

1. News Summary (3 page)

2018년 5월 2일

News	
WTI comment	달러 강세에 하락...WTI 1.9%↓
Headline	TurkStream의 해저 파이프 부분 Line 1 완공
News 1.	가스프롬은 Nord Stream 3 프로젝트 가능성을 배제하지 않음
News 2.	ExxonMobil과 Sabic이 합작으로 Texas PetChem 단지 조성 계획
News 3.	-
News 4.	-

Conclusion	
러시아는 Nord Stream을 비롯한 우크라이나 우회노선 구축에 주력중임	
Nord Stream 프로젝트도 우크라이나를 우회하는 노선 구축의 일환임	
최근의 화학 up-cycle이 길었던만큼 down-cycle도 길어질 수 있음	
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	67.3	(1.9)	(0.7)	6.7	4.3	41.1
Dubai	\$/bbl	70.1	0.0	(1.7)	4.9	5.5	39.7
Gasoline	\$/bbl	83.9	0.0	(1.1)	3.8	3.7	29.8
Diesel	\$/bbl	85.8	0.0	(0.9)	3.7	4.8	37.5
Complex margin	\$/bbl	8.2	0.0	0.9	0.3	0.3	0.6
1M lagging	\$/bbl	13.0	(0.1)	(0.2)	1.4	2.6	5.3
Petrochemical			%	%	%	%	%
Naphtha	\$/t	631	(0.6)	1.4	4.0	7.1	38.4
Butadiene	\$/t	1,460	0.0	9.8	5.8	8.1	19.2
HDPE	\$/t	1,350	0.0	0.0	2.3	1.5	20.0
MEG	\$/t	1,015	0.0	(1.1)	9.1	1.7	45.8
PX	\$/t	958	(0.2)	0.3	3.4	(0.4)	20.3
SM	\$/t	1,329	0.1	2.5	4.9	(4.8)	24.4
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.80	1.4	(0.4)	2.1	(5.5)	(2.9)
Natural rubber	\$/t	1,390	0.0	1.5	3.0	(5.4)	(12.0)
Cotton	C/lbs	85.1	0.5	3.5	3.8	10.5	5.3

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	04/23	\$/t	1,270	(0.4)	0.4	(1.9)	16.0
Propylene	04/23	\$/t	998	2.0	4.5	0.3	37.6
Benzene	04/23	\$/t	835	0.3	(2.3)	(11.9)	4.0
Toluene	04/23	\$/t	755	2.0	4.9	0.0	11.0
Xylene	04/23	\$/t	763	0.3	0.0	3.0	13.8
PP	04/23	\$/t	1,248	0.0	(2.0)	3.3	16.9
PVC	04/23	\$/t	940	(2.1)	(2.6)	1.6	6.8
ABS	04/23	\$/t	1,990	0.0	1.0	(1.5)	19.5
SBR	04/23	\$/t	1,650	1.2	(2.9)	0.0	(19.5)
SM	04/23	\$/t	1,363	(0.2)	5.8	(1.4)	20.8
BPA	04/23	\$/t	2,040	6.5	16.1	3.9	53.4
Caustic	04/23	\$/t	579	(7.5)	(8.2)	(3.7)	29.4
2-EH	04/23	\$/t	1,155	0.0	2.2	5.5	19.7
Caprolactam	04/23	\$/t	2,190	(1.4)	(0.5)	8.4	11.2
Solar				%	%	%	%
Polysilicon	04/25	\$/kg	15.4	0.0	3.4	(12.9)	17.3
Module	04/25	\$/W	0.30	(0.3)	(1.0)	(3.5)	(11.3)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	77.0	(1.0)	(1.8)	3.1	(13.6)	(6.2)
Shell	EUR	2,522	(0.4)	(1.1)	12.9	4.8	25.9
Petrochina	CNY	7.65	0.0	(0.8)	0.1	(15.0)	(1.9)
Gazprom	RUB	145.9	0.0	1.2	2.5	0.4	6.7
Petrobras	BRL	23.0	0.0	2.5	7.3	11.9	64.4
Refinery							
Phillips66	USD	111.9	0.5	2.4	16.6	10.9	40.6
Valero	USD	110.7	(0.2)	2.2	19.3	16.9	72.0
JX	JPY	722.5	1.1	(1.1)	12.2	(3.2)	46.1
Neste Oil	EUR	69.9	0.0	28.4	23.5	24.6	86.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	86.3	0.0	0.8	4.6	(6.4)	(4.0)
DowDuPont	USD	63.1	(0.3)	(0.2)	(1.0)	(14.2)	0.9
SABIC	SAR	114.0	(0.5)	(6.8)	(1.7)	6.7	14.4
Formosa Pla.	TWD	104.5	0.0	0.5	0.5	1.5	15.2
Shin-Etsu	JPY	10,995	(2.3)	1.1	(0.1)	(11.9)	13.8
Renewable							
Wacker	EUR	149.5	0.0	(0.9)	12.1	(5.2)	53.9
First Solar	USD	67.51	(4.8)	(8.9)	(4.9)	(0.1)	128.5
GCL-Poly	HKD	0.98	0.0	(3.0)	1.0	(26.9)	4.3
Tesla Motors	USD	299.9	2.0	5.8	12.7	(14.1)	(7.1)

4. Coverage Summary

	04/30	1D	1W	1M	3M	6M	12M
KOSPI	2,515	0.9	1.7	2.8	(2.0)	0.8	14.1
KOSPI확화	6,187	2.6	1.2	1.5	(3.7)	2.2	20.7
LG화학	360,000	1.6	(3.4)	(6.6)	(17.4)	(11.2)	31.4
롯데케미칼	414,000	2.3	3.0	(4.4)	(1.2)	6.7	21.1
한화케미칼	28,950	0.9	(1.5)	(2.9)	(18.5)	(9.0)	15.1
금호석유화학	107,500	9.7	11.5	11.5	6.4	56.7	41.3
KCC	391,000	3.6	4.0	13.2	(7.6)	0.3	14.8
OCI	156,000	0.3	(6.3)	(0.6)	(6.9)	38.7	97.7
SKC	38,100	1.3	(2.1)	(0.4)	(15.1)	(6.4)	33.0
SK이노베이션	196,500	2.3	(2.2)	(6.9)	(6.4)	(4.6)	14.9
S-Oil	110,000	0.5	(4.8)	(8.3)	(12.4)	(15.1)	10.3
GS	61,300	1.5	0.7	(1.3)	(11.7)	(7.5)	3.4
SK가스	93,900	0.9	(0.4)	(2.2)	(10.1)	(0.1)	(20.1)
포스코대우	22,550	(2.6)	(4.2)	(1.5)	(8.1)	13.9	(6.0)
LG상사	26,450	0.2	(4.5)	(3.1)	(14.5)	(8.0)	(18.6)
한국전력	37,450	2.7	2.0	14.0	4.3	(3.6)	(17.4)
한국가스공사	54,800	3.4	3.8	13.1	8.9	30.6	17.6

