

1. News Summary (3 page)

2017년 11월 15일

News	
WTI comment	美세일증가·수요하락' 전망에 하락
Headline	국제유가 횡보 국면...BP CEO "큰 폭 상승 없을 것"
News 1.	해양플랜트 발주 늘어나는데...저가 경쟁에 조선사들 '고민'
News 2.	-
News 3.	-
News 4.	-

Conclusion	
12월 사우디 OSP가 +1.25\$/bbl로 발표됨에 따라 추가 상승 가능성 있음	
컨테이너선에 이어 해양플랜트 시장에서도 가격 변수가 중요해짐	
-	
-	
-	

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	55.7	(1.9)	(2.6)	7.4	17.1	21.6
Dubai	\$/bbl	61.3	(0.6)	(1.8)	8.7	24.3	45.9
Gasoline	\$/bbl	76.1	(1.4)	(1.8)	6.8	14.2	35.0
Diesel	\$/bbl	73.0	0.1	(0.7)	5.2	16.9	33.4
Complex margin	\$/bbl	7.7	(0.0)	0.1	(0.5)	(1.5)	(1.0)
1M lagging	\$/bbl	14.0	(0.6)	(1.6)	3.0	1.6	13.2
Petrochemical			%	%	%	%	%
Naphtha	\$/t	596	(1.0)	1.4	13.3	27.1	43.5
Butadiene	\$/t	945	0.0	0.0	(20.6)	(10.1)	(29.7)
HDPE	\$/t	1,260	0.0	0.8	6.8	13.5	6.8
MEG	\$/t	902	(0.9)	(1.4)	3.1	9.3	27.9
PX	\$/t	887	(0.2)	(0.1)	7.2	10.2	15.2
SM	\$/t	1,255	0.2	2.2	6.5	10.0	9.3
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	3.08	(2.7)	(2.3)	(1.5)	(3.1)	(3.6)
Natural rubber	\$/t	1,420	0.0	(0.7)	2.2	(6.0)	(15.0)
Cotton	C/lbs	68.6	(0.4)	0.8	1.2	1.4	(3.0)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	11/13	\$/t	1,180	4.4	(2.3)	4.9	30.0
Propylene	11/13	\$/t	800	3.2	(1.2)	3.2	17.6
Benzene	11/13	\$/t	865	5.8	10.2	12.0	27.7
Toluene	11/13	\$/t	718	1.8	2.5	9.5	10.4
Xylene	11/13	\$/t	673	1.5	3.1	5.9	2.7
PP	11/13	\$/t	1,148	1.8	(1.7)	4.6	10.3
PVC	11/13	\$/t	890	0.0	(5.6)	2.3	(4.3)
ABS	11/13	\$/t	1,920	1.6	(2.5)	3.8	27.6
SBR	11/13	\$/t	1,670	6.4	(4.6)	10.6	(5.9)
SM	11/13	\$/t	1,263	5.6	4.8	7.9	8.4
BPA	11/13	\$/t	1,778	(5.1)	5.5	12.0	21.3
Caustic	11/13	\$/t	674	3.5	34.0	42.6	77.4
2-EH	11/13	\$/t	980	(2.0)	(2.0)	2.1	22.5
Caprolactam	11/13	\$/t	2,090	(3.7)	6.1	16.1	46.2
Solar				%	%	%	%
Polysilicon	11/08	\$/kg	16.7	(0.1)	(0.2)	7.1	15.1
Module	11/08	\$/W	0.32	(0.3)	(1.3)	(3.4)	(20.6)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.2	(0.8)	(1.6)	(0.2)	5.1	(3.6)
Shell	EUR	2,435	(0.0)	(0.6)	6.5	14.0	26.3
Petrochina	CNY	8.36	(0.5)	(2.7)	4.8	5.2	12.4
Gazprom	RUB	132.9	(0.3)	0.5	4.8	13.2	(9.1)
Petrobras	BRL	15.4	(7.8)	(7.0)	(4.5)	17.4	9.6
Refinery							
Phillips66	USD	92.8	(0.5)	(1.8)	(1.7)	10.7	11.4
Valero	USD	81.4	0.9	(0.6)	4.2	21.8	30.0
JX	JPY	632.7	(2.5)	0.3	13.2	22.2	50.8
Neste Oil	EUR	48.7	0.6	(0.6)	24.3	38.5	38.3

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	92.9	(0.9)	(3.5)	4.5	14.4	13.9
DowDuPont	USD	68.6	(2.7)	(3.6)	(4.0)	8.1	28.3
SABIC	SAR	99.8	(0.1)	1.2	1.1	1.9	16.7
Formosa Pla.	TWD	92.6	(0.4)	(0.1)	(1.0)	0.3	8.8
Shin-Etsu	JPY	12,465	1.3	(0.4)	22.4	29.1	49.3
Renewable							
Wacker	EUR	136.4	1.1	(1.5)	13.9	32.6	72.0
First Solar	USD	61.28	(0.5)	0.5	28.7	25.4	85.2
GCL-Poly	HKD	1.54	3.4	10.0	28.3	77.0	57.1
Tesla Motors	USD	308.7	(2.1)	0.9	(13.2)	(15.1)	70.1

4. Coverage Summary

	11/14	1D	1W	1M	3M	6M	12M
KOSPI	2,527	(0.1)	(0.7)	2.1	7.6	10.3	27.3
KOSPI확화	5,979	(0.3)	(2.1)	3.6	5.8	10.0	18.9
LG화학	392,500	(0.5)	(4.0)	4.7	13.6	37.7	66.0
롯데케미칼	357,500	0.4	(3.5)	(9.5)	(6.0)	3.6	15.1
한화케미칼	30,100	0.7	(3.5)	(9.7)	(14.2)	8.5	25.4
금호석유화학	73,300	0.1	(0.9)	9.2	(0.3)	(3.8)	0.7
KCC	395,000	(0.8)	(4.2)	3.7	(1.5)	11.0	2.1
OCI	127,000	3.7	0.8	27.9	35.1	52.8	55.6
SKC	42,750	1.8	7.4	5.9	14.3	46.2	46.9
SK이노베이션	203,000	0.0	(5.1)	(3.1)	19.1	18.0	27.3
S-Oil	119,500	(1.2)	(6.6)	(9.5)	6.2	12.2	40.4
GS	62,500	(2.3)	(8.1)	(7.0)	(7.3)	(0.3)	14.9
SK가스	94,400	(1.5)	(1.4)	1.3	(13.8)	(17.6)	(7.5)
포스코대우	19,500	(0.5)	(7.6)	2.1	(10.6)	(17.7)	(24.3)
LG상사	28,500	(2.7)	(7.8)	3.6	(0.5)	(11.6)	(8.1)
한국전력	37,950	(0.8)	(0.8)	(2.9)	(13.7)	(12.2)	(17.1)
한국가스공사	45,050	7.8	5.5	2.7	(4.4)	(7.4)	2.9

투자의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	400,000	1.9	12.43	2.05
매수	410,000	14.7	5.62	1.23
매수	39,000	29.6	5.08	0.84
매수	100,000	36.4	12.42	1.36
매수	450,000	13.9	21.93	0.57
매수	120,000	(5.5)	16.13	0.97
매수	45,000	5.3	11.81	1.17
매수	210,000	3.4	8.19	1.09
매수	140,000	17.2	12.93	2.26
매수	80,000	28.0	5.93	0.92
매수	130,000	37.7	7.13	0.70
매수	25,000	28.2	10.92	0.85
매수	38,000	33.3	10.37	0.92
매수	55,000	44.9	7.28	0.31
매수	60,000	33.2	9.20	0.58

