

1. News Summary (3 page)

2018년 6월 28일

News	
WTI comment	국제유가 급등세 지속...WTI, 3년7개월 만에 최고
Headline	中 보조금 빚장 해제 임박..韓 전기차 배터리 질주 채비
News 1.	-
News 2.	-
News 3.	-
News 4.	-

Conclusion	
	중국은 자국 업체 보호를 위해 전방위적 금한령 해제는 지양할 것임
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	72.8	3.2	9.9	7.2	13.0	62.6
Dubai	\$/bbl	74.4	1.8	2.4	(1.9)	14.0	64.2
Gasoline	\$/bbl	82.1	1.0	0.7	(8.6)	2.4	41.4
Diesel	\$/bbl	86.1	1.2	(0.4)	(5.1)	5.4	50.7
Complex margin	\$/bbl	5.1	(0.3)	(1.2)	(2.8)	(3.7)	(2.6)
1M lagging	\$/bbl	3.7	2.3	1.8	(9.6)	(7.6)	1.1
Petrochemical			%	%	%	%	%
Naphtha	\$/t	643	1.6	1.4	(6.2)	6.9	59.4
Butadiene	\$/t	1,590	0.0	(3.0)	(7.6)	14.0	74.7
HDPE	\$/t	1,350	0.0	(0.4)	(1.5)	2.3	25.0
MEG	\$/t	895	0.2	1.7	(1.5)	(3.6)	12.9
PX	\$/t	965	2.3	2.9	(3.9)	3.9	26.8
SM	\$/t	1,332	(1.1)	(0.5)	(3.8)	5.7	20.2
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.98	1.7	0.5	2.6	5.6	3.1
Natural rubber	\$/t	1,330	0.0	0.8	(6.3)	(2.2)	(5.0)
Cotton	C/lbs	85.8	0.8	3.1	(7.3)	6.2	15.2

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	06/25	\$/t	1,260	0.0	7.2	(0.4)	44.0
Propylene	06/25	\$/t	1,005	(1.0)	(2.7)	5.2	35.4
Benzene	06/25	\$/t	805	(3.3)	(5.8)	(5.8)	6.3
Toluene	06/25	\$/t	795	(2.5)	(3.6)	10.4	25.2
Xylene	06/25	\$/t	825	(0.3)	(1.2)	8.2	34.7
PP	06/25	\$/t	1,293	0.0	(0.4)	1.6	24.6
PVC	06/25	\$/t	935	0.3	1.6	(3.1)	7.5
ABS	06/25	\$/t	2,040	(1.0)	(1.9)	3.6	14.0
SBR	06/25	\$/t	1,800	(5.3)	(4.8)	5.9	26.3
SM	06/25	\$/t	1,375	(7.9)	(4.5)	6.8	22.2
BPA	06/25	\$/t	1,788	0.0	2.9	1.7	22.6
Caustic	06/25	\$/t	491	(8.9)	(12.3)	(22.2)	12.2
2-EH	06/25	\$/t	1,110	(0.9)	(5.9)	(1.8)	19.4
Caprolactam	06/25	\$/t	2,130	(0.9)	1.4	(3.2)	32.3
Solar				%	%	%	%
Polysilicon	06/27	\$/kg	11.3	(4.9)	(22.9)	(24.3)	(18.6)
Module	06/27	\$/W	0.27	(2.9)	(7.5)	(10.6)	(18.2)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	81.7	1.3	1.6	3.8	10.9	0.7
Shell	EUR	2,641	2.6	4.0	3.2	16.8	26.4
Petrochina	CNY	7.51	2.5	1.2	(7.6)	(3.6)	(2.5)
Gazprom	RUB	139.0	0.7	1.5	(4.2)	(1.3)	16.5
Petrobras	BRL	16.6	3.2	2.1	(16.4)	(22.8)	35.5
Refinery							
Phillips66	USD	110.7	(0.1)	(3.4)	(4.2)	15.7	37.5
Valero	USD	109.5	(0.7)	(5.4)	(7.8)	18.7	63.9
JX	JPY	782.2	6.3	5.7	9.2	20.2	60.7
Neste Oil	EUR	66.2	(0.2)	1.0	(1.3)	15.7	90.7

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	81.6	1.0	(4.4)	(6.8)	(0.2)	(2.9)
DowDuPont	USD	65.6	(1.1)	(0.4)	(0.2)	3.1	4.0
SABIC	SAR	127.2	0.2	1.1	5.1	8.4	24.3
Formosa Pla.	TWD	110.0	0.0	2.3	1.4	4.8	17.9
Shin-Etsu	JPY	9,987	0.8	0.7	(11.7)	(8.9)	(1.3)
Renewable							
Wacker	EUR	112.2	3.0	(2.5)	(24.8)	(17.3)	17.9
First Solar	USD	50.98	(1.8)	(1.3)	(25.3)	(28.7)	27.3
GCL-Poly	HKD	0.76	(1.3)	4.1	(18.3)	(25.5)	(5.0)
Tesla Motors	USD	344.5	0.7	(4.9)	23.5	23.4	(4.9)

4. Coverage Summary

	06/27	1D	1W	1M	3M	6M	12M
KOSPI	2,342	(0.4)	(0.9)	(5.5)	(3.9)	(3.5)	(2.0)
KOSPI화학	5,789	(2.0)	(1.6)	(3.0)	(3.9)	(3.4)	7.0
LG화학	335,500	(3.7)	(5.1)	(4.7)	(13.1)	(14.4)	18.8
롯데케미칼	338,500	(3.8)	(4.1)	(10.9)	(21.8)	(6.6)	0.3
한화케미칼	21,500	(5.1)	(4.9)	(21.4)	(27.2)	(29.0)	(27.9)
금호석유화학	115,000	(0.9)	10.0	8.5	18.8	18.6	57.1
KCC	329,000	(0.6)	0.6	(8.5)	(0.8)	(12.8)	(22.6)
OCI	102,500	(4.2)	(3.8)	(28.3)	(35.1)	(20.2)	11.7
SKC	43,800	(1.5)	(0.7)	12.0	14.7	(2.1)	33.5
SK이노베이션	202,500	(2.2)	(1.0)	(0.5)	(3.6)	(2.4)	29.0
S-Oil	113,000	(1.7)	2.7	4.1	(5.4)	(9.2)	19.7
GS	54,000	(2.9)	(1.6)	(8.5)	(12.3)	(13.5)	(17.9)
SK가스	93,500	(0.2)	0.8	(6.5)	0.2	0.3	(26.7)
포스코대우	20,150	(3.8)	(4.3)	(16.6)	(12.2)	11.6	(9.6)
LG상사	23,750	(1.0)	(3.7)	(15.5)	(12.0)	(11.9)	(22.1)
한국전력	33,050	(4.2)	(0.3)	(5.6)	0.5	(15.5)	(21.6)
한국가스공사	62,400	(1.6)	(1.3)	3.5	28.5	48.0	20.0