투자의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	450,000	25.0	12.46	1.66
매수	480,000	15.9	11.95	1.17
매수	39,000	34.7	10.31	0.74
매수	150,000	39.5	10.47	1.61
매수	450,000	15.1	14.32	0.61
매수	180,000	15.4	11.63	1.04
매수	50,000	31.2	10.45	0.94
매수	230,000	17.0	11.99	0.99
매수	140,000	27.3	13.33	1.73
매수	80,000	30.5	5.76	0.77
매수	130,000	38.4	8.25	0.62
매수	25,000	10.9	11.98	0.96
매수	38,000	43.7	8.63	0.78
매수	45,000	20.2	8.24	0.29
매수	60,000	9.5	9.55	0.72

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

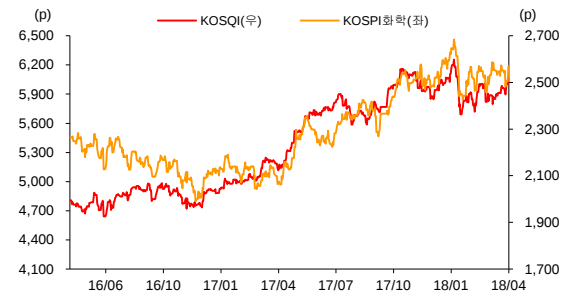
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

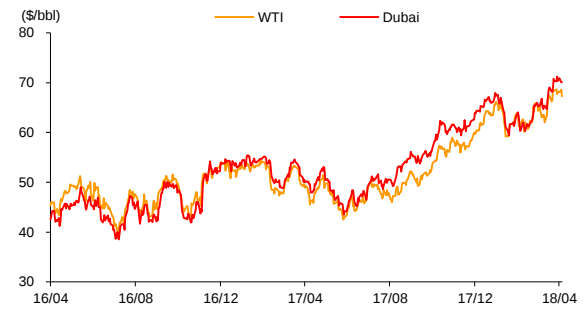
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

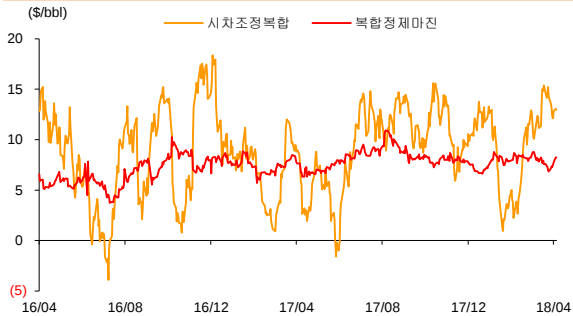
KOSPI/KOSPI화학



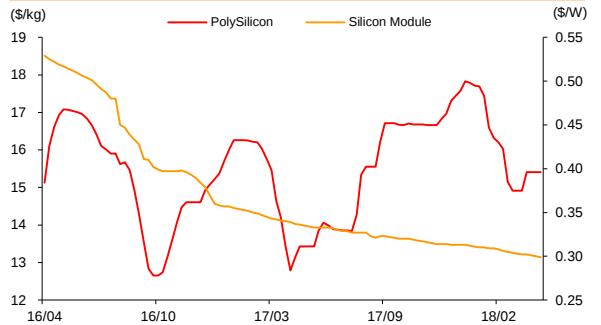
WTI/Dubai



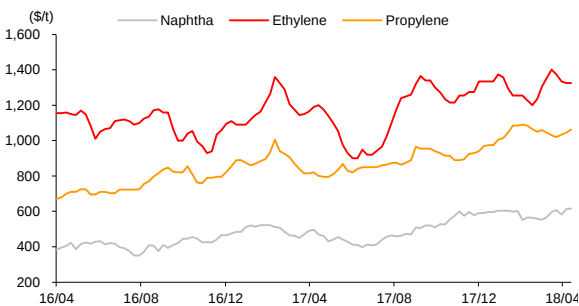
Complex & 1M lagging margin



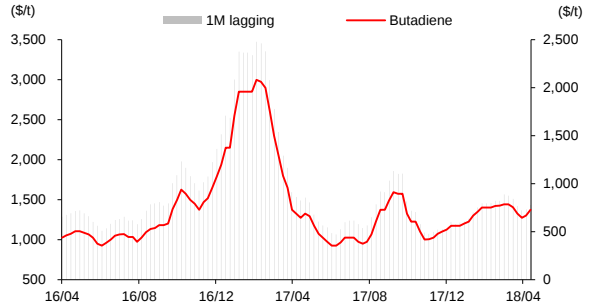
Polysilicon & Module prices



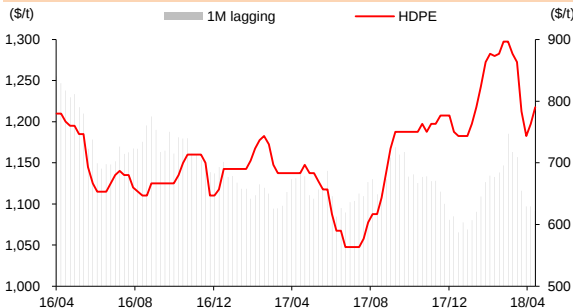
Naphtha/Ethylene/Propylene prices



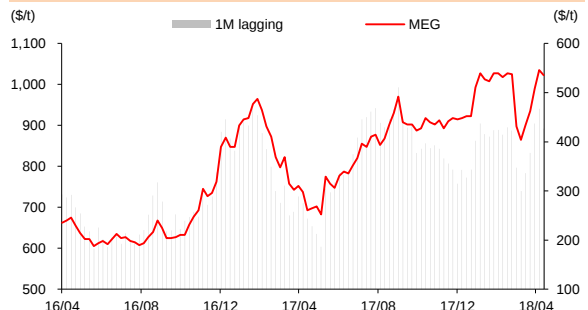
Butadiene price & 1M lagging naphtha spread



