

1. News Summary (3 page)

2016년 5월 9일

News	Conclusion
WTI comment	공급과잉 해소 기대감에 상승
Headline	[주간가격] 에틸렌/프로필렌 모두 가격변동 없었음
News 1.	[주간가격] polyester 계열 하락세 지속
News 2.	[주간가격] 부타디엔/합성고무 소폭 상승 지속
News 3.	-
News 4.	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	44.7	0.8	(2.7)	18.3	44.6	(24.2)
Dubai	\$/bbl	42.2	(0.6)	(4.7)	21.6	44.4	(35.1)
Gasoline	\$/bbl	56.4	(0.1)	(5.2)	10.2	22.6	(33.7)
Diesel	\$/bbl	51.8	(0.4)	(5.6)	21.3	35.0	(34.7)
Complex margin	\$/bbl	5.3	0.1	(0.7)	(0.7)	(2.2)	(4.5)
1M lagging	\$/bbl	11.2	(0.4)	(1.9)	(0.0)	7.1	(7.3)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	391	(1.2)	(8.4)	5.6	18.4	(34.1)
Butadiene	\$/t	1,070	1.9	1.9	11.5	40.8	(0.9)
HDPE	\$/t	1,140	(1.3)	1.3	(1.7)	6.5	(18.6)
MEG	\$/t	634	(1.7)	(2.8)	(5.8)	3.4	(38.3)
PX	\$/t	774	(1.2)	(3.7)	0.5	7.6	(21.1)
SM	\$/t	1,044	(1.1)	(2.1)	(4.5)	10.9	(23.5)
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.10	1.2	(3.5)	1.2	(7.0)	(33.5)
Natural rubber	\$/t	1,430	0.0	(2.7)	2.9	32.4	(4.0)
Cotton	C/lbs	61.8	0.1	(3.0)	3.8	0.9	(6.5)

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	05/02	\$/t	1,125	0.0	(2.2)	27.1	(23.1)
Propylene	05/02	\$/t	730	(1.7)	2.8	13.2	(27.7)
Benzene	05/02	\$/t	660	2.7	3.1	20.5	(21.4)
Toluene	05/02	\$/t	670	1.5	1.5	16.5	(18.3)
Xylene	05/02	\$/t	660	0.4	1.5	14.8	(14.8)
PP	05/02	\$/t	1,020	(1.4)	(4.2)	22.2	(25.0)
PVC	05/02	\$/t	820	0.0	3.1	13.1	(9.4)
ABS	05/02	\$/t	1,345	0.0	(1.5)	20.1	(19.7)
SBR	05/02	\$/t	1,535	5.9	6.2	26.9	3.7
SM	05/02	\$/t	1,083	(0.7)	(4.8)	15.2	(21.8)
BPA	05/02	\$/t	1,223	(2.0)	(9.1)	15.6	(27.8)
Caustic	05/02	\$/t	290	0.0	1.8	0.0	(3.3)
2-EH	05/02	\$/t	810	(1.2)	2.2	18.2	(26.0)
Caprolactam	05/02	\$/t	1,320	0.0	1.5	6.5	(24.6)
Solar				%	%	%	%
Polysilicon	05/04	\$/kg	16.6	3.1	13.9	28.5	2.8
Module	05/04	\$/W	0.52	(0.6)	(2.1)	(5.4)	(7.8)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	88.5	0.5	0.1	6.2	10.5	0.4
Shell	EUR	1,743	0.9	(2.1)	4.8	13.5	(16.3)
Petrochina	CNY	7.34	(1.6)	(1.1)	(4.7)	1.5	(41.8)
Gazprom	RUB	159.3	(0.8)	(5.5)	10.5	18.5	2.6
Petrobras	BRL	10.1	2.8	(1.5)	33.0	122.0	(26.1)
Refinery							
Phillips66	USD	78.5	(0.7)	(4.4)	(7.6)	0.2	(1.6)
Valero	USD	55.4	(0.4)	(6.0)	(10.2)	(3.1)	(3.8)
JX	JPY	452.9	(1.4)	(3.8)	10.8	(6.5)	(13.2)
Neste Oil	EUR	28.3	0.1	1.4	(2.6)	2.2	25.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	68.6	1.1	(4.7)	8.6	16.2	(20.3)
Dow Chemical	USD	51.2	0.6	(2.8)	0.5	9.6	0.6
SABIC	SAR	83.2	0.0	(2.1)	10.0	23.5	(22.4)
Formosa Pla.	TWD	77.8	0.8	(3.1)	0.1	3.3	(2.8)
Shin-Etsu	JPY	6,066	(0.9)	(2.2)	8.7	4.0	(17.9)
Renewable							
Wacker	EUR	84.0	0.4	0.3	15.0	38.4	(23.1)
Yingli	USD	3.12	0.0	(31.4)	(32.0)	(28.3)	(82.7)
Tesla	USD	214.9	1.6	(10.7)	(19.0)	32.2	(6.7)
BYD	CNY	61.2	(3.6)	(3.9)	4.9	22.2	5.2

