

1. News Summary (3 page)

2018년 3월 14일

News	
WTI comment	미 증산 우려 속 약세...WTI 1.1%↓
Headline	필리핀 JG Summit, HDPE, PP 공장 증설 계획
News 1.	호주 기상청 "태평양 라니냐 끝났다"
News 2.	LG화학·롯데케미칼, 中 시장 선점 위해 ABS 신증설나서
News 3.	-
News 4.	-

Conclusion	
신규 증설로 아시아 역내 PE, PP 가격 하락세 진입 전망	
라니냐로 진입하며 발생하는 공급차질로 인한 원자재가 상승 제한될 것	
중국도 ABS 플랜트 건설을 추진중이라 제품 가격은 우하향하게 될 것	
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	60.7	(1.1)	(3.0)	2.4	6.2	27.2
Dubai	\$/bbl	61.3	(0.7)	(1.3)	1.6	(2.0)	22.9
Gasoline	\$/bbl	75.2	(0.3)	(1.1)	(0.1)	(2.8)	20.0
Diesel	\$/bbl	76.0	(0.8)	0.6	1.6	(0.8)	23.5
Complex margin	\$/bbl	8.3	(0.0)	0.6	0.0	(0.0)	1.6
1M lagging	\$/bbl	7.3	1.3	3.7	5.3	(1.9)	4.6
Petrochemical			%	%	%	%	%
Naphtha	\$/t	558	(1.2)	(1.9)	3.5	(6.1)	21.0
Butadiene	\$/t	1,430	2.9	2.9	5.5	31.2	(31.9)
HDPE	\$/t	1,340	0.0	(0.4)	(0.7)	3.9	16.5
MEG	\$/t	910	1.7	(7.4)	(10.3)	0.4	12.8
PX	\$/t	936	0.0	(2.1)	0.7	5.4	11.4
SM	\$/t	1,326	0.0	(3.3)	(6.0)	2.0	7.6
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.79	0.3	1.3	6.2	6.6	(2.2)
Natural rubber	\$/t	1,440	0.0	(1.4)	1.4	2.9	(27.3)
Cotton	C/lbs	83.0	(0.4)	(1.0)	8.6	13.8	7.6

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	03/12	\$/t	1,220	2.7	0.8	0.6	6.6
Propylene	03/12	\$/t	995	1.0	(2.9)	17.1	8.7
Benzene	03/12	\$/t	883	(2.5)	(3.0)	(2.5)	(2.8)
Toluene	03/12	\$/t	720	(4.0)	(5.3)	0.0	1.4
Xylene	03/12	\$/t	765	0.3	0.7	10.1	4.8
PP	03/12	\$/t	1,308	0.0	2.3	13.0	16.0
PVC	03/12	\$/t	980	0.0	1.0	14.6	4.3
ABS	03/12	\$/t	2,070	(2.4)	0.5	2.0	10.1
SBR	03/12	\$/t	1,750	0.0	(0.3)	6.1	(36.4)
SM	03/12	\$/t	1,398	(3.8)	(1.8)	3.3	3.9
BPA	03/12	\$/t	1,963	0.0	3.7	11.2	40.9
Caustic	03/12	\$/t	590	0.0	7.5	(15.7)	34.4
2-EH	03/12	\$/t	1,125	0.0	2.3	10.3	9.8
Caprolactam	03/12	\$/t	2,150	0.9	3.9	4.9	(7.3)
Solar				%	%	%	%
Polysilicon	03/07	\$/kg	15.1	(5.6)	(8.7)	(10.8)	(5.6)
Module	03/07	\$/W	0.31	(0.3)	(1.3)	(2.9)	(12.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	74.5	(0.9)	(2.2)	(2.3)	(10.3)	(8.5)
Shell	EUR	2,233	(0.9)	(2.5)	(2.3)	(7.2)	5.3
Petrochina	CNY	7.99	(0.7)	(1.5)	(0.1)	(0.4)	0.3
Gazprom	RUB	142.8	1.0	1.5	2.1	5.3	9.9
Petrobras	BRL	22.1	(1.0)	1.0	17.8	45.7	53.9
Refinery							
Phillips66	USD	94.6	(0.5)	0.7	0.8	(5.4)	19.7
Valero	USD	93.5	0.9	1.9	4.5	6.9	38.2
JX	JPY	634.3	(3.2)	(3.8)	(1.8)	(7.9)	14.5
Neste Oil	EUR	58.6	(0.9)	(0.6)	0.9	14.2	72.7

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	83.8	(1.7)	(0.2)	(2.6)	(10.7)	(6.0)
DowDuPont	USD	70.6	(1.1)	(0.3)	(0.3)	0.0	10.1
SABIC	SAR	110.8	0.1	4.0	5.7	9.5	16.1
Formosa Pla.	TWD	103.0	(0.5)	1.5	2.0	10.2	17.2
Shin-Etsu	JPY	11,510	2.4	7.4	3.1	0.1	18.3
Renewable							
Wacker	EUR	130.8	(6.6)	(2.0)	(6.6)	(15.2)	25.7
First Solar	USD	69.15	(1.3)	2.5	7.7	1.0	110.6
GCL-Poly	HKD	1.24	1.6	0.8	3.3	(3.9)	21.6
Tesla Motors	USD	341.8	(1.1)	4.2	5.6	0.8	38.9

4. Coverage Summary

	03/13	1D	1W	1M	3M	6M	12M
KOSPI	2,494	0.4	3.4	5.5	0.6	5.7	18.9
KOSPI확화	6,166	(0.4)	3.4	4.5	2.1	6.7	24.5
LG화학	409,500	(0.2)	5.7	11.9	4.2	4.5	53.7
롯데케미칼	436,500	1.9	(2.2)	4.3	19.6	4.8	17.3
한화케미칼	30,600	(2.4)	(1.1)	(5.4)	1.3	(17.4)	25.4
금호석유화학	94,700	1.3	9.5	4.6	6.0	16.8	30.6
KCC	352,000	(0.6)	0.6	(3.8)	(9.5)	(7.2)	2.5
OCI	149,500	(4.2)	(2.3)	(2.6)	15.4	44.4	80.3
SKC	40,300	(0.2)	2.2	10.4	(7.2)	1.1	31.9
SK이노베이션	208,500	(2.8)	2.0	12.7	2.2	9.2	37.2
S-Oil	123,500	(1.2)	0.4	8.8	0.8	(0.4)	41.8
GS	65,300	(2.4)	(1.4)	3.2	7.2	(3.5)	20.5
SK가스	97,300	0.5	3.8	4.6	2.6	(7.8)	(10.7)
포스코대우	20,550	(0.5)	4.8	(3.5)	10.5	(2.8)	(11.0)
LG상사	26,600	(0.9)	1.7	(3.6)	(4.3)	(7.3)	(14.5)
한국전력	32,850	(0.8)	2.8	(4.5)	(14.6)	(19.8)	(21.0)
한국가스공사	48,150	(2.3)	(2.0)	3.7	12.4	12.0	2.0