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

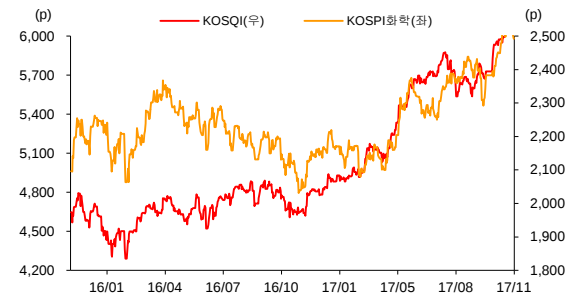
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

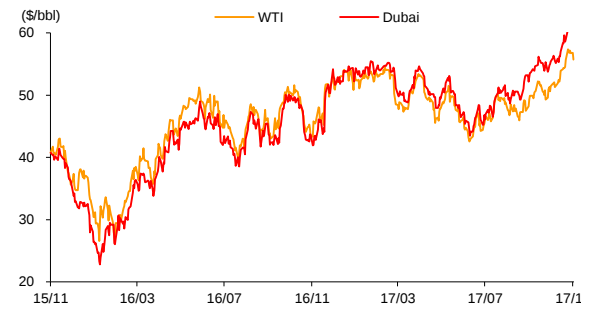
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

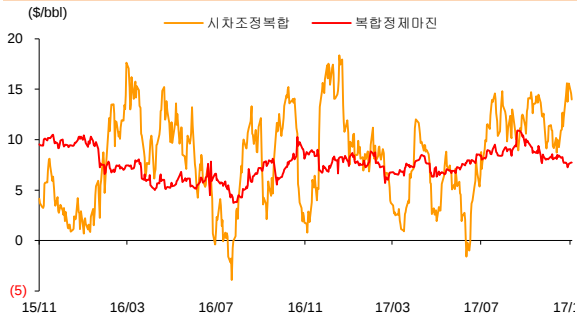
KOSPI/KOSPI화학



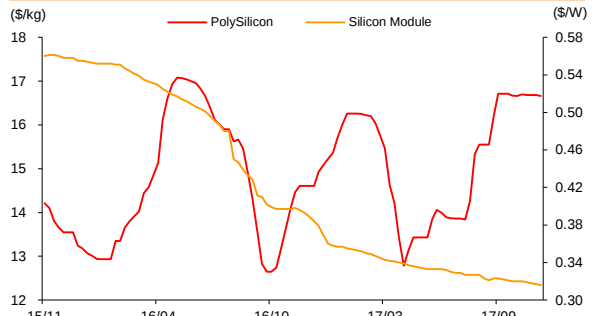
WTI/Dubai



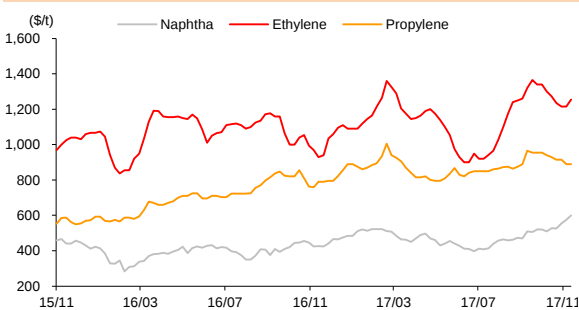
Complex & 1M lagging margin



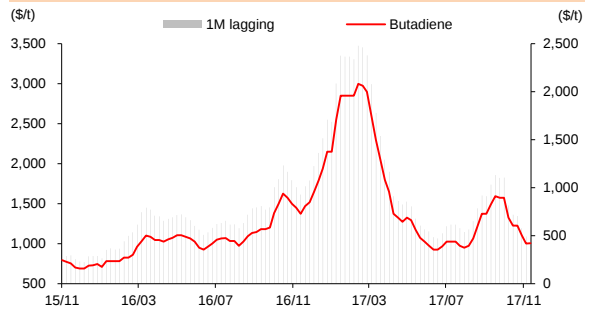
Polysilicon & Module prices



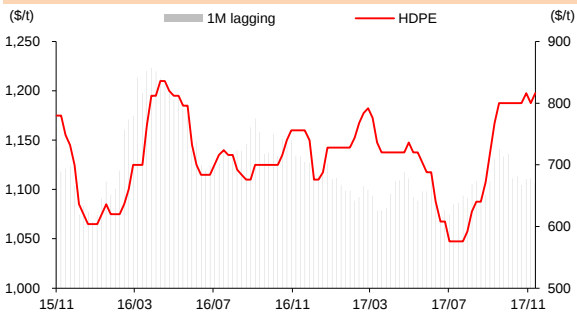
Naphtha/Ethylene/Propylene prices



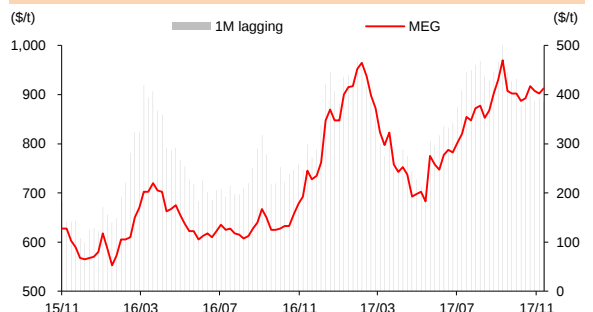
Butadiene price & 1M lagging naphtha spread



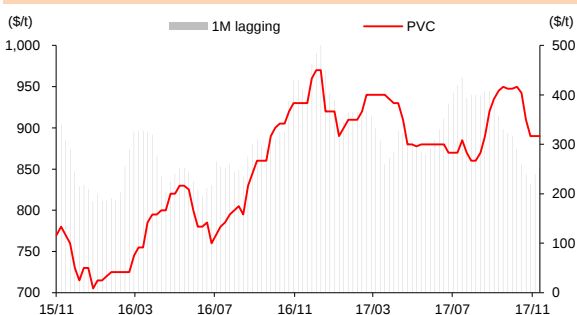
HDPE price & 1M lagging naphtha spread



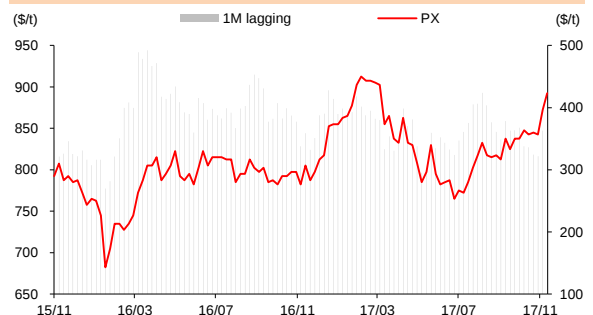
MEG price & 1M lagging naphtha spread



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: 뉴시스)
제목	국제유가 횡보 국면...BP CEO "큰 폭 상승 없을 것"
결론	12월 사우디 OSP가 +1.25\$/bbl로 발표됨에 따라 추가 상승 가능성 있음
세부	1) 상승세를 이어가던 국제유가가 美 rig 증가 조짐으로 횡보 국면 진입 2) 베이커 휴, "지난 주 美 rig는 9개 늘어난 738개로 집계됨" 3) 월말 OPEC 회의 등 유가 상방 압력 요인이 남아있는 상황임 4) BP CEO, "2020년까지 유가가 50에서 60달러 범위에서 움직일 것" 5) 12월 사우디 OSP가 +1.25\$/bbl로 발표됨에 따라 추가 상승 가능성 있음

