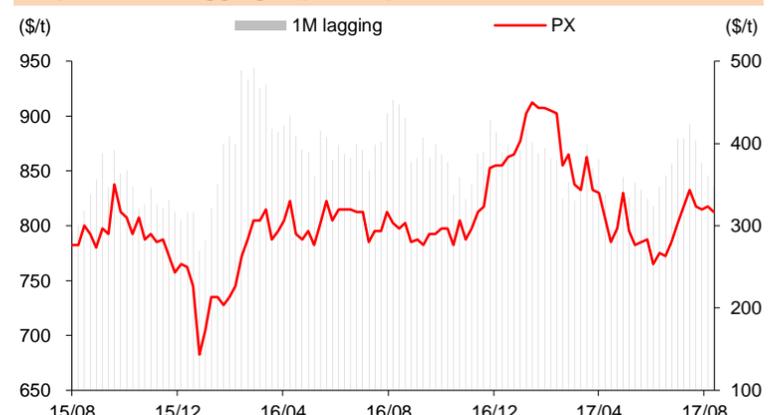
MEG price & 1M lagging naphtha spread



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 시노펙, 공급 부족에 동중국 부타디엔 오퍼 가격 3% 인상

결론 천연고무와 함께 공급이 부족한 부타디엔 가격 상승 지속될 전망

세부

- 1) 시노펙이 동중국 부타디엔 가격을 1,378\$/mt로 2.9% 인상함
- 2) 아시아 역내 물량과 9월 deepsea 카고가 부족해 가격을 끌어 올림
- 3) ABS 등의 다운스트림에서의 수요가 견조한 것도 가격 인상 부추김
- 4) Formosa Petchem이 Mailiao NCC 정기보수 진입해 공급 부족해짐
- 5) 천연고무와 함께 공급이 부족한 부타디엔 가격 상승 지속될 전망

Issue 1 (출처: Platts)

제목 Valero, Corpus Christi와 Texas city 정제시설 가동률 회복

결론 하비(Harvey) 피해 복구되며 가솔린 가격 하락 전망

세부

- 1) Valero의 정제시설이 허리케인 이전 수준의 가동률을 회복중임
- 2) Corpus Christi와 Texas city 시설은 이미 회복함
- 3) Three Rivers와 Houston 시설은 운송 인프라 회복과 함께 가동률 상승중
- 4) Port Arthur 시설은 홍수 피해가 아직 회복되지 않아 가동 재개 준비중
- 5) 하비(Harvey) 피해 복구되며 가솔린 가격 하락 전망

Issue 3

제목

결론

세부

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

Issue 5

제목

결론

세부

- 1)
- 2)
- 3)
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WTI Comment (출처: 연합뉴스)

제목 휴장

상승

요인

하락

요인

Issue 2 (출처: 이티뉴스)

제목 韓 배터리 올해 8번째 탈락...1·2차 도미노 피해

결론 사드 명분은 지속될 전망이므로 유럽 및 미주 공략하는 것이 유효함

세부

- 1) 중국 정부 배터리 보조금 지원 대상이 한국 기업이 또 탈락
- 2) LG화학과 삼성SDI 경우 하반기부터 중국 전기차용 배터리 판매가 중단
- 3) 난징과 시안에 위치한 현지 공장가동률이 한 때 10% 이하로 떨어짐
- 4) ESS, 저압 배터리, HEV 배터리, 한국 수출 물량 생산으로 가동률 회복
- 5) 사드 명분은 지속될 전망이므로 유럽 및 미주 공략하는 것이 유효함

Issue 4

제목

결론

세부

- 1)
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Issue 6

제목

결론

세부

- 1)
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- 3)
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- 5)