4. Coverage Summary

	05/04	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	1,977	(0.5)	(1.9)	(0.1)	3.2	(3.5)	(7.3)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,414	(0.9)	(2.3)	(3.1)	3.0	4.1	6.6				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	288,500	(1.2)	(6.0)	(11.6)	(4.5)	(9.6)	3.6	매수	400,000	38.6	12.71	1.52
롯데케미칼	291,500	(0.2)	(5.4)	(13.6)	(0.5)	21.2	12.5	매수	340,000	16.6	9.85	1.13
한화케미칼	24,150	(3.0)	(5.7)	(0.2)	(5.1)	7.8	42.9	매수	30,000	24.2	9.54	0.78
금호석유화학	66,100	(1.8)	(7.0)	15.6	20.8	7.7	(22.8)	매수	70,000	5.9	13.03	1.31
KCC	402,500	(1.7)	(6.5)	(1.2)	(9.3)	(15.3)	(24.9)	매수	550,000	36.6	14.32	0.62
OCI	109,000	(11.4)	(0.9)	7.9	58.0	28.7	7.9	매수	100,000	(8.3)	20.48	0.95
SKC	28,100	(1.1)	(3.1)	(7.0)	(6.2)	(28.5)	(33.6)	매수	43,000	53.0	8.75	0.71
국도화학	63,500	0.3	(2.6)	(8.5)	13.2	3.8	(9.3)	매수	100,000	57.5	7.22	0.73
SK이노베이션	152,500	(3.5)	(3.2)	(6.4)	5.2	29.8	28.2	매수	180,000	18.0	11.41	0.93
S-Oil	85,000	(4.7)	(3.8)	(10.1)	2.4	22.0	16.4	매수	100,000	17.6	11.98	1.48
GS	52,800	(4.5)	(6.0)	(8.7)	(0.4)	4.8	6.9	매수	65,000	23.1	7.56	0.88
SK가스	81,600	(1.7)	(4.4)	(1.7)	11.3	(1.8)	(18.2)	매수	100,000	22.5	11.57	0.71
대우인터내셔널	22,650	(5.4)	(4.0)	12.1	41.6	14.7	(26.8)	매수	27,000	19.2	10.47	1.00
LG상사	35,350	(3.8)	(2.3)	6.2	7.3	(0.8)	(11.5)	매수	42,000	18.8	10.44	0.91

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

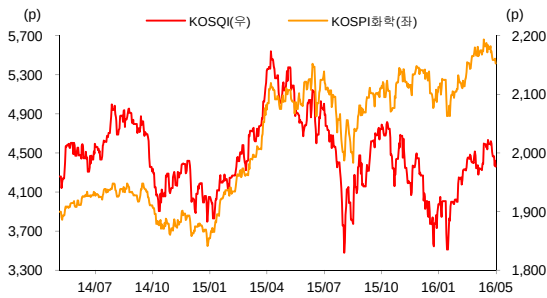
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

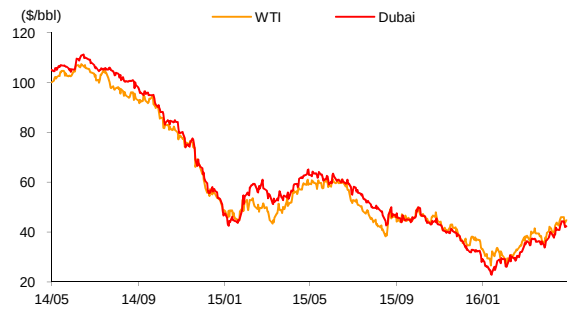
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