투자의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	450,000	34.1	11.61	1.54
매수	480,000	41.8	9.77	0.96
매수	39,000	81.4	7.65	0.55
매수	150,000	30.4	11.20	1.73
매수	450,000	36.8	12.05	0.51
매수	180,000	75.6	7.64	0.68
매수	50,000	14.2	12.02	1.08
매수	230,000	13.6	12.36	1.02
매수	140,000	23.9	13.70	1.78
매수	80,000	48.1	5.07	0.68
매수	130,000	39.0	8.21	0.62
매수	25,000	24.1	10.71	0.86
매수	38,000	60.0	7.75	0.70
매수	45,000	36.2	7.27	0.26
매수	60,000	(3.8)	10.87	0.82

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

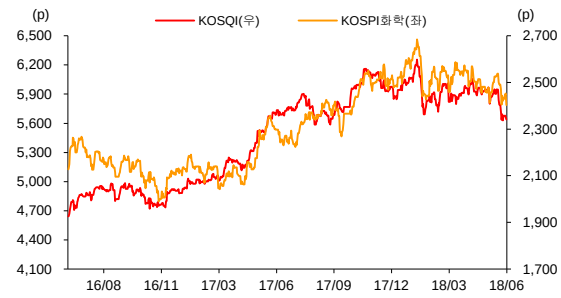
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

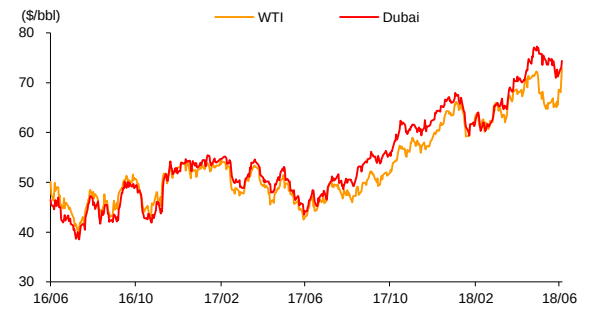
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

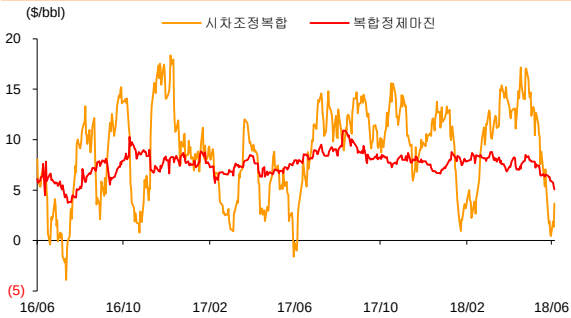
KOSPI/KOSPI화학



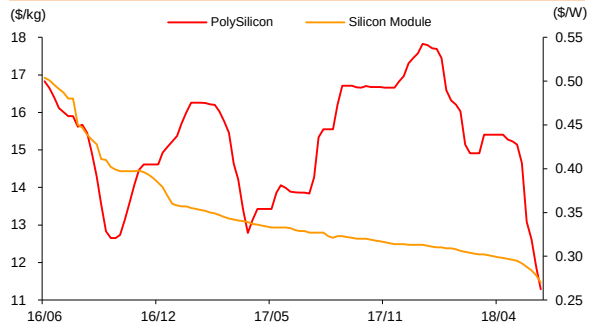
WTI/Dubai



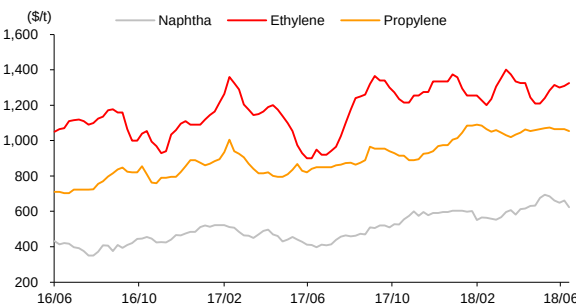
Complex & 1M lagging margin



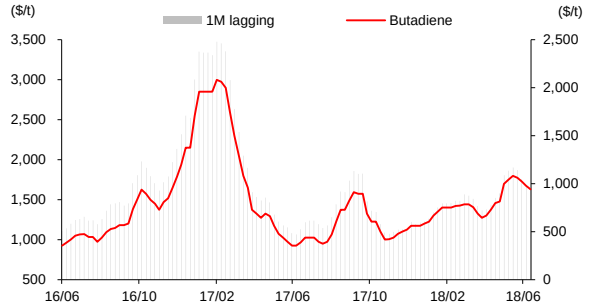
Polysilicon & Module prices



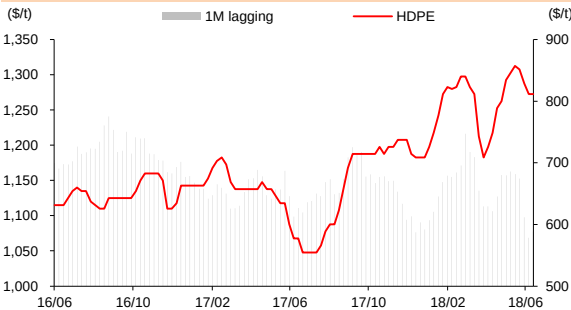
Naphtha/Ethylene/Propylene prices



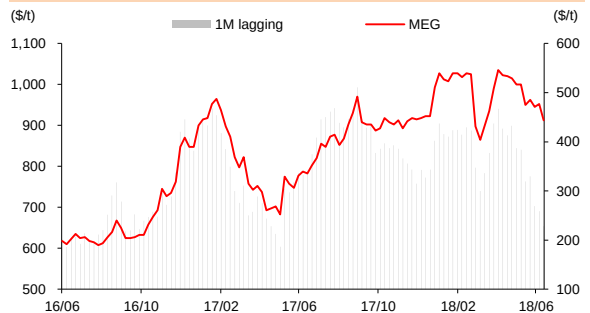
Butadiene price & 1M lagging naphtha spread