투자의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	450,000	9.9	13.67	1.93
매수	410,000	(6.1)	11.92	1.31
매수	39,000	27.5	11.68	0.79
매수	150,000	58.4	11.56	1.52
매수	450,000	27.8	13.04	0.52
매수	180,000	20.4	14.05	1.05
매수	55,000	36.5	10.14	0.99
매수	230,000	10.3	11.04	1.05
매수	140,000	13.4	14.12	2.24
매수	80,000	22.5	6.38	0.84
매수	130,000	33.6	8.43	0.65
매수	25,000	21.7	9.37	0.83
매수	38,000	42.9	8.96	0.76
매수	50,000	52.2	7.06	0.26
매수	60,000	24.6	9.10	0.71

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

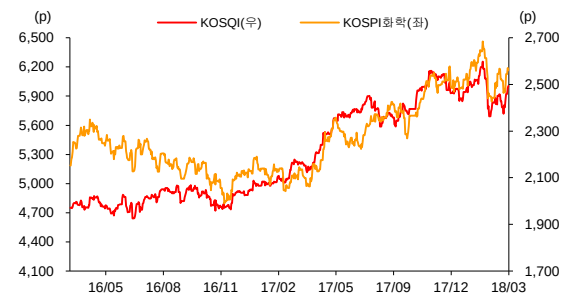
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

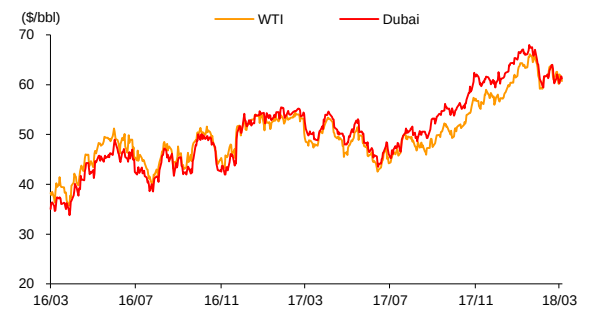
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

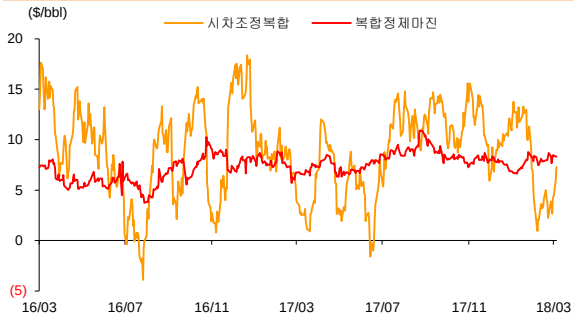
KOSPI/KOSPI화학



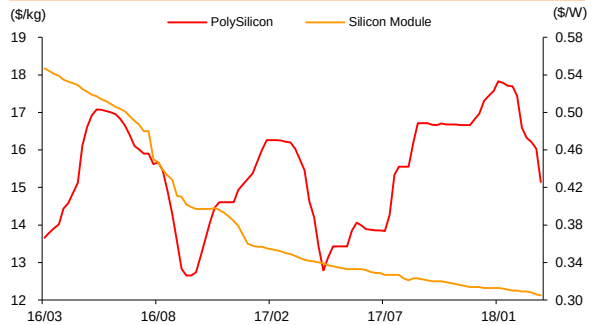
WTI/Dubai



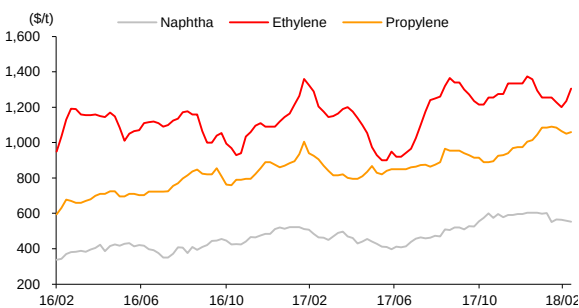
Complex & 1M lagging margin



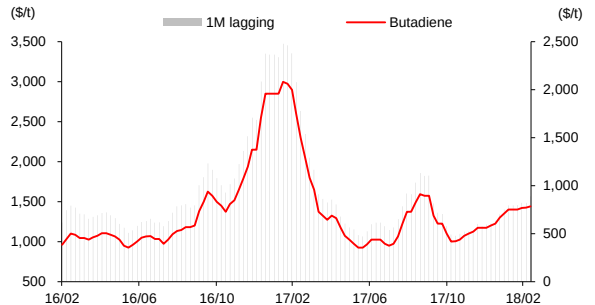
Polysilicon & Module prices



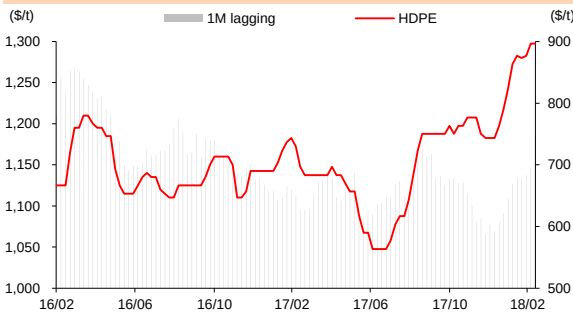
Naphtha/Ethylene/Propylene prices



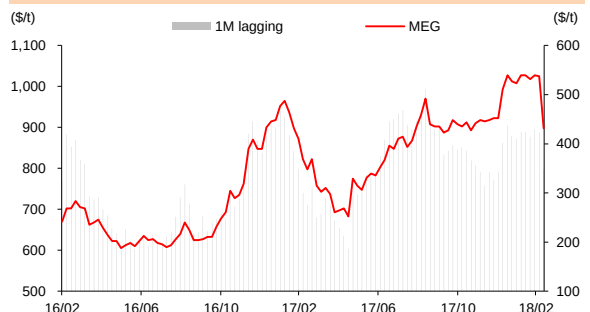
Butadiene price & 1M lagging naphtha spread