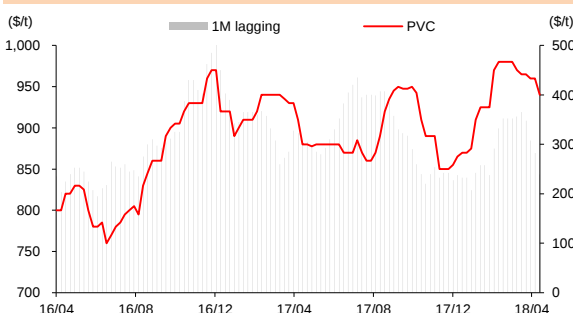
HDPE price & 1M lagging naphtha spread



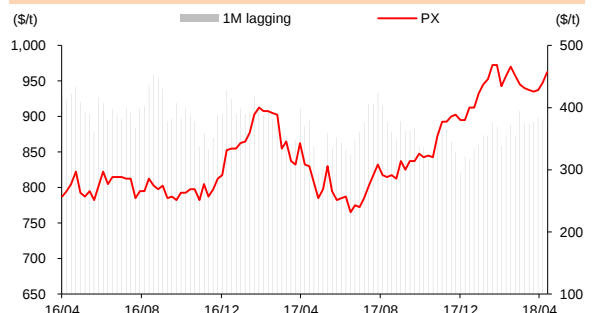
MEG price & 1M lagging naphtha spread



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: Platts)
제목	TurkStream의 해저 파이프 부분 Line 1 완공
결론	러시아는 Nord Stream을 비롯한 우크라이나 우회노선 구축에 주력중임
세부	1) 흑해를 지나는 TurkStream의 해저 부분 파이프의 Line 1이 완공되었음 2) TurkStream은 우크라이나를 거치지 않는 對 유럽 가스 수출 노선임 3) TurkStream은 31.5bcm/년 규모로 2개 Line이 2019년부터 가동될 예정 4) 해저 파이프 부분의 Line 2는 2018년 3분기 내로 완공될 예정임 5) 러시아는 지정학적 리스크를 낮추기 위해 우크라이나 우회노선 구축중

Issue 1	(출처: Financial Tribune)
제목	가즈프롬은 Nord Stream 3 프로젝트 가능성을 배제하지 않음
결론	Nord Stream 프로젝트도 우크라이나를 우회하는 노선 구축의 일환임
세부	1) 가즈프롬, "유럽이 필요한 만큼의 천연가스를 제공할 준비가 되었음" 2) 메드베데프 부회장, "Nord Stream 3에 대해서도 가능성 배제하지 않음" 3) 현재 가즈프롬은 유럽의 가스 수입량 중 60%를 공급하고 있음 4) 중국, 유럽으로 추가 수출 앞둔 가즈프롬은 유럽으로 200bcm 수출 계획 5) Nord Stream 프로젝트도 우크라이나를 우회하는 노선 구축의 일환임

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	달러 강세에 하락...WTI 1.9% ↓
상승	이란 핵위기에 대한 우려
요인	
하락	달러화 강세
요인	

Issue 2	(출처: Platts)
제목	ExxonMobil과 Sabic이 합작으로 Texas PetChem 단지 조성 계획
결론	최근의 화학 up-cycle이 길었던만큼 down-cycle도 길어질 수 있음
세부	1) ExxonMobil과 Sabic이 합작으로 \$100억 규모의 석유화학단지 조성 예정 2) 180만톤/년 규모의 크래커와 2기의 PE, 1기의 MEG 유닛 진입 예정 3) 양사는 해당 프로젝트는 2016년 7월에 공표했으며 FID 성사 대기중임 4) 이 단지는 San Patricio County 근처에 위치해 싼 feedstock이 풍부함 5) 최근의 화학 up-cycle이 길었던만큼 down-cycle도 길어질 수 있음

