

1. News Summary (3 page)

2018년 7월 5일

News	
WTI comment	美 재고 증가와 이란 공급 위협에 상승
Headline	심야시간 산업용 전기료 인상 현실화되나
News 1.	"사우디 아라코, 아시아 원유 가격 책정 방식 변경한다"
News 2.	-
News 3.	-
News 4.	-

Conclusion	
논리적 당위성과 한전의 재무부담 감안시 전기 요금 인상은 불가피함	
플래츠 오만과 DME 오만 선물가격이 유사해 가격 차이 크지 않을 것	
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	74.3	0.3	2.2	14.8	17.3	64.7
Dubai	\$/bbl	75.1	0.4	1.0	0.9	16.0	55.3
Gasoline	\$/bbl	83.5	0.6	1.7	(3.8)	6.5	36.6
Diesel	\$/bbl	86.4	0.5	0.3	(2.3)	7.2	39.5
Complex margin	\$/bbl	5.2	(0.0)	0.2	(2.1)	(2.7)	(2.8)
1M lagging	\$/bbl	5.2	0.6	1.6	(6.3)	(7.2)	(2.8)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	669	0.7	4.1	0.7	13.2	56.8
Butadiene	\$/t	1,600	0.0	0.6	(8.0)	15.9	64.1
HDPE	\$/t	1,340	0.0	(0.7)	(1.5)	2.3	24.1
MEG	\$/t	902	0.7	0.8	(2.0)	(8.4)	13.5
PX	\$/t	988	0.0	2.4	1.5	5.5	29.2
SM	\$/t	1,323	0.6	(0.7)	(9.9)	0.6	19.3
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.87	0.0	(3.7)	(1.3)	1.0	2.2
Natural rubber	\$/t	1,300	0.0	(3.0)	(7.1)	(2.3)	(11.0)
Cotton	C/lbs	84.5	0.0	(1.4)	(7.0)	6.2	14.5

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	07/02	\$/t	1,260	0.0	2.9	(0.4)	44.0
Propylene	07/02	\$/t	980	(2.5)	(3.4)	3.7	32.0
Benzene	07/02	\$/t	808	0.3	(5.3)	(3.0)	6.3
Toluene	07/02	\$/t	785	(1.3)	(3.7)	8.3	24.6
Xylene	07/02	\$/t	800	(3.0)	(5.9)	4.9	31.1
PP	07/02	\$/t	1,283	(0.8)	0.4	4.5	23.6
PVC	07/02	\$/t	935	0.0	1.6	(3.1)	7.5
ABS	07/02	\$/t	2,000	(2.0)	(3.8)	2.0	11.7
SBR	07/02	\$/t	1,780	(1.1)	(6.3)	6.6	22.8
SM	07/02	\$/t	1,363	(0.9)	(9.8)	3.2	18.2
BPA	07/02	\$/t	1,765	(1.3)	1.6	2.5	18.9
Caustic	07/02	\$/t	475	(3.3)	(13.6)	(25.7)	6.1
2-EH	07/02	\$/t	1,100	(0.9)	(6.0)	(7.6)	19.6
Caprolactam	07/02	\$/t	2,130	0.0	1.2	(3.2)	32.3
Solar				%	%	%	%
Polysilicon	07/04	\$/kg	11.2	(1.2)	(14.7)	(27.6)	(19.5)
Module	07/04	\$/W	0.27	(1.5)	(7.6)	(11.9)	(19.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.2	0.0	0.6	1.6	9.8	0.2
Shell	EUR	2,598	(0.5)	(1.6)	(0.9)	15.5	25.3
Petrochina	CNY	7.49	(0.5)	(0.3)	(5.9)	0.4	(4.3)
Gazprom	RUB	142.2	(0.2)	2.3	(2.9)	1.5	15.9
Petrobras	BRL	18.5	5.4	11.5	5.2	(9.5)	48.4
Refinery							
Phillips66	USD	110.5	0.0	(0.2)	(7.3)	15.1	32.6
Valero	USD	108.2	0.0	(1.2)	(13.1)	15.9	59.0
JX	JPY	796.0	2.6	1.8	11.3	27.1	56.4
Neste Oil	EUR	64.9	(0.9)	(1.9)	(8.0)	17.5	87.2

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	81.1	(0.3)	(0.6)	(4.6)	(2.1)	(1.5)
DowDuPont	USD	65.2	0.0	(0.7)	(2.9)	2.3	1.9
SABIC	SAR	124.4	0.8	(2.2)	(4.0)	8.4	22.0
Formosa Pla.	TWD	114.0	0.9	3.6	3.2	11.8	22.6
Shin-Etsu	JPY	9,870	(0.3)	(1.2)	(11.4)	(7.5)	(1.1)
Renewable							
Wacker	EUR	114.9	(1.2)	2.4	(13.1)	(14.3)	20.3
First Solar	USD	52.36	0.0	2.7	(15.2)	(25.4)	30.7
GCL-Poly	HKD	0.68	(4.2)	(10.5)	(13.9)	(29.2)	(18.1)
Tesla Motors	USD	310.9	0.0	(9.8)	4.8	8.3	(11.8)

4. Coverage Summary

	07/04	1D	1W	1M	3M	6M	12M
KOSPI	2,265	(0.3)	(3.3)	(7.4)	(7.1)	(8.6)	(5.4)
KOSPI확화	5,512	(0.7)	(4.8)	(8.0)	(11.4)	(10.1)	(0.2)
LG화학	317,500	0.0	(5.4)	(12.5)	(17.2)	(22.7)	7.1
롯데케미칼	324,000	(1.2)	(4.3)	(13.9)	(27.5)	(10.1)	(8.3)
한화케미칼	20,650	(0.2)	(4.0)	(17.9)	(31.3)	(36.6)	(32.5)
금호석유화학	115,500	0.0	0.4	8.5	21.1	11.6	49.4
KCC	317,000	0.2	(3.6)	(10.6)	(9.0)	(17.0)	(26.5)
OCI	97,700	(0.7)	(4.7)	(18.6)	(41.8)	(28.2)	9.7
SKC	41,150	(1.1)	(6.1)	4.7	11.8	(11.5)	22.5
SK이노베이션	186,500	1.1	(7.9)	(10.1)	(12.6)	(9.7)	15.8
S-Oil	102,500	0.5	(9.3)	(6.8)	(14.6)	(12.4)	5.7
GS	50,800	(1.4)	(5.9)	(13.6)	(16.6)	(18.7)	(27.1)
SK가스	89,800	(0.6)	(4.0)	(7.6)	(7.9)	(4.1)	(27.9)
포스코대우	21,100	2.7	4.7	(8.3)	(8.1)	12.5	(5.4)
LG상사	22,800	0.7	(4.0)	(14.9)	(14.9)	(17.5)	(26.9)
한국전력	32,100	1.3	(2.9)	(2.4)	(7.0)	(15.0)	(21.1)
한국가스공사	57,100	(4.5)	(8.5)	(5.9)	13.1	28.7	10.7

투자의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	450,000	41.7	10.99	1.46
매수	480,000	48.1	9.35	0.92
매수	39,000	88.9	7.35	0.53
매수	150,000	29.9	11.24	1.73
매수	450,000	42.0	11.61	0.49
매수	180,000	84.2	7.28	0.65
매수	50,000	21.5	11.29	1.02
매수	230,000	23.3	11.38	0.94
매수	140,000	36.6	12.42	1.61
매수	80,000	57.5	4.77	0.64
매수	130,000	44.8	7.89	0.59
매수	25,000	18.5	11.21	0.90
매수	38,000	66.7	7.44	0.67
매수	45,000	40.2	7.07	0.25
매수	60,000	5.1	9.95	0.75

* 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.