Issue 1	(출처: 아이뉴스)
제목	해양플랜트 발주 늘어나는데...저가 경쟁에 조선사들 '고민'
결론	컨테이너선에 이어 해양플랜트 시장에서도 가격 변수가 중요해짐
세부	1) 가격 경쟁력을 바탕으로 한 해외 조선사들의 수주 공세가 거센 2) 사우디의 거친 행보, OPEC의 감산 연장 등 유가 상승 요인이 있음 3) 셉코프마린은 최근 Shell이 발주한 '비토' 우선협상대상자로 선정됨 4) 셉코프마린은 Statoil이 발주한 '요한 카스트버그' LOI도 체결함 5) 컨테이너선에 이어 해양플랜트 시장에서도 가격 변수가 중요해짐

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세일증가·수요하락' 전망에 하락
상승	
요인	
하락	미국 정부가 내달 자국 세일 산유량이 8만b/d 증가할 것으로 전망
요인	IEA가 올해와 내년 원유수요 전망을 하향 조정함

Issue 2
제목
결론
세부
1)
2)
3)
4)
5)

Issue 4
제목
결론
세부
1)
2)
3)
4)
5)

Issue 6
제목
결론
세부
1)
2)
3)
4)
5)

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
F/X	USD/EUR	0.848	0.857	0.863	0.846	0.849	0.915	0.931	0.951	0.901	0.904	0.893
	Change, %		(1.1)	(1.8)	0.2	(0.1)	(7.3)	(9.0)	(10.8)	(6.0)	(6.2)	(5.1)
	USD/JPY	113.5	113.6	114.0	111.8	109.6	113.4	108.4	117.0	121.1	108.8	112.1
	Change, %		(0.1)	(0.5)	1.5	3.5	0.1	4.6	(3.0)	(6.3)	4.3	1.2
	USD/KRW	1,118.1	1,120.7	1,111.9	1,129.0	1,139.8	1,127.5	1,171.6	1,205.8	1,131.2	1,160.5	1,137.5
	Change, %		(0.2)	0.6	(1.0)	(1.9)	(0.8)	(4.6)	(7.3)	(1.2)	(3.7)	(1.7)
Agriculture	Corn	337.5	342.3	347.8	352.8	362.8	361.8	337.3	352.0	376.8	358.5	361.6
	Change, %		(1.4)	(2.9)	(4.3)	(7.0)	(6.7)	0.1	(4.1)	(10.4)	(5.9)	(6.7)
	Soybean	959.0	963.5	986.0	1,000.3	925.5	954.0	971.0	996.5	945.4	987.5	975.7
	Change, %		(0.5)	(2.7)	(4.1)	3.6	0.5	(1.2)	(3.8)	1.4	(2.9)	(1.7)
	Wheat	428.0	424.3	427.3	439.5	441.0	425.0	394.0	408.0	508.1	436.4	439.2
	Change, %		0.9	0.2	(2.6)	(2.9)	0.7	8.6	4.9	(15.8)	(1.9)	(2.5)
	Rice	11.2	11.1	11.2	12.2	12.3	10.2	9.1	9.4	11.1	10.3	10.9
	Change, %		1.1	0.0	(7.8)	(8.9)	9.9	23.2	20.1	1.7	8.7	3.0
	Oats	276.3	273.5	270.5	266.8	261.5	247.0	227.8	228.5	250.2	196.3	253.4
	Change, %		1.0	2.1	3.6	5.6	11.8	21.3	20.9	10.4	40.7	9.0
MYR/mt	Palm Oil	2,654.0	2,702.0	2,759.0	2,716.0	2,668.0	2,860.0	2,856.0	3,218.0	2,190.3	2,653.8	2,833.7
	Change, %		(1.8)	(3.8)	(2.3)	(0.5)	(7.2)	(7.1)	(17.5)	21.2	0.0	(6.3)
	Cocoa	2,149.0	2,208.0	2,163.0	2,087.0	1,923.0	2,045.0	2,392.0	2,126.0	3,091.6	2,854.0	2,010.4
	Change, %		(2.7)	(0.6)	3.0	11.8	5.1	(10.2)	1.1	(30.5)	(24.7)	6.9
	Cotton	68.6	68.9	68.1	68.6	68.5	82.2	68.9	70.7	63.3	65.6	73.4
	Change, %		(0.4)	0.8	(0.0)	0.1	(16.5)	(0.4)	(2.9)	8.4	4.6	(6.5)
	Sugar	15.1	15.1	14.7	14.4	13.5	15.5	21.6	19.5	13.1	18.2	16.0
	Change, %		(0.2)	2.6	4.8	11.9	(2.6)	(30.2)	(22.6)	14.9	(16.8)	(5.5)
	Coffee	127.1	127.6	124.7	126.5	137.0	132.6	161.8	137.1	132.6	136.1	134.4
	Change, %		(0.4)	1.9	0.5	(7.2)	(4.2)	(21.5)	(7.3)	(4.2)	(6.6)	(5.5)
Energy	WTI	55.0	56.8	57.2	51.5	47.6	47.8	43.3	53.7	48.8	43.4	50.0
	Change, %		(3.1)	(3.8)	6.9	15.6	15.0	27.0	2.4	12.6	26.8	10.1
	Brent	61.5	63.2	63.7	57.2	50.7	50.8	44.4	56.8	53.7	45.1	53.5
	Change, %		(2.6)	(3.4)	7.6	21.2	21.0	38.4	8.3	14.6	36.5	14.9
	Natural Gas	3.1	3.2	3.2	3.0	3.0	3.4	2.7	3.7	2.6	2.6	3.0
	Change, %		(2.7)	(2.3)	2.7	4.1	(10.0)	12.1	(17.3)	17.2	20.7	1.1
	Ethanol	1.4	1.4	1.5	1.4	1.6	1.5	1.5	1.6	1.5	1.5	1.5
	Change, %		(2.6)	(4.3)	(1.8)	(11.1)	(6.8)	(7.6)	(12.5)	(6.9)	(7.2)	(7.6)
	RBOB Gasoline	173.9	179.3	181.5	162.2	157.7	157.6	127.8	166.5	163.6	140.0	161.3
	Change, %		(3.0)	(4.2)	7.2	10.3	10.3	36.1	4.4	6.3	24.2	7.8
	Coal	97.6	97.8	98.5	95.8	95.5	73.6	105.4	88.4	59.0	65.5	86.7
	Change, %		(0.2)	(0.9)	1.9	2.3	32.6	(7.4)	10.4	65.6	49.1	12.5
Metal	Gold	1,280.4	1,278.4	1,275.3	1,304.6	1,282.1	1,228.1	1,221.3	1,152.3	1,160.6	1,248.5	1,256.2
	Change, %		0.2	0.4	(1.9)	(0.1)	4.3	4.8	11.1	10.3	2.6	1.9