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	0.834	0.828	0.818	0.811	0.800	0.861	0.918	0.833	0.904	0.887	0.814
	Change, %		0.7	2.0	2.8	4.3	(3.1)	(9.1)	0.1	(7.7)	(5.9)	2.4
	USD/JPY	109.9	109.3	108.8	106.3	109.4	114.2	111.8	112.6	108.8	112.1	108.2
	Change, %		0.5	1.0	3.4	0.4	(3.8)	(1.8)	(2.5)	1.0	(2.0)	1.6
	USD/KRW	1,069.5	1,068.1	1,076.8	1,063.6	1,071.8	1,114.4	1,137.9	1,066.7	1,160.5	1,130.9	1,071.3
	Change, %		0.1	(0.7)	0.5	(0.2)	(4.0)	(6.0)	0.3	(7.8)	(5.4)	(0.2)
Agriculture	Corn	396.8	392.5	381.3	387.8	361.8	348.3	369.3	350.8	358.5	359.4	371.3
	Change, %		1.1	4.1	2.3	9.7	13.9	7.4	13.1	10.7	10.4	6.9
	Soybean	1,042.5	1,037.8	1,022.3	1,044.8	985.0	981.0	959.0	951.8	987.5	975.9	1,014.6
	Change, %		0.5	2.0	(0.2)	5.8	6.3	8.7	9.5	5.6	6.8	2.8
	Wheat	529.8	512.5	472.5	451.0	451.0	418.0	442.8	427.0	436.4	436.0	459.6
	Change, %		3.4	12.1	17.5	17.5	26.7	19.6	24.1	21.4	21.5	15.3
	Rice	12.6	12.8	13.1	12.4	12.4	11.2	9.4	11.7	10.3	11.1	12.3
	Change, %		(1.2)	(3.8)	2.3	1.9	12.8	35.1	8.2	22.2	14.2	2.6
	Oats	227.8	225.5	224.3	225.0	267.3	271.5	243.3	241.0	196.3	252.3	248.7
	Change, %		1.0	1.6	1.2	(14.8)	(16.1)	(6.4)	(5.5)	16.0	(9.7)	(8.4)
MYR/mt	Palm Oil	2,324.0	2,324.0	2,395.0	2,380.0	2,490.0	2,804.0	2,694.0	2,444.0	2,653.8	2,787.3	2,459.5
	Change, %		0.0	(3.0)	(2.4)	(6.7)	(17.1)	(13.7)	(4.9)	(12.4)	(16.6)	(5.5)
	Cocoa	2,914.0	2,845.0	2,835.0	2,556.0	2,017.0	2,123.0	1,812.0	1,892.0	2,854.0	2,005.2	2,312.8
	Change, %		2.4	2.8	14.0	44.5	37.3	60.8	54.0	2.1	45.3	26.0
	Cotton	85.1	84.7	82.3	81.5	78.4	68.2	80.5	78.6	65.6	73.5	81.3
	Change, %		0.5	3.5	4.5	8.6	24.9	5.8	8.3	29.8	15.8	4.8
	Sugar	11.7	11.5	11.1	12.4	13.4	14.6	16.2	15.2	18.2	15.8	13.0
	Change, %		1.5	4.9	(5.3)	(12.6)	(20.0)	(27.8)	(22.9)	(35.6)	(26.1)	(10.3)
	Coffee	122.6	120.7	118.5	118.2	121.4	123.0	133.6	126.2	136.1	133.0	120.2
	Change, %		1.6	3.5	3.8	1.0	(0.3)	(8.2)	(2.9)	(9.9)	(7.8)	2.0
Energy	WTI	67.3	68.6	67.7	64.9	65.8	54.3	48.8	60.4	43.4	51.0	63.9
	Change, %		(1.9)	(0.7)	3.6	2.2	23.8	37.7	11.3	55.0	31.9	5.3
	Brent	73.1	75.2	73.9	70.3	69.7	60.5	51.5	66.9	45.1	54.9	68.5
	Change, %		(2.7)	(1.0)	4.1	5.0	20.9	41.9	9.4	62.2	33.3	6.8
	Natural Gas	2.8	2.8	2.8	2.7	2.9	2.9	3.2	3.0	2.6	3.0	2.8
	Change, %		1.4	0.8	2.5	(1.9)	(3.1)	(12.8)	(5.1)	9.8	(7.3)	(0.4)
	Ethanol	1.4	1.4	1.5	1.5	1.4	1.4	1.6	1.3	1.5	1.5	1.4
	Change, %		(1.1)	(2.7)	(1.7)	0.2	(0.1)	(9.2)	8.3	(5.7)	(4.5)	(0.3)
	RBOB Gasoline	208.8	212.9	209.5	201.8	189.6	174.1	152.7	179.9	140.0	162.9	191.4
	Change, %		(2.0)	(0.3)	3.5	10.1	19.9	36.7	16.0	49.1	28.2	9.1
	Coal	102.1	99.4	93.3	96.4	104.4	100.0	79.4	100.8	65.5	88.2	100.5
	Change, %		2.7	9.4	5.9	(2.3)	2.1	28.5	1.2	55.9	15.7	1.5
Metal	Gold	1,303.9	1,315.4	1,330.4	1,325.0	1,348.7	1,274.7	1,256.7	1,302.6	1,248.5	1,258.6	1,330.6
	Change, %		(0.9)	(2.0)	(1.6)	(3.3)	2.3	3.8	0.1	4.4	3.6	(2.0)
	Silver	16.2	16.3	16.7	16.4	17.2	17.1	16.9	16.9	17.1	17.1	16.7
	Change, %		(1.0)	(3.4)	(1.2)	(6.2)	(5.7)	(4.1)	(4.6)	(5.5)	(5.3)	(3.3)
	Copper	6,745.0	6,807.0	7,013.0	6,714.0	7,119.0	6,930.0	5,735.5	7,247.0	4,872.0	6,199.4	6,957.0
	Change, %		(0.9)	(3.8)	0.5	(5.3)	(2.7)	17.6	(6.9)	38.4	8.8	(3.0)
	Nickel	920.2	923.4	933.3	841.4	894.4	815.7	606.9	809.1	646.4	680.2	870.2
	Change, %		(0.3)	(1.4)	9.4	2.9	12.8	51.6	13.7	42.4	35.3	5.7
	Zinc	3,052.0	3,127.0	3,212.0	3,274.0	3,557.0	3,277.0	2,623.0	3,319.0	2,097.5	2,888.5	3,334.4
	Change, %		(2.4)	(5.0)	(6.8)	(14.2)	(6.9)	16.4	(8.0)	45.5	5.7	(8.5)
	Lead	2,298.5	2,325.5	2,309.0	2,399.0	2,682.5	2,480.0	2,250.5	2,482.8	1,868.3	2,315.7	2,474.3
	Change, %		(1.2)	(0.5)	(4.2)	(14.3)	(7.3)	2.1	(7.4)	23.0	(0.7)	(7.1)
	Aluminum	14,380.0	14,380.0	14,360.0	13,705.0	14,275.0	16,220.0	14,160.0	15,020.0	12,373.5	14,556.6	14,321.2
	Change, %		0.0	0.1	4.9	0.7	(11.3)	1.6	(4.3)	16.2	(1.2)	0.4
	Cobalt	88,500.0	88,500.0	91,250.0	93,550.0	79,881.5	61,992.0	55,000.0	75,205.0	25,480.1	55,906.9	84,273.3
	Change, %		0.0	(3.0)	(5.4)	10.8	42.8	60.9	17.7	247.3	58.3	5.0
	HR Coil	862.0	865.0	864.0	859.0	722.0	612.0	618.0	662.0	519.3	620.1	777.6
	Change, %		(0.3)	(0.2)	0.3	19.4	40.8	39.5	30.2	66.0	39.0	10.8
	Scrap	380.0	380.0	385.0	400.0	370.0	330.0	360.0	367.0	275.7	344.7	385.5
	Change, %		0.0	(1.3)	(5.0)	2.7	15.2	5.6	3.5	37.8	10.2	(1.4)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		04/30	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	67.3	68.6	67.7	63.0	64.5	54.4	47.7	53.7	43.4	50.9	63.8
	Change, %		(1.9)	(0.7)	6.7	4.3	23.7	41.1	25.2	55.1	32.1	5.4
	Dubai	70.1	70.1	71.2	66.8	66.4	58.3	50.2	53.8	41.3	53.1	65.1
	Change, %		0.0	(1.7)	4.9	5.5	20.1	39.7	30.1	69.6	31.9	7.6
Crude Oil	Gasoline(휘발유)	83.9	83.9	84.8	80.8	80.9	72.7	64.6	69.8	56.3	68.0	78.7
Product	Change, %		0.0	(1.1)	3.8	3.7	15.3	29.8	20.1	49.1	23.3	6.6
	Kerosene(등유)	87.2	87.2	88.1	83.3	81.9	71.3	61.0	66.4	52.9	65.2	81.3
	Change, %		0.0	(1.0)	4.8	6.6	22.3	43.0	31.3	65.0	33.7	7.3
	Diesel(경유)	85.8	85.8	86.6	82.8	81.9	71.2	62.4	65.5	52.1	65.6	80.0
	Change, %		0.0	(0.9)	3.7	4.8	20.6	37.5	31.0	64.7	30.8	7.3
	Bunker-C	63.8	63.8	62.7	58.6	59.2	55.3	46.7	52.1	35.5	49.7	58.5
	Change, %		0.0	1.8	8.9	7.8	15.4	36.7	22.6	79.6	28.5	9.0
	Naphtha	69.5	69.5	69.0	66.8	63.8	61.4	49.7	53.5	42.6	53.7	64.4
	Change, %		0.0	0.8	4.0	8.8	13.1	39.7	30.0	63.1	29.3	7.8
Dubai	Gasoline(휘발유)	13.8	13.8	13.5	14.0	14.5	14.4	14.4	16.0	14.9	14.9	13.6
Spread	Change		0.0	0.3	(0.2)	(0.7)	(0.6)	(0.6)	(2.2)	(1.1)	(1.1)	0.2
	Kerosene(등유)	17.2	17.2	16.9	16.5	15.5	13.0	10.9	12.6	11.6	12.1	16.2
	Change		0.0	0.3	0.7	1.7	4.2	6.3	4.6	5.6	5.0	1.0
	Diesel(경유)	15.8	15.8	15.4	16.0	15.5	12.8	12.2	11.7	10.8	12.5	15.0
	Change		0.0	0.4	(0.2)	0.3	2.9	3.5	4.1	5.0	3.3	0.8
	Bunker-C	(6.2)	(6.2)	(8.5)	(8.2)	(7.2)	(3.0)	(3.5)	(1.8)	(5.8)	(3.4)	(6.5)
	Change		0.0	2.3	1.9	0.9	(3.2)	(2.8)	(4.5)	(0.4)	(2.8)	0.3
	Naphtha	(0.6)	(0.6)	(2.3)	0.0	(2.6)	3.1	(0.4)	(0.4)	1.3	0.6	(0.7)
	Change		0.0	1.7	(0.6)	2.0	(3.7)	(0.2)	(0.2)	(1.9)	(1.2)	0.1
Refining	Simple(단순)	2.5	2.5	1.2	1.7	1.9	3.4	2.9	3.8	1.9	3.2	2.2
Margin	Change		0.0	1.3	0.8	0.6	(0.9)	(0.4)	(1.3)	0.6	(0.6)	0.4
	Complex(복합)	8.2	8.2	7.4	8.0	7.9	8.2	7.6	8.3	7.0	8.0	7.8
	Change		0.0	0.9	0.3	0.3	0.0	0.6	(0.0)	1.3	0.3	0.4
	Complex(lagging)	13.0	13.1	13.2	11.6	10.4	11.0	7.7	18.0	8.5	8.9	9.6
	Change		(0.1)	(0.2)	1.4	2.6	2.0	5.3	(5.0)	4.5	4.0	3.4