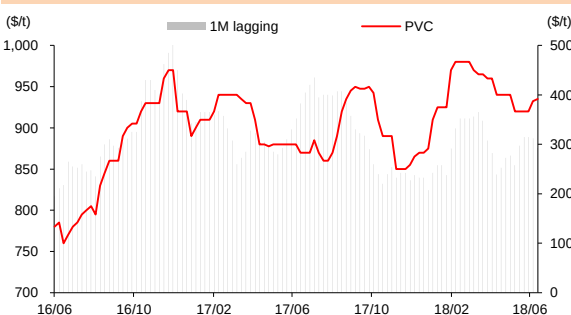
HDPE price & 1M lagging naphtha spread



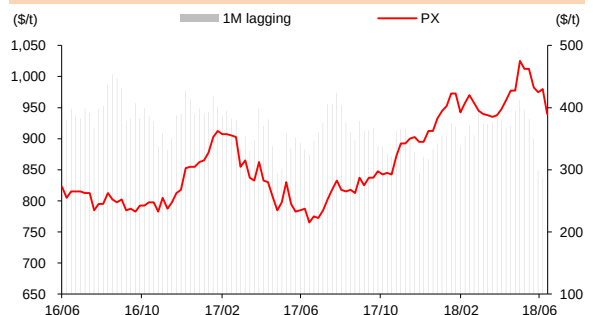
MEG price & 1M lagging naphtha spread



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: 이데일리)
제목	中 보조금 빚장 해제 임박..韓 전기차 배터리 질주 채비
결론	중국은 자국 업체 보호를 위해 전방위적 금한령 해제는 지양할 것임
세부	1) 국내 배터리 3사가 전부 중국자동차공업협회 화이트리스트에 포함됨 2) 한편 CATL과 BYD 등 중국 업체들이 전방위적으로 공급을 늘리고 있음 3) '18년 1~4월 세계 배터리 출하량 순위에서 중국계 5개사가 '톱 10' 진입 4) 파나소닉(21.1%)이 1위, 2, 3위는 CATL(14.4%)과 BYD(11.0%)였음 5) 중국은 자국 업체 보호를 위해 전방위적 금한령 해제는 지양할 것임

Issue 1
제목
결론
세부
1) 2) 3) 4) 5)

Issue 3
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Issue 5
제목
결론
세부
1) 2) 3) 4) 5)

WTI Comment	(출처: 연합뉴스)
제목	국제유가 급등세 지속...WTI, 3년7개월 만에 최고
상승	EIA는 지난주 미국의 원유재고가 990만 배럴 줄었다고 밝힘
요인	미국 정부가 11월 초까지 이란산 원유 수입을 전면 중단할 것을 요구 캐나다 싱크루드(Syncrude)의 원유생산시설 가동 중단 리비아의 정정불안
하락	
요인	

Issue 2
제목
결론
세부
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Issue 4
제목
결론
세부
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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	0.866	0.859	0.864	0.858	0.806	0.841	0.882	0.833	0.904	0.887	0.826
	Change, %		0.8	0.2	0.8	7.3	2.9	(1.9)	3.9	(4.2)	(2.4)	4.8
	USD/JPY	110.3	110.1	110.4	109.4	105.3	113.4	112.4	112.6	108.8	112.1	108.7
	Change, %		0.2	(0.1)	0.8	4.7	(2.7)	(1.9)	(2.1)	1.4	(1.7)	1.4
	USD/KRW	1,117.7	1,114.8	1,105.2	1,077.9	1,070.4	1,074.2	1,136.6	1,066.7	1,160.5	1,130.9	1,075.2
	Change, %		0.3	1.1	3.7	4.4	4.1	(1.7)	4.8	(3.7)	(1.2)	4.0
Agriculture	Corn	352.5	352.5	354.3	406.0	374.0	353.8	359.3	350.8	358.5	359.4	375.3
	Change, %		0.0	(0.5)	(13.2)	(5.7)	(0.4)	(1.9)	0.5	(1.7)	(1.9)	(6.1)
	Soybean	867.5	867.3	889.5	1,041.5	1,019.5	955.5	911.3	951.8	987.5	975.9	1,003.3
	Change, %		0.0	(2.5)	(16.7)	(14.9)	(9.2)	(4.8)	(8.9)	(12.2)	(11.1)	(13.5)
	Wheat	479.5	469.5	488.3	543.0	449.0	428.0	453.3	427.0	436.4	436.0	475.7
	Change, %		2.1	(1.8)	(11.7)	6.8	12.0	5.8	12.3	9.9	10.0	0.8
	Rice	11.7	12.5	12.7	11.6	12.4	11.8	11.3	11.7	10.3	11.1	12.2
	Change, %		(6.4)	(7.5)	1.2	(6.0)	(0.8)	3.6	0.2	13.1	5.8	(4.4)
	Oats	254.0	241.3	238.8	248.8	226.0	242.8	246.5	241.0	196.3	252.3	245.6
	Change, %		5.3	6.4	2.1	12.4	4.6	3.0	5.4	29.4	0.7	3.4
MYR/mt	Palm Oil	2,304.0	2,280.0	2,261.0	2,453.0	2,400.0	2,474.0	2,589.0	2,444.0	2,653.8	2,787.3	2,431.3
	Change, %		1.1	1.9	(6.1)	(4.0)	(6.9)	(11.0)	(5.7)	(13.2)	(17.3)	(5.2)
	Cocoa	2,339.0	2,431.0	2,568.0	2,556.0	2,554.0	1,866.0	1,827.0	1,892.0	2,854.0	2,005.2	2,391.3
	Change, %		(3.8)	(8.9)	(8.5)	(8.4)	25.3	28.0	23.6	(18.0)	16.6	(2.2)
	Cotton	85.8	85.0	83.2	89.2	82.0	79.0	74.4	78.6	65.6	73.5	83.5
	Change, %		0.8	3.1	(3.9)	4.5	8.6	15.2	9.1	30.7	16.6	2.7
	Sugar	11.7	12.1	11.9	12.5	12.5	14.9	12.7	15.2	18.2	15.8	12.7
	Change, %		(3.3)	(1.4)	(5.9)	(6.5)	(21.5)	(7.4)	(22.7)	(35.4)	(25.9)	(7.7)
	Coffee	114.3	114.8	113.7	120.4	119.0	124.5	122.8	126.2	136.1	133.0	119.3
	Change, %		(0.4)	0.6	(5.1)	(3.9)	(8.2)	(6.9)	(9.4)	(16.0)	(14.0)	(4.2)
Energy	WTI	72.8	70.5	66.2	67.9	65.3	59.6	44.2	60.4	43.4	51.0	65.3
	Change, %		3.2	9.9	7.2	11.5	22.0	64.5	20.4	67.7	42.8	11.5
	Brent	77.6	76.3	74.7	76.4	70.1	66.4	46.7	66.9	45.1	54.9	71.0
	Change, %		1.7	3.9	1.5	10.7	16.8	66.4	16.1	72.2	41.5	9.3
	Natural Gas	3.0	2.9	3.0	2.9	2.7	2.7	3.0	3.0	2.6	3.0	2.8
	Change, %		1.9	1.1	1.9	11.3	9.4	(1.4)	1.5	17.4	(0.9)	5.6
	Ethanol	1.4	1.4	1.4	1.5	1.4	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		1.5	0.9	(5.7)	(0.7)	9.2	(5.9)	7.2	(6.6)	(5.5)	(1.7)
	RBOB Gasoline	213.4	207.5	202.4	218.1	201.4	179.2	146.0	179.9	140.0	162.9	198.4
	Change, %		2.8	5.4	(2.2)	6.0	19.1	46.2	18.6	52.4	31.0	7.5
	Coal	114.4	114.8	114.5	105.5	96.9	100.2	80.6	100.8	65.5	88.2	103.1
	Change, %		(0.3)	(0.0)	8.5	18.1	14.2	41.9	13.5	74.8	29.7	11.0
Metal	Gold	1,252.3	1,259.1	1,267.8	1,301.7	1,345.1	1,287.3	1,247.1	1,302.6	1,248.5	1,258.6	1,319.3
	Change, %		(0.5)	(1.2)	(3.8)	(6.9)	(2.7)	0.4	(3.9)	0.3	(0.5)	(5.1)
	Silver	16.1	16.3	16.3	16.5	16.5	16.7	16.7	16.9	17.1	17.1	16.7
	Change, %		(1.5)	(1.4)	(2.7)	(2.8)	(3.8)	(3.6)	(5.2)	(6.1)	(5.9)	(3.6)
	Copper	6,692.5	6,713.0	6,773.0	6,885.0	6,649.0	7,240.0	5,858.0	7,247.0	4,872.0	6,199.4	6,949.7
	Change, %		(0.3)	(1.2)	(2.8)	0.7	(7.6)	14.2	(7.7)	37.4	8.0	(3.7)
	Nickel	1,019.1	1,013.5	1,014.6	994.1	838.7	770.0	593.0	809.1	646.4	680.2	911.6
	Change, %		0.6	0.4	2.5	21.5	32.4	71.9	26.0	57.7	49.8	11.8
	Zinc	2,876.0	2,840.0	2,995.0	3,051.0	3,275.0	3,272.0	2,747.0	3,319.0	2,097.5	2,888.5	3,251.6
	Change, %		1.3	(4.0)	(5.7)	(12.2)	(12.1)	4.7	(13.3)	37.1	(0.4)	(11.6)
	Lead	2,437.5	2,411.5	2,401.5	2,437.3	2,412.0	2,536.0	2,281.8	2,482.8	1,868.3	2,315.7	2,452.3
	Change, %		1.1	1.5	0.0	1.1	(3.9)	6.8	(1.8)	30.5	5.3	(0.6)
	Aluminum	14,090.0	14,005.0	14,125.0	14,725.0	13,725.0	14,615.0	13,745.0	15,020.0	12,373.5	14,556.6	14,388.1
	Change, %		0.6	(0.2)	(4.3)	2.7	(3.6)	2.5	(6.2)	13.9	(3.2)	(2.1)
	Cobalt	78,750.0	77,250.0	80,250.0	90,750.0	93,300.0	75,205.0	58,750.0	75,205.0	25,480.1	55,906.9	84,883.6
	Change, %		1.9	(1.9)	(13.2)	(15.6)	4.7	34.0	4.7	209.1	40.9	(7.2)
	HR Coil	907.0	900.0	902.0	875.0	825.0	662.0	589.0	662.0	519.3	620.1	813.6
	Change, %		0.8	0.6	3.7	9.9	37.0	54.0	37.0	74.7	46.3	11.5
	Scrap	400.0	400.0	400.0	395.0	400.0	367.0	350.0	367.0	275.7	344.7	388.7
	Change, %		0.0	0.0	1.3	0.0	9.0	14.3	9.0	45.1	16.0	2.9