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
F/X	USD/EUR	0.841	0.843	0.835	0.849	0.886	0.941	0.896	0.951	0.901	0.904	0.905	
	Change, %		(0.3)	0.7	(1.0)	(5.2)	(10.7)	(6.2)	(11.6)	(6.7)	(7.0)	(7.2)	
	USD/JPY	109.7	110.3	109.3	110.7	110.4	114.0	103.9	117.0	121.1	108.8	112.0	
	Change, %		(0.5)	0.4	(0.9)	(0.6)	(3.8)	5.6	(6.2)	(9.4)	0.9	(2.0)	
	USD/KRW	1,132.8	1,122.9	1,120.1	1,125.0	1,121.9	1,156.3	1,117.3	1,205.8	1,131.2	1,160.5	1,139.5	
	Change, %		0.9	1.1	0.7	1.0	(2.0)	1.4	(6.1)	0.1	(2.4)	(0.6)	
	Agriculture	Corn	340.0	340.0	336.0	366.5	372.8	374.8	316.5	352.0	376.8	358.5	365.2
		Change, %		0.0	1.2	(7.2)	(8.8)	(9.3)	7.4	(3.4)	(9.8)	(5.2)	(6.9)
Soybean		942.0	942.0	935.3	949.3	921.3	1,027.0	968.5	996.5	945.4	987.5	976.3	
Change, %			0.0	0.7	(0.8)	2.3	(8.3)	(2.7)	(5.5)	(0.4)	(4.6)	(3.5)	
	Wheat	420.5	420.5	400.0	454.8	429.5	433.8	373.3	408.0	508.1	436.4	440.4	
	Change, %		0.0	5.1	(7.5)	(2.1)	(3.1)	12.7	3.1	(17.2)	(3.6)	(4.5)	
	Rice	12.7	12.7	12.3	12.3	11.1	9.3	9.6	9.4	11.1	10.3	10.6	
	Change, %		0.0	2.7	2.7	13.9	35.8	32.5	35.4	14.6	22.5	19.3	
	Oats	223.5	223.5	238.5	283.8	246.0	260.5	161.0	228.5	250.2	196.3	252.6	
	Change, %		0.0	(6.3)	(21.2)	(9.1)	(14.2)	38.8	(2.2)	(10.7)	13.9	(11.5)	
	MYR/mt	Palm Oil	2,680.0	2,680.0	2,723.0	2,590.0	2,730.0	3,000.0	2,829.0	3,218.0	2,190.3	2,653.8	2,854.3
		Change, %		0.0	(1.6)	3.5	(1.8)	(10.7)	(5.3)	(16.7)	22.4	1.0	(6.1)
Cocoa		1,987.0	1,987.0	2,015.0	1,994.0	2,001.0	1,989.0	2,923.0	2,126.0	3,091.6	2,854.0	1,994.6	
Change, %			0.0	(1.4)	(0.4)	(0.7)	(0.1)	(32.0)	(6.5)	(35.7)	(30.4)	(0.4)	
	Cotton	72.6	72.6	70.3	71.0	76.7	77.3	67.5	70.7	63.3	65.6	74.5	
	Change, %		0.0	3.2	2.2	(5.4)	(6.1)	7.5	2.7	14.7	10.6	(2.6)	
	Sugar	13.8	13.8	14.3	14.1	13.7	19.5	20.2	19.5	13.1	18.2	16.5	
	Change, %		0.0	(3.9)	(2.8)	0.1	(29.6)	(31.9)	(29.5)	4.6	(24.2)	(16.5)	
	Coffee	127.8	127.8	129.9	140.2	125.6	141.3	150.1	137.1	132.6	136.1	136.1	
	Change, %		0.0	(1.7)	(8.8)	1.8	(9.6)	(14.9)	(6.8)	(3.7)	(6.1)	(6.1)	
	Energy	WTI	47.4	47.3	46.6	49.6	47.7	53.3	44.4	53.7	48.8	43.4	49.4
		Change, %		0.2	1.7	(4.5)	(0.6)	(11.2)	6.6	(11.8)	(3.0)	9.2	(4.1)
Brent		52.3	52.8	51.9	52.4	50.0	55.9	46.8	56.8	53.7	45.1	52.2	
Change, %			(0.8)	0.9	(0.2)	4.8	(6.4)	11.8	(7.9)	(2.5)	16.1	0.2	
	Natural Gas	3.0	3.1	2.9	2.8	3.0	2.8	2.8	3.7	2.6	2.6	3.1	
	Change, %		(1.7)	3.2	8.8	0.7	6.8	8.1	(18.9)	14.8	18.3	(1.5)	
	Ethanol	1.6	1.6	1.5	1.6	1.6	1.5	1.5	1.6	1.5	1.5	1.5	
	Change, %		0.0	2.7	(1.3)	0.1	5.3	3.7	(3.1)	3.1	2.7	1.3	
	RBOB Gasoline	169.1	174.8	171.2	164.6	157.7	165.3	130.2	166.5	163.6	140.0	159.3	
	Change, %		(3.3)	(1.3)	2.7	7.2	2.3	29.9	1.5	3.3	20.8	6.1	
	Coal	96.9	95.8	97.8	95.4	76.0	81.0	69.2	88.4	59.0	65.5	83.6	
	Change, %		1.1	(0.9)	1.6	27.5	19.7	40.1	9.6	64.4	48.0	15.9	
Metal	Gold	1,332.4	1,324.9	1,308.4	1,258.8	1,279.2	1,234.6	1,325.1	1,152.3	1,160.6	1,248.5	1,246.1	
	Change, %		0.6	1.8	5.8	4.2	7.9	0.5	15.6	14.8	6.7	6.9	
	Silver	17.9	17.7	17.4	16.3	17.6	18.0	19.4	15.9	15.7	17.1	17.2	
	Change, %		1.2	2.8	10.3	2.2	(0.2)	(7.7)	12.7	14.1	4.9	4.5	
	Copper	6,917.0	6,835.0	6,666.0	6,372.0	5,665.0	5,917.0	4,627.0	5,535.5	5,503.1	4,872.0	5,916.1	
	Change, %		1.2	3.8	8.6	22.1	16.9	49.5	25.0	25.7	42.0	16.9	
	Nickel	785.1	773.8	745.4	659.0	574.1	735.7	669.3	682.0	759.5	646.4	649.8	
	Change, %		1.5	5.3	19.1	36.8	6.7	17.3	15.1	3.4	21.5	20.8	
	Zinc	3,205.0	3,185.0	3,063.5	2,812.0	2,529.0	2,775.0	2,364.0	2,576.0	1,941.9	2,097.5	2,753.6	
	Change, %		0.6	4.6	14.0	26.7	15.5	35.6	24.4	65.0	52.8	16.4	
	Lead	2,369.0	2,371.8	2,306.3	2,346.3	2,098.3	2,248.3	1,937.8	2,003.5	1,791.2	1,868.3	2,244.7	
	Change, %		(0.1)	2.7	1.0	12.9	5.4	22.3	18.2	32.3	26.8	5.5	
	Aluminum	16,560.0	16,510.0	16,320.0	14,570.0	13,750.0	13,890.0	12,505.0	12,765.0	12,184.0	12,373.5	14,095.0	
	Change, %		0.3	1.5	13.7	20.4	19.2	32.4	29.7	35.9	33.8	17.5	
	Cobalt	60,750.0	60,750.0	60,750.0	59,000.0	56,350.0	51,000.0	25,750.0	32,734.0	28,444.4	25,480.1	52,131.3	
	Change, %		0.0	0.0	3.0	7.8	19.1	135.9	85.6	113.6	138.4	16.5	
	HR Coil	638.0	638.0	621.0	619.0	575.0	620.0	555.0	633.0	461.5	519.3	621.1	
	Change, %		0.0	2.7	3.1	11.0	2.9	15.0	0.8	38.3	22.9	2.7	
	Scrap	372.0	372.0	372.0	354.0	355.0	360.0	265.0	302.0	252.9	275.7	344.0	
	Change, %		0.0	0.0	5.1	4.8	3.3	40.4	23.2	47.1	34.9	8.1	