	Silver	17.0	17.1	16.9	17.4	17.1	16.5	16.9	15.9	15.7	17.1	17.2
	Change, %		(0.2)	0.4	(2.3)	(0.3)	3.3	0.5	6.9	8.3	(0.5)	(0.8)
	Copper	6,759.0	6,895.0	6,826.0	6,882.0	6,397.0	5,559.5	5,559.0	5,535.5	5,503.1	4,872.0	6,097.3
	Change, %		(2.0)	(1.0)	(1.8)	5.7	21.6	21.6	22.1	22.8	38.7	10.9
	Nickel	770.8	817.3	826.2	756.2	667.4	599.2	769.4	682.0	759.5	646.4	670.4
	Change, %		(5.7)	(6.7)	1.9	15.5	28.6	0.2	13.0	1.5	19.3	15.0
	Zinc	3,151.0	3,213.0	3,166.0	3,235.0	2,917.0	2,554.0	2,607.0	2,576.0	1,941.9	2,097.5	2,842.4
	Change, %		(1.9)	(0.5)	(2.6)	8.0	23.4	20.9	22.3	62.3	50.2	10.9
	Lead	2,467.5	2,514.0	2,492.0	2,518.8	2,316.0	2,119.8	2,181.3	2,003.5	1,791.2	1,868.3	2,290.3
	Change, %		(1.8)	(1.0)	(2.0)	6.5	16.4	13.1	23.2	37.8	32.1	7.7
	Aluminum	15,325.0	15,380.0	15,895.0	16,365.0	15,730.0	13,755.0	15,385.0	12,765.0	12,184.0	12,373.5	14,549.0
	Change, %		(0.4)	(3.6)	(6.4)	(2.6)	11.4	(0.4)	20.1	25.8	23.9	5.3
	Cobalt	60,000.0	60,000.0	60,855.0	59,538.0	56,770.0	54,550.0	29,250.0	32,734.0	28,444.4	25,480.1	53,898.5
	Change, %		0.0	(1.4)	0.8	5.7	10.0	105.1	83.3	110.9	135.5	11.3
	HR Coil	606.0	606.0	609.0	595.0	621.0	610.0	492.0	633.0	461.5	519.3	618.5
	Change, %		0.0	(0.5)	1.8	(2.4)	(0.7)	23.2	(4.3)	31.3	16.7	(2.0)
	Scrap	330.0	330.0	325.0	330.0	360.0	350.0	255.0	302.0	252.9	275.7	343.3
	Change, %		0.0	1.5	0.0	(8.3)	(5.7)	29.4	9.3	30.5	19.7	(3.9)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		11/14	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	55.7	56.8	57.2	51.9	47.6	48.7	45.8	53.7	48.8	43.4	49.9
	Change, %		(1.9)	(2.6)	7.4	17.1	14.5	21.6	3.7	14.2	28.5	11.6
	Dubai	61.3	61.6	62.4	56.3	49.3	51.1	42.0	53.8	50.8	41.3	51.9
	Change, %		(0.6)	(1.8)	8.7	24.3	19.9	45.9	13.8	20.6	48.3	18.0
Crude Oil	Gasoline(휘발유)	76.1	77.2	77.5	71.2	66.6	64.9	56.3	69.8	69.5	56.3	66.9
Product	Change, %		(1.4)	(1.8)	6.8	14.2	17.2	35.0	8.9	9.4	35.2	13.6
	Kerosene(등유)	74.3	74.6	75.0	69.0	62.1	60.9	54.4	66.4	64.7	52.9	63.8
	Change, %		(0.3)	(0.9)	7.8	19.8	22.1	36.7	11.9	14.8	40.6	16.5
	Diesel(경유)	73.0	73.0	73.6	69.4	62.5	61.1	54.8	65.5	64.8	52.1	64.3
	Change, %		0.1	(0.7)	5.2	16.9	19.5	33.4	11.5	12.7	40.1	13.6
	Bunker-C	57.1	57.6	58.7	52.7	47.4	47.6	40.6	52.1	45.3	35.5	48.6
	Change, %		(0.7)	(2.7)	8.5	20.5	20.0	40.9	9.7	26.2	60.8	17.5
	Naphtha	65.4	65.7	65.9	57.9	49.1	49.5	44.9	53.5	52.6	42.6	52.1
	Change, %		(0.4)	(0.8)	12.9	33.2	32.2	45.6	22.3	24.3	53.5	25.5
Dubai	Gasoline(휘발유)	14.8	15.5	15.1	14.9	17.3	13.8	14.4	16.0	18.7	14.9	15.0
Spread	Change		(0.7)	(0.3)	(0.1)	(2.5)	1.0	0.4	(1.2)	(3.9)	(0.1)	(0.2)
	Kerosene(등유)	13.1	12.9	12.6	12.6	12.8	9.8	12.4	12.6	14.0	11.6	11.9
	Change		0.1	0.5	0.5	0.3	3.3	0.7	0.5	(0.9)	1.5	1.2
	Diesel(경유)	11.8	11.3	11.2	13.1	13.2	10.0	12.8	11.7	14.0	10.8	12.4
	Change		0.4	0.6	(1.3)	(1.4)	1.7	(1.0)	0.1	(2.2)	1.0	(0.6)
	Bunker-C	(4.1)	(4.1)	(3.7)	(3.7)	(1.8)	(3.5)	(1.4)	(1.8)	(5.5)	(5.8)	(3.3)
	Change		(0.0)	(0.4)	(0.4)	(2.3)	(0.6)	(2.7)	(2.4)	1.4	1.7	(0.9)
	Naphtha	4.1	4.0	3.5	1.6	(0.2)	(1.6)	2.9	(0.4)	1.8	1.3	0.2
	Change		0.1	0.6	2.6	4.3	5.8	1.2	4.5	2.3	2.9	3.9
Refining	Simple(단순)	2.7	2.7	2.7	3.2	4.5	2.1	4.5	3.8	3.3	1.9	3.2
Margin	Change		0.0	0.0	(0.5)	(1.8)	0.6	(1.8)	(1.1)	(0.6)	0.8	(0.5)
	Complex(복합)	7.7	7.7	7.6	8.2	9.2	6.5	8.7	8.3	9.3	7.0	8.0
	Change		(0.0)	0.1	(0.5)	(1.5)	1.2	(1.0)	(0.5)	(1.6)	0.8	(0.2)
	Complex(lagging)	14.0	14.6	15.6	11.0	12.4	3.0	0.8	18.0	7.3	8.5	8.6
	Change		(0.6)	(1.6)	3.0	1.6	11.0	13.2	(4.0)	6.7	5.5	5.4