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		06/27	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	72.8	70.5	66.2	67.9	64.4	59.6	44.7	53.7	43.4	50.9	65.3
	Change, %		3.2	9.9	7.2	13.0	22.0	62.6	35.4	67.8	43.0	11.4
	Dubai	74.4	73.0	72.7	75.8	65.2	63.9	45.3	53.8	41.3	53.1	68.0
	Change, %		1.8	2.4	(1.9)	14.0	16.3	64.2	38.1	80.0	40.1	9.4
Crude Oil	Gasoline(휘발유)	82.1	81.3	81.5	89.8	80.1	76.5	58.1	69.8	56.3	68.0	81.0
Product	Change, %		1.0	0.7	(8.6)	2.4	7.3	41.4	17.5	45.9	20.7	1.3
	Kerosene(등유)	86.5	85.4	86.4	91.1	81.9	78.6	56.4	66.4	52.9	65.2	83.6
	Change, %		1.3	0.0	(5.1)	5.6	10.0	53.3	30.1	63.5	32.5	3.4
	Diesel(경유)	86.1	85.0	86.5	90.7	81.7	78.2	57.1	65.5	52.1	65.6	82.7
	Change, %		1.2	(0.4)	(5.1)	5.4	10.0	50.7	31.4	65.2	31.2	4.1
	Bunker-C	70.5	69.1	68.7	69.4	58.3	58.5	45.1	52.1	35.5	49.7	61.8
	Change, %		2.1	2.6	1.6	21.0	20.7	56.4	35.5	98.5	42.0	14.2
	Naphtha	70.2	69.3	69.2	76.0	66.2	67.0	43.3	53.5	42.6	53.7	67.1
	Change, %		1.3	1.4	(7.6)	6.1	4.7	62.2	31.3	64.8	30.6	4.6
Dubai	Gasoline(휘발유)	7.7	8.2	8.8	14.0	14.9	12.5	12.8	16.0	14.9	14.9	13.0
Spread	Change		(0.5)	(1.1)	(6.3)	(7.2)	(4.8)	(5.1)	(8.3)	(7.2)	(7.2)	(5.3)
	Kerosene(등유)	12.1	12.3	13.8	15.3	16.6	14.6	11.1	12.6	11.6	12.1	15.7
	Change		(0.2)	(1.7)	(3.2)	(4.5)	(2.5)	1.0	(0.5)	0.5	(0.1)	(3.6)
	Diesel(경유)	11.7	12.0	13.8	14.9	16.4	14.3	11.8	11.7	10.8	12.5	14.8
	Change		(0.3)	(2.1)	(3.2)	(4.7)	(2.6)	(0.1)	0.0	0.9	(0.8)	(3.0)
	Bunker-C	(3.8)	(4.0)	(3.9)	(6.4)	(7.0)	(5.5)	(0.2)	(1.8)	(5.8)	(3.4)	(6.2)
	Change		0.1	0.1	2.5	3.1	1.6	(3.6)	(2.1)	1.9	(0.4)	2.4
	Naphtha	(4.2)	(3.8)	(3.5)	0.2	0.9	3.1	(2.0)	(0.4)	1.3	0.6	(0.8)
	Change		(0.4)	(0.7)	(4.3)	(5.1)	(7.3)	(2.1)	(3.8)	(5.4)	(4.8)	(3.3)
Refining	Simple(단순)	1.1	1.3	2.0	2.0	2.6	2.4	4.2	3.8	1.9	3.2	2.1
Margin	Change		(0.2)	(0.9)	(0.8)	(1.5)	(1.3)	(3.0)	(2.7)	(0.8)	(2.0)	(1.0)
	Complex(복합)	5.1	5.3	6.3	7.8	8.8	7.7	7.7	8.3	7.0	8.0	7.6
	Change		(0.3)	(1.2)	(2.8)	(3.7)	(2.7)	(2.6)	(3.2)	(1.9)	(2.9)	(2.5)
	Complex(lagging)	3.7	1.3	1.9	13.3	11.2	10.5	2.6	18.0	8.5	8.9	9.8
	Change		2.3	1.8	(9.6)	(7.6)	(6.9)	1.1	(14.3)	(4.8)	(5.3)	(6.1)