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		09/04	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	47.3	47.3	46.6	49.4	47.4	53.2	44.4	53.7	48.8	43.4	49.3
	<i>Change, %</i>		0.0	1.5	(4.3)	(0.2)	(11.1)	6.4	(12.0)	(3.0)	9.1	(4.1)
	Dubai	50.6	49.3	50.6	50.8	48.3	53.9	44.3	53.8	50.8	41.3	50.7
	<i>Change, %</i>		2.7	0.1	(0.4)	4.7	(6.0)	14.3	(6.0)	(0.4)	22.5	(0.2)
Crude Oil Product	Gasoline(휘발유)	70.4	69.8	69.0	66.8	62.5	64.7	58.0	69.8	69.5	56.3	65.6
	<i>Change, %</i>		0.8	2.1	5.4	12.7	8.8	21.4	0.8	1.3	25.2	7.3
	Kerosene(등유)	65.6	64.3	63.7	63.4	58.3	64.5	55.6	66.4	64.7	52.9	62.2
	<i>Change, %</i>		2.1	3.0	3.5	12.6	1.8	18.0	(1.2)	1.4	24.1	5.6
	Diesel(경유)	66.2	64.2	64.1	63.5	58.6	65.9	55.1	65.5	64.8	52.1	62.8
	<i>Change, %</i>		3.0	3.3	4.2	13.0	0.5	20.1	1.0	2.1	27.0	5.4
	Bunker-C	48.0	46.9	47.4	47.7	45.9	48.3	40.0	52.1	45.3	35.5	47.5
	<i>Change, %</i>		2.3	1.4	0.7	4.7	(0.5)	19.9	(7.8)	6.1	35.2	1.1
	Naphtha	51.9	50.7	51.4	50.5	46.6	52.8	42.1	53.5	52.6	42.6	50.4
	<i>Change, %</i>		2.3	1.1	2.9	11.5	(1.6)	23.4	(2.9)	(1.3)	21.9	3.0
Dubai Spread	Gasoline(휘발유)	19.8	20.6	18.4	16.0	14.1	10.9	13.7	16.0	18.7	14.9	14.9
	<i>Change</i>		(0.8)	1.4	3.8	5.7	9.0	6.1	3.8	1.1	4.9	4.9
	Kerosene(등유)	15.0	15.1	13.2	12.6	9.9	10.6	11.4	12.6	14.0	11.6	11.5
	<i>Change</i>		(0.0)	1.9	2.4	5.1	4.4	3.7	2.4	1.1	3.5	3.6
	Diesel(경유)	15.6	15.0	13.5	12.7	10.2	12.0	10.8	11.7	14.0	10.8	12.1
	<i>Change</i>		0.6	2.1	2.8	5.3	3.6	4.8	3.9	1.6	4.8	3.5
Dubai Spread	Bunker-C	(2.6)	(2.3)	(3.2)	(3.1)	(2.5)	(5.6)	(4.2)	(1.8)	(5.5)	(5.8)	(3.2)
	<i>Change</i>		(0.3)	0.6	0.5	(0.1)	3.0	1.7	(0.8)	2.9	3.2	0.6
	Naphtha	1.3	1.5	0.8	(0.3)	(1.8)	(1.1)	(2.2)	(0.4)	1.8	1.3	(0.3)
<i>Change</i>		(0.2)	0.5	1.6	3.1	2.4	3.5	1.7	(0.5)	0.0	1.6	
Refining Margin	Simple(단순)	5.3	5.4	4.1	3.5	2.7	1.3	2.2	3.8	3.3	1.9	3.1
	<i>Change</i>		(0.1)	1.2	1.7	2.5	4.0	3.0	1.4	2.0	3.3	2.2
	Complex(복합)	10.8	10.9	9.4	8.4	6.9	6.0	6.7	8.3	9.3	7.0	7.8
	<i>Change</i>		(0.1)	1.4	2.4	3.9	4.8	4.2	2.6	1.6	3.9	3.1
Refining Margin	Complex(lagging)	11.2	8.9	10.9	10.9	5.6	6.7	11.0	18.0	7.3	8.5	7.6
	<i>Change</i>		2.2	0.2	0.3	5.6	4.5	0.2	(6.8)	3.9	2.7	3.6