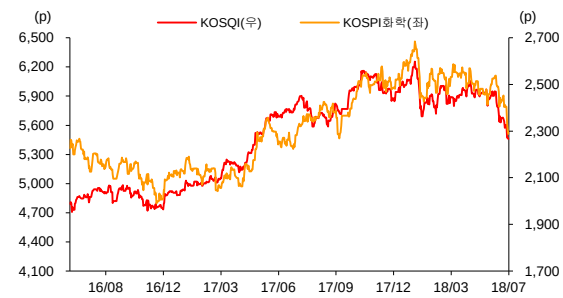
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

* 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.

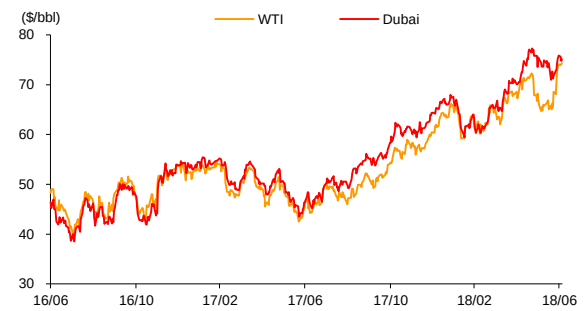
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

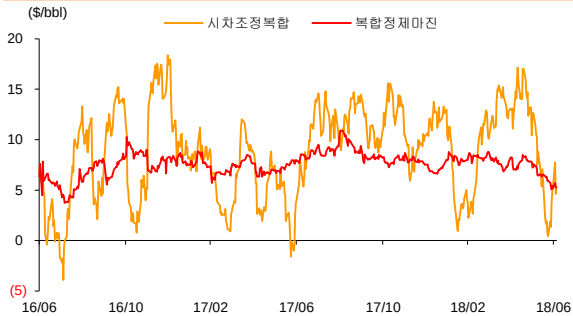
KOSPI/KOSPI화학



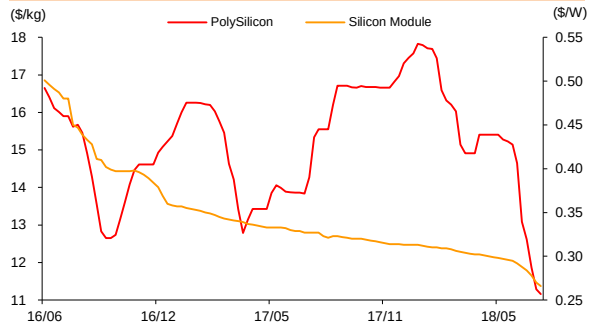
WTI/Dubai



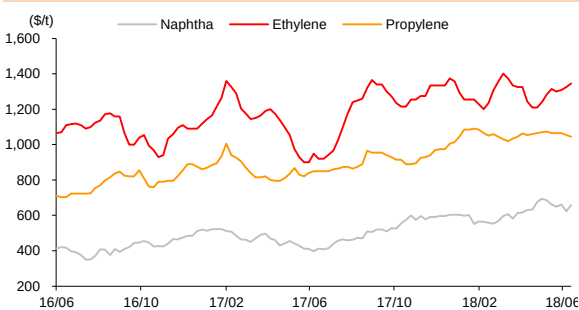
Complex & 1M lagging margin



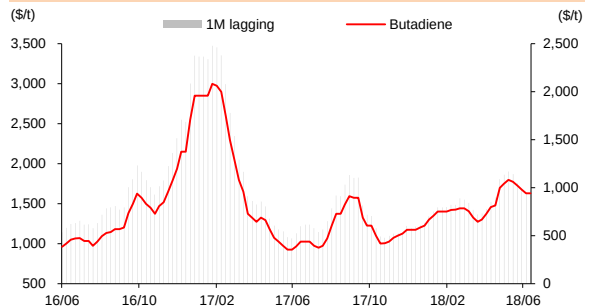
Polysilicon & Module prices



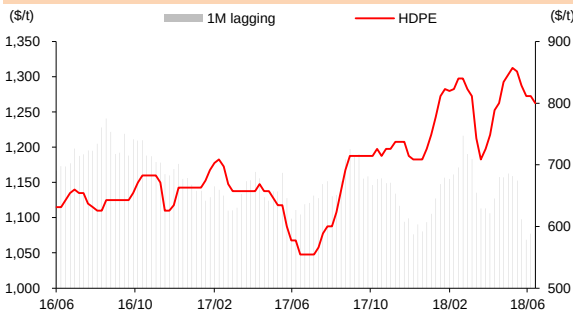
Naphtha/Ethylene/Propylene prices



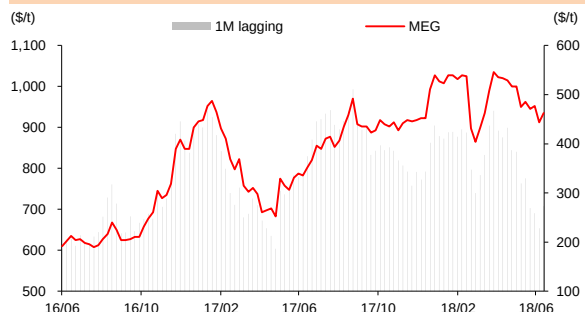
Butadiene price & 1M lagging naphtha spread