자료 : Petronet, SK증권

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

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

Petrochemical Price Data

Daily Price			06/27	06/26	06/25	06/22	06/21	06/20	06/19	06/18	06/15	06/14
Spot Price	Naphtha	CFR Japan	642.8	632.8	632.0	623.5	619.5	634.0	632.0	625.5	653.5	653.5
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,050.0	1,050.0	1,050.0	1,060.0	1,060.0	1,070.0	1,070.0	1,070.0	1,070.0	1,070.0
	Butadiene	FOB Korea	1,590.0	1,590.0	1,620.0	1,620.0	1,640.0	1,640.0	1,670.0	1,680.0	1,680.0	1,680.0
	HDPE	CFR FE Asia	1,350.0	1,350.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0	1,360.0	1,360.0	1,360.0
	LDPE	CFR FE Asia	1,175.0	1,175.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,150.0	1,150.0	1,160.0	1,160.0	1,160.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0
	MEG	CFR China	895.0	893.0	885.0	880.0	882.0	880.0	885.0	922.0	922.0	922.0
	PP	CFR FE Asia	1,240.0	1,245.0	1,245.0	1,245.0	1,245.0	1,245.0	1,245.0	1,250.0	1,250.0	1,250.0
	PX	CFR China	964.7	942.7	936.2	931.7	927.7	937.7	935.3	944.3	971.7	971.7
	PTA	CFR China	835.0	830.0	830.0	830.0	830.0	830.0	839.0	842.0	842.0	842.0
	Benzene	FOB Korea	814.7	808.0	811.0	800.0	800.7	807.7	806.7	812.7	835.0	835.0
	Toluene	FOB Korea	736.0	728.0	725.0	725.0	732.0	734.0	752.0	769.0	779.0	779.0
	Xylene	FOB Korea	819.5	792.5	787.5	783.5	778.5	783.5	785.5	793.5	814.0	814.0
	SM	FOB Korea	1,332.0	1,347.0	1,362.0	1,349.0	1,342.0	1,339.0	1,342.0	1,394.0	1,420.0	1,420.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	623.5	661.5	684.5	596.0	563.5	397.5	484.5	399.5	493.5	611.9
	Change, %			(5.7)	(8.9)	4.6	10.6	56.9	28.7	56.1	26.3	1.9
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,175.0	1,265.0	1,165.0	875.0	990.0	1,040.9	1,090.9	1,232.4
	Change, %			0.0	7.2	(0.4)	8.2	44.0	27.3	21.0	15.5	2.2
	Propylene	CFR SE Asia	1,005.0	1,015.0	1,032.5	955.0	1,005.0	742.5	815.0	705.7	823.6	1,055.9
	Change, %			(1.0)	(2.7)	5.2	0.0	35.4	23.3	42.4	22.0	(4.8)
	Butadiene	CFR SE Asia	1,580.0	1,625.0	1,750.0	1,355.0	1,370.0	915.0	2,100.0	1,116.8	1,481.1	1,417.0
	Change, %			(2.8)	(9.7)	16.6	15.3	72.7	(24.8)	41.5	6.7	11.5
	Benzene	CFR SE Asia	805.0	832.5	855.0	855.0	925.0	757.5	822.5	646.7	838.8	873.9
	Change, %			(3.3)	(5.8)	(5.8)	(13.0)	6.3	(2.1)	24.5	(4.0)	(7.9)
	Toluene	CFR SE Asia	795.0	815.0	825.0	720.0	750.0	635.0	690.0	630.5	689.5	765.2
	Change, %			(2.5)	(3.6)	10.4	6.0	25.2	15.2	26.1	15.3	3.9
	Xylene	CFR SE Asia	825.0	827.5	835.0	762.5	760.0	612.5	675.0	627.7	668.8	778.4
	Change, %			(0.3)	(1.2)	8.2	8.6	34.7	22.2	31.4	23.4	6.0
Spread	Ethylene	-Naphtha	636.5	598.5	490.5	669.0	601.5	477.5	505.5	641.4	597.4	620.5
	Change, %			6.3	29.8	(4.9)	5.8	33.3	25.9	(0.8)	6.5	2.6
	Propylene	-Naphtha	381.5	353.5	348.0	359.0	441.5	345.0	330.5	306.2	330.1	444.0
	Change, %			7.9	9.6	6.3	(13.6)	10.6	15.4	24.6	15.6	(14.1)
	Butadiene	-Naphtha	956.5	963.5	1,065.5	759.0	806.5	517.5	1,615.5	717.3	987.6	805.1
	Change, %			(0.7)	(10.2)	26.0	18.6	84.8	(40.8)	33.3	(3.1)	18.8
	Benzene	-Naphtha	181.5	171.0	170.5	259.0	361.5	360.0	338.0	247.2	345.3	262.0
	Change, %			6.1	6.5	(29.9)	(49.8)	(49.6)	(46.3)	(26.6)	(47.4)	(30.7)
	Toluene	-Naphtha	171.5	153.5	140.5	124.0	186.5	237.5	205.5	231.0	196.0	153.3
	Change, %			11.7	22.1	38.3	(8.0)	(27.8)	(16.5)	(25.8)	(12.5)	11.9
	Xylene	-Naphtha	201.5	166.0	150.5	166.5	196.5	215.0	190.5	228.2	175.3	166.5
	Change, %			21.4	33.9	21.0	2.5	(6.3)	5.8	(11.7)	14.9	21.1