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			09/04	09/01	08/31	08/30	08/29	08/28	08/25	08/24	08/23	08/22	
Spot Price	Naphtha	CFR Japan	487.3	473.3	473.3	479.4	473.1	478.6	476.0	472.5	463.4	466.0	
	Ethylene	CFR SE Asia	1,280.0	1,155.0	1,155.0	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	
	Propylene	FOB Korea	872.0	870.0	870.0	870.0	870.0	869.0	869.0	867.0	865.0	860.0	
	Butadiene	FOB Korea	1,360.0	1,360.0	1,360.0	1,310.0	1,310.0	1,310.0	1,310.0	1,230.0	1,230.0	1,200.0	
	HDPE	CFR FE Asia	1,175.0	1,170.0	1,170.0	1,170.0	1,165.0	1,155.0	1,145.0	1,140.0	1,140.0	1,140.0	
	LDPE	CFR FE Asia	1,210.0	1,205.0	1,205.0	1,200.0	1,200.0	1,190.0	1,180.0	1,180.0	1,180.0	1,180.0	
	LLDPE	CFR FE Asia	1,170.0	1,160.0	1,160.0	1,160.0	1,150.0	1,140.0	1,130.0	1,130.0	1,130.0	1,130.0	
	MEG	CFR China	952.0	927.0	927.0	908.0	908.0	905.0	898.0	880.0	880.0	868.0	875.0
	PP	CFR FE Asia	1,140.0	1,110.0	1,110.0	1,110.0	1,110.0	1,100.0	1,100.0	1,100.0	1,100.0	1,080.0	1,070.0
	PX	CFR China	826.0	811.7	811.7	815.7	813.7	811.7	811.2	807.0	807.0	800.7	803.7
	PTA	CFR China	650.0	635.0	635.0	635.0	635.0	637.0	635.0	633.0	633.0	630.0	630.0
	Benzene	FOB Korea	830.0	805.0	805.0	794.0	818.0	816.5	795.5	771.5	768.0	770.0	770.0
	Toluene	FOB Korea	656.0	633.5	633.5	635.5	635.5	635.5	637.5	623.5	622.5	622.5	622.5
	Xylene	FOB Korea	669.0	658.0	658.0	657.5	657.5	656.5	656.0	649.5	648.5	648.5	651.5
	SM	FOB Korea	1,438.0	1,354.5	1,354.5	1,338.0	1,303.0	1,273.0	1,240.0	1,218.0	1,193.0	1,203.0	1,203.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	470.0	474.0	464.0	428.0	430.5	375.0	484.5	493.0	399.5	464.8
	<i>Change, %</i>			(0.8)	1.3	9.8	9.2	25.3	(3.0)	(4.7)	17.6	1.1
	Ethylene	CFR SE Asia	1,190.0	1,185.0	1,030.0	900.0	1,085.0	1,085.0	990.0	1,103.7	1,040.9	1,035.2
	<i>Change, %</i>			0.4	15.5	32.2	9.7	9.7	20.2	7.8	14.3	15.0
	Propylene	CFR SE Asia	800.0	790.0	770.0	740.0	725.0	785.0	815.0	770.0	705.7	862.2
	<i>Change, %</i>			1.3	3.9	8.1	10.3	1.9	(1.8)	3.9	13.4	(7.2)
	Butadiene	CFR SE Asia	1,325.0	1,325.0	925.0	925.0	1,245.0	1,105.0	2,100.0	877.5	1,116.8	1,618.1
	<i>Change, %</i>			0.0	43.2	43.2	6.4	19.9	(36.9)	51.0	18.6	(18.1)
	Benzene	CFR SE Asia	817.5	795.0	750.0	767.5	755.0	665.0	822.5	690.0	646.7	837.4
	<i>Change, %</i>			2.8	9.0	6.5	8.3	22.9	(0.6)	18.5	26.4	(2.4)
	Toluene	CFR SE Asia	660.0	655.0	650.0	650.0	655.0	620.0	690.0	700.8	630.5	681.1
	<i>Change, %</i>			0.8	1.5	1.5	0.8	6.5	(4.3)	(5.8)	4.7	(3.1)
	Xylene	CFR SE Asia	635.0	627.5	632.5	620.0	640.0	605.0	675.0	699.3	627.7	666.6
	<i>Change, %</i>			1.2	0.4	2.4	(0.8)	5.0	(5.9)	(9.2)	1.2	(4.7)

Spread	Ethylene	-Naphtha	720.0	711.0	566.0	472.0	654.5	710.0	505.5	610.6	641.4	570.4
	<i>Change, %</i>			1.3	27.2	52.5	10.0	1.4	42.4	17.9	12.3	26.2
	Propylene	-Naphtha	330.0	316.0	306.0	312.0	294.5	410.0	330.5	277.0	306.2	397.4
	<i>Change, %</i>			4.4	7.8	5.8	12.1	(19.5)	(0.2)	19.1	7.8	(17.0)
	Butadiene	-Naphtha	855.0	851.0	461.0	497.0	814.5	730.0	1,615.5	384.5	717.3	1,153.2
	<i>Change, %</i>			0.5	85.5	72.0	5.0	17.1	(47.1)	122.4	19.2	(25.9)
	Benzene	-Naphtha	347.5	321.0	286.0	339.5	324.5	290.0	338.0	197.0	247.2	372.6
	<i>Change, %</i>			8.3	21.5	2.4	7.1	19.8	2.8	76.4	40.6	(6.7)
	Toluene	-Naphtha	190.0	181.0	186.0	222.0	224.5	245.0	205.5	207.8	231.0	216.3
	<i>Change, %</i>			5.0	2.2	(14.4)	(15.4)	(22.4)	(7.5)	(8.5)	(17.7)	(12.2)
	Xylene	-Naphtha	165.0	153.5	168.5	192.0	209.5	230.0	190.5	206.3	228.2	201.8
	<i>Change, %</i>			7.5	(2.1)	(14.1)	(21.2)	(28.3)	(13.4)	(20.0)	(27.7)	(18.2)