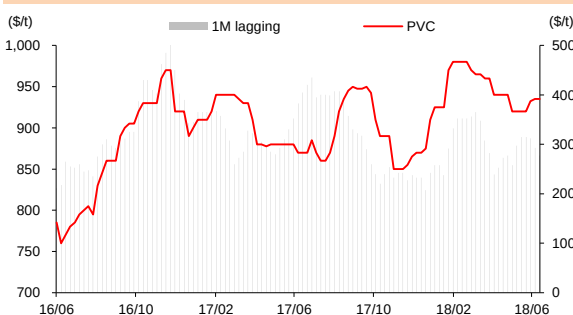
HDPE price & 1M lagging naphtha spread



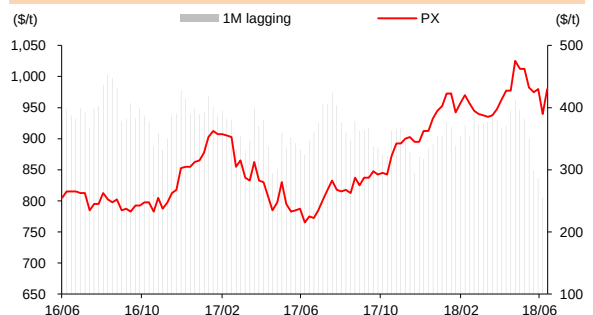
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline	(출처: 국제신문)
제목	심야시간 산업용 전기료 인상 현실화되나
결론	논리적 당위성과 한전의 재무부담 감안시 전기 요금 인상은 불가피함
세부	1) 산자부, "한전과 산업용 전기료 인상에 대해 의견 조율 중인 것 맞다" 2) 1Q 기준 원전이 66원/kWh, 석탄이 73원/kWh, LNG가 125원/kWh이 비용 3) LNG 및 재생에너지 발전 구매금액이 7.8조원으로 YoY 28% 올라 적자 4) 전력수요 급증과 재정특위의 유연탄 세금 인상 권고도 인상 요인임 5) 논리적 당위성과 한전의 재무부담 감안시 전기 요금 인상은 불가피함

Issue 1	(출처: 뉴스핌)
제목	"사우디 아랍코, 아시아 원유 가격 책정 방식 변경한다"
결론	플래츠 오만과 DME 오만 선물가격이 유사해 가격 차이 크지 않을 것
세부	1) RT, "아랍코가 10월부터 아시아 지역 원유 판매 가격 책정 방식 바꿈" 2) DME 오만 원유선물가 월간 평균과 플래츠 두바이 현물가격 평균에 기초 3) 오만 선물가와 두바이 현물가 평균치를 플래츠가 산정하던 방식 탈피 4) 현물가는 물리적으로 사고 파는 실제 금액으로 거래비와 운송비가 포함 5) 플래츠 오만과 DME 오만 선물가격이 유사해 가격 차이 크지 않을 것

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	美 재고 증가와 이란 공급 위협에 상승
상승	이란 대통령의 석유 수출 제한 경고로 공급 불안 야기
요인	API, "미국 원유 재고가 WoW 450만b 줄어듦"
하락	
요인	

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	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.858	0.858	0.866	0.855	0.815	0.829	0.882	0.833	0.904	0.887	0.827
	Change, %		0.0	(0.9)	0.4	5.3	3.5	(2.7)	3.0	(5.1)	(3.2)	3.7
	USD/JPY	110.5	110.6	110.3	109.8	106.8	112.8	113.3	112.6	108.8	112.1	108.8
	Change, %		(0.1)	0.2	0.6	3.5	(2.0)	(2.5)	(1.9)	1.6	(1.5)	1.6
	USD/KRW	1,114.7	1,118.8	1,117.7	1,072.0	1,059.7	1,062.1	1,150.7	1,066.7	1,160.5	1,130.9	1,077.0
	Change, %		(0.4)	(0.3)	4.0	5.2	5.0	(3.1)	4.5	(4.0)	(1.4)	3.5
Agriculture	Corn	342.8	342.8	352.5	380.8	381.0	351.0	378.0	350.8	358.5	359.4	374.0
	Change, %		0.0	(2.8)	(10.0)	(10.0)	(2.4)	(9.3)	(2.3)	(4.4)	(4.6)	(8.4)
	Soybean	844.0	844.0	867.5	1,001.8	1,015.3	959.3	964.8	951.8	987.5	975.9	996.8
	Change, %		0.0	(2.7)	(15.7)	(16.9)	(12.0)	(12.5)	(11.3)	(14.5)	(13.5)	(15.3)
	Wheat	491.5	491.5	479.5	505.3	455.8	434.0	536.8	427.0	436.4	436.0	476.4
	Change, %		0.0	2.5	(2.7)	7.8	13.2	(8.4)	15.1	12.6	12.7	3.2
	Rice	12.0	12.0	11.7	11.2	12.4	11.5	11.5	11.7	10.3	11.1	12.2
	Change, %		0.0	2.6	7.0	(3.4)	4.6	4.2	2.7	16.0	8.5	(1.8)
	Oats	254.0	254.0	254.0	241.3	230.0	245.8	284.5	241.0	196.3	252.3	245.8
	Change, %		0.0	0.0	5.3	10.4	3.4	(10.7)	5.4	29.4	0.7	3.4
MYR/mt	Palm Oil	2,269.0	2,287.0	2,304.0	2,414.0	2,428.0	2,542.0	2,650.0	2,444.0	2,653.8	2,787.3	2,425.3
	Change, %		(0.8)	(1.5)	(6.0)	(6.5)	(10.7)	(14.4)	(7.2)	(14.5)	(18.6)	(6.4)
	Cocoa	2,418.0	2,418.0	2,339.0	2,351.0	2,475.0	1,905.0	1,921.0	1,892.0	2,854.0	2,005.2	2,393.7
	Change, %		0.0	3.4	2.8	(2.3)	26.9	25.9	27.8	(15.3)	20.6	1.0
	Cotton	84.5	84.5	85.8	92.1	79.6	79.3	73.7	78.6	65.6	73.5	83.6
	Change, %		0.0	(1.4)	(8.2)	6.2	6.7	14.7	7.5	28.9	15.0	1.2
	Sugar	11.4	11.4	11.7	11.9	12.3	15.3	13.9	15.2	18.2	15.8	12.7
	Change, %		0.0	(2.8)	(4.3)	(7.2)	(25.3)	(18.2)	(24.9)	(37.2)	(28.0)	(10.0)
	Coffee	108.4	108.4	114.3	121.5	116.9	129.6	125.9	126.2	136.1	133.0	118.9
	Change, %		0.0	(5.2)	(10.8)	(7.3)	(16.4)	(13.9)	(14.1)	(20.4)	(18.5)	(8.8)
Energy	WTI	74.1	74.1	72.8	64.8	63.4	62.0	47.1	60.4	43.4	51.0	65.7
	Change, %		0.0	1.9	14.5	17.0	19.6	57.5	22.7	70.9	45.5	12.9
	Brent	78.2	77.8	77.6	75.3	68.0	68.1	49.6	66.9	45.1	54.9	71.3
	Change, %		0.6	0.8	3.9	15.0	14.9	57.7	17.0	73.6	42.6	9.7
	Natural Gas	2.9	2.9	3.0	2.9	2.7	2.9	3.0	3.0	2.6	3.0	2.8
	Change, %		0.0	(4.2)	(2.0)	5.6	(0.3)	(2.7)	(2.8)	12.4	(5.0)	1.1
	Ethanol	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		0.0	(0.8)	(1.9)	(0.1)	6.4	(7.5)	6.3	(7.4)	(6.3)	(2.5)
	RBOB Gasoline	211.8	211.8	213.4	212.2	197.7	180.7	153.5	179.9	140.0	162.9	199.1
	Change, %		0.0	(0.7)	(0.2)	7.1	17.2	38.0	17.7	51.3	30.0	6.3
	Coal	116.5	115.4	114.4	113.3	93.6	105.0	81.2	100.8	65.5	88.2	103.6
	Change, %		1.0	1.8	2.8	24.5	11.0	43.6	15.6	78.0	32.1	12.4
Metal	Gold	1,254.7	1,252.7	1,252.3	1,292.0	1,333.3	1,322.8	1,223.3	1,302.6	1,248.5	1,258.6	1,316.4
	Change, %		0.2	0.2	(2.9)	(5.9)	(5.1)	2.6	(3.7)	0.5	(0.3)	(4.7)
	Silver	16.1	16.0	16.1	16.4	16.3	17.2	16.1	16.9	17.1	17.1	16.6
	Change, %		0.4	0.2	(2.0)	(1.4)	(6.6)	0.0	(5.1)	(6.0)	(5.8)	(3.3)
	Copper	6,386.0	6,491.0	6,692.5	6,975.0	6,724.0	7,188.5	5,892.0	7,247.0	4,872.0	6,199.4	6,931.9
	Change, %		(1.6)	(4.6)	(8.4)	(5.0)	(11.2)	8.4	(11.9)	31.1	3.0	(7.9)
	Nickel	970.9	984.5	1,019.1	1,038.1	856.0	801.0	595.4	809.1	646.4	680.2	915.5
	Change, %		(1.4)	(4.7)	(6.5)	13.4	21.2	63.1	20.0	50.2	42.7	6.1
	Zinc	2,700.0	2,789.0	2,876.0	3,122.0	3,258.0	3,362.0	2,793.0	3,319.0	2,097.5	2,888.5	3,232.5
	Change, %		(3.2)	(6.1)	(13.5)	(17.1)	(19.7)	(3.3)	(18.7)	28.7	(6.5)	(16.5)
	Lead	2,323.3	2,391.3	2,437.5	2,507.5	2,375.3	2,586.5	2,287.5	2,482.8	1,868.3	2,315.7	2,449.3
	Change, %		(2.8)	(4.7)	(7.3)	(2.2)	(10.2)	1.6	(6.4)	24.4	0.3	(5.1)
	Aluminum	13,965.0	13,915.0	14,090.0	14,595.0	13,990.0	14,915.0	13,985.0	15,020.0	12,373.5	14,556.6	14,371.9
	Change, %		0.4	(0.9)	(4.3)	(0.2)	(6.4)	(0.1)	(7.0)	12.9	(4.1)	(2.8)
	Cobalt	71,750.0	74,750.0	78,750.0	87,750.0	89,050.0	75,170.0	58,709.0	75,205.0	25,480.1	55,906.9	84,474.1
	Change, %		(4.0)	(8.9)	(18.2)	(19.4)	(4.5)	22.2	(4.6)	181.6	28.3	(15.1)
	HR Coil	920.0	920.0	907.0	924.0	862.0	662.0	638.0	662.0	519.3	620.1	817.9
	Change, %		0.0	1.4	(0.4)	6.7	39.0	44.2	39.0	77.2	48.4	12.5
	Scrap	390.0	390.0	400.0	400.0	400.0	367.0	360.0	367.0	275.7	344.7	389.1
	Change, %		0.0	(2.5)	(2.5)	(2.5)	6.3	8.3	6.3	41.5	13.1	0.2