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			04/30	04/27	04/26	04/25	04/24	04/23	04/20	04/19	04/18	04/17
Spot Price	Naphtha	CFR Japan	630.5	634.3	626.6	626.1	628.8	621.8	621.6	620.8	608.5	602.8
	Ethylene	CFR SE Asia	1,220.0	1,220.0	1,260.0	1,260.0	1,270.0	1,270.0	1,270.0	1,290.0	1,290.0	1,290.0
	Propylene	FOB Korea	1,040.0	1,040.0	1,045.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0
	Butadiene	FOB Korea	1,460.0	1,460.0	1,400.0	1,330.0	1,330.0	1,330.0	1,330.0	1,330.0	1,330.0	1,330.0
	HDPE	CFR FE Asia	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,345.0	1,345.0	1,345.0	1,345.0
	LDPE	CFR FE Asia	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,205.0	1,205.0	1,210.0	1,220.0
	LLDPE	CFR FE Asia	1,175.0	1,175.0	1,175.0	1,175.0	1,175.0	1,175.0	1,170.0	1,170.0	1,175.0	1,185.0
	MEG	CFR China	1,015.0	1,015.0	1,020.0	1,020.0	1,020.0	1,026.0	1,017.0	1,040.0	1,036.0	1,033.0
	PP	CFR FE Asia	1,205.0	1,205.0	1,205.0	1,205.0	1,205.0	1,205.0	1,210.0	1,210.0	1,210.0	1,200.0
	PX	CFR China	957.5	959.7	960.7	963.3	966.3	954.3	952.0	956.5	942.0	939.0
	PTA	CFR China	790.0	790.0	790.0	790.0	793.0	793.0	790.0	792.0	787.0	784.0
	Benzene	FOB Korea	844.3	842.3	846.3	845.3	845.0	839.3	837.0	840.7	837.7	837.7
	Toluene	FOB Korea	754.0	754.0	750.0	740.0	738.0	731.0	728.0	728.0	717.0	717.0
	Xylene	FOB Korea	804.0	802.0	795.5	788.5	782.5	771.5	771.0	766.5	760.0	759.0
	SM	FOB Korea	1,329.0	1,327.5	1,314.5	1,319.0	1,312.5	1,296.0	1,298.0	1,321.0	1,327.5	1,328.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	616.5	613.0	596.0	603.0	597.0	470.5	484.5	399.5	493.5	586.5
	Change, %			0.6	3.4	2.2	3.3	31.0	27.2	54.3	24.9	5.1
	Ethylene	CFR SE Asia	1,270.0	1,275.0	1,265.0	1,295.0	1,272.5	1,095.0	990.0	1,040.9	1,090.9	1,247.2
	Change, %			(0.4)	0.4	(1.9)	(0.2)	16.0	28.3	22.0	16.4	1.8
	Propylene	CFR SE Asia	997.5	977.5	955.0	995.0	897.5	725.0	815.0	705.7	823.6	1,051.6
	Change, %			2.0	4.5	0.3	11.1	37.6	22.4	41.4	21.1	(5.1)
	Butadiene	CFR SE Asia	1,325.0	1,250.0	1,355.0	1,250.0	1,125.0	1,225.0	2,100.0	1,116.8	1,481.1	1,311.2
	Change, %			6.0	(2.2)	6.0	17.8	8.2	(36.9)	18.6	(10.5)	1.1
	Benzene	CFR SE Asia	835.0	832.5	855.0	947.5	890.0	802.5	822.5	646.7	838.8	887.4
	Change, %			0.3	(2.3)	(11.9)	(6.2)	4.0	1.5	29.1	(0.5)	(5.9)
	Toluene	CFR SE Asia	755.0	740.0	720.0	755.0	735.0	680.0	690.0	630.5	689.5	744.1
	Change, %			2.0	4.9	0.0	2.7	11.0	9.4	19.7	9.5	1.5
	Xylene	CFR SE Asia	762.5	760.0	762.5	740.0	712.5	670.0	675.0	627.7	668.8	757.2
	Change, %			0.3	0.0	3.0	7.0	13.8	13.0	21.5	14.0	0.7
Spread	Ethylene	-Naphtha	653.5	662.0	669.0	692.0	675.5	624.5	505.5	641.4	597.4	660.7
	Change, %			(1.3)	(2.3)	(5.6)	(3.3)	4.6	29.3	1.9	9.4	(1.1)
	Propylene	-Naphtha	381.0	364.5	359.0	392.0	300.5	254.5	330.5	306.2	330.1	465.1
	Change, %			4.5	6.1	(2.8)	26.8	49.7	15.3	24.4	15.4	(18.1)
	Butadiene	-Naphtha	708.5	637.0	759.0	647.0	528.0	754.5	1,615.5	717.3	987.6	724.7
	Change, %			11.2	(6.7)	9.5	34.2	(6.1)	(56.1)	(1.2)	(28.3)	(2.2)
	Benzene	-Naphtha	218.5	219.5	259.0	344.5	293.0	332.0	338.0	247.2	345.3	300.9
	Change, %			(0.5)	(15.6)	(36.6)	(25.4)	(34.2)	(35.4)	(11.6)	(36.7)	(27.4)
	Toluene	-Naphtha	138.5	127.0	124.0	152.0	138.0	209.5	205.5	231.0	196.0	157.6
	Change, %			9.1	11.7	(8.9)	0.4	(33.9)	(32.6)	(40.0)	(29.3)	(12.1)
	Xylene	-Naphtha	146.0	147.0	166.5	137.0	115.5	199.5	190.5	228.2	175.3	170.7
	Change, %			(0.7)	(12.3)	6.6	26.4	(26.8)	(23.4)	(36.0)	(16.7)	(14.5)