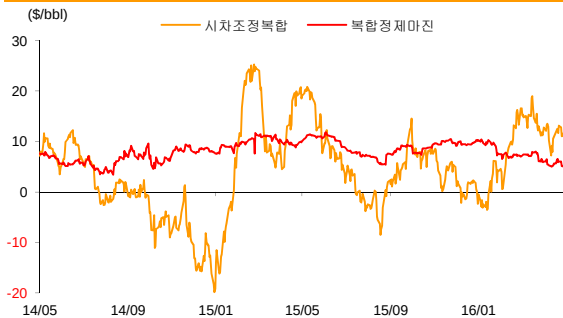
KOSPI/KOSPI화학



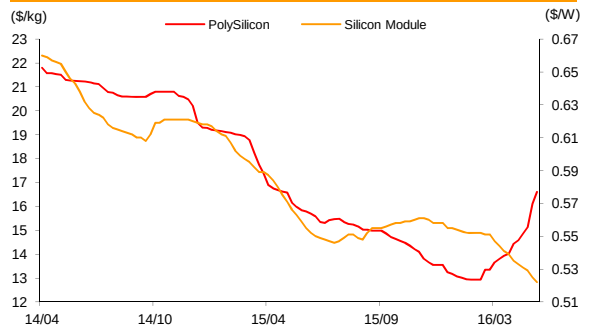
WTI/Dubai



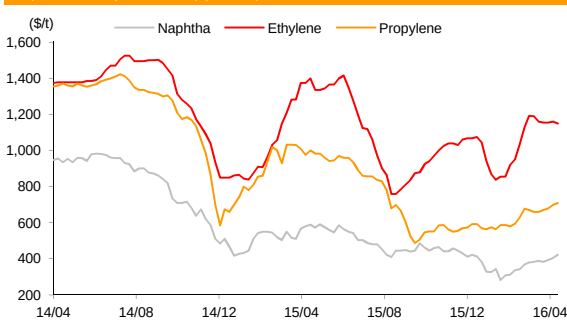
Complex & 1M lagging margin



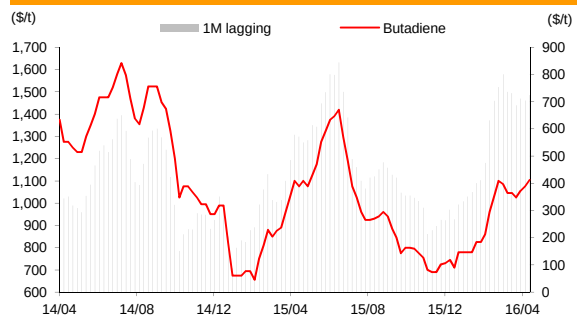
Polysilicon & Module prices



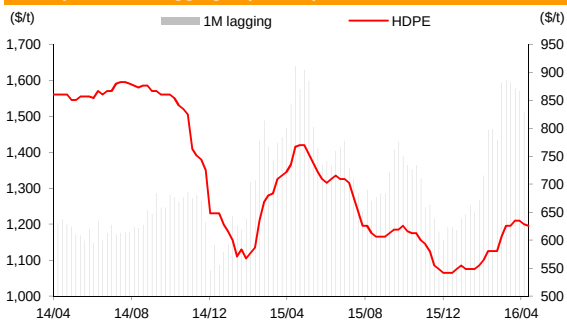
Naphtha/Ethylene/Propylene prices



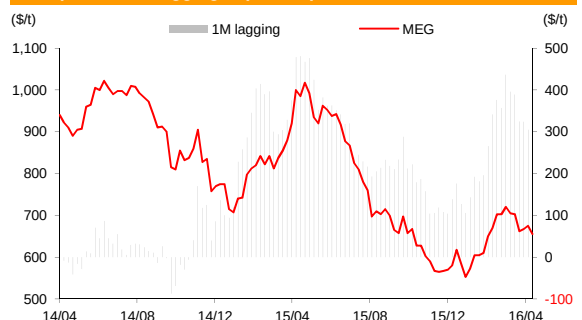
Butadiene price & 1M lagging naphtha spread



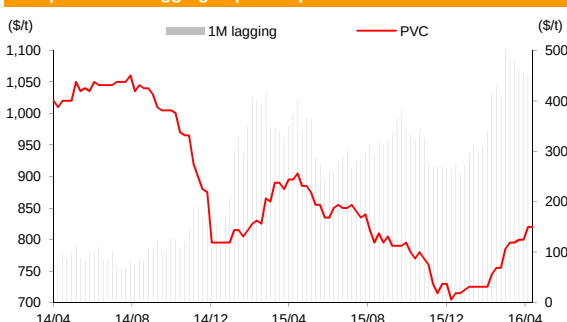
HDPE price & 1M lagging naphtha spread



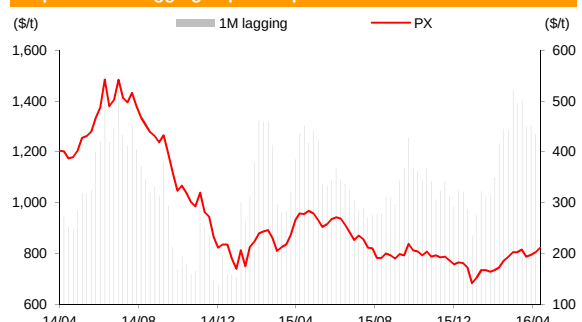
MEG price & 1M lagging naphtha spread



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 [주간가격] 에틸렌/프로필렌 모두 가격변동 없었음	
결론 에틸렌의 높은 spread에 대해 수요-공급측의 가격견해 크게 벌어진 상황	
세부	
1) Ethylene \$1,145/t(WoW -), Propylene \$705/t(WoW -)	
2) 에틸렌은 buyer와 seller의 희망 가격 차이가 \$50/t 가량 벌어진 상황임	
3) 공급측은 높은 spread에 대해서, "cost가 관건 아님, 현재 seller's mkt"	
4) 수요측은 하반기 이후 중국 CTO 등 다수설비 진입으로 가격하락 예상	
5) 에틸렌의 높은 spread에 대해 수요-공급측의 가격견해 크게 벌어진 상황	

WTI Comment	(출처: 연합뉴스)
제목 공급과잉 해소 기대감에 상승	
상승 고용지표 예상보다 안좋은 결과로 달러 약세	
요인 미국 원유rig 328개, 전주대비 4개 감소	
하락	
요인	

Issue 1	(출처: Platts)
제목 [주간가격] polyester 계열 하락세 지속	
결론 MEG 가격은 2월 이후 가장 낮은 수준, 성수기 불구 가격약세 지속 중	
세부	
1) MEG \$634/t(WoW -\$18/t), PX \$774/t(-\$29.3/t), PTA \$610/t(WoW -\$13/t)	
2) 중국 HCE 선물시장 sentiment 악화 지속, downstream 가격도 약세 지속	
3) 성수기 polyester 가동률 양호 & 중국 MEG 재고도 감소했지만 가격약세	
4) PX/PTA 신규설비는 지속적으로 가동되면서 공급부담 주고 있음	
5) MEG 가격은 2월 이후 가장 낮은 수준, 성수기 불구 가격약세 지속 중	