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		07/04	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	74.3	74.1	72.8	64.8	63.4	61.6	45.1	53.7	43.4	50.9	65.6
	Change, %		0.3	2.2	14.8	17.3	20.6	64.7	38.4	71.4	46.0	13.2
	Dubai	75.1	74.8	74.4	74.4	64.7	64.2	48.3	53.8	41.3	53.1	68.3
	Change, %		0.4	1.0	0.9	16.0	17.0	55.3	39.5	81.7	41.4	10.0
Crude Oil	Gasoline(휘발유)	83.5	83.0	82.1	86.8	78.4	75.4	61.1	69.8	56.3	68.0	81.1
Product	Change, %		0.6	1.7	(3.8)	6.5	10.8	36.6	19.5	48.4	22.8	3.0
	Kerosene(등유)	88.4	87.8	86.5	88.4	75.7	78.9	60.3	66.4	52.9	65.2	83.8
	Change, %		0.6	2.2	(0.0)	16.7	12.1	46.6	33.0	67.1	35.5	5.4
	Diesel(경유)	86.4	85.9	86.1	88.4	80.6	78.6	61.9	65.5	52.1	65.6	82.9
	Change, %		0.5	0.3	(2.3)	7.2	9.9	39.5	31.9	65.8	31.7	4.2
	Bunker-C	71.0	71.6	70.5	69.9	57.8	57.8	46.9	52.1	35.5	49.7	62.1
	Change, %		(0.9)	0.6	1.5	22.8	22.8	51.4	36.3	99.7	42.9	14.2
	Naphtha	73.1	72.3	70.2	73.2	64.6	66.5	45.4	53.5	42.6	53.7	67.3
	Change, %		1.1	4.1	(0.1)	13.2	9.9	61.1	36.8	71.6	36.0	8.6
Dubai	Gasoline(휘발유)	8.4	8.2	7.7	12.4	13.7	11.2	12.8	16.0	14.9	14.9	12.8
Spread	Change		0.2	0.7	(4.0)	(5.3)	(2.8)	(4.4)	(7.6)	(6.5)	(6.5)	(4.4)
	Kerosene(등유)	13.3	13.1	12.1	14.0	11.0	14.7	11.9	12.6	11.6	12.1	15.6
	Change		0.2	1.2	(0.7)	2.3	(1.4)	1.4	0.7	1.7	1.1	(2.3)
	Diesel(경유)	11.3	11.2	11.7	14.0	15.9	14.4	13.6	11.7	10.8	12.5	14.6
	Change		0.1	(0.4)	(2.7)	(4.6)	(3.1)	(2.2)	(0.4)	0.5	(1.2)	(3.3)
	Bunker-C	(4.1)	(3.2)	(3.8)	(4.5)	(6.9)	(6.4)	(1.5)	(1.8)	(5.8)	(3.4)	(6.1)
	Change		(0.9)	(0.3)	0.4	2.8	2.3	(2.7)	(2.3)	1.7	(0.7)	2.0
	Naphtha	(2.0)	(2.5)	(4.2)	(1.2)	(0.1)	2.3	(3.0)	(0.4)	1.3	0.6	(0.9)
	Change		0.5	2.2	(0.8)	(1.8)	(4.3)	1.0	(1.6)	(3.3)	(2.6)	(1.0)
Refining	Simple(단순)	1.2	1.5	1.1	2.3	1.8	1.9	4.0	3.8	1.9	3.2	2.1
Margin	Change		(0.3)	0.1	(1.1)	(0.6)	(0.7)	(2.8)	(2.6)	(0.7)	(2.0)	(0.9)
	Complex(복합)	5.2	5.3	5.1	7.4	8.0	7.2	8.0	8.3	7.0	8.0	7.5
	Change		(0.0)	0.2	(2.1)	(2.7)	(1.9)	(2.8)	(3.0)	(1.7)	(2.7)	(2.3)
	Complex(lagging)	5.2	4.6	3.7	11.5	12.4	10.4	8.0	18.0	8.5	8.9	9.6
	Change		0.6	1.6	(6.3)	(7.2)	(5.2)	(2.8)	(12.8)	(3.3)	(3.7)	(4.4)