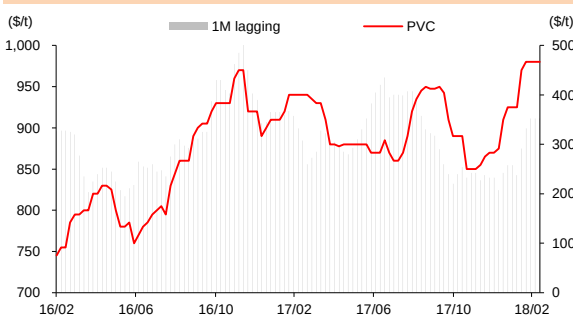
HDPE price & 1M lagging naphtha spread



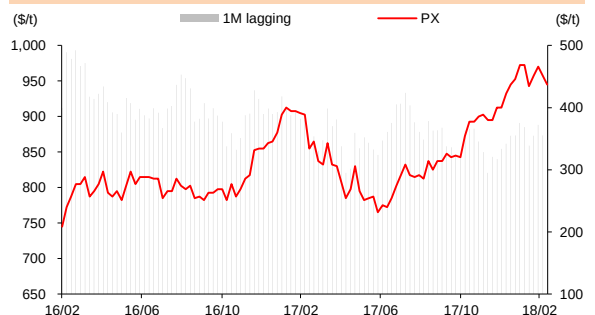
MEG price & 1M lagging naphtha spread



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	필리핀 JG Summit, HDPE, PP 공장 증설 계획
결론	신규 증설로 아시아 역내 PE, PP 가격 하락세 진입 전망
세부	1) 필리핀 JG Summit PetChem이 25만톤 규모의 HDPE 공장 신증설 계획 2) 이탈리아 EPC업체와 \$1.8억에 계약하고 polymer 생산 capa를 늘림 3) HDPE뿐만 아니라 PP 생산 설비도 11만톤 증설해 30만톤을 갖출 것 4) 증설에는 총 26개월이 소요될 예정이며 세부 일정은 공개하지 않음 5) 신규 증설로 아시아 역내 PE, PP 가격 하락세 진입 전망

WTI Comment	(출처: 연합뉴스)
제목	미 증산 우려 속 약세...WTI 1.1%↓
상승	
요인	
하락	미국의 원유 증산 가능성이 지속해서 투자심리를 압박했다는 분석
요인	EIA, "이번 달 원유 생산량이 695.4만b/d로 사상 최대치 기록 전망"

Issue 1	(출처: 연합인포맥스)
제목	호주 기상청 "태평양 라니냐 끝났다"
결론	라니냐로 진입하며 발생하는 공급자질로 인한 원자재가 상승 제한될 것
세부	1) 태평양의 미약한 라니냐가 끝났다고 호주 기상청이 발표함 2) 중부 열대 태평양의 해수면 온도가 중립 수준으로 복귀함 3) 호주 기상청, "남방진동지수가 지난 몇 주 중립을 보였다" 4) 호주 기상청, "열대 태평양이 지난해 12월 말 이후 데워졌다" 5) 라니냐로 진입하며 발생하는 공급자질로 인한 원자재가 상승 제한될 것

Issue 2	(출처: 뉴스웨이)
제목	LG화학·롯데케미칼, 中 시장 선점 위해 ABS 신증설나서
결론	중국도 ABS 플랜트 건설을 추진중이라 제품 가격은 우하향하게 될 것
세부	1) LG화학과 롯데케미칼이 ABS에서 4년간 최고치의 영업마진을 창출함 2) AN, BD, SM 가격 급등과 중국공장 일부 폐쇄로 중국 수입 확대 영향 3) 화학경제연구원, "ABS는 신증설이 거의 없어 2018년까지 수급 차질" 4) LG화학은 증설하면 여수 90만톤, Ningbo 80만톤 포함 총 200만톤 규모 5) 중국도 ABS 플랜트 건설을 추진중이라 제품 가격은 우하향하게 될 것

Issue 3
제목
결론
세부
1)
2)
3)
4)
5)

Issue 4
제목
결론
세부
1)
2)
3)
4)
5)