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	1,137.5	1,107.5	1,077.5	1,117.5	1,137.5	1,125.0	1,142.5	1,230.1	1,134.6	1,119.2
	Change, %			2.7	5.6	1.8	0.0	1.1	(0.4)	(7.5)	0.3	1.6
	MEG	CFR SE Asia	930.0	902.5	877.5	747.5	702.5	667.5	847.5	780.8	660.8	824.1
	Change, %			3.0	6.0	24.4	32.4	39.3	9.7	19.1	40.7	12.9
	PVC	CFR SE Asia	935.0	920.0	860.0	880.0	877.5	860.0	920.0	820.8	823.4	899.5
	Change, %			1.6	8.7	6.3	6.6	8.7	1.6	13.9	13.6	3.9
	PP	CFR SE Asia	1,127.5	1,117.5	1,087.5	1,047.5	1,047.5	1,000.0	1,032.5	1,109.8	978.4	1,072.4
	Change, %			0.9	3.7	7.6	7.6	12.8	9.2	1.6	15.2	5.1
	2-EH	CFR Korea	990.0	990.0	960.0	940.0	925.0	805.0	865.0	930.1	772.4	951.5
	Change, %			0.0	3.1	5.3	7.0	23.0	14.5	6.4	28.2	4.1
	ABS	CFR SE Asia	2,010.0	1,895.0	1,850.0	1,640.0	1,640.0	1,405.0	1,635.0	1,431.1	1,347.1	1,774.3
	Change, %			6.1	8.6	22.6	22.6	43.1	22.9	40.5	49.2	13.3
	SBR	CFR SE Asia	1,690.0	1,650.0	1,490.0	1,650.0	1,790.0	1,380.0	2,000.0	1,332.1	1,483.0	2,107.1
	Change, %			2.4	13.4	2.4	(5.6)	22.5	(15.5)	26.9	14.0	(19.8)
	SM	CFR SE Asia	1,355.0	1,242.5	1,150.0	1,122.5	1,065.0	1,047.5	1,205.0	1,100.7	1,064.6	1,232.2
	Change, %			9.1	17.8	20.7	27.2	29.4	12.4	23.1	27.3	10.0
	Caustic	FOB NEA	471.0	471.0	467.5	437.5	447.5	320.0	422.5	296.8	316.6	443.8
	Change, %			0.0	0.7	7.7	5.3	47.2	11.5	58.7	48.8	6.1
	PX	CFR SE Asia	812.5	817.5	832.5	782.5	785.0	797.5	855.0	842.9	790.4	833.2
	Change, %			(0.6)	(2.4)	3.8	3.5	1.9	(5.0)	(3.6)	2.8	(2.5)
PO	CFR China	1,992.5	1,992.5	1,542.5	1,462.5	1,360.0	1,492.5	1,562.5	1,683.4	1,396.8	1,533.4	
Change, %			0.0	29.2	36.2	46.5	33.5	27.5	18.4	42.6	29.9	
Caprolactam	CFR SE Asia	1,740.0	1,770.0	1,760.0	1,570.0	1,770.0	1,410.0	1,850.0	1,581.5	1,344.9	1,906.0	
Change, %			(1.7)	(1.1)	10.8	(1.7)	23.4	(5.9)	10.0	29.4	(8.7)	
PTA	CFR SE Asia	657.5	657.5	657.5	622.5	627.5	617.5	642.5	648.0	613.7	657.4	
Change, %			0.0	0.0	5.6	4.8	6.5	2.3	1.5	7.1	0.0	
Spread	HDPE		667.5	633.5	613.5	689.5	707.0	750.0	658.0	737.1	735.1	654.3
	Change, %			5.4	8.8	(3.2)	(5.6)	(11.0)	1.4	(9.4)	(9.2)	2.0
	MEG		460.0	428.5	413.5	319.5	272.0	292.5	363.0	287.8	261.3	359.3
	Change, %			7.4	11.2	44.0	69.1	57.3	26.7	59.8	76.1	28.0
	PVC		465.0	446.0	396.0	452.0	447.0	485.0	435.5	327.8	423.9	434.7
	Change, %			4.3	17.4	2.9	4.0	(4.1)	6.8	41.9	9.7	7.0
	PP		657.5	643.5	623.5	619.5	617.0	625.0	548.0	616.8	578.9	607.5
	Change, %			2.2	5.5	6.1	6.6	5.2	20.0	6.6	13.6	8.2
	2-EH		520.0	516.0	496.0	512.0	494.5	430.0	380.5	437.0	372.9	486.6
	Change, %			0.8	4.8	1.6	5.2	20.9	36.7	19.0	39.5	6.9
	ABS		1,540.0	1,421.0	1,386.0	1,212.0	1,209.5	1,030.0	1,150.5	938.1	947.6	1,309.5
	Change, %			8.4	11.1	27.1	27.3	49.5	33.9	64.2	62.5	17.6
	SBR	BD spread	365.0	325.0	565.0	725.0	545.0	275.0	(100.0)	454.7	366.2	489.0
	Change, %			12.3	(35.4)	(49.7)	(33.0)	32.7	(465.0)	(19.7)	(0.3)	(25.4)
	SM		885.0	768.5	686.0	694.5	634.5	672.5	720.5	607.7	665.1	767.4
	Change, %			15.2	29.0	27.4	39.5	31.6	22.8	45.6	33.1	15.3
	Caustic											
	Change, %											
	PX		342.5	343.5	368.5	354.5	354.5	422.5	370.5	349.9	390.9	368.4
	Change, %			(0.3)	(7.1)	(3.4)	(3.4)	(18.9)	(7.6)	(2.1)	(12.4)	(7.0)
PO	propylene spread	1,192.5	1,202.5	772.5	722.5	635.0	707.5	747.5	913.4	691.1	671.2	
Change, %			(0.8)	54.4	65.1	87.8	68.6	59.5	30.6	72.5	77.7	
Caprolactam	benzene spread	922.5	975.0	1,010.0	802.5	1,015.0	745.0	1,027.5	891.6	698.2	1,068.5	
Change, %			(5.4)	(8.7)	15.0	(9.1)	23.8	(10.2)	3.5	32.1	(13.7)	
PTA	px spread	88.8	85.3	74.8	74.8	78.0	59.3	44.0	58.0	60.4	74.2	
Change, %			4.1	18.7	18.7	13.8	49.8	101.7	53.0	46.9	19.6	