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	1,217.5	1,197.5	1,272.5	1,217.5	1,182.5	1,137.5	1,142.5	1,134.6	1,142.5	1,245.3
	Change, %			1.7	(4.3)	0.0	3.0	7.0	6.6	7.3	6.6	(2.2)
	MEG	CFR SE Asia	1,022.5	1,035.0	900.0	1,012.5	922.5	692.5	847.5	660.8	850.6	988.1
	Change, %			(1.2)	13.6	1.0	10.8	47.7	20.6	54.7	20.2	3.5
	PVC	CFR SE Asia	940.0	960.0	965.0	925.0	870.0	880.0	920.0	823.4	899.9	950.0
	Change, %			(2.1)	(2.6)	1.6	8.0	6.8	2.2	14.2	4.5	(1.1)
	PP	CFR SE Asia	1,247.5	1,247.5	1,272.5	1,207.5	1,157.5	1,067.5	1,032.5	978.4	1,099.6	1,252.1
	Change, %			0.0	(2.0)	3.3	7.8	16.9	20.8	27.5	13.5	(0.4)
	2-EH	CFR Korea	1,155.0	1,155.0	1,130.0	1,095.0	1,020.0	965.0	865.0	772.4	970.0	1,104.4
	Change, %			0.0	2.2	5.5	13.2	19.7	33.5	49.5	19.1	4.6
	ABS	CFR SE Asia	1,990.0	1,990.0	1,970.0	2,020.0	2,050.0	1,665.0	1,635.0	1,347.1	1,844.7	2,024.7
	Change, %			0.0	1.0	(1.5)	(2.9)	19.5	21.7	47.7	7.9	(1.7)
	SBR	CFR SE Asia	1,650.0	1,630.0	1,700.0	1,650.0	1,650.0	2,050.0	2,000.0	1,483.0	1,980.5	1,707.1
	Change, %			1.2	(2.9)	0.0	0.0	(19.5)	(17.5)	11.3	(16.7)	(3.3)
	SM	CFR SE Asia	1,362.5	1,365.0	1,287.5	1,382.5	1,290.0	1,127.5	1,205.0	1,064.6	1,253.8	1,382.1
	Change, %			(0.2)	5.8	(1.4)	5.6	20.8	13.1	28.0	8.7	(1.4)
	Caustic	FOB NEA	579.0	626.0	631.0	601.0	619.0	447.5	422.5	316.6	491.2	592.5
	Change, %			(7.5)	(8.2)	(3.7)	(6.5)	29.4	37.0	82.9	17.9	(2.3)
	PX	CFR SE Asia	962.5	947.5	937.5	952.5	912.5	830.0	855.0	790.4	844.4	950.5
	Change, %			1.6	2.7	1.0	5.5	16.0	12.6	21.8	14.0	1.3
	PO	CFR China	2,040.0	1,915.0	1,757.5	1,962.5	1,995.0	1,330.0	1,562.5	1,396.8	1,601.2	1,912.6
	Change, %			6.5	16.1	3.9	2.3	53.4	30.6	46.0	27.4	6.7
	Caprolactam	CFR SE Asia	2,190.0	2,220.0	2,200.0	2,020.0	2,060.0	1,970.0	1,850.0	1,344.9	1,936.4	2,115.0
	Change, %			(1.4)	(0.5)	8.4	6.3	11.2	18.4	62.8	13.1	3.5
	PTA	CFR SE Asia	802.5	792.5	785.0	745.0	717.5	647.5	642.5	613.7	667.8	776.9
	Change, %			1.3	2.2	7.7	11.8	23.9	24.9	30.8	20.2	3.3
Spread	HDPE		601.0	584.5	676.5	614.5	585.5	667.0	658.0	735.1	649.0	658.8
	Change, %			2.8	(11.2)	(2.2)	2.6	(9.9)	(8.7)	(18.2)	(7.4)	(8.8)
	MEG		406.0	422.0	304.0	409.5	325.5	222.0	363.0	261.3	357.1	401.7
	Change, %			(3.8)	33.6	(0.9)	24.7	82.9	11.8	55.4	13.7	1.1
	PVC		323.5	347.0	369.0	322.0	273.0	409.5	435.5	423.9	406.4	363.5
	Change, %			(6.8)	(12.3)	0.5	18.5	(21.0)	(25.7)	(23.7)	(20.4)	(11.0)
	PP		631.0	634.5	676.5	604.5	560.5	597.0	548.0	578.9	606.1	665.6
	Change, %			(0.6)	(6.7)	4.4	12.6	5.7	15.1	9.0	4.1	(5.2)
	2-EH		538.5	542.0	534.0	492.0	423.0	494.5	380.5	372.9	476.5	517.9
	Change, %			(0.6)	0.8	9.5	27.3	8.9	41.5	44.4	13.0	4.0
	ABS		1,373.5	1,377.0	1,374.0	1,417.0	1,453.0	1,194.5	1,150.5	947.6	1,351.2	1,438.2
	Change, %			(0.3)	(0.0)	(3.1)	(5.5)	15.0	19.4	44.9	1.7	(4.5)
	SBR	BD spread	325.0	380.0	345.0	400.0	525.0	825.0	(100.0)	366.2	499.4	395.9
	Change, %			(14.5)	(5.8)	(18.8)	(38.1)	(60.6)	(425.0)	(11.2)	(34.9)	(17.9)
	SM		746.0	752.0	691.5	779.5	693.0	657.0	720.5	665.1	760.3	795.6
	Change, %			(0.8)	7.9	(4.3)	7.6	13.5	3.5	12.2	(1.9)	(6.2)
	Caustic											
	Change, %											
	PX		346.0	334.5	341.5	349.5	315.5	359.5	370.5	390.9	351.0	364.0
	Change, %			3.4	1.3	(1.0)	9.7	(3.8)	(6.6)	(11.5)	(1.4)	(4.9)
	PO	propylene spread	1,042.5	937.5	802.5	967.5	1,097.5	605.0	747.5	691.1	777.6	861.0
	Change, %			11.2	29.9	7.8	(5.0)	72.3	39.5	50.8	34.1	21.1
	Caprolactam	benzene spread	1,355.0	1,387.5	1,345.0	1,072.5	1,170.0	1,167.5	1,027.5	698.2	1,097.6	1,227.6
	Change, %			(2.3)	0.7	26.3	15.8	16.1	31.9	94.1	23.4	10.4
	PTA	px spread	128.8	129.3	128.8	78.3	78.8	66.5	44.0	60.4	76.7	111.5
	Change, %			(0.4)	0.0	64.5	63.5	93.6	192.6	113.1	67.9	15.4