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			11/14	11/13	11/10	11/09	11/08	11/07	11/06	11/03	11/02	11/01
Spot Price	Naphtha	CFR Japan	595.8	601.5	604.4	592.9	593.4	587.4	588.1	580.0	573.1	567.0
	Ethylene	CFR SE Asia	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0
	Propylene	FOB Korea	875.0	875.0	875.0	894.0	899.0	903.0	918.0	918.0	918.0	923.0
	Butadiene	FOB Korea	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0
	HDPE	CFR FE Asia	1,260.0	1,260.0	1,250.0	1,250.0	1,250.0	1,250.0	1,240.0	1,240.0	1,240.0	1,240.0
	LDPE	CFR FE Asia	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,240.0	1,240.0	1,240.0	1,240.0
	LLDPE	CFR FE Asia	1,190.0	1,185.0	1,190.0	1,190.0	1,190.0	1,180.0	1,170.0	1,170.0	1,170.0	1,170.0
	MEG	CFR China	902.0	910.0	910.0	913.0	913.0	915.0	910.0	900.0	898.0	898.0
	PP	CFR FE Asia	1,120.0	1,120.0	1,115.0	1,120.0	1,120.0	1,120.0	1,120.0	1,130.0	1,130.0	1,120.0
	PX	CFR China	886.5	888.3	880.0	881.0	883.0	887.0	877.0	864.3	855.3	854.7
	PTA	CFR China	700.0	685.0	685.0	685.0	685.0	685.0	665.0	660.0	660.0	655.0
	Benzene	FOB Korea	859.0	836.0	835.0	836.0	872.0	856.0	828.0	815.0	811.0	812.0
	Toluene	FOB Korea	681.0	686.0	687.0	684.0	691.0	695.0	682.0	676.0	676.0	678.0
	Xylene	FOB Korea	693.0	693.0	697.0	697.0	705.0	708.0	689.0	677.0	677.0	671.0
	SM	FOB Korea	1,255.0	1,253.0	1,252.0	1,256.0	1,263.0	1,228.0	1,189.0	1,168.0	1,169.0	1,161.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	600.0	574.0	527.0	459.0	414.0	427.0	484.5	493.0	399.5	480.1
	Change, %			4.5	13.9	30.7	44.9	40.5	23.8	21.7	50.2	25.0
	Ethylene	CFR SE Asia	1,180.0	1,130.0	1,207.5	1,125.0	892.5	907.5	990.0	1,103.7	1,040.9	1,071.9
	Change, %			4.4	(2.3)	4.9	32.2	30.0	19.2	6.9	13.4	10.1
	Propylene	CFR SE Asia	800.0	775.0	810.0	775.0	755.0	680.0	815.0	770.0	705.7	877.2
	Change, %			3.2	(1.2)	3.2	6.0	17.6	(1.8)	3.9	13.4	(8.8)
	Butadiene	CFR SE Asia	925.0	950.0	1,175.0	1,015.0	975.0	1,325.0	2,100.0	877.5	1,116.8	1,540.1
	Change, %			(2.6)	(21.3)	(8.9)	(5.1)	(30.2)	(56.0)	5.4	(17.2)	(39.9)
	Benzene	CFR SE Asia	865.0	817.5	785.0	772.5	732.5	677.5	822.5	690.0	646.7	831.4
	Change, %			5.8	10.2	12.0	18.1	27.7	5.2	25.4	33.8	4.0
	Toluene	CFR SE Asia	717.5	705.0	700.0	655.0	630.0	650.0	690.0	700.8	630.5	685.2
	Change, %			1.8	2.5	9.5	13.9	10.4	4.0	2.4	13.8	4.7
	Xylene	CFR SE Asia	672.5	662.5	652.5	635.0	615.0	655.0	675.0	699.3	627.7	664.1
	Change, %			1.5	3.1	5.9	9.3	2.7	(0.4)	(3.8)	7.1	1.3
Spread	Ethylene	-Naphtha	580.0	556.0	680.5	666.0	478.5	480.5	505.5	610.6	641.4	591.8
	Change, %			4.3	(14.8)	(12.9)	21.2	20.7	14.7	(5.0)	(9.6)	(2.0)
	Propylene	-Naphtha	200.0	201.0	283.0	316.0	341.0	253.0	330.5	277.0	306.2	397.1
	Change, %			(0.5)	(29.3)	(36.7)	(41.3)	(20.9)	(39.5)	(27.8)	(34.7)	(49.6)
	Butadiene	-Naphtha	325.0	376.0	648.0	556.0	561.0	898.0	1,615.5	384.5	717.3	1,060.0
	Change, %			(13.6)	(49.8)	(41.5)	(42.1)	(63.8)	(79.9)	(15.5)	(54.7)	(69.3)
	Benzene	-Naphtha	265.0	243.5	258.0	313.5	318.5	250.5	338.0	197.0	247.2	351.3
	Change, %			8.8	2.7	(15.5)	(16.8)	5.8	(21.6)	34.5	7.2	(24.6)
	Toluene	-Naphtha	117.5	131.0	173.0	196.0	216.0	223.0	205.5	207.8	231.0	205.1
	Change, %			(10.3)	(32.1)	(40.1)	(45.6)	(47.3)	(42.8)	(43.4)	(49.1)	(42.7)
	Xylene	-Naphtha	72.5	88.5	125.5	176.0	201.0	228.0	190.5	206.3	228.2	184.1
	Change, %			(18.1)	(42.2)	(58.8)	(63.9)	(68.2)	(61.9)	(64.8)	(68.2)	(60.6)