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			07/04	07/03	07/02	06/29	06/28	06/27	06/26	06/25	06/22	06/21
Spot Price	Naphtha	CFR Japan	669.0	664.6	663.1	658.8	652.4	642.8	632.8	632.0	623.5	619.5
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,270.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,060.0	1,060.0	1,060.0	1,055.0	1,050.0	1,050.0	1,050.0	1,050.0	1,060.0	1,060.0
	Butadiene	FOB Korea	1,600.0	1,600.0	1,600.0	1,600.0	1,590.0	1,590.0	1,590.0	1,620.0	1,620.0	1,640.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,355.0	1,355.0	1,355.0
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,175.0	1,175.0	1,175.0	1,175.0	1,190.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,140.0	1,140.0	1,140.0	1,150.0	1,150.0	1,150.0	1,150.0	1,160.0	1,160.0	1,160.0
	MEG	CFR China	902.0	896.0	895.0	905.0	895.0	895.0	893.0	885.0	880.0	882.0
	PP	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,245.0	1,245.0	1,245.0	1,245.0
	PX	CFR China	987.8	987.8	982.7	973.7	965.7	964.7	942.7	936.2	931.7	927.7
	PTA	CFR China	850.0	845.0	845.0	845.0	845.0	835.0	830.0	830.0	830.0	830.0
	Benzene	FOB Korea	828.7	820.7	819.2	813.7	817.7	814.7	808.0	811.0	800.0	800.7
	Toluene	FOB Korea	744.0	745.0	745.0	746.0	744.0	736.0	728.0	725.0	725.0	732.0
	Xylene	FOB Korea	840.0	837.0	833.0	831.5	819.5	819.5	792.5	787.5	783.5	778.5
	SM	FOB Korea	1,323.0	1,315.0	1,298.0	1,311.0	1,316.5	1,332.0	1,347.0	1,362.0	1,349.0	1,342.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	658.5	623.5	662.0	607.0	558.0	411.5	484.5	399.5	493.5	613.7
	Change, %			5.6	(0.5)	8.5	18.0	60.0	35.9	64.8	33.4	7.3
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,225.0	1,265.0	1,187.5	875.0	990.0	1,040.9	1,090.9	1,233.5
	Change, %			0.0	2.9	(0.4)	6.1	44.0	27.3	21.0	15.5	2.2
	Propylene	CFR SE Asia	980.0	1,005.0	1,015.0	945.0	985.0	742.5	815.0	705.7	823.6	1,067.0
	Change, %			(2.5)	(3.4)	3.7	(0.5)	32.0	20.2	38.9	19.0	(8.2)
	Butadiene	CFR SE Asia	1,580.0	1,580.0	1,725.0	1,275.0	1,375.0	975.0	2,100.0	1,116.8	1,481.1	1,423.3
	Change, %			0.0	(8.4)	23.9	14.9	62.1	(24.8)	41.5	6.7	11.0
	Benzene	CFR SE Asia	807.5	805.0	852.5	832.5	905.0	760.0	822.5	646.7	838.8	871.3
	Change, %			0.3	(5.3)	(3.0)	(10.8)	6.3	(1.8)	24.9	(3.7)	(7.3)
	Toluene	CFR SE Asia	785.0	795.0	815.0	725.0	750.0	630.0	690.0	630.5	689.5	766.0
	Change, %			(1.3)	(3.7)	8.3	4.7	24.6	13.8	24.5	13.9	2.5
	Xylene	CFR SE Asia	800.0	825.0	850.0	762.5	762.5	610.0	675.0	627.7	668.8	779.2
	Change, %			(3.0)	(5.9)	4.9	4.9	31.1	18.5	27.4	19.6	2.7
Spread	Ethylene	-Naphtha	601.5	636.5	563.0	658.0	629.5	463.5	505.5	641.4	597.4	619.7
	Change, %			(5.5)	6.8	(8.6)	(4.4)	29.8	19.0	(6.2)	0.7	(2.9)
	Propylene	-Naphtha	321.5	381.5	353.0	338.0	427.0	331.0	330.5	306.2	330.1	453.3
	Change, %			(15.7)	(8.9)	(4.9)	(24.7)	(2.9)	(2.7)	5.0	(2.6)	(29.1)
	Butadiene	-Naphtha	921.5	956.5	1,063.0	668.0	817.0	563.5	1,615.5	717.3	987.6	809.5
	Change, %			(3.7)	(13.3)	37.9	12.8	63.5	(43.0)	28.5	(6.7)	13.8
	Benzene	-Naphtha	149.0	181.5	190.5	225.5	347.0	348.5	338.0	247.2	345.3	257.6
	Change, %			(17.9)	(21.8)	(33.9)	(57.1)	(57.2)	(55.9)	(39.7)	(56.9)	(42.2)
	Toluene	-Naphtha	126.5	171.5	153.0	118.0	192.0	218.5	205.5	231.0	196.0	152.2
	Change, %			(26.2)	(17.3)	7.2	(34.1)	(42.1)	(38.4)	(45.2)	(35.5)	(16.9)
	Xylene	-Naphtha	141.5	201.5	188.0	155.5	204.5	198.5	190.5	228.2	175.3	165.5
	Change, %			(29.8)	(24.7)	(9.0)	(30.8)	(28.7)	(25.7)	(38.0)	(19.3)	(14.5)