Issue 5
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	0.807	0.811	0.806	0.810	0.846	0.841	0.939	0.833	0.904	0.887	0.814
	Change, %		(0.4)	0.1	(0.3)	(4.6)	(4.1)	(14.0)	(3.1)	(10.7)	(9.0)	(0.9)
	USD/JPY	106.6	106.4	106.1	107.8	112.5	110.5	114.9	112.6	108.8	112.1	108.9
	Change, %		0.2	0.4	(1.2)	(5.3)	(3.5)	(7.2)	(5.4)	(2.0)	(5.0)	(2.1)
	USD/KRW	1,067.5	1,065.2	1,076.0	1,084.4	1,090.6	1,128.4	1,144.3	1,066.7	1,160.5	1,130.9	1,072.5
	Change, %		0.2	(0.8)	(1.6)	(2.1)	(5.4)	(6.7)	0.1	(8.0)	(5.6)	(0.5)
Agriculture	Corn	385.5	384.3	379.8	366.8	336.8	338.5	354.5	350.8	358.5	359.4	362.9
	Change, %		0.3	1.5	5.1	14.5	13.9	8.7	9.9	7.5	7.3	6.2
	Soybean	1,040.5	1,033.3	1,064.5	1,011.8	979.3	953.0	996.3	951.8	987.5	975.9	999.5
	Change, %		0.7	(2.3)	2.8	6.3	9.2	4.4	9.3	5.4	6.6	4.1
	Wheat	485.5	489.8	502.0	460.8	392.3	420.8	412.3	427.0	436.4	436.0	451.9
	Change, %		(0.9)	(3.3)	5.4	23.8	15.4	17.8	13.7	11.3	11.3	7.4
	Rice	12.1	12.1	12.3	12.3	11.8	12.6	9.6	11.7	10.3	11.1	12.1
	Change, %		(0.3)	(1.7)	(1.5)	2.8	(4.3)	25.8	3.6	17.0	9.4	0.1
	Oats	258.0	258.8	262.0	273.5	234.0	239.0	269.5	241.0	196.3	252.3	260.9
	Change, %		(0.3)	(1.5)	(5.7)	10.3	7.9	(4.3)	7.1	31.4	2.3	(1.1)
MYR/mt	Palm Oil	2,410.0	2,390.0	2,491.0	2,510.0	2,349.0	2,892.0	2,950.0	2,444.0	2,653.8	2,787.3	2,494.8
	Change, %		0.8	(3.3)	(4.0)	2.6	(16.7)	(18.3)	(1.4)	(9.2)	(13.5)	(3.4)
	Cocoa	2,551.0	2,565.0	2,454.0	1,999.0	1,893.0	2,038.0	2,050.0	1,892.0	2,854.0	2,005.2	2,097.8
	Change, %		(0.5)	4.0	27.6	34.8	25.2	24.4	34.8	(10.6)	27.2	21.6
	Cotton	83.0	83.3	83.8	76.4	74.1	70.0	76.9	78.6	65.6	73.5	80.1
	Change, %		(0.4)	(1.0)	8.6	11.9	18.6	7.9	5.5	26.5	12.8	3.6
	Sugar	12.6	12.9	13.5	13.5	13.9	14.3	18.2	15.2	18.2	15.8	13.7
	Change, %		(2.4)	(6.2)	(6.4)	(8.9)	(11.9)	(30.6)	(16.8)	(30.5)	(20.2)	(7.7)
	Coffee	120.5	118.2	120.0	122.8	119.0	136.6	140.5	126.2	136.1	133.0	121.9
	Change, %		1.9	0.4	(1.9)	1.3	(11.8)	(14.3)	(4.6)	(11.5)	(9.4)	(1.2)
Energy	WTI	60.7	61.4	62.6	59.2	56.6	49.3	48.4	60.4	43.4	51.0	62.7
	Change, %		(1.1)	(3.0)	2.6	7.3	23.1	25.4	0.5	39.9	19.1	(3.1)
	Brent	64.6	65.0	65.8	62.7	62.4	55.2	51.4	66.9	45.1	54.9	67.0
	Change, %		(0.5)	(1.7)	3.1	3.5	17.2	25.9	(3.3)	43.4	17.8	(3.5)
	Natural Gas	2.8	2.8	2.7	2.6	2.7	3.1	3.0	3.0	2.6	3.0	2.9
	Change, %		0.3	1.3	7.4	2.6	(8.9)	(8.4)	(5.7)	9.2	(7.8)	(3.4)
	Ethanol	1.5	1.5	1.5	1.4	1.3	1.6	1.5	1.3	1.5	1.5	1.4
	Change, %		0.7	1.6	7.5	17.5	(2.6)	(0.7)	15.3	0.5	1.7	7.6
	RBOB Gasoline	188.6	189.4	193.3	168.5	164.7	164.7	158.1	179.9	140.0	162.9	183.4
	Change, %		(0.4)	(2.4)	11.9	14.6	14.5	19.3	4.8	34.8	15.8	2.8
	Coal	98.0	98.0	101.5	102.7	99.7	100.3	81.1	100.8	65.5	88.2	104.2
	Change, %		0.0	(3.4)	(4.5)	(1.7)	(2.3)	20.8	(2.8)	49.7	11.1	(5.9)
Metal	Gold	1,326.5	1,323.1	1,334.7	1,329.6	1,255.6	1,323.2	1,204.1	1,302.6	1,248.5	1,258.6	1,330.1
	Change, %		0.3	(0.6)	(0.2)	5.6	0.2	10.2	1.8	6.2	5.4	(0.3)
	Silver	16.6	16.5	16.8	16.6	16.1	17.8	17.0	16.9	17.1	17.1	16.8
	Change, %		0.4	(1.0)	0.1	3.3	(6.6)	(2.3)	(2.1)	(3.0)	(2.8)	(1.4)
	Copper	6,945.0	6,913.0	7,004.0	6,988.0	6,729.0	6,553.0	5,796.0	7,247.0	4,872.0	6,199.4	7,047.9
	Change, %		0.5	(0.8)	(0.6)	3.2	6.0	19.8	(4.2)	42.5	12.0	(1.5)
	Nickel	898.1	886.8	882.7	861.9	713.1	730.9	675.4	809.1	646.4	680.2	853.1
	Change, %		1.3	1.7	4.2	25.9	22.9	33.0	11.0	38.9	32.0	5.3
	Zinc	3,295.0	3,239.5	3,302.0	3,470.0	3,153.0	3,023.5	2,744.0	3,319.0	2,097.5	2,888.5	3,420.5
	Change, %		1.7	(0.2)	(5.0)	4.5	9.0	20.1	(0.7)	57.1	14.1	(3.7)
	Lead	2,393.8	2,344.0	2,437.0	2,567.5	2,531.8	2,260.5	2,264.8	2,482.8	1,868.3	2,315.7	2,547.6
	Change, %		2.1	(1.8)	(6.8)	(5.5)	5.9	5.7	(3.6)	28.1	3.4	(6.0)
	Aluminum	13,745.0	13,940.0	14,225.0	14,300.0	14,035.0	16,450.0	13,715.0	15,020.0	12,373.5	14,556.6	14,420.1
	Change, %		(1.4)	(3.4)	(3.9)	(2.1)	(16.4)	0.2	(8.5)	11.1	(5.6)	(4.7)
	Cobalt	84,500.0	84,020.0	83,020.0	81,264.0	70,965.0	60,650.0	52,250.0	75,205.0	25,480.1	55,906.9	79,610.6
	Change, %		0.6	1.8	4.0	19.1	39.3	61.7	12.4	231.6	51.1	6.1
	HR Coil	817.0	820.0	824.0	744.0	640.0	627.0	625.0	662.0	519.3	620.1	729.1
	Change, %		(0.4)	(0.8)	9.8	27.7	30.3	30.7	23.4	57.3	31.8	12.1
	Scrap	425.0	374.3	385.0	380.0	357.0	373.0	335.0	367.0	275.7	344.7	380.4
	Change, %		13.5	10.4	11.8	19.0	13.9	26.9	15.8	54.2	23.3	11.7

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		03/13	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	60.7	61.4	62.6	59.3	57.1	48.2	47.7	53.7	43.4	50.9	62.7
	Change, %		(1.1)	(3.0)	2.4	6.2	25.9	27.2	13.0	40.0	19.3	(3.2)
	Dubai	61.3	61.7	62.0	60.3	62.5	52.2	49.8	53.8	41.3	53.1	63.9
	Change, %		(0.7)	(1.3)	1.6	(2.0)	17.4	22.9	13.8	48.3	15.4	(4.2)
Crude Oil	Gasoline(휘발유)	75.2	75.4	76.0	75.3	77.4	70.2	62.7	69.8	56.3	68.0	77.4
Product	Change, %		(0.3)	(1.1)	(0.1)	(2.8)	7.0	20.0	7.7	33.7	10.6	(2.9)
	Kerosene(등유)	76.7	77.6	78.7	76.5	76.7	66.0	60.2	66.4	52.9	65.2	80.1
	Change, %		(1.1)	(2.5)	0.3	0.1	16.2	27.5	15.5	45.1	17.6	(4.2)
	Diesel(경유)	76.0	76.6	75.5	74.8	76.6	67.2	61.6	65.5	52.1	65.6	78.5
	Change, %		(0.8)	0.6	1.6	(0.8)	13.1	23.5	16.0	45.9	15.9	(3.2)
	Bunker-C	56.8	57.1	56.5	54.9	57.1	49.2	44.7	52.1	35.5	49.7	57.6
	Change, %		(0.6)	0.5	3.4	(0.5)	15.5	27.0	9.1	59.8	14.3	(1.5)
	Naphtha	60.7	61.6	61.9	58.9	66.3	53.8	49.8	53.5	42.6	53.7	63.3
	Change, %		(1.5)	(2.0)	3.0	(8.6)	12.8	21.9	13.5	42.4	12.9	(4.2)
Dubai	Gasoline(휘발유)	13.9	13.7	14.0	15.0	14.9	18.1	12.8	16.0	14.9	14.9	13.5
Spread	Change		0.2	(0.1)	(1.1)	(0.9)	(4.1)	1.1	(2.1)	(1.0)	(1.0)	0.5
	Kerosene(등유)	15.5	15.9	16.7	16.2	14.2	13.9	10.4	12.6	11.6	12.1	16.2
	Change		(0.4)	(1.2)	(0.8)	1.3	1.6	5.1	2.9	3.9	3.3	(0.7)
	Diesel(경유)	14.8	14.9	13.5	14.5	14.1	15.0	11.8	11.7	10.8	12.5	14.6
	Change		(0.2)	1.3	0.3	0.7	(0.3)	3.0	3.1	4.0	2.2	0.2
	Bunker-C	(4.5)	(4.6)	(5.6)	(5.4)	(5.5)	(3.0)	(5.1)	(1.8)	(5.8)	(3.4)	(6.3)
	Change		0.1	1.1	0.9	1.0	(1.5)	0.6	(2.7)	1.3	(1.0)	1.8
	Naphtha	(0.6)	(0.1)	(0.1)	(1.4)	3.8	1.6	(0.0)	(0.4)	1.3	0.6	(0.6)
	Change		(0.5)	(0.4)	0.8	(4.4)	(2.2)	(0.5)	(0.2)	(1.9)	(1.2)	(0.0)
Refining	Simple(단순)	3.2	3.2	2.5	2.9	2.7	4.6	1.8	3.8	1.9	3.2	2.2
Margin	Change		(0.0)	0.7	0.3	0.4	(1.4)	1.4	(0.7)	1.2	0.0	0.9
	Complex(복합)	8.3	8.3	7.7	8.3	8.3	10.0	6.7	8.3	7.0	8.0	7.7
	Change		(0.0)	0.6	0.0	(0.0)	(1.7)	1.6	0.1	1.4	0.3	0.6
	Complex(lagging)	7.3	6.0	3.6	2.0	9.2	10.6	2.7	18.0	8.5	8.9	7.7
	Change		1.3	3.7	5.3	(1.9)	(3.3)	4.6	(10.7)	(1.2)	(1.6)	(0.4)