Issue 2	(출처: Platts)
제목 [주간가격] 부타디엔/합성고무 소폭 상승 지속	
결론 천연고무 강세를 뒤흔게 따라가는 양상임, 타이트한 공급이 주된 요인	
세부	
1) 부타디엔 \$1,070/t(WoW +\$20/t), SBR \$1,550/t(WoW +\$15/t)	
2) 연휴로 전체적 거래물량 적음 불구 타이트한 공급으로 가격 상승	
3) 중국 CNPC는 이번 주에만 BD 가격 2차례 인상하였음	
4) 합성고무는 중국가격 인상 중이지만, 유럽/브라질 arbitrage 시도 중임	
5) 천연고무 강세를 뒤흔게 따라가는 양상임, 타이트한 공급이 주된 요인	

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	2014avg.	2015avg.	2016acc.
F/X	USD/EUR	0.877	0.877	0.873	0.877	0.896	0.931	0.881	0.921	0.754	0.901	0.899
	Change, %		0.0	0.4	(0.0)	(2.2)	(5.8)	(0.5)	(4.8)	16.3	(2.7)	(2.4)
	USD/JPY	107.1	107.3	106.5	109.8	116.9	123.1	119.5	120.6	105.9	121.1	113.5
	Change, %		(0.1)	0.6	(2.4)	(8.3)	(13.0)	(10.3)	(11.1)	1.1	(11.5)	(5.7)
	USD/KRW	1,169.7	1,164.4	1,139.4	1,156.2	1,197.5	1,141.9	1,080.2	1,172.6	1,053.0	1,131.2	1,185.5
	Change, %		0.5	2.7	1.2	(2.3)	2.4	8.3	(0.2)	11.1	3.4	(1.3)
Agriculture	Corn	376.0	371.8	390.3	358.0	365.8	373.0	366.5	358.8	415.6	376.8	365.9
	Change, %		1.1	(3.7)	5.0	2.8	0.8	2.6	4.8	(9.5)	(0.2)	2.8
	Soybean	1,026.3	1,003.5	1,021.0	908.0	867.5	871.3	990.5	871.3	1,245.5	945.4	906.7
	Change, %		2.3	0.5	13.0	18.3	17.8	3.6	17.8	(17.6)	8.5	13.2
	Wheat	453.3	453.0	478.0	463.0	466.8	523.3	475.8	470.0	588.0	508.1	466.4
	Change, %		0.1	(5.2)	(2.1)	(2.9)	(13.4)	(4.7)	(3.6)	(22.9)	(10.8)	(2.8)
	Rice	11.2	11.1	10.8	9.7	11.1	12.2	9.5	11.6	14.0	11.1	10.7
	Change, %		0.8	3.4	15.0	0.8	(8.0)	17.4	(3.1)	(19.7)	1.4	5.1
	Oats	181.3	180.8	193.5	183.5	197.0	223.8	237.5	217.3	373.1	250.2	192.1
	Change, %		0.3	(6.3)	(1.2)	(8.0)	(19.0)	(23.7)	(16.6)	(51.4)	(27.6)	(5.7)
MYR/mt	Palm Oil	2,640.0	2,615.0	2,572.0	2,681.0	2,497.0	2,188.0	2,166.0	2,398.0	2,415.1	2,190.3	2,514.8
	Change, %		1.0	2.6	(1.5)	5.7	20.7	21.9	10.1	9.3	20.5	5.0
	Cocoa	3,047.0	3,131.0	3,207.0	2,900.0	2,772.0	3,237.0	2,889.0	3,211.0	3,006.8	3,091.6	2,954.0
	Change, %		(2.7)	(5.0)	5.1	9.9	(5.9)	5.5	(5.1)	1.3	(1.4)	3.1
	Cotton	61.6	61.6	63.8	58.8	60.0	61.7	66.1	63.3	76.4	63.3	60.3
	Change, %		0.0	(3.3)	4.9	2.8	(0.0)	(6.8)	(2.6)	(19.3)	(2.6)	2.3
	Sugar	15.7	15.8	16.2	14.6	13.3	14.5	12.9	15.2	16.3	13.1	14.6
	Change, %		(0.6)	(2.6)	7.7	18.6	8.9	22.3	3.3	(3.6)	19.8	7.5
	Coffee	123.5	120.9	120.9	121.5	120.4	117.8	128.1	126.7	177.1	132.6	120.6