자료 : Ciscem, 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	1,197.5	1,187.5	1,187.5	1,087.5	1,047.5	1,160.0	1,142.5	1,230.1	1,134.6	1,134.0
	Change, %			0.8	0.8	10.1	14.3	3.2	4.8	(2.7)	5.5	5.6
	MEG	CFR SE Asia	912.5	902.5	892.5	852.5	855.0	745.0	847.5	780.8	660.8	842.8
	Change, %			1.1	2.2	7.0	6.7	22.5	7.7	16.9	38.1	8.3
	PVC	CFR SE Asia	890.0	890.0	942.5	870.0	885.0	930.0	920.0	820.8	823.4	905.3
	Change, %			0.0	(5.6)	2.3	0.6	(4.3)	(3.3)	8.4	8.1	(1.7)
	PP	CFR SE Asia	1,147.5	1,127.5	1,167.5	1,097.5	1,047.5	1,040.0	1,032.5	1,109.8	978.4	1,090.9
	Change, %			1.8	(1.7)	4.6	9.5	10.3	11.1	3.4	17.3	5.2
	2-EH	CFR Korea	980.0	1,000.0	1,000.0	960.0	932.5	800.0	865.0	930.1	772.4	960.7
	Change, %			(2.0)	(2.0)	2.1	5.1	22.5	13.3	5.4	26.9	2.0
	ABS	CFR SE Asia	1,920.0	1,890.0	1,970.0	1,850.0	1,800.0	1,505.0	1,635.0	1,431.1	1,347.1	1,820.5
	Change, %			1.6	(2.5)	3.8	6.7	27.6	17.4	34.2	42.5	5.5
	SBR	CFR SE Asia	1,670.0	1,570.0	1,750.0	1,510.0	1,450.0	1,775.0	2,000.0	1,332.1	1,483.0	2,028.6
	Change, %			6.4	(4.6)	10.6	15.2	(5.9)	(16.5)	25.4	12.6	(17.7)
	SM	CFR SE Asia	1,262.5	1,195.0	1,205.0	1,170.0	1,202.5	1,165.0	1,205.0	1,100.7	1,064.6	1,243.2
	Change, %			5.6	4.8	7.9	5.0	8.4	4.8	14.7	18.6	1.6
	Caustic	FOB NEA	674.0	651.0	503.0	472.5	457.5	380.0	422.5	296.8	316.6	464.7
	Change, %			3.5	34.0	42.6	47.3	77.4	59.5	127.1	112.9	45.0
	PX	CFR SE Asia	892.5	872.5	842.5	817.5	785.0	805.0	855.0	842.9	790.4	836.4
	Change, %			2.3	5.9	9.2	13.7	10.9	4.4	5.9	12.9	6.7
	PO	CFR China	1,777.5	1,872.5	1,685.0	1,587.5	1,530.0	1,465.0	1,562.5	1,683.4	1,396.8	1,570.2
	Change, %			(5.1)	5.5	12.0	16.2	21.3	13.8	5.6	27.3	13.2
	Caprolactam	CFR SE Asia	2,090.0	2,170.0	1,970.0	1,800.0	1,610.0	1,430.0	1,850.0	1,581.5	1,344.9	1,916.6
	Change, %			(3.7)	6.1	16.1	29.8	46.2	13.0	32.1	55.4	9.0
	PTA	CFR SE Asia	700.0	670.0	667.5	657.5	665.0	622.5	642.5	648.0	613.7	660.6
	Change, %			4.5	4.9	6.5	5.3	12.4	8.9	8.0	14.1	6.0
Spread	HDPE		597.5	613.5	660.5	628.5	633.5	733.0	658.0	737.1	735.1	654.0
	Change, %			(2.6)	(9.5)	(4.9)	(5.7)	(18.5)	(9.2)	(18.9)	(18.7)	(8.6)
	MEG		312.5	328.5	365.5	393.5	441.0	318.0	363.0	287.8	261.3	362.8
	Change, %			(4.9)	(14.5)	(20.6)	(29.1)	(1.7)	(13.9)	8.6	19.6	(13.9)
	PVC		290.0	316.0	415.5	411.0	471.0	503.0	435.5	327.8	423.9	425.3
	Change, %			(8.2)	(30.2)	(29.4)	(38.4)	(42.3)	(33.4)	(11.5)	(31.6)	(31.8)
	PP		547.5	553.5	640.5	638.5	633.5	613.0	548.0	616.8	578.9	610.8
	Change, %			(1.1)	(14.5)	(14.3)	(13.6)	(10.7)	(0.1)	(11.2)	(5.4)	(10.4)
	2-EH		380.0	426.0	473.0	501.0	518.5	373.0	380.5	437.0	372.9	480.6
	Change, %			(10.8)	(19.7)	(24.2)	(26.7)	1.9	(0.1)	(13.1)	1.9	(20.9)
	ABS		1,320.0	1,316.0	1,443.0	1,391.0	1,386.0	1,078.0	1,150.5	938.1	947.6	1,340.5
	Change, %			0.3	(8.5)	(5.1)	(4.8)	22.4	14.7	40.7	39.3	(1.5)
	SBR	BD spread	745.0	620.0	575.0	495.0	475.0	450.0	(100.0)	454.7	366.2	488.5
	Change, %			20.2	29.6	50.5	56.8	65.6	(845.0)	63.9	103.4	52.5
	SM		662.5	621.0	678.0	711.0	788.5	738.0	720.5	607.7	665.1	763.1
	Change, %			6.7	(2.3)	(6.8)	(16.0)	(10.2)	(8.0)	9.0	(0.4)	(13.2)
	Caustic											
	Change, %											
	PX		292.5	298.5	315.5	358.5	371.0	378.0	370.5	349.9	390.9	356.3
	Change, %			(2.0)	(7.3)	(18.4)	(21.2)	(22.6)	(21.1)	(16.4)	(25.2)	(17.9)
	PO	propylene spread	977.5	1,097.5	875.0	812.5	775.0	785.0	747.5	913.4	691.1	693.0
	Change, %			(10.9)	11.7	20.3	26.1	24.5	30.8	7.0	41.4	41.1
	Caprolactam	benzene spread	1,225.0	1,352.5	1,185.0	1,027.5	877.5	752.5	1,027.5	891.6	698.2	1,085.2
	Change, %			(9.4)	3.4	19.2	39.6	62.8	19.2	37.4	75.5	12.9
	PTA	px spread	75.3	59.3	77.8	85.3	115.5	59.0	44.0	58.0	60.4	75.1
	Change, %			27.0	(3.2)	(11.7)	(34.8)	27.5	71.0	29.7	24.5	0.2