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			03/13	03/12	03/09	03/08	03/07	03/06	03/05	03/02	03/01	02/28
Spot Price	Naphtha	CFR Japan	558.0	564.5	553.5	562.8	565.3	568.8	571.3	560.3	566.0	575.3
	Ethylene	CFR SE Asia	1,250.0	1,230.0	1,230.0	1,230.0	1,230.0	1,200.0	1,170.0	1,170.0	1,190.0	1,190.0
	Propylene	FOB Korea	1,015.0	1,015.0	1,025.0	1,030.0	1,030.0	1,030.0	1,025.0	1,025.0	1,035.0	1,035.0
	Butadiene	FOB Korea	1,430.0	1,390.0	1,390.0	1,390.0	1,390.0	1,390.0	1,390.0	1,390.0	1,390.0	1,390.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,340.0	1,340.0	1,345.0	1,345.0	1,350.0	1,350.0	1,350.0	1,350.0
	LDPE	CFR FE Asia	1,225.0	1,225.0	1,230.0	1,230.0	1,230.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0
	LLDPE	CFR FE Asia	1,205.0	1,205.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0
	MEG	CFR China	910.0	895.0	895.0	935.0	951.0	983.0	983.0	995.0	1,027.0	1,037.0
	PP	CFR FE Asia	1,225.0	1,225.0	1,225.0	1,230.0	1,230.0	1,230.0	1,220.0	1,210.0	1,210.0	1,210.0
	PX	CFR China	935.5	935.3	934.3	942.0	944.3	955.3	952.3	949.0	956.5	966.0
	PTA	CFR China	780.0	785.0	785.0	793.0	793.0	795.0	790.0	790.0	785.0	785.0
	Benzene	FOB Korea	864.0	875.0	859.0	857.7	875.0	887.7	877.0	876.0	888.3	898.0
	Toluene	FOB Korea	682.0	686.0	685.0	685.0	695.0	703.0	703.0	709.0	714.0	726.5
	Xylene	FOB Korea	745.0	745.0	748.0	749.0	762.0	765.0	775.0	781.0	793.0	800.0
	SM	FOB Korea	1,326.0	1,326.0	1,326.0	1,311.0	1,336.0	1,371.0	1,374.0	1,394.0	1,419.0	1,424.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	553.0	558.0	550.5	590.5	600.0	464.0	484.5	399.5	493.5	580.1
	Change, %			(0.9)	0.5	(6.4)	(7.8)	19.2	14.1	38.4	12.1	(4.7)
	Ethylene	CFR SE Asia	1,220.0	1,187.5	1,210.0	1,212.5	1,180.0	1,145.0	990.0	1,040.9	1,090.9	1,238.8
	Change, %			2.7	0.8	0.6	3.4	6.6	23.2	17.2	11.8	(1.5)
	Propylene	CFR SE Asia	995.0	985.0	1,025.0	850.0	800.0	915.0	815.0	705.7	823.6	1,058.5
	Change, %			1.0	(2.9)	17.1	24.4	8.7	22.1	41.0	20.8	(6.0)
	Butadiene	CFR SE Asia	1,390.0	1,375.0	1,350.0	1,075.0	925.0	2,250.0	2,100.0	1,116.8	1,481.1	1,306.0
	Change, %			1.1	3.0	29.3	50.3	(38.2)	(33.8)	24.5	(6.1)	6.4
	Benzene	CFR SE Asia	882.5	905.0	910.0	905.0	865.0	907.5	822.5	646.7	838.8	918.3
	Change, %			(2.5)	(3.0)	(2.5)	2.0	(2.8)	7.3	36.5	5.2	(3.9)
	Toluene	CFR SE Asia	720.0	750.0	760.0	720.0	717.5	710.0	690.0	630.5	689.5	749.5
	Change, %			(4.0)	(5.3)	0.0	0.3	1.4	4.3	14.2	4.4	(3.9)
	Xylene	CFR SE Asia	765.0	762.5	760.0	695.0	672.5	730.0	675.0	627.7	668.8	753.5
	Change, %			0.3	0.7	10.1	13.8	4.8	13.3	21.9	14.4	1.5
Spread	Ethylene	-Naphtha	667.0	629.5	659.5	622.0	580.0	681.0	505.5	641.4	597.4	658.7
	Change, %			6.0	1.1	7.2	15.0	(2.1)	31.9	4.0	11.6	1.3
	Propylene	-Naphtha	442.0	427.0	474.5	259.5	200.0	451.0	330.5	306.2	330.1	478.5
	Change, %			3.5	(6.8)	70.3	121.0	(2.0)	33.7	44.4	33.9	(7.6)
	Butadiene	-Naphtha	837.0	817.0	799.5	484.5	325.0	1,786.0	1,615.5	717.3	987.6	726.0
	Change, %			2.4	4.7	72.8	157.5	(53.1)	(48.2)	16.7	(15.2)	15.3
	Benzene	-Naphtha	329.5	347.0	359.5	314.5	265.0	443.5	338.0	247.2	345.3	338.2
	Change, %			(5.0)	(8.3)	4.8	24.3	(25.7)	(2.5)	33.3	(4.6)	(2.6)
	Toluene	-Naphtha	167.0	192.0	209.5	129.5	117.5	246.0	205.5	231.0	196.0	169.5
	Change, %			(13.0)	(20.3)	29.0	42.1	(32.1)	(18.7)	(27.7)	(14.8)	(1.4)
	Xylene	-Naphtha	212.0	204.5	209.5	104.5	72.5	266.0	190.5	228.2	175.3	173.5
	Change, %			3.7	1.2	102.9	192.4	(20.3)	11.3	(7.1)	20.9	22.2