자료 : Ciscchem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차이임

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,262.5	1,272.5	1,307.5	1,212.5	1,297.5	1,047.5	1,142.5	1,134.6	1,142.5	1,259.3
	Change, %			(0.8)	(3.4)	4.1	(2.7)	20.5	10.5	11.3	10.5	0.3
	MEG	CFR SE Asia	935.0	912.5	962.5	935.0	1,025.0	802.5	847.5	660.8	850.6	980.9
	Change, %			2.5	(2.9)	0.0	(8.8)	16.5	10.3	41.5	9.9	(4.7)
	PVC	CFR SE Asia	935.0	935.0	920.0	965.0	980.0	870.0	920.0	823.4	899.9	942.8
	Change, %			0.0	1.6	(3.1)	(4.6)	7.5	1.6	13.6	3.9	(0.8)
	PP	CFR SE Asia	1,282.5	1,292.5	1,277.5	1,227.5	1,307.5	1,037.5	1,032.5	978.4	1,099.6	1,261.7
	Change, %			(0.8)	0.4	4.5	(1.9)	23.6	24.2	31.1	16.6	1.7
	2-EH	CFR Korea	1,100.0	1,110.0	1,170.0	1,190.0	1,125.0	920.0	865.0	772.4	970.0	1,118.8
	Change, %			(0.9)	(6.0)	(7.6)	(2.2)	19.6	27.2	42.4	13.4	(1.7)
	ABS	CFR SE Asia	2,000.0	2,040.0	2,080.0	1,960.0	2,120.0	1,790.0	1,635.0	1,347.1	1,844.7	2,033.5
	Change, %			(2.0)	(3.8)	2.0	(5.7)	11.7	22.3	48.5	8.4	(1.6)
	SBR	CFR SE Asia	1,780.0	1,800.0	1,900.0	1,670.0	1,750.0	1,450.0	2,000.0	1,483.0	1,980.5	1,753.1
	Change, %			(1.1)	(6.3)	6.6	1.7	22.8	(11.0)	20.0	(10.1)	1.5
	SM	CFR SE Asia	1,362.5	1,375.0	1,510.0	1,320.0	1,452.5	1,152.5	1,205.0	1,064.6	1,253.8	1,401.7
	Change, %			(0.9)	(9.8)	3.2	(6.2)	18.2	13.1	28.0	8.7	(2.8)
	Caustic	FOB NEA	475.0	491.0	550.0	639.0	590.0	447.5	422.5	316.6	491.2	578.1
	Change, %			(3.3)	(13.6)	(25.7)	(19.5)	6.1	12.4	50.0	(3.3)	(17.8)
	PX	CFR SE Asia	980.0	940.0	982.5	935.0	957.5	775.0	855.0	790.4	844.4	964.2
	Change, %			4.3	(0.3)	4.8	2.3	26.5	14.6	24.0	16.1	1.6
	PO	CFR China	1,765.0	1,787.5	1,737.5	1,722.5	1,962.5	1,485.0	1,562.5	1,396.8	1,601.2	1,883.1
	Change, %			(1.3)	1.6	2.5	(10.1)	18.9	13.0	26.4	10.2	(6.3)
	Caprolactam	CFR SE Asia	2,130.0	2,130.0	2,105.0	2,200.0	2,130.0	1,610.0	1,850.0	1,344.9	1,936.4	2,119.4
	Change, %			0.0	1.2	(3.2)	0.0	32.3	15.1	58.4	10.0	0.5
	PTA	CFR SE Asia	860.0	845.0	857.5	772.5	790.0	630.0	642.5	613.7	667.8	801.9
	Change, %			1.8	0.3	11.3	8.9	36.5	33.9	40.1	28.8	7.2
Spread	HDPE		604.0	649.0	645.5	605.5	739.5	636.0	658.0	735.1	649.0	645.6
	Change, %			(6.9)	(6.4)	(0.2)	(18.3)	(5.0)	(8.2)	(17.8)	(6.9)	(6.4)
	MEG		276.5	289.0	300.5	328.0	467.0	391.0	363.0	261.3	357.1	367.1
	Change, %			(4.3)	(8.0)	(15.7)	(40.8)	(29.3)	(23.8)	5.8	(22.6)	(24.7)
	PVC		276.5	311.5	258.0	358.0	422.0	458.5	435.5	423.9	406.4	329.1
	Change, %			(11.2)	7.2	(22.8)	(34.5)	(39.7)	(36.5)	(34.8)	(32.0)	(16.0)
	PP		624.0	669.0	615.5	620.5	749.5	626.0	548.0	578.9	606.1	647.9
	Change, %			(6.7)	1.4	0.6	(16.7)	(0.3)	13.9	7.8	3.0	(3.7)
	2-EH		441.5	486.5	508.0	583.0	567.0	508.5	380.5	372.9	476.5	505.1
	Change, %			(9.2)	(13.1)	(24.3)	(22.1)	(13.2)	16.0	18.4	(7.3)	(12.6)
	ABS		1,341.5	1,416.5	1,418.0	1,353.0	1,562.0	1,378.5	1,150.5	947.6	1,351.2	1,419.7
	Change, %			(5.3)	(5.4)	(0.8)	(14.1)	(2.7)	16.6	41.6	(0.7)	(5.5)
	SBR	BD spread	200.0	220.0	175.0	395.0	375.0	475.0	(100.0)	366.2	499.4	329.8
	Change, %			(9.1)	14.3	(49.4)	(46.7)	(57.9)	(300.0)	(45.4)	(60.0)	(39.4)
	SM		704.0	751.5	848.0	713.0	894.5	741.0	720.5	665.1	760.3	788.0
	Change, %			(6.3)	(17.0)	(1.3)	(21.3)	(5.0)	(2.3)	5.8	(7.4)	(10.7)
	Caustic											
	Change, %											
	PX		321.5	316.5	320.5	328.0	399.5	363.5	370.5	390.9	351.0	350.5
	Change, %			1.6	0.3	(2.0)	(19.5)	(11.6)	(13.2)	(17.7)	(8.4)	(8.3)
	PO	propylene spread	785.0	782.5	722.5	777.5	977.5	742.5	747.5	691.1	777.6	816.1
	Change, %			0.3	8.7	1.0	(19.7)	5.7	5.0	13.6	0.9	(3.8)
	Caprolactam	benzene spread	1,322.5	1,325.0	1,252.5	1,367.5	1,225.0	850.0	1,027.5	698.2	1,097.6	1,248.1
	Change, %			(0.2)	5.6	(3.3)	8.0	55.6	28.7	89.4	20.5	6.0
	PTA	px spread	174.0	187.0	169.8	118.0	119.8	87.5	44.0	60.4	76.7	127.0
	Change, %			(7.0)	2.5	47.5	45.3	98.9	295.5	188.0	126.9	37.0