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	04/30	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	63.1	(0.3)	(0.2)	(1.0)	(14.2)	(14.0)	0.9	(11.5)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	102.1	0.1	(3.0)	(3.3)	3.8	12.3	27.1	10.3	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	86.3	0.0	0.8	4.6	(6.4)	(9.7)	(4.0)	(6.0)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.9	0.0	(1.7)	(2.4)	(1.4)	(3.2)	(6.7)	2.6	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	108.5	0.0	(3.1)	2.4	5.8	(0.6)	11.6	6.8	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	61.6	0.0	(2.2)	(1.0)	(11.3)	(10.7)	(7.1)	(7.1)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	629	0.0	(3.1)	1.5	(22.7)	(22.9)	(0.6)	(22.3)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,047	0.7	(1.6)	1.6	(13.4)	(13.1)	18.6	(15.4)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,995	(2.3)	1.1	(0.1)	(11.9)	(8.7)	13.8	(4.0)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,531	1.5	0.7	9.4	4.7	8.5	43.2	5.3	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,033	(1.5)	(15.9)	(15.0)	(22.0)	(8.2)	0.6	(8.3)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,230	1.0	(2.1)	3.2	(15.2)	(26.3)	(7.4)	(17.8)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	114.0	(0.5)	(6.8)	(1.7)	6.7	14.6	14.4	12.4	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	70.1	0.8	0.0	(3.2)	6.2	25.1	26.8	18.7	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	104.5	0.0	0.5	0.5	1.5	14.3	15.2	5.9	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	109.5	0.0	2.3	0.9	(0.9)	19.2	18.0	6.3	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	81.6	0.0	0.9	0.0	1.9	8.9	12.2	4.7	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.82	0.0	(0.7)	(2.5)	(12.2)	(9.1)	(12.0)	(8.1)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fiber)	CNY	2.01	0.0	(0.5)	(1.0)	(15.9)	(33.2)	(38.2)	(24.7)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	963	0.0	(0.7)	9.1	2.1	1.1	38.1	5.9	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	112.0	0.0	1.4	3.6	2.1	16.9	8.0	15.5	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	98.0	0.0	(0.5)	3.7	1.8	25.2	30.7	15.3	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.0	(0.5)	2.3	3.8	14.7	15.8	9.7	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	360,000	0.0	(3.9)	(6.6)	(14.0)	(13.1)	31.4	(11.1)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	414,000	0.0	1.8	(4.4)	(3.2)	10.0	21.1	12.5	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	28,950	0.0	0.2	(2.9)	(18.9)	(8.4)	15.1	(8.4)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	107,500	0.0	13.3	11.5	4.4	43.5	41.3	8.0	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	38,100	0.0	(1.4)	(0.4)	(14.7)	(4.4)	33.0	(18.9)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	69,200	0.0	4.2	15.5	10.2	17.5	44.2	9.7	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	7,650	0.0	(5.2)	(21.9)	(26.1)	(6.5)	0.1	0.9	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			(0.0)	(0.9)	0.1	(5.7)	1.3	13.5	(0.4)							
Refinery																
Valero	USD	110.7	(0.2)	2.2	19.3	16.9	37.2	72.0	20.5	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	65.7	0.3	0.6	10.8	10.7	26.1	38.4	19.7	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemical	TWD	121.5	0.0	3.4	2.5	(2.4)	15.2	15.2	5.2	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	133.5	(3.5)	12.2	32.7	25.0	22.2	69.2	16.7	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	72.9	(2.7)	(8.6)	(0.3)	6.1	19.7	43.3	10.5	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	36.2	(0.4)	5.0	13.9	(14.3)	(7.4)	(7.9)	(12.6)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	60.5	(0.4)	0.1	23.7	27.0	52.5	115.1	18.0	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	111.9	0.5	2.4	16.6	10.9	21.2	40.6	10.6	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	29.6	(1.6)	(1.7)	14.7	(5.8)	8.2	13.6	(4.6)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	722.5	1.1	(1.1)	12.2	(3.2)	19.9	46.1	(0.6)	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,335.0	1.2	2.1	7.2	2.0	27.7	23.0	(4.2)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	69.9	0.0	28.4	23.5	24.6	46.3	86.4	31.0	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	66.2	0.0	(3.3)	(5.2)	(6.2)	(3.6)	10.4	(7.0)	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	44.5	0.0	1.2	1.0	1.2	(9.5)	(5.9)	0.7	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	196,500	0.0	(1.5)	(6.9)	(4.4)	(5.3)	14.9	(3.9)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	110,000	0.0	(4.3)	(8.3)	(11.3)	(14.7)	10.3	(6.0)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	61,300	0.0	1.2	(1.3)	(12.4)	(7.7)	3.4	(1.4)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			(0.3)	2.3	9.2	3.8	14.6	34.6	5.4							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	04/30	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	77	(1.0)	(1.8)	3.1	(13.6)	(8.3)	(6.2)	(8.0)	325,944	16.6	16.0	1.7	1.6	7.2	6.9