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	1,297.5	1,297.5	1,282.5	1,207.5	1,197.5	1,147.5	1,142.5	1,134.6	1,142.5	1,255.3
	Change, %			0.0	1.2	7.5	8.4	13.1	13.6	14.4	13.6	3.4
	MEG	CFR SE Asia	897.5	1,025.0	1,027.5	915.0	912.5	797.5	847.5	660.8	850.6	1,006.3
	Change, %			(12.4)	(12.7)	(1.9)	(1.6)	12.5	5.9	35.8	5.5	(10.8)
	PVC	CFR SE Asia	980.0	980.0	970.0	855.0	890.0	940.0	920.0	823.4	899.9	945.0
	Change, %			0.0	1.0	14.6	10.1	4.3	6.5	19.0	8.9	3.7
	PP	CFR SE Asia	1,307.5	1,307.5	1,277.5	1,157.5	1,147.5	1,127.5	1,032.5	978.4	1,099.6	1,253.4
	Change, %			0.0	2.3	13.0	13.9	16.0	26.6	33.6	18.9	4.3
	2-EH	CFR Korea	1,125.0	1,125.0	1,100.0	1,020.0	980.0	1,025.0	865.0	772.4	970.0	1,078.0
	Change, %			0.0	2.3	10.3	14.8	9.8	30.1	45.7	16.0	4.4
	ABS	CFR SE Asia	2,070.0	2,120.0	2,060.0	2,030.0	1,920.0	1,880.0	1,635.0	1,347.1	1,844.7	2,052.0
	Change, %			(2.4)	0.5	2.0	7.8	10.1	26.6	53.7	12.2	0.9
	SBR	CFR SE Asia	1,750.0	1,750.0	1,755.0	1,650.0	1,670.0	2,750.0	2,000.0	1,483.0	1,980.5	1,727.0
	Change, %			0.0	(0.3)	6.1	4.8	(36.4)	(12.5)	18.0	(11.6)	1.3
	SM	CFR SE Asia	1,397.5	1,452.5	1,422.5	1,352.5	1,262.5	1,345.0	1,205.0	1,064.6	1,253.8	1,410.8
	Change, %			(3.8)	(1.8)	3.3	10.7	3.9	16.0	31.3	11.5	(0.9)
	Caustic	FOB NEA	590.0	590.0	549.0	699.5	674.0	439.0	422.5	316.6	491.2	577.2
	Change, %			0.0	7.5	(15.7)	(12.5)	34.4	39.6	86.4	20.1	2.2
	PX	CFR SE Asia	945.0	957.5	942.5	895.0	892.5	855.0	855.0	790.4	844.4	954.8
	Change, %			(1.3)	0.3	5.6	5.9	10.5	10.5	19.6	11.9	(1.0)
	PO	CFR China	1,962.5	1,962.5	1,892.5	1,765.0	1,777.5	1,392.5	1,562.5	1,396.8	1,601.2	1,948.3
	Change, %			0.0	3.7	11.2	10.4	40.9	25.6	40.5	22.6	0.7
	Caprolactam	CFR SE Asia	2,150.0	2,130.0	2,070.0	2,050.0	2,090.0	2,320.0	1,850.0	1,344.9	1,936.4	2,063.0
	Change, %			0.9	3.9	4.9	2.9	(7.3)	16.2	59.9	11.0	4.2
	PTA	CFR SE Asia	810.0	790.0	782.5	725.0	700.0	667.5	642.5	613.7	667.8	771.0
	Change, %			2.5	3.5	11.7	15.7	21.3	26.1	32.0	21.3	5.1
Spread	HDPE		744.5	739.5	732.0	617.0	597.5	683.5	658.0	735.1	649.0	675.2
	Change, %			0.7	1.7	20.7	24.6	8.9	13.1	1.3	14.7	10.3
	MEG		344.5	467.0	477.0	324.5	312.5	333.5	363.0	261.3	357.1	426.2
	Change, %			(26.2)	(27.8)	6.2	10.2	3.3	(5.1)	31.9	(3.5)	(19.2)
	PVC		427.0	422.0	419.5	264.5	290.0	476.0	435.5	423.9	406.4	365.0
	Change, %			1.2	1.8	61.4	47.2	(10.3)	(2.0)	0.7	5.1	17.0
	PP		754.5	749.5	727.0	567.0	547.5	663.5	548.0	578.9	606.1	673.3
	Change, %			0.7	3.8	33.1	37.8	13.7	37.7	30.3	24.5	12.1
	2-EH		572.0	567.0	549.5	429.5	380.0	561.0	380.5	372.9	476.5	498.0
	Change, %			0.9	4.1	33.2	50.5	2.0	50.3	53.4	20.0	14.9
	ABS		1,517.0	1,562.0	1,509.5	1,439.5	1,320.0	1,416.0	1,150.5	947.6	1,351.2	1,472.0
	Change, %			(2.9)	0.5	5.4	14.9	7.1	31.9	60.1	12.3	3.1
	SBR	BD spread	360.0	375.0	405.0	575.0	745.0	500.0	(100.0)	366.2	499.4	421.0
	Change, %			(4.0)	(11.1)	(37.4)	(51.7)	(28.0)	(460.0)	(1.7)	(27.9)	(14.5)
	SM		844.5	894.5	872.0	762.0	662.5	881.0	720.5	665.1	760.3	830.7
	Change, %			(5.6)	(3.2)	10.8	27.5	(4.1)	17.2	27.0	11.1	1.7
	Caustic											
	Change, %											
	PX		392.0	399.5	392.0	304.5	292.5	391.0	370.5	390.9	351.0	374.7
	Change, %			(1.9)	0.0	28.7	34.0	0.3	5.8	0.3	11.7	4.6
	PO	propylene spread	967.5	977.5	867.5	915.0	977.5	477.5	747.5	691.1	777.6	889.8
	Change, %			(1.0)	11.5	5.7	(1.0)	102.6	29.4	40.0	24.4	8.7
	Caprolactam	benzene spread	1,267.5	1,225.0	1,160.0	1,145.0	1,225.0	1,412.5	1,027.5	698.2	1,097.6	1,144.8
	Change, %			3.5	9.3	10.7	3.5	(10.3)	23.4	81.5	15.5	10.7
	PTA	px spread	148.5	119.8	122.8	98.5	75.3	69.0	44.0	60.4	76.7	102.7
	Change, %			24.0	21.0	50.8	97.3	115.2	237.5	145.8	93.6	44.6