자료 : Ciscem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	09/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA				
											17E	18E	17E	18E	17E	18E			
Petrochemical																			
DowDuPont	USD	67.2	0.0	3.9	4.8	6.6	6.2	24.0	17.4	156,931	#N/A	N/A	#N/A	N/A	#N/A	N/A	#N/A	N/A	
Eastman	USD	87.3	0.0	2.2	3.9	7.6	8.7	27.3	16.1	12,649	11.6	10.7	2.5	2.4	8.8	8.4			
BASF	EUR	82.2	(0.3)	0.3	0.4	(3.6)	(8.8)	12.4	(6.9)	89,761	14.1	13.9	2.2	2.1	7.8	7.6			
Akzo Nobel	EUR	78.0	0.8	0.4	1.3	3.0	20.4	25.9	31.3	23,580	18.2	17.5	3.1	3.0	10.0	9.7			
Arkema	EUR	92.4	(0.1)	0.0	(4.3)	(3.5)	1.4	11.9	(0.6)	8,325	13.5	12.5	1.7	1.6	6.1	5.9			
Lanxess	EUR	64.1	1.2	(1.1)	(4.7)	(6.0)	(0.7)	30.5	2.8	6,975	16.7	14.5	2.2	2.1	7.4	7.3			
Sumitomo Chemical	JPY	651	(1.7)	(1.2)	3.8	7.6	(0.3)	39.4	17.1	9,824	10.2	9.6	1.2	1.1	7.4	7.1			
Mitsubishi Chemical	JPY	1,021	(0.4)	0.0	8.9	16.2	17.1	57.9	34.7	14,019	9.4	9.3	1.2	1.1	6.3	6.2			
Shin-Etsu Chemical	JPY	9,583	(0.9)	(0.2)	(4.6)	(5.6)	(2.2)	29.4	5.7	37,747	19.3	17.3	1.8	1.7	8.2	7.3			
Asahi Kasei	JPY	1,296	(0.7)	2.3	0.3	18.8	16.9	47.9	27.1	16,571	15.3	14.4	1.5	1.4	7.3	7.0			
JSR	JPY	2,108	(2.0)	(1.0)	9.3	10.0	9.5	39.2	14.4	4,345	16.1	15.2	1.2	1.2	8.3	7.8			
Nitto Denko	JPY	9,551	(1.9)	(0.4)	(6.9)	4.7	0.2	37.1	6.5	15,128	19.0	17.4	2.2	2.0	8.5	7.9			
SABIC	SAR	98.9	0.0	(0.1)	1.8	0.6	1.8	20.2	8.1	79,132	14.9	14.3	1.8	1.7	7.5	7.3			
Yansab	SAR	56.4	0.0	(0.2)	3.6	(1.0)	(0.2)	29.3	3.5	8,454	14.4	13.6	2.4	2.3	8.9	8.5			
Formosa Plastics	TWD	94.5	0.9	0.0	2.3	5.7	5.4	21.2	5.9	20,017	14.4	14.8	1.8	1.8	18.7	19.3			
Formosa Fiber	TWD	94.7	(0.3)	0.5	2.7	4.4	0.6	15.6	(1.7)	18,470	12.8	13.2	1.7	1.7	10.2	10.7			
Nan Ya Plastics	TWD	75.0	(1.1)	(1.3)	(1.1)	5.6	5.8	24.4	5.3	19,793	15.5	16.0	1.7	1.7	16.6	15.9			
Sinopec Shanghai	CNY	6.44	(0.8)	(0.6)	(6.7)	(2.6)	(0.6)	7.2	0.0	9,314	12.2	11.6	2.4	2.1	6.8	6.7			
Sinopec Yizheng(Fiber)	CNY	3.20	0.0	0.0	(0.6)	(10.9)	(17.3)	(17.1)	(22.0)	6,265	#N/A	N/A	47.1	6.9	7.2	38.3	17.8		
Reliance	INR	1,613	0.2	3.0	(0.5)	21.8	28.2	59.2	49.1	81,963	17.8	14.7	1.7	1.5	11.8	9.5			
Industries Qatar	QAR	91.0	0.0	(1.2)	(5.2)	(12.5)	(21.1)	(19.4)	(22.6)	15,118	14.7	12.8	1.6	1.5	52.1	47.5			
PTT Chemical	THB	75.0	(1.3)	(1.3)	3.1	6.4	3.1	24.5	19.0	10,107	10.2	10.4	1.3	1.2	5.4	5.3			
Petronas	MYR	7.2	0.0	(0.4)	2.1	(0.8)	(3.2)	7.3	2.6	13,413	15.8	15.7	2.0	1.9	8.6	8.5			
LG화학	KRW	370,000	(0.8)	0.1	8.0	25.9	31.2	40.7	41.8	23,066	14.4	13.8	1.8	1.6	6.3	5.9			
롯데케미칼	KRW	410,500	1.9	4.5	4.1	16.0	12.3	48.2	11.2	12,425	6.4	6.3	1.2	1.1	4.2	3.8			
한화케미칼	KRW	34,800	(1.7)	(0.6)	5.1	18.6	40.9	41.5	40.9	5,065	6.0	6.2	0.9	0.8	7.5	7.0			
금호석유	KRW	78,900	1.2	(0.5)	0.4	3.3	5.5	16.5	(3.8)	2,123	15.0	13.2	1.5	1.3	10.0	8.8			
SKC	KRW	36,450	0.4	(1.6)	(3.2)	16.5	17.2	31.8	10.5	1,208	10.0	8.8	0.9	0.8	9.0	7.5			
국도화학	KRW	52,200	(2.8)	(3.3)	(8.4)	0.4	3.0	(8.6)	(4.9)	268	8.5	9.2	0.7	0.6	5.0	5.0			
효성	KRW	7,030	(1.8)	1.2	4.9	3.2	(18.1)	32.6	3.4	4,776	9.0	7.8	1.3	1.2	7.3	6.5			
Average			(0.4)	0.1	0.8	5.2	5.4	25.3	10.4										
Refinery																			
Valero	USD	69.2	0.0	1.1	1.0	11.4	4.7	26.2	1.3	30,563	17.0	12.7	1.6	1.6	6.8	5.8			
Conoco Phillips	USD	44.2	0.0	2.8	(2.9)	(0.0)	(7.5)	8.1	(11.8)	53,838	240.4	38.5	1.8	1.8	8.9	6.7			
Formosa Petrochemical	TWD	107.5	0.9	1.9	0.9	1.9	2.9	16.7	(4.0)	34,076	16.5	19.0	3.2	3.2	9.8	11.3			
Andeavor	USD	102.2	0.0	3.7	4.4	20.9	22.5	37.1	16.9	16,037	19.9	13.9	1.6	1.4	9.4	7.2			
Marathon Petroleum	USD	54.3	0.0	3.4	(2.7)	3.0	5.9	28.3	7.8	27,479	20.4	16.1	2.2	2.1	8.9	7.7			
Devon Energy	USD	32.1	0.0	3.8	(4.6)	(3.1)	(25.9)	(27.5)	(29.7)	16,877	18.9	15.5	2.4	2.1	8.3	7.5			
Hollyfrontier	USD	32.5	0.0	3.3	6.5	35.2	15.7	31.7	(0.8)	5,762	25.7	15.6	1.2	1.3	9.1	6.8			
Phillips 66	USD	84.4	0.0	0.9	(1.4)	10.6	7.8	7.0	(2.3)	43,187	20.8	15.3	1.9	1.9	10.2	8.4			
Murphy Oil	USD	23.3	0.0	2.6	(11.7)	(3.0)	(16.8)	(12.9)	(25.0)	4,028	#N/A	N/A	364.7	0.9	0.9	4.4	4.3		
JX Holdings	JPY	544.2	0.4	0.1	10.0	9.3	1.4	38.9	10.0	17,000	8.5	8.0	0.8	0.8	8.4	7.9			
Idemitsu	JPY	2,700.0	0.3	0.2	3.3	(17.6)	(26.1)	43.8	(13.0)	5,119	6.2	6.2	0.7	0.7	8.1	7.7			
Nesteoil	EUR	36.7	(0.9)	2.8	3.6	3.5	8.1	(2.9)	0.5	0	14.2	14.0	2.3	2.1	8.0	8.4			
Ashland	USD	62.3	0.0	1.7	(1.9)	(7.6)	4.1	7.6	16.5	3,888	16.6	19.0	1.0	1.0	8.5	9.3			
Fuchs Petrolub	EUR	47.2	(0.7)	0.4	(0.9)	(7.1)	7.6	14.1	18.2	7,271	24.2	22.9	4.9	4.3	14.0	13.2			
SK이노베이션	KRW	189,500	0.5	3.3	5.3	14.5	21.9	29.4	29.4	15,474	7.9	7.9	1.0	0.9	4.7	4.3			
S-Oil	KRW	124,500	0.4	3.8	5.5	22.7	42.4	71.7	47.0	12,378	13.4	10.4	2.2	2.0	10.1	7.5			
GS	KRW	67,700	(1.6)	(1.6)	(9.5)	(8.3)	23.1	36.2	25.1	5,555	6.4	6.0	0.8	0.7	7.2	6.8			
Average			(0.0)	2.0	0.3	5.1	5.4	20.8	5.1										