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	11/14	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA		
											17E	18E	17E	18E	17E	18E	
Petrochemical																	
DowDuPont	USD	68.6	(2.7)	(3.6)	(4.0)	8.1	10.5	28.3	19.8	160,453	19.9	16.6	1.6	1.8	11.2	9.7	
Eastman	USD	90.2	(1.3)	(0.4)	1.8	7.1	16.4	21.5	20.0	12,971	12.8	11.1	2.6	2.4	9.2	8.5	
BASF	EUR	92.9	(0.9)	(3.5)	4.5	14.4	3.7	13.9	5.2	100,503	15.2	15.1	2.5	2.3	8.1	8.0	
Akzo Nobel	EUR	77.8	(0.3)	(0.9)	(1.4)	1.9	2.7	33.0	31.0	23,093	19.0	18.1	3.3	3.2	10.2	9.8	
Arkema	EUR	104.5	(0.5)	(4.3)	0.0	10.1	8.1	20.1	12.4	9,337	14.7	13.6	2.0	1.8	6.7	6.4	
Lanxess	EUR	66.8	0.3	(4.3)	(0.8)	5.0	2.3	14.4	7.1	7,201	17.6	15.3	2.3	2.1	7.6	8.6	
Sumitomo Chemical	JPY	825	(0.7)	0.5	17.4	32.2	32.2	68.0	48.4	12,043	11.1	10.7	1.5	1.4	7.9	7.6	
Mitsubishi Chemical	JPY	1,184	(0.6)	(2.4)	5.4	26.3	34.0	72.8	56.2	15,726	9.6	9.5	1.4	1.3	6.5	6.4	
Shin-Etsu Chemical	JPY	12,465	1.3	(0.4)	22.4	29.1	25.5	49.3	37.5	47,493	24.3	21.4	2.3	2.1	10.9	9.5	
Asahi Kasei	JPY	1,449	(2.6)	2.9	6.8	13.7	30.3	46.2	42.1	17,915	15.6	15.3	1.6	1.5	7.7	7.5	
JSR	JPY	2,232	0.0	0.5	8.5	19.2	12.6	45.5	21.1	4,450	15.6	15.1	1.3	1.2	8.5	8.0	
Nitto Denko	JPY	11,360	1.3	(2.8)	19.7	16.1	21.9	43.8	26.7	17,405	21.2	19.4	2.6	2.4	9.7	9.0	
SABIC	SAR	99.8	(0.1)	1.2	1.1	1.9	2.8	16.7	9.1	79,858	14.8	14.0	1.8	1.7	7.5	7.2	
Yansab	SAR	57.0	0.0	1.9	(0.8)	4.2	3.5	22.1	4.7	8,549	14.3	13.4	2.4	2.3	9.1	8.8	
Formosa Plastics	TWD	92.6	(0.4)	(0.1)	(1.0)	0.3	4.2	8.8	3.8	19,556	13.5	14.2	1.8	1.7	19.5	19.3	
Formosa Fiber	TWD	94.8	0.6	2.5	1.0	3.5	3.7	(0.2)	(1.6)	18,434	12.1	12.9	1.7	1.6	10.5	10.7	
Nan Ya Plastics	TWD	75.0	0.4	(0.1)	1.1	1.2	6.8	17.2	5.3	19,734	14.4	14.8	1.7	1.7	15.1	15.5	
Sinopec Shanghai	CNY	6.42	(1.5)	(2.0)	2.2	(4.3)	1.6	6.6	(0.3)	9,166	12.3	11.7	2.5	2.2	6.7	6.7	
Sinopec Yizheng(Fiber)	CNY	3.00	(0.7)	(3.8)	(4.8)	(6.3)	(3.5)	(25.0)	(26.8)	5,807	#N/A	N/A	55.6	5.7	5.8	28.3	14.8
Reliance	INR	887	1.3	(2.2)	1.2	12.7	31.3	77.0	63.8	88,172	16.5	13.6	1.9	1.6	11.4	9.5	
Industries Qatar	QAR	95.8	0.9	0.9	(2.1)	4.0	(7.9)	(4.2)	(18.5)	15,093	16.3	13.9	1.7	1.6	54.7	51.4	
PTT Chemical	THB	80.0	0.6	2.6	(1.5)	12.7	11.5	36.8	27.0	10,875	10.4	10.5	1.4	1.3	5.5	5.4	
Petronas	MYR	7.4	(0.7)	1.0	0.8	4.1	2.4	8.7	6.0	14,114	15.1	15.3	2.0	1.9	8.6	8.6	
LG화학	KRW	392,500	(0.5)	(4.0)	4.7	14.3	36.5	66.7	50.4	24,849	14.5	13.8	1.9	1.7	6.5	6.0	
롯데케미칼	KRW	357,500	0.4	(3.5)	(9.5)	(8.2)	1.6	11.4	(3.1)	10,989	5.3	5.3	1.1	0.9	3.6	3.2	
한화케미칼	KRW	30,100	0.7	(3.5)	(9.7)	(15.2)	9.1	23.9	21.9	4,449	4.9	5.4	0.8	0.7	6.5	6.5	
금호석유	KRW	73,300	0.1	(0.9)	9.2	(0.1)	(3.2)	(2.7)	(10.6)	2,003	12.9	12.0	1.3	1.2	9.5	8.5	
SKC	KRW	42,750	1.8	7.4	5.9	13.2	45.9	37.5	29.5	1,439	11.2	10.1	1.0	1.0	9.7	8.3	
국도화학	KRW	58,800	0.3	(1.5)	5.4	6.7	21.2	2.8	7.1	306	0.0	0.0	0.0	0.0	0.0	0.0	
효성	KRW	7,260	(1.5)	(4.8)	1.5	15.2	2.3	30.3	6.8	4,063	7.6	7.6	1.1	1.0	7.1	6.3	
Average			(0.2)	(0.9)	2.8	8.1	12.3	26.4	16.7								
Refinery																	
Valero	USD	81.4	0.9	(0.6)	4.2	21.8	22.5	30.0	19.1	35,606	16.5	13.0	1.8	1.7	7.1	6.2	
Conoco Phillips	USD	51.2	(2.5)	(4.2)	3.7	15.0	9.1	16.1	2.2	61,246	108.5	35.1	2.0	2.1	8.8	6.8	
Formosa Petrochemical	TWD	106.5	0.0	0.0	0.9	2.4	1.4	7.3	(4.9)	33,658	14.8	18.0	3.2	3.2	9.8	11.4	
Andeavor	USD	105.7	(0.4)	(5.0)	0.3	11.0	30.7	22.5	20.9	16,487	15.0	12.8	1.6	1.6	8.8	7.1	
Marathon Petroleum	USD	62.9	1.1	(0.4)	11.5	20.2	19.4	44.2	24.9	30,706	17.0	15.1	2.5	2.5	8.4	7.5	
Devon Energy	USD	38.2	(3.6)	(7.3)	6.6	23.0	1.0	(10.7)	(16.3)	20,090	21.5	17.5	2.8	2.4	9.2	8.2	
Hollyfrontier	USD	42.8	2.4	1.2	17.8	49.0	55.0	59.1	30.8	7,594	20.0	16.2	1.5	1.5	8.7	7.5	
Phillips 66	USD	92.8	(0.5)	(1.8)	(1.7)	10.7	16.3	11.4	7.4	47,041	20.4	14.9	2.1	2.1	10.4	8.6	
Murphy Oil	USD	27.8	(4.0)	(5.0)	8.4	10.2	4.6	(1.9)	(10.7)	4,796	#N/A	N/A	220.6	1.1	1.1	5.2	4.7
JX Holdings	JPY	632.7	(2.5)	0.3	13.2	22.2	20.3	50.8	27.9	19,118	9.5	9.0	0.9	0.9	7.7	7.2	
Idemitsu	JPY	3,575.0	0.3	1.9	13.9	34.0	(7.5)	47.5	15.1	6,557	8.1	8.1	1.0	0.9	8.1	7.8	
Nesteoil	EUR	48.7	0.6	(0.6)	24.3	38.5	29.3	38.3	33.4	14,709	15.7	15.7	2.9	2.7	9.1	9.6	
Ashland	USD	66.7	(0.6)	0.8	0.3	8.9	11.9	25.9	24.7	4,160	16.6	20.1	1.3	1.2	7.7	9.6	
Fuchs Petrolub	EUR	45.8	(0.9)	(4.7)	(9.1)	(3.7)	(6.4)	23.2	14.8	7,095	24.1	22.7	4.7	4.3	14.0	13.2	
SK이노베이션	KRW	203,000	0.0	(5.1)	(3.1)	16.7	17.3	27.7	38.6	16,834	8.0	7.7	1.0	0.9	5.0	4.5	
S-Oil	KRW	119,500	(1.2)	(6.6)	(9.5)	2.1	13.3	41.6	41.1	12,066	11.8	9.1	2.1	1.8	9.1	6.7	
GS	KRW	62,500	(2.3)	(8.1)	(7.0)	(11.5)	0.8	13.6	15.5	5,208	6.0	5.8	0.8	0.7	7.2	6.9	
Average			(0.8)	(2.7)	4.4	15.9	14.1	26.3	16.7								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	11/14	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA		
											17E	18E	17E	18E	17E	18E	
E&P/Shale																	