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	07/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	65.2	0.0	(0.7)	(2.9)	2.3	(12.5)	1.9	(8.5)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	98.5	0.0	(0.6)	(7.1)	(4.9)	2.1	16.6	6.4	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	81.1	(0.3)	(0.6)	(4.6)	(2.1)	(13.1)	(1.5)	(11.6)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	73.6	0.4	(1.0)	(2.9)	(3.3)	(0.2)	(5.1)	0.8	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	100.4	(1.4)	(0.4)	(3.5)	(3.5)	(3.5)	4.5	(1.2)	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	65.6	(2.0)	(1.3)	(3.6)	8.5	(2.9)	(2.0)	(1.0)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	614	(1.1)	(1.3)	(7.7)	3.0	(27.3)	(5.2)	(24.2)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	911	(0.9)	1.3	(8.6)	(8.3)	(28.6)	(4.3)	(26.3)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,870	(0.3)	(1.2)	(11.4)	(7.5)	(18.5)	(1.1)	(13.8)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,396	(0.1)	(1.4)	(6.9)	(0.4)	(7.0)	16.0	(4.0)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,852	0.7	0.1	(12.8)	(20.4)	(18.8)	(4.9)	(16.5)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,119	1.3	(1.7)	(8.7)	3.0	(22.0)	(13.6)	(18.9)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	124.4	0.8	(2.2)	(4.0)	8.4	22.7	22.0	22.7	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	74.5	0.4	0.9	(0.7)	3.8	24.4	36.8	26.3	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	114.0	0.9	3.6	3.2	11.8	15.7	22.6	15.5	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	127.0	2.4	7.6	8.5	18.1	21.5	32.0	23.3	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	88.0	0.0	2.9	1.9	8.2	12.8	17.3	13.0	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.47	(0.5)	(4.0)	(4.2)	(5.0)	(22.3)	(17.6)	(13.6)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fiber)	CNY	1.89	0.0	(1.0)	(8.7)	(6.0)	(37.2)	(43.4)	(29.2)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	990	1.9	2.5	5.2	10.6	7.6	39.3	8.8	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	112.5	1.2	6.1	4.4	3.2	15.3	19.0	16.0	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	73.5	(1.0)	(7.0)	(14.5)	(20.8)	(17.9)	6.5	(13.5)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.0	0.0	2.4	3.4	3.2	18.3	9.7	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	317,500	0.0	(5.4)	(12.5)	(15.6)	(19.7)	9.5	(21.6)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	324,000	(1.2)	(4.3)	(13.9)	(25.3)	(7.2)	(7.2)	(12.0)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	20,650	(0.2)	(4.0)	(17.9)	(27.8)	(36.5)	(33.3)	(34.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	115,500	0.0	0.4	8.5	25.3	10.5	52.8	16.1	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	41,150	(1.1)	(6.1)	4.7	12.4	(14.3)	24.3	(12.4)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	58,100	(0.5)	(4.9)	(15.6)	(2.0)	(6.6)	11.5	(7.9)	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	5,860	(2.8)	(11.5)	(23.9)	(39.7)	(29.4)	2.1	(22.7)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			(0.1)	(1.2)	(5.3)	(2.4)	(7.0)	7.1	(4.5)							
Refinery																
Valero	USD	108.2	0.0	(1.2)	(13.1)	15.9	15.6	59.0	17.7	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	69.6	0.0	1.2	2.4	16.8	22.1	52.3	26.7	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemical	TWD	115.5	(6.1)	(4.5)	(6.5)	(0.4)	(2.9)	9.5	0.0	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	133.4	0.0	2.7	(10.8)	28.1	15.0	40.4	16.7	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	70.8	0.0	2.3	(13.6)	(2.4)	3.1	33.4	7.3	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.0	0.0	1.2	9.8	40.5	1.8	34.2	6.3	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	69.0	0.0	3.8	(14.8)	35.6	35.5	146.3	34.8	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	110.5	0.0	(0.2)	(7.3)	15.1	8.2	32.6	9.3	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.5	0.0	(0.9)	5.9	28.9	2.3	27.8	8.0	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	796.0	2.6	1.8	11.3	27.1	5.3	56.4	9.5	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,930.0	0.1	(1.3)	4.4	2.9	(14.4)	35.7	(13.1)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	64.9	(0.9)	(1.9)	(8.0)	17.5	21.5	87.2	21.6	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	77.9	0.0	1.2	(1.4)	12.6	5.8	17.6	9.5	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	42.1	(1.8)	(1.6)	(7.8)	(0.8)	(6.2)	(13.4)	(4.8)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	186,500	1.1	(7.9)	(10.1)	(11.2)	(6.0)	16.6	(8.8)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	102,500	0.5	(9.3)	(6.8)	(13.9)	(9.7)	6.2	(12.4)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	50,800	(1.4)	(5.9)	(13.6)	(16.3)	(18.1)	(26.2)	(18.3)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			(0.3)	(1.2)	(4.7)	11.5	4.6	36.2	6.5							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	07/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