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	09/04	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	0.0	0.1	(4.5)	(3.7)	(7.1)	(12.4)	(15.2)	324,435	22.5	19.6	1.8	1.8	9.5	8.6
BP	GBP	446	0.4	0.2	(3.6)	(3.5)	(3.8)	3.6	(12.4)	113,927	20.5	15.6	1.2	1.2	5.9	5.3
Shell	EUR	2,123	0.0	(0.9)	(2.7)	1.7	(0.7)	13.5	(5.3)	227,892	15.9	14.1	1.2	1.2	6.3	5.7
Chevron	USD	109	0.0	0.9	(1.2)	5.5	(4.2)	7.8	(7.6)	206,100	26.8	22.3	1.4	1.4	7.9	7.1
Total	EUR	44	(0.2)	1.4	(0.5)	(6.6)	(9.1)	(0.6)	(10.3)	130,029	13.1	12.0	1.2	1.2	6.1	5.4
Sinopec	CNY	6	(0.7)	(2.0)	(2.5)	(5.0)	5.1	19.5	10.0	106,754	13.8	12.7	1.0	0.9	4.5	4.4
Petrochina	CNY	8	0.1	(1.2)	(1.0)	4.5	1.0	8.7	2.2	214,524	58.7	33.9	1.2	1.2	6.8	6.6
CNOOC	CNY	11	(0.2)	(1.0)	(0.4)	(1.0)	(15.3)	(7.4)	(12.3)	53,632	12.7	11.1	0.9	0.9	3.8	3.6
Gazprom	RUB	117	(0.3)	(1.5)	(2.1)	(2.2)	(13.2)	(13.7)	(24.3)	47,907	4.2	3.7	0.2	0.2	3.7	3.3
Rosneft	RUB	303	(0.5)	0.5	(4.2)	0.5	(10.1)	(13.5)	(24.9)	55,468	9.4	6.6	0.8	0.7	4.9	4.1
Anadarko	USD	41	0.0	0.5	(7.6)	(17.1)	(34.4)	(26.6)	(40.5)	23,249	#N/A	#N/A	1.6	1.6	6.7	6.0
Petrobras	BRL	14	1.1	2.2	5.7	8.6	(7.5)	4.4	(4.7)	60,195	10.7	8.5	0.6	0.6	5.3	4.8
Lukoil	USD	2,895	(0.7)	(0.9)	(0.3)	5.9	(6.2)	(3.6)	(16.1)	42,528	6.0	5.4	0.7	0.6	N/A	N/A
Kinder	USD	19	0.0	1.8	(4.2)	2.2	(11.0)	(11.7)	(6.5)	47,497	29.9	27.6	1.2	1.2	11.5	11.1
Statoil	NOK	148	0.3	1.8	(1.0)	1.3	(0.1)	12.3	(6.4)	62,343	16.5	17.4	1.6	1.6	3.4	3.3
BHP	AUD	27	0.2	2.2	6.8	14.2	8.4	38.4	9.7	110,702	18.2	19.5	1.9	1.9	6.7	6.8
PTT E&P	THB	88	(0.3)	2.3	0.9	(2.5)	(5.1)	10.4	(8.8)	10,508	13.2	12.2	0.9	0.8	3.1	2.9
Petronas gas	MYR	18	0.0	(1.3)	(1.6)	(3.2)	(7.1)	(16.1)	(13.6)	8,526	20.6	19.2	2.9	2.8	11.7	10.9
Chesapeake	USD	4	0.0	3.0	(17.0)	(24.2)	(29.3)	(43.0)	(46.4)	3,415	5.3	4.8	#N/A	#N/A	16.3	7.2
Noble Energy	USD	24	0.0	3.5	(6.6)	(15.0)	(34.0)	(29.3)	(36.4)	11,784	#N/A	#N/A	1.2	1.2	8.1	6.7
Average		0	(0.0)	0.6	(2.4)	(2.0)	(9.2)	(3.0)	(13.5)							
PV																
WACKER	EUR	108.8	(0.2)	3.1	4.5	8.1	3.6	29.3	10.0	6,743	29.9	22.5	1.8	1.8	6.8	6.4
GCL-Poly	HKD	0.9	1.1	0.0	3.5	10.0	(13.7)	(18.5)	(5.4)	2,090	6.7	6.4	0.6	0.5	6.2	5.7
SunPower	USD	9.0	0.0	(0.8)	(2.4)	12.6	11.1	(12.4)	36.6	1,260	#N/A	#N/A	1.8	1.8	40.7	13.5
Canadian Solar	USD	16.1	0.0	4.7	(3.7)	25.8	11.0	22.5	32.2	934	10.3	7.1	0.9	0.9	9.6	8.6
JA Solar	USD	6.9	0.0	7.7	12.4	4.7	41.1	(8.5)	44.3	327	19.7	15.5	1.6	1.6	3.9	3.1