Exxon Mobil	USD	82	(0.8)	(1.6)	(0.2)	5.1	(0.4)	(3.6)	(8.9)	348,460	23.1	20.6	2.0	1.9	9.9	8.9	
BP	GBP	503	(0.8)	(4.1)	2.5	12.8	9.3	16.0	(1.3)	131,307	22.5	17.2	1.4	1.4	6.5	5.8	
Shell	EUR	2,435	(0.0)	(0.6)	6.5	14.0	13.5	26.3	8.6	267,851	17.5	16.0	1.4	1.3	7.0	6.5	
Chevron	USD	117	(0.3)	(0.3)	(1.9)	7.6	10.3	9.7	(0.7)	222,075	29.5	23.4	1.5	1.5	8.3	7.2	
Total	EUR	47	(1.4)	(4.0)	2.5	9.5	(2.2)	11.3	(3.7)	139,704	13.5	12.9	1.3	1.2	6.2	5.5	
Sinopec	CNY	6	(0.8)	(3.5)	4.5	1.5	3.4	20.9	12.2	105,900	13.9	13.0	1.0	1.0	4.5	4.4	
Petrochina	CNY	8	(0.5)	(2.7)	4.8	5.2	10.0	12.4	5.2	218,839	52.6	32.2	1.3	1.2	6.7	6.3	
CNOOC	CNY	12	(0.3)	(4.6)	0.6	5.3	8.1	(9.2)	(10.1)	62,371	13.5	11.8	1.0	1.0	4.3	4.0	
Gazprom	RUB	133	(0.3)	0.5	4.8	13.2	0.3	(9.1)	(14.0)	52,293	4.7	4.2	0.3	0.2	3.9	3.5	
Rosneft	RUB	314	(3.3)	(4.7)	(1.8)	3.0	2.2	(6.9)	(22.0)	55,352	10.0	7.0	0.8	0.8	5.6	4.7	
Anadarko	USD	48	(4.3)	(5.9)	0.5	11.7	(6.9)	(20.6)	(31.1)	26,291	#N/A	N/A	#N/A	N/A	7.5	6.6	
Petrobras	BRL	15	(7.8)	(7.0)	(4.5)	17.4	(0.6)	9.6	3.2	62,221	13.3	9.2	0.6	0.6	5.3	4.9	
Lukoil	USD	3,325	(0.0)	0.0	10.2	15.3	16.4	8.5	(3.6)	47,223	7.1	6.5	0.7	0.7	N/A	N/A	
Kinder	USD	17	(0.2)	(3.4)	(7.1)	(8.4)	(12.5)	(16.9)	(15.8)	47,497	27.0	24.9	1.1	1.1	11.0	10.6	
Statoil	NOK	166	(1.8)	(2.3)	3.8	13.7	10.6	24.0	5.1	67,171	16.4	17.5	1.7	1.7	3.5	3.5	
BHP	AUD	28	(1.2)	(2.8)	6.0	9.0	17.7	12.5	11.5	107,068	15.2	17.5	1.9	1.8	6.0	6.5	
PTT E&P	THB	93	(0.5)	(1.3)	0.8	9.4	(0.3)	18.8	(3.1)	11,200	14.7	12.9	0.9	0.9	3.5	3.2	
Petronas gas	MYR	17	(2.6)	(3.7)	(8.7)	(9.7)	(8.7)	(21.8)	(20.3)	8,011	19.0	17.8	2.7	2.6	10.8	10.0	
Chesapeake	USD	4	(5.1)	(5.7)	1.5	(3.2)	(30.0)	(28.0)	(43.9)	3,580	5.6	5.5	#N/A	N/A	7.6	6.5	
Noble Energy	USD	27	(3.1)	(7.7)	(1.8)	8.5	(15.4)	(26.1)	(29.9)	12,978	#N/A	N/A	701.8	1.4	1.4	7.9	7.3
Average		0	(1.8)	(3.3)	1.2	7.0	1.2	1.4	(8.1)								
PV																	
WACKER	EUR	136.4	1.1	(1.5)	13.9	32.6	35.5	72.0	38.0	8,381	26.0	22.9	2.2	2.1	7.7	7.2	
GCL-Poly	HKD	1.5	3.4	10.0	28.3	77.0	63.8	57.1	65.6	3,669	11.2	10.6	1.1	1.0	7.0	6.5	
SunPower	USD	8.4	(3.6)	(2.7)	20.1	(11.9)	17.1	21.5	26.5	1,167	#N/A	N/A	#N/A	N/A	18.5	12.2	
Canadian Solar	USD	17.5	(1.6)	(7.0)	7.3	4.9	33.1	46.6	43.3	1,012	12.1	7.7	1.0	0.9	9.9	9.1	
JA Solar	USD	8.0	(0.4)	3.1	9.5	30.6	9.7	47.1	68.7	382	7.8	15.2	1.9	1.9	3.5	3.3	
Yingli	USD	2.2	(2.7)	(1.8)	(7.3)	(8.5)	(12.2)	(40.9)	(17.3)	39	#N/A	N/A	#N/A	N/A	#N/A	N/A	
First Solar	USD	61.3	(0.5)	0.5	28.7	25.4	68.4	85.2	91.0	6,400	24.6	52.0	1.0	1.2	11.5	12.6	
한화큐셀	USD	8.3	(2.3)	(5.7)	2.9	11.3	24.2	(11.6)	1.1	687	24.3	37.5	#N/A	N/A	8.8	8.5	
OCI	KRW	127,000	3.7	0.8	27.9	38.9	53.2	53.4	61.4	2,716	14.4	15.8	0.9	0.9	7.8	6.5	
웅진에너지	KRW	8,270	(0.2)	5.5	17.1	2.7	57.8	71.4	74.7	186	N/A	0.9	0.9	7.8	6.5	7.6	
신성솔라에너지	KRW	1,840	4.2	4.8	8.2	(14.6)	(4.2)	(20.0)	(16.7)	285	N/A	0.9	7.8	6.5	7.6	7.6	
Average			0.1	0.5	14.3	17.1	31.5	34.7	39.6								
Gas Company																	
Towngas China	HKD	6.3	(0.6)	(3.7)	11.8	18.8	30.1	57.7	53.4	2,221	14.5	13.0	1.2	1.1	12.9	11.8	
Kulun	HKD	6.8	(0.1)	(6.1)	(7.2)	(9.1)	(3.0)	22.6	17.8	7,066	10.9	9.9	1.2	1.1	5.6	5.4	
Beijing Enterprise	HKD	45.1	0.1	(1.8)	(1.4)	13.6	20.7	32.6	23.1	7,295	8.6	7.9	0.9	0.8	15.8	14.6	
ENN Energy	HKD	56.9	(0.8)	(4.0)	(3.2)	9.9	37.0	65.0	78.2	7,888	15.1	13.3	2.9	2.5	9.2	8.3	
China Resources Gas	HKD	28.4	(1.0)	(1.2)	(0.9)	(2.7)	14.1	23.8	30.0	8,081	16.2	14.4	3.1	2.7	9.5	8.7	
China Gas Holdings	HKD	23.5	(2.1)	(0.2)	(5.2)	22.7	92.6	127.3	123.4	14,964	20.1	16.9	4.7	3.9	15.8	13.4	
Shenzen Gas	HKD	14.7	(0.5)	(2.0)	(5.5)	6.8	11.4	26.5	30.1	3,820	12.0	11.5	1.4	1.3	9.0	8.4	
Shann Xi	CNY	8.2	(0.6)	(1.7)	(4.4)	(5.1)	(0.7)	(18.9)	(14.9)	1,369	17.3	15.5	1.6	1.5	#N/A	N/A	
Suntien	HKD	2.0	0.0	(3.8)	(3.3)	20.1	27.7	93.3	103.0	967	7.6	6.6	0.7	0.7	9.9	8.5	
China Oil & Gas	HKD	0.5	(1.9)	(3.7)	(8.8)	(3.7)	(7.1)	(11.9)	(14.8)	388	9.0	7.8	0.9	0.8	6.1	5.5	
Average			(0.8)	(2.8)	(2.8)	7.1	22.3	41.8	42.9								
EV																	
LG화학	KRW	392,500	(0.5)	(4.0)	4.7	14.3	36.5	66.7	50.4	24,849	13.6	13.2	1.9	1.7	6.5	6.3	
삼성SDI	KRW	214,000	0.7	(3.2)	(0.9)	21.2	39.9	132.1	96.3	13,197	21.8	13.4	1.3	1.2	23.4	14.7	
Panasonic	JPY	1720.5	0.4	(0.5)	7.0	18.5	27.5	68.2	44.6	37,214	22.5	17.1	2.4	2.1	7.3	6.3	
GS Yuasa	JPY	579.0	1.4	(0.2)	(1.7)	6.4	13.1	27.0	19.1	2,111	17.6	15.9	1.4	1.3	7.8	7.2	
NEC	JPY	2972.0	(1.1)	(1.8)	(3.0)	0.7	5.8	0.1	(4.1)	6,826	16.1	16.5	0.9	0.8	7.0	6.5	
BYD Auto	CNY	68.0	(3.0)	3.8	0.4	41.1	41.6	22.5	36.9	26,958	38.9	27.8	3.4	3.0	16.4	13.2	
Tesla Motors	USD	308.7	(2.1)	0.9	(13.2)	(15.1)	(5.0)	70.1	44.5	51,882	#N/A	N/A	#N/A	N/A	137.9	31.3	
Kandi Technologies	USD	7.8	0.0	2.3	(6.1)	109.5	91.4	121.4	58.2	372	#N/A	N/A	#N/A	N/A	#N/A	N/A	
Average			(0.5)	(0.3)	(1.6)	24.6	31.3	63.5	43.2								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임