	Change, %		2.1	2.2	1.6	2.5	4.8	(3.6)	(2.6)	(30.3)	(6.9)	2.3
Energy	WTI	44.7	44.3	45.9	37.8	30.9	44.3	60.9	37.0	92.9	48.8	36.0
	Change, %		0.8	(2.7)	18.3	44.6	0.8	(26.7)	20.6	(51.9)	(8.6)	23.9
	Brent	45.4	45.0	48.1	39.8	34.1	47.4	67.8	37.3	99.5	53.7	37.8
	Change, %		0.8	(5.7)	13.9	33.2	(4.3)	(33.1)	21.7	(54.4)	(15.5)	20.1
	Natural Gas	2.1	2.1	2.2	1.9	2.1	2.4	2.8	2.3	4.3	2.6	2.0
	Change, %		1.2	(3.5)	9.9	1.8	(11.4)	(24.3)	(10.1)	(50.7)	(20.1)	4.8
	Ethanol	1.5	1.5	1.5	1.5	1.4	1.5	1.7	1.4	2.1	1.5	1.4
	Change, %		1.1	(2.1)	0.9	5.3	(0.5)	(8.5)	8.0	(26.6)	0.2	5.7
	RBOB Gasoline	149.6	149.1	158.5	139.5	99.3	137.0	203.7	126.7	262.6	163.6	126.9
	Change, %		0.3	(5.6)	7.3	50.7	9.3	(26.5)	18.1	(43.0)	(8.5)	17.9
Metal	Coal	43.6	43.6	43.5	43.6	43.1	42.0	47.1	43.3	57.5	45.2	43.4
	Change, %		0.0	0.3	0.0	1.2	3.8	(7.4)	0.7	(24.2)	(3.5)	0.5
	Gold	1,287.9	1,277.7	1,293.0	1,222.5	1,173.8	1,089.8	1,192.2	1,061.4	1,266.5	1,160.6	1,201.0
	Change, %		0.8	(0.4)	5.4	9.7	18.2	8.0	21.3	1.7	11.0	7.2
	Silver	17.5	17.3	17.8	15.1	15.0	14.8	16.5	13.8	19.1	15.7	15.3
	Change, %		0.7	(2.1)	15.9	16.4	18.2	5.8	26.5	(8.4)	11.1	14.0
	Platinum	1,080.5	1,062.0	1,077.0	945.4	912.0	940.8	1,144.8	891.1	1,384.6	1,055.7	943.1
	Change, %		1.7	0.3	14.3	18.5	14.8	(5.6)	21.3	(22.0)	2.3	14.6
	Palladium	607.7	598.3	622.6	541.7	502.2	620.8	794.4	563.0	803.4	691.9	542.5
	Change, %		1.6	(2.4)	12.2	21.0	(2.1)	(23.5)	7.9	(24.4)	(12.2)	12.0
	Copper	4,810.0	4,785.0	5,050.0	4,786.0	4,630.0	4,987.0	6,390.0	4,705.0	6,828.1	5,503.1	4,734.4
	Change, %		0.5	(4.8)	0.5	3.9	(3.5)	(24.7)	2.2	(29.6)	(12.6)	1.6
	Uranium	27.6	27.6	27.7	28.3	34.4	36.0	36.5	34.4	33.5	36.9	31.2
	Change, %		0.0	(0.4)	(2.7)	(19.9)	(23.5)	(24.4)	(19.9)	(17.8)	(25.2)	(11.8)
	HR Coil	560.0	560.0	560.0	480.0	400.0	393.0	443.0	391.0	653.2	461.5	432.9
	Change, %		0.0	0.0	16.7	40.0	42.5	26.4	43.2	(14.3)	21.4	29.4
	Scrap	275.0	275.0	260.0	405.0	250.0	190.0	250.0	250.0	401.3	252.9	309.0
	Change, %		0.0	5.8	(32.1)	10.0	44.7	10.0	10.0	(31.5)	8.7	(11.0)
	Zinc	1,888.0	1,861.0	1,938.5	1,808.0	1,677.0	1,660.5	2,369.0	1,609.0	2,165.0	1,941.9	1,739.6
	Change, %		1.5	(2.6)	4.4	12.6	13.7	(20.3)	17.3	(12.8)	(2.8)	8.5