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	03/13	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	70.6	(1.1)	(0.3)	(0.3)	0.0	1.5	10.1	(0.9)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	109.4	(1.3)	3.3	11.7	17.5	27.7	40.9	18.0	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	83.8	(1.7)	(0.2)	(2.6)	(10.7)	(2.7)	(6.0)	(8.7)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	80.0	(0.5)	1.8	3.9	6.9	2.0	4.7	9.6	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	107.8	(1.1)	1.9	10.6	4.8	12.3	21.2	6.1	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.1	(1.3)	2.6	3.6	4.8	6.3	7.8	2.7	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	626	(0.5)	1.6	(4.6)	(19.5)	(7.7)	(7.1)	(22.7)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,064	(0.1)	1.4	1.3	(11.7)	2.3	18.6	(14.0)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	11,510	2.4	7.4	3.1	0.1	13.8	18.3	0.5	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,410	0.5	7.1	8.3	(1.6)	4.8	28.9	(3.0)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,486	(1.2)	(1.7)	4.7	12.0	17.1	27.6	12.1	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,820	1.3	1.9	5.7	(12.2)	(6.9)	(3.5)	(11.9)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	110.8	0.1	4.0	5.7	9.5	9.9	16.1	9.3	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	70.0	0.1	2.8	9.1	20.4	23.6	21.0	18.6	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	103.0	(0.5)	1.5	2.0	10.2	8.4	17.2	4.4	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	107.0	(0.5)	0.9	1.4	13.5	12.9	16.3	3.9	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	81.0	0.6	2.1	6.3	8.6	7.3	16.4	4.0	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	6.00	(1.2)	1.7	1.9	(5.1)	(5.2)	(6.8)	(5.2)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fiber)	CNY	2.30	(0.9)	1.3	2.2	(16.7)	(28.1)	(40.1)	(13.9)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	932	0.2	2.3	1.8	1.9	9.8	45.4	2.4	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	107.0	4.6	12.0	0.5	12.6	22.6	(5.6)	10.3	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	96.8	0.5	1.0	5.2	17.6	25.2	33.9	13.8	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.2	0.9	2.1	2.1	9.5	9.4	11.5	5.8	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	409,500	(0.2)	5.7	12.3	4.2	0.5	52.2	1.1	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	436,500	1.9	(2.2)	0.2	19.6	5.4	20.7	18.6	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	30,600	(2.4)	(1.1)	(4.8)	1.3	(18.5)	26.4	(3.2)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	94,700	1.3	9.5	6.3	6.0	17.1	26.8	(4.8)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	40,300	(0.2)	2.2	11.0	(7.2)	(2.1)	33.9	(14.3)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	60,600	(0.3)	2.0	6.9	(11.5)	18.6	23.8	(4.0)	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	9,570	(2.6)	2.4	4.9	20.5	36.3	21.8	26.3	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			(0.1)	2.6	4.0	3.5	7.5	16.4	2.0							
Refinery																
Valero	USD	93.5	0.9	1.9	4.5	6.9	31.7	38.2	1.7	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	54.0	(1.4)	(0.2)	1.2	4.4	18.4	17.7	(1.7)	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemical	TWD	117.5	1.3	3.1	5.4	4.0	11.9	13.5	1.7	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	98.6	(1.4)	2.2	0.8	(9.5)	(4.5)	18.1	(13.8)	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	69.2	(0.0)	2.7	4.8	7.9	30.1	35.8	4.9	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	32.8	(0.1)	4.7	(5.1)	(14.0)	(2.1)	(19.9)	(20.8)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	46.1	0.3	2.0	1.9	(4.0)	41.0	65.5	(9.9)	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	94.6	(0.5)	0.7	0.8	(5.4)	9.5	19.7	(6.5)	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	25.7	0.5	(1.5)	(2.1)	(9.4)	1.2	(2.8)	(17.4)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	634.3	(3.2)	(3.8)	(1.8)	(7.9)	16.9	14.5	(12.8)	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,080.0	(2.5)	(1.9)	7.9	(4.3)	46.6	5.7	(9.8)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	58.6	(0.9)	(0.6)	0.9	14.2	60.3	72.7	9.8	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	71.7	(1.4)	(0.7)	1.8	1.0	12.6	20.1	0.7	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	47.7	(0.7)	0.8	10.3	8.4	(2.0)	10.0	7.8	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	208,500	(2.8)	2.0	9.7	2.2	7.5	32.4	2.0	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	123,500	(1.2)	0.4	7.9	0.8	1.2	33.2	5.6	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	65,300	(2.4)	(1.4)	4.5	7.2	(2.5)	20.9	5.0	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			(0.9)	0.6	3.1	0.1	16.3	23.3	(3.2)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	03/13	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	75	(0.9)	(2.2)	(2.3)	(10.3)	(6.6)	(8.5)	(10.9)	315,818	15.9	16.2	1.7	1.6	7.6	7.5