BP	GBP	548	1.8	2.6	14.3	9.2	6.6	23.8	4.8	148,917	15.7	14.9	1.5	1.4	5.8	5.5
Shell	EUR	2,522	(0.4)	(1.1)	12.9	4.8	6.9	25.9	1.7	290,439	13.8	12.4	1.4	1.4	6.1	5.9
Chevron	USD	125	(0.2)	1.9	9.5	(0.6)	7.7	17.9	(0.3)	238,602	18.0	17.9	1.6	1.6	6.7	6.4
Total	EUR	52	0.0	0.9	13.4	11.2	8.4	10.9	13.6	167,757	12.5	12.1	1.3	1.3	5.8	5.5
Sinopec	CNY	7	0.0	(0.4)	6.6	(3.5)	13.1	19.6	12.7	129,190	11.5	11.1	1.1	1.0	4.2	4.1
Petrochina	CNY	8	0.0	(0.8)	0.1	(15.0)	(8.8)	(1.9)	(5.4)	210,888	25.7	23.3	1.1	1.1	5.5	5.5
CNOOC	CNY	11	0.0	(1.3)	1.3	(4.6)	(0.1)	0.1	8.3	74,863	9.8	10.0	1.2	1.1	4.0	4.0
Gazprom	RUB	146	0.0	1.2	2.5	0.4	15.4	6.7	11.8	54,832	3.8	4.0	0.3	0.2	3.4	3.4
Rosneft	RUB	383	0.0	8.7	22.0	11.0	18.5	20.7	31.4	64,425	8.5	7.5	1.0	0.9	5.0	4.6
Anadarko	USD	67	(1.2)	0.7	10.1	8.4	32.7	17.4	24.0	34,264	33.7	31.4	2.7	2.5	6.0	5.6
Petrobras	BRL	23	0.0	2.5	7.3	11.9	35.9	64.4	42.7	89,520	10.4	8.8	1.0	0.9	5.4	5.1
Lukoil	USD	4,157	0.0	3.9	4.9	10.5	32.2	47.5	24.7	55,882	6.4	6.5	0.8	0.7	N/A	N/A
Kinder	USD	16	1.3	(1.5)	6.4	(11.3)	(11.6)	(22.0)	(11.3)	47,497	18.8	16.7	1.0	1.0	10.1	9.7
Statoil	NOK	206	0.0	0.5	11.3	12.8	23.4	45.0	17.3	85,646	15.3	15.1	2.0	1.8	3.5	3.4
BHP	AUD	31	1.0	(0.1)	10.8	1.9	16.0	30.9	5.7	118,947	16.0	16.9	2.0	1.9	6.1	6.3
PTT E&P	THB	134	0.0	(2.9)	17.0	10.3	56.3	37.8	34.0	16,848	14.4	13.8	1.4	1.3	4.1	3.9
Petronas gas	MYR	18	0.0	(0.8)	(0.1)	(0.4)	(1.4)	(3.6)	1.9	8,992	18.7	18.4	2.7	2.6	10.4	10.2
Chesapeake	USD	3	0.3	1.4	(1.3)	(13.9)	(24.7)	(43.9)	(24.7)	2,717	4.0	4.5	#N/A	N/A	5.9	6.0
Noble Energy	USD	33	(2.2)	(0.6)	9.1	7.1	15.8	2.4	13.5	16,020	35.1	25.2	1.4	1.3	7.7	6.7
Average		0	(0.0)	0.7	8.1	1.8	11.7	14.7	9.9							
PV																
WACKER	EUR	149.5	0.0	(0.9)	12.1	(5.2)	8.6	53.9	(7.8)	9,435	21.4	18.5	2.3	2.2	7.3	6.9
GCL-Poly	HKD	1.0	0.0	(3.0)	1.0	(26.9)	(26.3)	4.3	(30.0)	2,322	6.4	5.8	0.6	0.5	6.3	5.8
SunPower	USD	8.4	(1.3)	(5.7)	5.5	7.8	18.1	21.5	(0.1)	1,186	#N/A	N/A	#N/A	N/A	14.2	9.2
Canadian Solar	USD	15.4	(1.5)	0.2	(5.4)	(0.8)	(13.3)	17.6	(8.7)	902	11.9	9.2	0.8	0.8	10.5	10.5
JA Solar	USD	7.1	0.1	4.1	7.8	(6.2)	(8.5)	1.4	(5.2)	336	13.5	11.3	1.6	1.5	4.2	3.8
Yingli	USD	1.8	0.5	4.0	9.5	7.6	(17.1)	(31.6)	8.9	33	#N/A	N/A	#N/A	N/A	#N/A	N/A
First Solar	USD	67.5	(4.8)	(8.9)	(4.9)	(0.1)	18.0	128.5	(0.0)	7,073	39.5	20.7	1.3	1.2	12.8	7.2
한화큐셀	USD	7.0	(1.0)	(2.9)	(7.1)	(5.4)	(11.0)	3.4	0.3	586	32.0	22.7	#N/A	N/A	8.0	7.2
OCI	KRW	156,000	0.0	(6.6)	(0.6)	(0.3)	24.8	97.7	14.7	3,477	0.0	13.7	0.0	1.0	0.0	6.4
웅진에너지	KRW	6,110	0.0	(0.7)	(10.3)	(29.7)	(23.4)	21.5	(25.7)	170	N/A	0.0	1.0	0.0	6.4	0.0
신성솔라에너지	KRW	1,610	0.0	(1.8)	(7.7)	(16.6)	(8.0)	(11.5)	(15.9)	260	N/A	1.0	0.0	6.4	0.0	9.9
Average			(0.7)	(2.0)	(0.0)	(6.9)	(3.5)	27.9	(6.3)							
Gas Company																
Towngas China	HKD	7.0	0.0	(0.6)	2.8	6.2	9.7	51.0	11.8	2,476	13.7	12.4	1.2	1.1	12.0	10.9
Kulun	HKD	6.8	0.0	5.3	(0.3)	(12.9)	(5.5)	(4.0)	(17.1)	6,943	9.2	8.1	1.0	1.0	5.5	5.0
Beijing Enterprise	HKD	39.5	0.0	1.2	(3.7)	(17.5)	(15.1)	3.9	(14.9)	6,352	6.9	6.2	0.7	0.6	11.9	11.3
ENN Energy	HKD	73.8	0.0	4.8	5.3	25.7	31.0	74.9	32.4	10,199	16.0	13.7	3.2	2.7	9.6	8.6
China Resources Gas	HKD	29.1	0.0	2.5	6.6	12.4	2.8	10.7	2.5	8,232	15.5	14.1	2.6	2.2	8.8	8.1
China Gas Holdings	HKD	28.0	0.0	(1.1)	(1.9)	18.4	16.7	129.5	29.6	17,725	18.8	16.0	4.7	3.9	14.5	12.5
Shenzen Gas	HKD	17.3	0.0	2.1	0.5	9.8	15.2	32.2	16.0	4,474	11.4	9.8	1.4	1.3	6.2	5.4
Shann Xi	CNY	7.4	0.0	0.7	7.1	(2.5)	(10.4)	(14.2)	(11.8)	1,306	15.4	15.8	1.4	1.3	#N/A	N/A
Suntien	HKD	2.6	0.0	13.3	20.0	38.2	25.1	60.0	27.5	1,250	7.1	6.1	0.8	0.8	8.2	7.1
China Oil & Gas	HKD	0.6	0.0	0.0	(6.3)	(23.4)	9.3	3.5	(30.6)	438	9.1	7.9	#N/A	N/A	#N/A	N/A
Average			0.0	2.8	3.0	5.4	7.9	34.7	4.5							
EV																
LG 화학	KRW	360,000	0.0	(3.9)	(6.6)	(14.0)	(13.1)	31.4	(11.1)	23,753	13.1	11.9	1.5	1.4	5.9	5.4
삼성SDI	KRW	183,500	0.0	0.5	(4.7)	(2.1)	(18.3)	33.5	(10.3)	11,794	16.2	11.5	1.1	1.0	11.5	9.2
Panasonic	JPY	1614.5	(1.1)	0.5	6.1	(1.6)	(8.9)	20.7	(2.1)	36,139	15.2	13.1	2.0	1.8	5.9	5.4
GS Yuasa	JPY	587.0	(0.5)	(0.7)	1.2	(1.5)	2.6	12.0	4.6	2,215	15.9	14.5	1.3	1.3	7.4	6.9
NEC	JPY	3010.0	0.2	0.9	0.6	(10.7)	0.4	6.4	(1.0)	7,154	23.6	13.6	0.9	0.8	6.7	5.7
BYD Auto	CNY	53.0	0.0	(2.1)	(5.9)	(12.7)	(17.5)	2.1	(18.6)	21,920	25.9	20.2	2.4	2.2	12.4	10.8
Tesla Motors	USD	299.9	2.0	5.8	12.7	(14.1)	(6.6)	(7.1)	(3.7)	50,919	#N/A	N/A	137.6	10.3	9.3	43.1
Kandi Technologies	USD	4.9	0.0	1.0	1.0	(15.5)	(28.5)	21.0	(27.9)	264	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			0.1	0.3	0.6	(9.0)	(11.2)	15.0	(8.8)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임