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		05/04	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Crude Oil	WTI	44.7	44.3	45.9	37.8	30.9	43.9	58.9	37.0	93.1	48.8	36.0
	Change, %		0.8	(2.7)	18.3	44.6	1.8	(24.2)	20.6	(52.0)	(8.4)	24.2
	Dubai	42.2	42.5	44.3	34.7	29.2	42.9	65.1	32.2	96.7	50.8	33.2
	Change, %		(0.6)	(4.7)	21.6	44.4	(1.6)	(35.1)	31.1	(56.4)	(16.9)	27.1
Crude Oil	Gasoline(휘발유)	56.4	56.4	59.5	51.1	46.0	60.4	85.0	54.8	110.9	69.5	51.2
Product	Change, %		(0.1)	(5.2)	10.2	22.6	(6.8)	(33.7)	2.8	(49.2)	(18.9)	10.0
	Kerosene(등유)	52.1	52.3	55.6	45.6	41.1	58.3	79.5	44.2	112.6	64.7	44.7
	Change, %		(0.4)	(6.3)	14.3	26.7	(10.7)	(34.4)	17.8	(53.8)	(19.6)	16.6
	Diesel(경유)	51.8	52.0	54.9	42.7	38.4	58.4	79.4	43.2	112.8	64.8	42.9
	Change, %		(0.4)	(5.6)	21.3	35.0	(11.3)	(34.7)	19.9	(54.0)	(20.0)	20.8
	Bunker-C	32.9	33.0	34.6	26.2	24.6	35.8	61.2	25.3	86.5	45.3	26.3
	Change, %		(0.5)	(5.1)	25.4	33.8	(8.2)	(46.3)	29.9	(62.0)	(27.4)	24.8
	Naphtha	42.0	42.2	45.1	39.7	34.5	48.6	65.0	43.5	94.3	52.6	38.4
	Change, %		(0.6)	(6.9)	5.8	21.8	(13.6)	(35.4)	(3.4)	(55.5)	(20.2)	9.4
Dubai	Gasoline(휘발유)	14.2	14.0	15.2	16.5	16.7	17.6	19.9	22.6	14.2	18.7	18.0
Spread	Change		0.2	(1.1)	(2.3)	(2.6)	(3.4)	(5.8)	(8.5)	(0.1)	(4.6)	(3.9)
	Kerosene(등유)	9.9	9.8	11.3	10.9	11.9	15.5	14.4	12.0	15.9	14.0	11.5
	Change		0.0	(1.4)	(1.0)	(2.0)	(5.6)	(4.5)	(2.1)	(6.0)	(4.1)	(1.6)
	Diesel(경유)	9.6	9.6	10.6	8.0	9.2	15.5	14.3	11.0	16.0	14.0	9.7
	Change		0.0	(1.0)	1.6	0.4	(5.9)	(4.7)	(1.4)	(6.4)	(4.4)	(0.1)
	Bunker-C	(9.3)	(9.4)	(9.6)	(8.5)	(4.7)	(7.1)	(3.9)	(6.9)	(10.3)	(5.5)	(6.9)
	Change		0.1	0.3	(0.9)	(4.7)	(2.3)	(5.5)	(2.4)	0.9	(3.8)	(2.5)
	Naphtha	(0.2)	(0.2)	0.8	5.0	5.3	5.7	(0.1)	11.3	(2.4)	1.8	5.2
	Change		0.0	(1.1)	(5.2)	(5.5)	(5.9)	(0.1)	(11.5)	2.2	(2.0)	(5.4)
Refining	Simple(단순)	(0.4)	(0.5)	0.0	0.5	2.8	3.4	3.9	3.2	(0.1)	3.3	1.9
Margin	Change		0.1	(0.4)	(0.8)	(3.2)	(3.7)	(4.2)	(3.5)	(0.3)	(3.7)	(2.3)
	Complex(복합)	5.3	5.2	6.0	6.0	7.5	9.7	9.8	9.7	7.1	9.3	7.5
	Change		0.1	(0.7)	(0.7)	(2.2)	(4.3)	(4.5)	(4.4)	(1.8)	(4.0)	(2.2)
	Complex(lagging)	11.2	11.6	13.1	11.2	4.1	8.6	18.5	2.3	2.2	6.5	8.5
	Change		(0.4)	(1.9)	(0.0)	7.1	2.6	(7.3)	8.9	9.0	4.7	2.7