E&P/Shale																
Exxon Mobil	USD	82	0.0	0.6	1.6	9.8	(5.3)	0.2	(1.7)	348,191	16.7	15.3	1.8	1.7	7.6	7.1
BP	GBP	580	(0.2)	(0.4)	0.2	20.4	9.4	28.9	11.0	153,259	14.3	13.4	1.5	1.5	5.4	5.3
Shell	EUR	2,598	(0.5)	(1.6)	(0.9)	15.5	2.5	25.3	4.7	291,180	12.3	11.1	1.4	1.4	5.7	5.5
Chevron	USD	125	0.0	(1.0)	2.0	9.0	(2.6)	17.3	(0.4)	238,354	15.7	15.0	1.6	1.5	6.4	6.1
Total	EUR	53	0.4	0.9	0.6	12.0	11.5	20.4	15.0	163,782	11.8	11.1	1.3	1.2	5.5	5.2
Sinopec	CNY	6	(0.6)	(1.0)	(11.6)	(3.1)	(9.7)	3.0	1.6	112,598	10.0	9.5	1.0	0.9	3.7	3.7
Petrochina	CNY	7	(0.5)	(0.3)	(5.9)	0.4	(12.4)	(4.3)	(7.4)	199,336	24.4	20.7	1.1	1.1	5.4	5.4
CNOOC	CNY	9	(1.7)	(2.1)	(10.3)	(17.7)	(20.4)	(16.5)	(11.6)	75,810	9.1	9.2	1.2	1.1	3.9	3.9
Gazprom	RUB	142	(0.2)	2.3	(2.9)	1.5	4.7	15.9	9.0	53,430	3.1	3.2	0.2	0.2	2.6	2.6
Rosneft	RUB	393	0.8	(0.3)	2.2	23.0	28.1	18.3	34.9	65,460	7.4	6.4	0.9	0.8	4.5	4.3
Anadarko	USD	73	0.0	(1.2)	5.9	24.3	32.0	59.3	37.0	37,838	25.4	21.6	3.7	3.2	7.0	6.2
Petrobras	BRL	18	5.4	11.5	5.2	(9.5)	10.3	48.4	14.6	62,932	7.1	6.3	0.7	0.7	4.4	4.1
Lukoil	USD	4,335	0.2	2.7	0.8	10.0	23.8	47.8	30.0	58,349	5.5	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	0.0	0.3	4.4	16.7	(6.9)	(9.4)	(2.1)	47,497	20.4	18.3	1.1	1.2	10.7	10.5
Equinor ASA	NOK	214	(0.1)	(0.5)	(0.4)	15.8	17.5	52.8	22.3	87,949	14.1	13.2	2.0	1.8	3.4	3.3
BHP	AUD	33	0.0	(0.5)	(0.5)	15.1	9.0	39.1	11.8	124,893	15.0	16.7	2.1	2.0	6.1	6.3
PTT E&P	THB	135	0.4	(1.1)	(1.5)	20.1	26.9	54.6	34.5	16,046	13.3	12.5	1.4	1.3	4.0	3.8
Petronas gas	MYR	17	0.0	0.6	(1.9)	(2.8)	(3.9)	(5.9)	(0.5)	8,518	18.2	18.0	2.6	2.5	10.0	9.9
Chesapeake	USD	5	0.0	2.3	22.2	81.4	30.4	3.1	33.3	4,814	6.4	7.3	#N/A	N/A	6.9	6.6
Noble Energy	USD	35	0.0	(2.9)	(0.1)	16.7	9.3	19.9	19.0	16,800	30.2	22.4	1.5	1.5	7.6	6.4
Average		0	0.2	0.4	0.5	12.9	7.7	20.9	12.7							
PV																
WACKER	EUR	114.9	(1.2)	2.4	(13.1)	(14.3)	(32.1)	20.3	(29.2)	7,068	16.7	14.8	1.8	1.7	5.8	5.5
GCL-Poly	HKD	0.7	(4.2)	(10.5)	(13.9)	(29.2)	(51.4)	(18.1)	(51.4)	1,683	6.1	5.3	0.4	0.4	6.3	5.8
SunPower	USD	7.7	0.0	0.3	(5.9)	0.5	(11.5)	(18.1)	(8.7)	1,085	#N/A	N/A	#N/A	N/A	20.4	11.9
Canadian Solar	USD	12.2	0.0	2.3	(9.7)	(23.7)	(28.5)	(23.8)	(27.6)	715	8.1	8.2	0.7	0.7	7.6	8.3
JA Solar	USD	6.8	0.0	0.1	(4.8)	(5.6)	(8.5)	6.8	(9.1)	323	#N/A	N/A	#N/A	N/A	4.8	6.8
Yingli	USD	0.5	0.0	(71.3)	(71.9)	(73.4)	(73.5)	(80.0)	(73.4)	8	#N/A	N/A	#N/A	N/A	#N/A	N/A
First Solar	USD	52.4	0.0	2.7	(15.2)	(25.4)	(24.3)	30.7	(22.5)	5,485	30.7	17.0	1.0	0.9	9.1	4.9
한화큐셀	USD	5.6	0.0	(19.2)	(16.5)	(24.1)	(24.9)	(21.9)	(20.2)	466	10.0	20.7	#N/A	N/A	7.7	8.0
OCI	KRW	97,700	(0.7)	(4.7)	(18.6)	(38.9)	(37.2)	10.8	(28.2)	2,106	0.0	9.6	0.0	0.7	0.0	4.4
웅진에너지	KRW	3,470	2.4	(7.6)	(34.8)	(47.4)	(59.9)	(49.0)	(57.8)	90	N/A	0.0	0.7	0.0	4.4	0.0
신성솔라에너지	KRW	1,370	1.1	(8.4)	(20.1)	(14.4)	(30.8)	(35.7)	(28.5)	210	N/A	0.7	0.0	4.4	0.0	6.8
Average			(0.2)	(10.3)	(20.4)	(26.9)	(34.8)	(16.2)	(32.4)							
Gas Company																
Towngas China	HKD	7.5	(2.5)	(0.9)	(0.3)	5.6	19.8	47.3	19.6	2,718	14.6	13.0	1.2	1.2	12.3	11.2
Kulun	HKD	6.7	(1.3)	(1.6)	(8.7)	(0.1)	(18.0)	(1.5)	(17.4)	7,008	9.6	8.2	1.1	1.0	5.6	5.0
Beijing Enterprise	HKD	37.5	(1.6)	(0.3)	(12.9)	(9.9)	(19.7)	(0.9)	(19.2)	6,130	6.6	5.9	0.6	0.6	11.7	11.1
ENN Energy	HKD	76.0	(5.7)	1.6	(3.4)	4.8	36.7	61.4	36.2	11,142	16.9	14.2	3.4	2.9	10.0	8.8
China Resources Gas	HKD	32.7	(3.4)	3.6	11.4	17.2	17.4	22.2	15.3	9,597	17.2	15.4	2.9	2.5	9.4	8.6
China Gas Holdings	HKD	30.2	(3.4)	(1.1)	(14.7)	5.6	35.2	83.4	39.6	19,761	19.5	16.4	4.5	3.8	14.9	12.7
Shenzen Gas	HKD	15.0	(1.6)	(4.5)	(13.4)	(9.7)	(4.2)	8.1	0.7	4,092	9.1	7.9	1.2	1.1	5.8	5.0
Shann Xi	CNY	6.9	(1.1)	(1.6)	(14.9)	(1.6)	(19.2)	(22.5)	(18.4)	1,167	15.8	13.9	1.3	1.2	#N/A	N/A
Suntien	HKD	2.1	(1.8)	0.9	(20.7)	(3.6)	0.9	51.8	3.4	1,032	5.6	4.9	0.7	0.6	8.2	7.0
China Oil & Gas	HKD	0.6	(1.7)	(1.7)	(6.3)	(4.8)	(20.3)	9.3	(30.6)	446	7.8	6.9	#N/A	N/A	#N/A	N/A
Average			(2.4)	(0.5)	(8.4)	0.4	2.9	25.9	2.9							
EV																
LG 화학	KRW	317,500	0.0	(5.4)	(12.5)	(15.6)	(19.7)	9.5	(21.6)	20,112	11.9	10.8	1.3	1.2	5.6	5.0
삼성SDI	KRW	213,000	0.2	(5.5)	(2.7)	12.4	2.2	26.4	4.2	13,113	20.0	14.5	1.2	1.1	13.9	10.8
Panasonic	JPY	1434.0	(1.8)	(2.2)	(5.9)	(6.2)	(15.2)	(4.5)	(13.1)	32,428	13.0	11.5	1.8	1.6	4.8	4.4
GS Yuasa	JPY	497.0	(0.4)	0.6	(5.3)	(12.5)	(12.8)	1.0	(11.4)	1,867	14.3	13.2	1.1	1.1	6.7	6.2
NEC	JPY	3000.0	0.5	(0.8)	(2.4)	3.1	(3.1)	1.4	(1.3)	7,035	22.8	12.8	0.9	0.8	7.1	5.5
BYD Auto	CNY	45.8	1.0	(2.8)	(8.8)	(16.5)	(29.6)	(9.3)	(29.6)	17,845	26.8	20.1	2.1	2.0	12.2	10.5
Tesla Motors	USD	310.9	0.0	(9.8)	4.8	8.3	(1.2)	(11.8)	(0.2)	52,782	#N/A	N/A	133.1	10.4	9.6	60.9
Kandi Technologies	USD	4.4	0.0	3.6	13.0	(9.4)	(39.6)	(2.2)	(36.0)	222	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			(0.1)	(2.8)	(2.5)	(4.5)	(14.9)	1.3	(13.6)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임