자료 : Ciscem, 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	1,272.5	1,272.5	1,312.5	1,272.5	1,282.5	1,067.5	1,142.5	1,134.6	1,142.5	1,259.2
	Change, %			0.0	(3.0)	0.0	(0.8)	19.2	11.4	12.2	11.4	1.1
	MEG	CFR SE Asia	912.5	952.5	950.0	900.0	1,027.5	782.5	847.5	660.8	850.6	982.7
	Change, %			(4.2)	(3.9)	1.4	(11.2)	16.6	7.7	38.1	7.3	(7.1)
	PVC	CFR SE Asia	935.0	932.5	920.0	965.0	980.0	870.0	920.0	823.4	899.9	943.1
	Change, %			0.3	1.6	(3.1)	(4.6)	7.5	1.6	13.6	3.9	(0.9)
	PP	CFR SE Asia	1,292.5	1,292.5	1,297.5	1,272.5	1,278.5	1,037.5	1,032.5	978.4	1,099.6	1,260.8
	Change, %			0.0	(0.4)	1.6	1.1	24.6	25.2	32.1	17.5	2.5
	2-EH	CFR Korea	1,110.0	1,120.0	1,180.0	1,130.0	1,080.0	930.0	865.0	772.4	970.0	1,119.6
	Change, %			(0.9)	(5.9)	(1.8)	2.8	19.4	28.3	43.7	14.4	(0.9)
	ABS	CFR SE Asia	2,040.0	2,060.0	2,080.0	1,970.0	2,060.0	1,790.0	1,635.0	1,347.1	1,844.7	2,034.8
	Change, %			(1.0)	(1.9)	3.6	(1.0)	14.0	24.8	51.4	10.6	0.3
	SBR	CFR SE Asia	1,800.0	1,900.0	1,890.0	1,700.0	1,800.0	1,425.0	2,000.0	1,483.0	1,980.5	1,752.0
	Change, %			(5.3)	(4.8)	5.9	0.0	26.3	(10.0)	21.4	(9.1)	2.7
	SM	CFR SE Asia	1,375.0	1,492.5	1,440.0	1,287.5	1,442.5	1,125.0	1,205.0	1,064.6	1,253.8	1,403.3
	Change, %			(7.9)	(4.5)	6.8	(4.7)	22.2	14.1	29.2	9.7	(2.0)
	Caustic	FOB NEA	491.0	539.0	560.0	631.0	571.0	437.5	422.5	316.6	491.2	582.2
	Change, %			(8.9)	(12.3)	(22.2)	(14.0)	12.2	16.2	55.1	(0.0)	(15.7)
	PX	CFR SE Asia	940.0	980.0	1,012.5	937.5	970.0	765.0	855.0	790.4	844.4	963.6
	Change, %			(4.1)	(7.2)	0.3	(3.1)	22.9	9.9	18.9	11.3	(2.4)
	PO	CFR China	1,787.5	1,787.5	1,737.5	1,757.5	1,955.0	1,457.5	1,562.5	1,396.8	1,601.2	1,887.8
	Change, %			0.0	2.9	1.7	(8.6)	22.6	14.4	28.0	11.6	(5.3)
	Caprolactam	CFR SE Asia	2,130.0	2,150.0	2,100.0	2,200.0	2,060.0	1,610.0	1,850.0	1,344.9	1,936.4	2,119.0
	Change, %			(0.9)	1.4	(3.2)	3.4	32.3	15.1	58.4	10.0	0.5
	PTA	CFR SE Asia	845.0	857.5	850.0	785.0	790.0	625.0	642.5	613.7	667.8	799.6
	Change, %			(1.5)	(0.6)	7.6	7.0	35.2	31.5	37.7	26.5	5.7
Spread	HDPE		649.0	611.0	628.0	676.5	719.0	670.0	658.0	735.1	649.0	647.3
	Change, %			6.2	3.3	(4.1)	(9.7)	(3.1)	(1.4)	(11.7)	(0.0)	0.3
	MEG		289.0	291.0	265.5	304.0	464.0	385.0	363.0	261.3	357.1	370.8
	Change, %			(0.7)	8.9	(4.9)	(37.7)	(24.9)	(20.4)	10.6	(19.1)	(22.1)
	PVC		311.5	271.0	235.5	369.0	416.5	472.5	435.5	423.9	406.4	331.2
	Change, %			14.9	32.3	(15.6)	(25.2)	(34.1)	(28.5)	(26.5)	(23.4)	(5.9)
	PP		669.0	631.0	613.0	676.5	715.0	640.0	548.0	578.9	606.1	648.9
	Change, %			6.0	9.1	(1.1)	(6.4)	4.5	22.1	15.6	10.4	3.1
	2-EH		486.5	458.5	495.5	534.0	516.5	532.5	380.5	372.9	476.5	507.7
	Change, %			6.1	(1.8)	(8.9)	(5.8)	(8.6)	27.9	30.5	2.1	(4.2)
	ABS		1,416.5	1,398.5	1,395.5	1,374.0	1,496.5	1,392.5	1,150.5	947.6	1,351.2	1,422.9
	Change, %			1.3	1.5	3.1	(5.3)	1.7	23.1	49.5	4.8	(0.4)
	SBR	BD spread	220.0	275.0	140.0	345.0	430.0	510.0	(100.0)	366.2	499.4	335.0
	Change, %			(20.0)	57.1	(36.2)	(48.8)	(56.9)	(320.0)	(39.9)	(55.9)	(34.3)
	SM		751.5	831.0	755.5	691.5	879.0	727.5	720.5	665.1	760.3	791.4
	Change, %			(9.6)	(0.5)	8.7	(14.5)	3.3	4.3	13.0	(1.2)	(5.0)
	Caustic											
	Change, %											
	PX		316.5	318.5	328.0	341.5	406.5	367.5	370.5	390.9	351.0	351.7
	Change, %			(0.6)	(3.5)	(7.3)	(22.1)	(13.9)	(14.6)	(19.0)	(9.8)	(10.0)
	PO	propylene spread	782.5	772.5	705.0	802.5	950.0	715.0	747.5	691.1	777.6	831.9
	Change, %			1.3	11.0	(2.5)	(17.6)	9.4	4.7	13.2	0.6	(5.9)
	Caprolactam	benzene spread	1,325.0	1,317.5	1,245.0	1,345.0	1,135.0	852.5	1,027.5	698.2	1,097.6	1,245.1
	Change, %			0.6	6.4	(1.5)	16.7	55.4	29.0	89.8	20.7	6.4
	PTA	px spread	187.0	171.5	141.3	128.8	111.0	89.5	44.0	60.4	76.7	125.1
	Change, %			9.0	32.4	45.2	68.5	108.9	325.0	209.5	143.8	49.5