Yingli	USD	2.4	0.0	(11.2)	(0.8)	15.6	(2.9)	(37.8)	(8.8)	43	#N/A	#N/A	#N/A	#N/A	41.1	24.1
First Solar	USD	47.8	0.0	(0.4)	(0.3)	24.8	38.2	25.3	49.1	4,995	22.9	43.3	0.9	0.9	8.4	9.5
한화큐셀	USD	7.2	0.0	(3.3)	(11.8)	5.4	(14.0)	(39.8)	(11.4)	602	62.9	45.2	#N/A	#N/A	7.3	7.3
OCI	KRW	99,200	(0.8)	3.1	4.2	13.0	20.1	18.8	26.0	2,089	15.8	21.2	0.7	0.7	7.9	7.5
웅진에너지	KRW	8,670	(2.4)	2.4	4.1	23.0	74.3	12.0	83.1	191	N/A	0.7	0.7	7.9	7.5	9.0
신성솔라에너지	KRW	2,010	(2.9)	(5.6)	(8.6)	0.8	7.2	(11.3)	(9.0)	307	N/A	0.7	7.9	7.5	9.0	7.8
Average			(0.5)	(0.0)	0.1	13.1	16.0	(1.9)	22.4							
Gas Company																
Towngas China	HKD	5.2	(0.9)	1.2	(5.4)	10.8	18.6	27.9	31.7	1,854	12.1	11.1	1.0	0.9	11.3	10.5
Kulun	HKD	7.4	(0.7)	4.4	(3.0)	7.8	6.6	31.3	28.1	7,665	11.2	11.0	1.3	1.2	5.8	5.7
Beijing Enterprise	HKD	41.9	(2.6)	2.1	3.5	12.2	0.2	0.5	14.3	6,758	8.2	7.6	0.8	0.8	15.1	14.1
ENN Energy	HKD	51.2	(0.1)	2.9	(4.4)	21.9	20.5	25.8	60.5	7,078	13.4	11.9	2.6	2.2	8.5	7.7
China Resources Gas	HKD	27.4	(2.7)	0.9	(7.0)	11.9	5.4	9.0	25.5	7,773	15.6	13.9	3.0	2.6	9.3	8.4
China Gas Holdings	HKD	19.1	(3.9)	1.0	1.4	54.3	51.6	59.7	81.6	12,127	17.5	14.9	3.8	3.2	14.0	12.1
Shenzen Gas	HKD	14.2	(0.4)	(2.3)	0.7	8.7	27.7	13.2	25.7	3,668	11.7	11.3	1.3	1.2	9.2	8.7
Shann Xi	CNY	8.7	0.5	0.3	(1.6)	2.2	(9.4)	(17.2)	(9.4)	1,480	18.4	16.5	1.7	1.6	#N/A	#N/A
Suntien	HKD	1.7	(0.6)	1.2	(1.7)	12.7	16.6	53.6	69.0	802	6.7	5.7	0.6	0.6	9.6	8.2
China Oil & Gas	HKD	0.5	0.0	(1.8)	(1.8)	(3.6)	(12.9)	(6.9)	(11.5)	402	9.3	8.1	0.9	0.8	6.2	5.6
Average			(1.1)	1.0	(1.9)	13.9	12.5	19.7	31.5							
EV																
LG화학	KRW	370,000	(0.8)	0.1	8.0	25.9	31.2	40.7	41.8	23,066	13.7	13.4	1.8	1.6	6.5	6.2
삼성SDI	KRW	193,000	(2.0)	3.2	6.3	21.8	54.4	77.9	77.1	11,720	19.9	12.9	1.2	1.1	22.7	14.3
Panasonic	JPY	1437.5	(1.7)	(0.9)	(4.4)	(2.5)	13.5	35.0	20.8	32,145	18.7	14.3	1.9	1.8	6.1	5.3
GS Yuasa	JPY	537.0	(2.4)	0.9	5.1	4.9	0.8	31.0	10.5	2,025	16.2	14.9	1.3	1.2	7.3	6.8
NEC	JPY	290.0	(0.7)	(0.3)	(4.0)	(0.7)	3.2	9.4	(6.5)	6,886	18.1	16.3	0.9	0.8	6.9	6.1
BYD Auto	CNY	48.8	1.0	(1.2)	0.5	(1.4)	(4.4)	(15.7)	(1.9)	19,062	25.8	18.9	2.4	2.2	12.1	9.9
Tesla Motors	USD	355.4	0.0	2.8	(0.4)	4.6	41.3	79.7	66.3	59,312	#N/A	#N/A	11.9	10.3	75.4	26.4
Kandi Technologies	USD	4.0	0.0	1.3	1.3	(4.8)	(4.8)	(35.7)	(18.4)	192	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			(0.8)	0.7	1.6	6.0	16.9	27.8	23.7							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임