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			05/06	05/05	05/04	05/03	05/02	04/29	04/28	04/27	04/26	04/25
Spot Price	Naphtha	CFR Japan	391.0	395.8	398.0	403.0	426.8	426.8	415.5	420.5	405.9	405.4
	Ethylene	CFR SE Asia	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0	1,145.0
	Propylene	FOB Korea	705.0	705.0	705.0	705.0	705.0	705.0	705.0	705.0	702.0	700.0
	Butadiene	FOB Korea	1,070.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0	1,050.0
	HDPE	CFR FE Asia	1,140.0	1,155.0	1,160.0	1,140.0	1,125.0	1,125.0	1,125.0	1,125.0	1,140.0	1,139.0
	LDPE	CFR FE Asia	1,160.0	1,175.0	1,180.0	1,160.0	1,150.0	1,150.0	1,150.0	1,150.0	1,175.0	1,175.0
	LLDPE	CFR FE Asia	1,150.0	1,165.0	1,170.0	1,130.0	1,120.0	1,120.0	1,120.0	1,120.0	1,130.0	1,130.0
	MEG	CFR China	634.0	645.0	648.0	658.0	652.0	652.0	651.0	650.0	644.0	661.0
	PP	CFR FE Asia	955.0	965.0	970.0	970.0	980.0	980.0	980.0	985.0	979.0	979.0
	PX	CFR China	774.0	783.3	786.3	792.0	803.3	803.3	798.7	801.0	794.3	795.3
	PTA	CFR China	610.0	617.0	617.0	619.0	623.0	623.0	625.0	624.0	624.0	624.0
	Benzene	FOB Korea	652.0	658.0	653.5	657.5	661.5	661.5	657.0	656.5	647.5	647.5
	Toluene	FOB Korea	610.0	620.0	616.0	626.0	631.0	631.0	619.5	630.5	617.5	618.0
	Xylene	FOB Korea	657.0	671.0	662.0	669.0	681.0	681.0	681.0	681.0	671.0	672.0
	SM	FOB Korea	1,044.0	1,056.0	1,056.0	1,056.0	1,066.0	1,066.0	1,051.0	1,046.0	1,046.0	1,059.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	Naphtha	CFR Japan	422.5	405.0	388.5	345.5	413.5	590.0	413.5	865.9	493.0	361.9
	Change, %			4.3	8.8	22.3	2.2	(28.4)	2.2	(51.2)	(14.3)	16.8
	Ethylene	CFR SE Asia	1,125.0	1,125.0	1,150.0	885.0	1,090.0	1,462.5	1,090.0	1,401.1	1,103.7	1,051.7
	Change, %			0.0	(2.2)	27.1	3.2	(23.1)	3.2	(19.7)	1.9	7.0
	Propylene	CFR SE Asia	730.0	742.5	710.0	645.0	650.0	1,010.0	650.0	1,254.2	770.0	626.4
	Change, %			(1.7)	2.8	13.2	12.3	(27.7)	12.3	(41.8)	(5.2)	16.5
	Butadiene	CFR SE Asia	1,065.0	1,035.0	1,005.0	740.0	720.0	1,067.5	720.0	1,281.7	877.5	897.2
	Change, %			2.9	6.0	43.9	47.9	(0.2)	47.9	(16.9)	21.4	18.7
	Benzene	CFR SE Asia	660.0	642.5	640.0	547.5	580.0	840.0	580.0	1,243.1	690.0	595.7
	Change, %			2.7	3.1	20.5	13.8	(21.4)	13.8	(46.9)	(4.3)	10.8
	Toluene	CFR SE Asia	670.0	660.0	660.0	575.0	630.0	820.0	630.0	1,082.5	700.8	623.1
	Change, %			1.5	1.5	16.5	6.3	(18.3)	6.3	(38.1)	(4.4)	7.5
	Xylene	CFR SE Asia	660.0	657.5	650.0	575.0	625.0	775.0	625.0	1,055.7	699.3	615.8
	Change, %			0.4	1.5	14.8	5.6	(14.8)	5.6	(37.5)	(5.6)	7.2
Spread	Ethylene	-Naphtha	702.5	720.0	761.5	539.5	676.5	872.5	676.5	535.2	610.6	689.8
	Change, %			(2.4)	(7.7)	30.2	3.8	(19.5)	3.8	31.3	15.0	1.8
	Propylene	-Naphtha	307.5	337.5	321.5	299.5	236.5	420.0	236.5	388.3	277.0	264.5
	Change, %			(8.9)	(4.4)	2.7	30.0	(26.8)	30.0	(20.8)	11.0	16.2
	Butadiene	-Naphtha	642.5	630.0	616.5	394.5	306.5	477.5	306.5	415.9	384.5	535.4
	Change, %			2.0	4.2	62.9	109.6	34.6	109.6	54.5	67.1	20.0
	Benzene	-Naphtha	237.5	237.5	251.5	202.0	166.5	250.0	166.5	377.3	197.0	233.8
	Change, %			0.0	(5.6)	17.6	42.6	(5.0)	42.6	(37.1)	20.6	1.6
	Toluene	-Naphtha	247.5	255.0	271.5	229.5	216.5	230.0	216.5	216.6	207.8	261.2
	Change, %			(2.9)	(8.8)	7.8	14.3	7.6	14.3	14.3	19.1	(5.2)
	Xylene	-Naphtha	237.5	252.5	261.5	229.5	211.5	185.0	211.5	189.9	206.3	254.0
	Change, %			(5.9)	(9.2)	3.5	12.3	28.4	12.3	25.1	15.2	(6.5)