BP	GBP	474	(0.8)	0.2	(0.4)	(6.2)	4.8	2.3	(9.3)	131,904	14.6	13.8	1.3	1.3	5.2	5.0
Shell	EUR	2,233	(0.9)	(2.5)	(2.3)	(7.2)	3.7	5.3	(10.0)	261,255	13.1	12.2	1.3	1.3	5.8	5.5
Chevron	USD	116	(0.3)	2.5	2.8	(2.9)	2.0	6.5	(7.0)	222,468	18.7	18.5	1.5	1.5	6.6	6.5
Total	EUR	47	0.6	1.8	3.4	(1.0)	4.8	(0.5)	1.8	152,983	12.3	11.9	1.3	1.2	5.4	5.1
Sinopec	CNY	6	(1.2)	(1.5)	0.5	5.6	6.9	15.2	3.9	117,099	11.9	11.2	1.0	1.0	4.4	4.3
Petrochina	CNY	8	(0.7)	(1.5)	(0.1)	(0.4)	(0.5)	0.3	(1.2)	219,111	27.3	15.1	1.2	1.1	5.8	5.1
CNOOC	CNY	11	(0.7)	2.1	5.2	7.0	0.4	(13.4)	6.3	64,689	9.0	8.9	1.0	0.9	3.6	3.5
Gazprom	RUB	143	1.0	1.5	2.1	5.3	15.5	9.9	9.4	59,308	3.9	4.0	0.3	0.2	3.6	3.5
Rosneft	RUB	312	(0.9)	(2.1)	(4.1)	4.4	(0.9)	(2.0)	7.0	58,031	7.3	6.5	0.8	0.7	4.6	4.2
Anadarko	USD	59	(0.7)	(0.4)	2.4	21.3	35.8	(6.8)	9.2	31,177	41.8	38.4	2.5	2.4	6.3	5.8
Petrobras	BRL	22	(1.0)	1.0	17.8	45.7	47.1	53.9	37.3	92,063	10.9	8.7	0.9	0.8	5.4	5.0
Lukoil	USD	3,773	0.1	0.8	1.2	9.1	28.4	23.7	13.2	56,137	6.2	6.2	0.7	0.7	N/A	N/A
Kinder	USD	17	(0.3)	2.4	(5.1)	(7.6)	(15.1)	(23.3)	(8.7)	47,497	20.3	18.4	1.1	1.1	10.2	9.9
Statoil	NOK	179	1.0	(1.5)	3.1	4.5	17.8	21.7	2.4	77,061	15.6	14.8	1.8	1.7	3.5	3.3
BHP	AUD	29	(0.8)	(3.5)	(4.1)	3.5	4.7	21.2	(3.0)	114,894	15.7	16.6	2.0	1.9	6.1	6.2
PTT E&P	THB	116	0.0	1.8	1.3	23.5	32.8	28.7	15.5	14,689	13.3	12.6	1.2	1.1	3.7	3.6
Petronas gas	MYR	18	0.6	1.6	0.6	11.5	(4.1)	(9.2)	2.4	9,098	18.7	18.3	2.7	2.6	10.5	10.3
Chesapeake	USD	3	0.3	0.3	13.9	(16.1)	(20.8)	(41.5)	(21.2)	2,837	3.9	4.0	#N/A	N/A	5.2	6.0
Noble Energy	USD	30	(2.3)	(1.7)	18.2	13.1	16.1	(11.4)	3.6	14,854	39.5	26.5	1.4	1.3	7.4	6.3
Average		0	(0.4)	(0.0)	2.7	5.1	8.6	3.6	2.0							
PV																
WACKER	EUR	130.8	(6.6)	(2.0)	(6.6)	(15.2)	16.0	25.7	(19.4)	8,453	18.4	15.7	2.0	1.9	6.5	6.2
GCL-Poly	HKD	1.2	1.6	0.8	3.3	(3.9)	37.8	21.6	(11.4)	2,940	6.8	5.9	0.7	0.6	5.5	5.1
SunPower	USD	7.2	(1.2)	(2.4)	(2.6)	(16.3)	(13.6)	1.3	(14.7)	1,006	#N/A	N/A	#N/A	N/A	12.6	8.2
Canadian Solar	USD	16.1	(0.4)	(1.7)	1.9	(8.4)	(2.4)	17.6	(4.3)	936	8.4	9.2	0.9	0.8	8.8	9.3
JA Solar	USD	7.3	(0.7)	(1.1)	(0.8)	0.1	(12.6)	49.1	(1.9)	348	13.8	11.6	1.6	1.6	4.0	3.6
Yingli	USD	1.7	1.5	0.9	12.2	(10.3)	(25.2)	(24.2)	0.9	31	#N/A	N/A	#N/A	N/A	#N/A	N/A
First Solar	USD	69.2	(1.3)	2.5	7.7	1.0	47.7	110.6	2.4	7,224	42.3	21.1	1.3	1.2	12.2	7.1
한화큐셀	USD	8.2	3.0	(1.3)	7.5	11.3	8.3	2.9	16.5	681	37.2	26.4	#N/A	N/A	8.5	7.7
OCI	KRW	149,500	(4.2)	(2.3)	(5.1)	15.4	47.3	79.0	9.9	3,350	0.0	13.9	0.0	1.0	0.0	6.8
웅진에너지	KRW	7,220	(1.8)	2.3	(1.9)	(19.8)	(20.7)	45.3	(12.2)	201	N/A	0.0	1.0	0.0	6.8	0.0
신성솔라에너지	KRW	1,825	(0.3)	1.7	2.8	(11.4)	(17.6)	(6.4)	(4.7)	297	N/A	1.0	0.0	6.8	0.0	8.3
Average			(0.9)	(0.2)	1.7	(5.2)	5.9	29.3	(3.5)							
Gas Company																
Towngas China	HKD	6.3	1.1	1.0	1.0	2.4	21.8	35.3	0.6	2,232	13.0	11.7	1.1	1.0	11.3	10.3
Kulun	HKD	7.2	(0.8)	1.8	2.6	1.0	(2.8)	5.9	(11.5)	7,413	9.6	8.5	1.1	1.0	5.4	5.0
Beijing Enterprise	HKD	43.3	(0.9)	2.6	3.0	(2.1)	2.4	3.5	(6.8)	6,962	7.6	6.8	0.8	0.7	13.1	12.9
ENN Energy	HKD	62.3	(1.0)	4.6	(7.5)	13.0	18.3	47.5	11.7	8,617	13.9	11.8	2.7	2.3	8.5	7.5
China Resources Gas	HKD	25.8	(0.8)	0.2	0.8	(11.3)	(3.2)	(2.6)	(9.0)	7,318	13.7	12.2	2.4	2.1	8.0	7.4
China Gas Holdings	HKD	23.6	(1.5)	(1.1)	2.6	3.5	13.2	89.6	9.0	14,924	16.1	13.6	3.9	3.3	12.6	10.9
Shenzen Gas	HKD	15.8	0.0	0.5	4.8	14.2	7.8	39.6	6.2	4,095	10.9	10.1	1.3	1.2	7.9	7.9
Shann Xi	CNY	7.4	(0.8)	0.3	4.5	(10.9)	(14.1)	(22.6)	(11.8)	1,308	14.1	16.0	1.4	1.3	#N/A	N/A
Suntien	HKD	2.0	0.5	5.4	10.1	4.8	1.6	27.3	(5.3)	929	5.8	5.0	0.6	0.6	8.2	7.1
China Oil & Gas	HKD	0.7	1.4	4.3	4.3	22.0	33.3	22.0	(15.3)	535	11.1	9.6	#N/A	N/A	#N/A	N/A
Average			(0.3)	2.0	2.6	3.7	7.8	24.5	(3.2)							
EV																
LG 화학	KRW	409,500	(0.2)	5.7	12.3	4.2	0.5	52.2	1.1	27,159	14.3	13.3	1.7	1.6	6.5	6.0
삼성SDI	KRW	202,000	(0.2)	12.5	17.1	(6.9)	(3.1)	54.2	(1.2)	13,050	15.3	11.6	1.2	1.1	13.2	10.6
Panasonic	JPY	1692.0	0.7	4.2	6.2	3.3	5.3	30.9	2.6	38,929	16.1	14.0	2.1	1.9	6.2	5.8
GS Yuasa	JPY	593.0	1.0	4.6	4.4	6.1	2.1	9.0	5.7	2,300	16.9	15.1	1.3	1.3	7.2	6.7
NEC	JPY	3245.0	0.0	3.5	4.2	5.9	10.8	12.3	6.7	7,928	21.8	15.3	0.9	0.9	7.0	6.3
BYD Auto	CNY	66.0	(1.3)	(0.9)	10.9	4.8	20.3	32.4	1.5	27,854	28.3	22.6	2.9	2.6	13.2	11.7
Tesla Motors	USD	341.8	(1.1)	4.2	5.6	0.8	(6.7)	38.9	9.8	57,744	#N/A	N/A	144.8	12.6	11.3	48.6
Kandi Technologies	USD	5.1	(2.9)	(1.9)	(1.0)	(29.2)	0.0	17.2	(25.0)	245	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			(0.5)	4.0	7.5	(1.4)	3.6	30.9	0.1							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임