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	06/27	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	65.6	(1.1)	(0.4)	(0.2)	3.1	(8.2)	4.0	(7.9)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.1	(1.1)	(3.8)	(6.7)	(5.6)	7.1	18.7	7.0	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	81.6	1.0	(4.4)	(6.8)	(0.2)	(12.7)	(2.9)	(11.1)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.4	0.5	(0.4)	(3.8)	(4.2)	1.1	(4.3)	1.9	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	100.8	0.5	(0.6)	(5.6)	(6.1)	(1.7)	6.9	(0.8)	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	66.5	0.2	(6.1)	(4.3)	6.8	1.4	(0.1)	0.3	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	622	(0.3)	1.8	(5.2)	0.8	(24.1)	1.0	(23.2)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	899	(2.2)	(1.8)	(11.7)	(11.6)	(28.1)	0.9	(27.3)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,987	0.8	0.7	(11.7)	(8.9)	(13.4)	(1.3)	(12.8)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,416	0.5	0.4	(4.2)	(0.7)	(3.4)	17.5	(2.6)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,851	(0.7)	(0.6)	(13.7)	(22.6)	(17.1)	(3.0)	(16.5)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,257	0.3	(1.9)	(4.6)	5.2	(18.0)	(8.1)	(17.5)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	127.2	0.2	1.1	5.1	8.4	25.1	24.3	25.4	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	73.8	0.4	1.4	3.1	2.8	26.4	32.3	25.1	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	110.0	0.0	2.3	1.4	4.8	11.7	17.9	11.4	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	118.0	0.0	3.1	2.6	7.3	16.8	23.8	14.6	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	85.5	0.1	1.3	(0.6)	2.9	10.3	14.3	9.8	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.70	0.9	(1.6)	(3.9)	(5.6)	(10.0)	(13.4)	(10.0)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fiber)	CNY	1.91	1.1	3.2	(12.8)	(14.7)	(28.7)	(42.8)	(28.5)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	966	(1.3)	(5.2)	4.9	7.3	4.6	34.4	6.2	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	106.0	0.5	1.0	0.0	(3.0)	8.8	11.0	9.3	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	79.0	(0.6)	(5.7)	(13.4)	(18.8)	(7.9)	13.7	(7.1)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.5	0.7	1.6	2.1	8.3	18.2	9.7	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	335,500	(3.7)	(5.1)	(4.8)	(16.7)	(15.0)	18.6	(17.2)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	338,500	(3.8)	(4.1)	(7.8)	(24.2)	(6.6)	1.3	(8.0)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	21,500	(5.1)	(4.9)	(18.9)	(28.2)	(29.2)	(27.9)	(32.0)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	115,000	(0.9)	10.0	11.7	19.7	17.6	59.3	15.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	43,800	(1.5)	(0.7)	12.6	14.7	(0.1)	30.9	(6.8)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	61,100	0.3	(4.7)	(3.6)	3.9	(2.2)	17.7	(3.2)	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	6,620	(2.1)	(6.1)	(0.5)	(29.6)	(12.2)	16.1	(12.7)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			(0.6)	(1.0)	(3.4)	(3.7)	(3.3)	9.3	(3.6)							
Refinery																
Valero	USD	109.5	(0.7)	(5.4)	(7.8)	18.7	18.9	63.9	19.2	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	68.7	2.1	1.9	5.0	16.2	23.7	56.3	25.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemical	TWD	121.0	(0.4)	0.0	(1.2)	1.3	3.4	3.0	4.8	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	129.9	(1.3)	(5.2)	(8.0)	28.0	13.0	38.9	13.6	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	69.2	(1.9)	(6.3)	(10.1)	(5.0)	4.2	33.5	4.9	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	43.5	2.1	2.0	7.1	37.1	3.9	43.2	5.0	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	66.5	(1.6)	(10.9)	(8.5)	35.7	28.8	140.5	29.8	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	110.7	(0.1)	(3.4)	(4.2)	15.7	8.5	37.5	9.5	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.8	2.1	(3.5)	15.5	31.6	7.1	39.5	9.0	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	782.2	6.3	5.7	9.2	20.2	6.5	60.7	7.6	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,980.0	13.6	13.7	3.8	(2.1)	(14.2)	24.8	(12.0)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	66.2	(0.2)	1.0	(1.3)	15.7	22.6	90.7	24.0	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	77.0	(1.2)	(1.6)	(2.5)	11.6	8.0	15.4	8.2	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	42.8	0.3	(1.0)	(7.7)	(3.3)	(4.6)	(13.2)	(3.3)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	202,500	(2.2)	(1.0)	0.2	(3.3)	0.2	29.4	(1.0)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	113,000	(1.7)	2.7	3.7	(4.2)	(4.2)	20.2	(3.4)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	54,000	(2.9)	(1.6)	(8.8)	(13.3)	(12.6)	(20.0)	(13.2)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			0.7	(0.8)	(0.9)	11.8	6.6	39.1	7.5							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	06/27	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	1.3	1.6	3.8	10.9	(2.6)	0.7	(2.3)	345,947	16.7	15.5	1.8	1.7	7.5	7.1
BP	GBP	582	3.4	3.2	4.9	22.5	12.3	26.5	11.4	152,903	14.5	13.7	1.5	1.5	5.5	5.3
Shell	EUR	2,641	2.6	4.0	3.2	16.8	7.2	26.4	6.5	293,835	12.5	11.4	1.4	1.4	5.9	5.7
Chevron	USD	126	1.5	0.6	3.1	9.9	0.4	21.1	0.6	240,781	16.0	15.4	1.6	1.6	6.4	6.1
Total	EUR	52	2.0	2.4	2.8	13.9	12.8	18.2	14.0	161,721	11.9	11.2	1.3	1.2	5.5	5.2
Sinopec	CNY	6	3.1	(1.7)	(9.6)	(5.3)	3.1	6.6	2.6	113,534	10.0	9.6	1.0	1.0	3.8	3.7
Petrochina	CNY	8	2.5	1.2	(7.6)	(3.6)	(7.2)	(2.5)	(7.2)	200,021	23.2	19.5	1.1	1.1	5.4	5.3
CNOOC	CNY	10	1.4	3.0	(14.0)	(18.1)	(8.6)	(12.3)	(9.8)	73,846	9.0	9.2	1.2	1.1	3.9	3.9
Gazprom	RUB	139	0.7	1.5	(4.2)	(1.3)	6.1	16.5	6.5	52,111	3.0	3.1	0.2	0.2	2.5	2.6
Rosneft	RUB	395	1.4	1.1	4.3	27.4	33.6	20.6	35.4	66,227	7.6	6.5	0.9	0.8	4.5	4.4
Anadarko	USD	74	1.7	6.0	10.0	22.3	38.2	69.7	38.6	38,287	25.7	21.9	3.7	3.2	7.0	6.2
Petrobras	BRL	17	3.2	2.1	(16.4)	(22.8)	3.1	35.5	2.8	60,769	6.6	5.9	0.7	0.6	4.2	4.0
Lukoil	USD	4,222	1.6	2.2	(0.6)	8.9	28.6	50.8	26.6	57,328	5.5	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	0.5	0.9	11.0	16.9	(2.6)	(6.7)	(2.4)	47,497	20.6	18.2	1.1	1.2	10.7	10.4
Equinor ASA	NOK	215	2.5	0.7	4.7	16.8	21.7	53.1	22.8	88,018	14.2	13.5	2.0	1.8	3.4	3.4
BHP	AUD	33	1.8	1.9	0.5	14.6	13.2	48.0	12.4	125,415	15.2	16.9	2.1	2.1	6.2	6.5
PTT E&P	THB	136	3.4	5.4	(3.2)	15.7	33.3	56.8	36.0	16,339	13.5	12.8	1.4	1.3	4.1	3.8
Petronas gas	MYR	17	0.0	0.5	(4.0)	(2.9)	0.7	(8.5)	(1.0)	8,507	18.1	17.9	2.6	2.5	10.0	9.9
Chesapeake	USD	5	2.6	5.7	20.0	74.9	33.0	7.5	30.3	4,705	6.3	7.1	#N/A	N/A	6.7	6.5
Noble Energy	USD	36	0.8	(0.3)	1.0	18.2	22.3	28.5	22.5	17,299	31.1	23.0	1.6	1.5	7.8	6.6
Average		0	1.9	2.1	0.5	11.8	12.4	22.8	12.3							
PV																
WACKER	EUR	112.2	3.0	(2.5)	(24.8)	(17.3)	(30.4)	17.9	(30.8)	6,778	16.3	14.5	1.7	1.6	5.7	5.4
GCL-Poly	HKD	0.8	(1.3)	4.1	(18.3)	(25.5)	(45.7)	(5.0)	(45.7)	1,801	6.7	5.9	0.5	0.4	6.4	5.9
SunPower	USD	7.7	(1.3)	(4.7)	(12.7)	(2.5)	(12.6)	(16.3)	(8.9)	1,082	#N/A	N/A	#N/A	N/A	19.3	11.7
Canadian Solar	USD	11.9	(1.9)	(3.0)	(28.5)	(27.7)	(30.5)	(22.5)	(29.3)	698	7.7	7.8	0.7	0.6	7.5	8.1
JA Solar	USD	6.8	0.0	(1.6)	(6.5)	3.4	(9.1)	5.6	(9.2)	322	#N/A	N/A	#N/A	N/A	4.8	6.8
Yingli	USD	1.6	1.9	(0.6)	(7.1)	(8.7)	(10.3)	(30.9)	(7.1)	29	#N/A	N/A	#N/A	N/A	#N/A	N/A
First Solar	USD	51.0	(1.8)	(1.3)	(25.3)	(28.7)	(25.9)	27.3	(24.5)	5,341	29.9	16.4	1.0	0.9	8.5	4.6
한화큐셀	USD	6.9	12.7	13.6	(4.1)	(8.5)	(4.8)	(6.4)	(1.3)	577	12.4	25.7	#N/A	N/A	8.3	8.5
OCI	KRW	102,500	(4.2)	(3.8)	(28.1)	(36.5)	(20.5)	13.1	(24.6)	2,176	0.0	10.0	0.0	0.7	0.0	4.6
웅진에너지	KRW	3,755	(3.7)	(24.6)	(29.4)	(45.2)	(54.3)	(46.7)	(54.3)	99	N/A	0.0	0.7	0.0	4.6	0.0
신성솔라에너지	KRW	1,495	(2.3)	(5.7)	(11.5)	(13.6)	(21.1)	(30.0)	(21.9)	230	N/A	0.7	0.0	4.6	0.0	6.8
Average			0.1	(2.7)	(17.9)	(19.2)	(24.1)	(8.5)	(23.4)							
Gas Company																
Towngas China	HKD	7.6	(1.9)	6.0	(4.3)	6.0	22.5	48.6	20.7	2,674	14.7	13.1	1.3	1.2	12.4	11.2
Kulun	HKD	6.8	(0.1)	(1.4)	(8.1)	0.4	(15.9)	5.1	(16.1)	7,026	9.7	8.4	1.1	1.0	5.6	5.1
Beijing Enterprise	HKD	37.6	(3.1)	(7.2)	(12.3)	(11.5)	(18.7)	0.3	(19.0)	6,047	6.6	5.9	0.6	0.6	11.8	11.1
ENN Energy	HKD	74.8	(6.1)	(0.6)	(4.4)	4.5	33.4	58.7	34.1	10,336	16.7	14.0	3.3	2.9	9.8	8.6
China Resources Gas	HKD	31.6	(3.2)	6.6	5.5	16.9	11.3	16.2	11.3	8,941	16.7	15.0	2.8	2.4	9.2	8.3
China Gas Holdings	HKD	30.5	(2.4)	(2.4)	(3.2)	4.8	40.6	99.3	41.2	19,310	19.9	16.7	4.7	4.0	15.2	12.9
Shenzen Gas	HKD	15.7	(2.2)	(3.4)	(9.4)	(9.3)	5.7	7.4	5.4	4,214	10.0	8.6	1.3	1.2	6.0	5.2
Shann Xi	CNY	7.0	0.9	4.3	(11.4)	1.0	(20.6)	(20.5)	(17.1)	1,182	16.1	14.1	1.3	1.2	#N/A	N/A
Suntien	HKD	2.1	(3.6)	(9.0)	(21.2)	(5.4)	2.4	51.4	2.4	1,004	5.5	4.8	0.7	0.6	8.1	7.0
China Oil & Gas	HKD	0.6	(6.3)	(3.2)	0.0	(14.3)	(22.1)	11.1	(29.4)	445	7.9	7.0	#N/A	N/A	#N/A	N/A
Average			(2.8)	(1.0)	(6.9)	(0.7)	3.8	27.8	3.4							
EV																
LG 화학	KRW	335,500	(3.7)	(5.1)	(4.8)	(16.7)	(15.0)	18.6	(17.2)	21,087	12.5	11.4	1.4	1.3	5.9	5.3
삼성SDI	KRW	225,500	0.7	(1.5)	8.9	12.2	14.2	28.1	10.3	13,806	21.0	15.2	1.3	1.2	14.8	11.5
Panasonic	JPY	1467.0	(1.3)	(3.9)	(3.5)	(11.1)	(11.7)	(5.9)	(11.1)	32,611	13.3	11.8	1.8	1.7	5.2	4.8
GS Yuasa	JPY	494.0	0.6	(1.0)	(6.3)	(14.7)	(13.0)	1.4	(11.9)	1,851	14.3	13.1	1.1	1.0	6.6	6.2
NEC	JPY	3025.0	(1.5)	(2.9)	0.3	(1.6)	(0.5)	4.3	(0.5)	7,140	22.9	12.9	0.9	0.8	7.2	5.6
BYD Auto	CNY	47.1	1.6	3.8	(13.1)	(23.2)	(29.8)	(8.5)	(27.6)	18,330	27.6	20.7	2.2	2.0	12.2	10.5
Tesla Motors	USD	344.5	0.7	(4.9)	23.5	23.4	10.5	(4.9)	10.6	58,494	#N/A	N/A	159.6	11.5	10.6	66.0
Kandi Technologies	USD	4.2	(3.4)	(13.8)	(26.3)	(15.2)	(39.6)	(1.2)	(38.2)	214	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			(0.8)	(3.7)	(2.7)	(5.9)	(10.6)	4.0	(10.7)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임