자료 : Cischem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차임

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	HDPE	CFR SE Asia	1,195.0	1,200.0	1,195.0	1,075.0	1,065.0	1,415.0	1,065.0	1,524.9	1,230.1	1,132.2
	Change, %			(0.4)	0.0	11.2	12.2	(15.5)	12.2	(21.6)	(2.9)	5.5
	MEG	CFR SE Asia	655.0	675.0	702.5	605.0	617.5	985.0	617.5	934.1	780.8	647.8
	Change, %			(3.0)	(6.8)	8.3	6.1	(33.5)	6.1	(29.9)	(16.1)	1.1
	PVC	CFR SE Asia	820.0	820.0	795.0	725.0	715.0	905.0	715.0	1,013.9	820.8	758.1
	Change, %			0.0	3.1	13.1	14.7	(9.4)	14.7	(19.1)	(0.1)	8.2
	PP	CFR SE Asia	1,020.0	1,035.0	1,065.0	835.0	835.0	1,360.0	835.0	1,503.0	1,109.8	925.3
	Change, %			(1.4)	(4.2)	22.2	22.2	(25.0)	22.2	(32.1)	(8.1)	10.2
	2-EH	CFR Korea	810.0	820.0	792.5	685.0	680.0	1,095.0	680.0	1,397.1	930.1	733.6
	Change, %			(1.2)	2.2	18.2	19.1	(26.0)	19.1	(42.0)	(12.9)	10.4
	ABS	CFR SE Asia	1,345.0	1,345.0	1,365.0	1,120.0	1,130.0	1,675.0	1,130.0	1,897.7	1,431.1	1,220.0
	Change, %			0.0	(1.5)	20.1	19.0	(19.7)	19.0	(29.1)	(6.0)	10.2
	SBR	CFR SE Asia	1,535.0	1,450.0	1,445.0	1,210.0	1,150.0	1,480.0	1,150.0		1,332.1	1,314.2
	Change, %			5.9	6.2	26.9	33.5	3.7	33.5		15.2	16.8
	SM	CFR SE Asia	1,082.5	1,090.0	1,137.5	940.0	910.0	1,385.0	910.0	1,547.1	1,100.7	1,038.8
	Change, %			(0.7)	(4.8)	15.2	19.0	(21.8)	19.0	(30.0)	(1.7)	4.2
	Caustic	FOB NEA	290.0	290.0	285.0	290.0	285.0	300.0	285.0	310.0	296.8	286.4
	Change, %			0.0	1.8	0.0	1.8	(3.3)	1.8	(6.5)	(2.3)	1.3
	PX	CFR SE Asia	822.5	805.0	815.0	735.0	762.5	955.0	762.5	1,228.5	842.9	764.9
	Change, %			2.2	0.9	11.9	7.9	(13.9)	7.9	(33.0)	(2.4)	7.5
	PO	CFR China	1,222.5	1,247.5	1,345.0	1,057.5	1,257.5	1,692.5	1,257.5	2,179.2	1,683.4	1,212.5
	Change, %			(2.0)	(9.1)	15.6	(2.8)	(27.8)	(2.8)	(43.9)	(27.4)	0.8
	Caprolactam	CFR SE Asia	1,320.0	1,320.0	1,300.0	1,240.0	1,260.0	1,750.0	1,260.0	2,233.4	1,581.5	1,226.7
	Change, %			0.0	1.5	6.5	4.8	(24.6)	4.8	(40.9)	(16.5)	7.6
	PTA	CFR SE Asia	632.5	625.0	622.5	562.5	585.0	760.0	585.0	911.7	648.0	595.3
	Change, %			1.2	1.6	12.4	8.1	(16.8)	8.1	(30.6)	(2.4)	6.3
Spread	HDPE		772.5	795.0	806.5	729.5	651.5	825.0	651.5	659.0	737.1	770.4
	Change, %			(2.8)	(4.2)	5.9	18.6	(6.4)	18.6	17.2	4.8	0.3
	MEG		232.5	270.0	314.0	259.5	204.0	395.0	204.0	68.2	287.8	285.9
	Change, %			(13.9)	(26.0)	(10.4)	14.0	(41.1)	14.0	240.7	(19.2)	(18.7)
	PVC		397.5	415.0	406.5	379.5	301.5	315.0	301.5	148.0	327.8	396.2
	Change, %			(4.2)	(2.2)	4.7	31.8	26.2	31.8	168.5	21.3	0.3
	PP		597.5	630.0	676.5	489.5	421.5	770.0	421.5	637.1	616.8	563.4
	Change, %			(5.2)	(11.7)	22.1	41.8	(22.4)	41.8	(6.2)	(3.1)	6.0
	2-EH		387.5	415.0	404.0	339.5	266.5	505.0	266.5	531.3	437.0	371.8
	Change, %			(6.6)	(4.1)	14.1	45.4	(23.3)	45.4	(27.1)	(11.3)	4.2
	ABS		922.5	940.0	976.5	774.5	716.5	1,085.0	716.5	1,031.9	938.1	858.1
	Change, %			(1.9)	(5.5)	19.1	28.8	(15.0)	28.8	(10.6)	(1.7)	7.5
	SBR	BD spread	470.0	415.0	440.0	470.0	430.0	412.5	430.0		454.7	416.9
	Change, %			13.3	6.8	0.0	9.3	13.9	9.3		3.4	12.7
	SM		660.0	685.0	749.0	594.5	496.5	795.0	496.5	681.2	607.7	676.9
	Change, %			(3.6)	(11.9)	11.0	32.9	(17.0)	32.9	(3.1)	8.6	(2.5)
	Caustic											
	Change, %											
	PX		400.0	400.0	426.5	389.5	349.0	365.0	349.0	362.6	349.9	403.0
	Change, %			0.0	(6.2)	2.7	14.6	9.6	14.6	10.3	14.3	(0.7)
	PO	propylene spread	492.5	505.0	635.0	412.5	607.5	682.5	607.5	925.0	913.4	586.1
	Change, %			(2.5)	(22.4)	19.4	(18.9)	(27.8)	(18.9)	(46.8)	(46.1)	(16.0)
	Caprolactam	benzene spread	660.0	677.5	660.0	692.5	680.0	910.0	680.0	990.3	891.6	631.0
	Change, %			(2.6)	0.0	(4.7)	(2.9)	(27.5)	(2.9)	(33.4)	(26.0)	4.6
	PTA	px spread	56.8	61.5	52.0	48.0	51.3	91.5	51.3	51.8	58.0	59.9
	Change, %			(7.7)	9.1	18.2	10.7	(38.0)	10.7	9.6	(2.2)	(5.2)

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	05/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA			
											15	16E	15	16E	15	16E		
Petrochemical																		
Dow Chemical	USD	51.2	0.6	(2.8)	0.5	9.6	(1.3)	0.6	(0.6)	57,444	14.7	13.1	2.4	2.3	8.0	7.4		
Du Pont	USD	64.3	0.9	(2.5)	1.2	9.1	(2.8)	(7.0)	(3.5)	56,132	20.5	17.4	5.9	4.8	11.7	10.2		
Eastman	USD	75.9	0.8	(0.7)	5.0	25.6	6.7	(3.9)	12.4	11,216	10.8	9.8	2.4	2.1	8.2	7.9		
BASF	EUR	68.6	1.1	(4.7)	8.6	16.2	(11.1)	(20.3)	(3.1)	71,936	15.2	13.5	2.0	1.9	7.7	7.1		
Akzo Nobel	EUR	61.5	0.1	(0.6)	5.7	10.3	(6.0)	(6.8)	(0.2)	17,503	14.7	14.0	2.2	2.1	8.0	7.7		
Arkema	EUR	67.5	(1.1)	(3.2)	5.7	26.3	(1.8)	(4.5)	4.5	5,818	14.0	11.7	1.3	1.3	5.9	5.5		
Lanxess	EUR	44.4	0.0	(2.7)	8.1	20.9	(9.9)	(8.6)	4.1	4,646	20.5	16.2	1.6	1.6	5.8	5.3		
Sumitomo Chemical	JPY	478	(1.6)	(5.5)	5.5	(12.3)	(29.3)	(28.6)	(31.8)	7,420	8.7	7.6	0.9	0.8	6.9	6.5		
Mitsubishi Chemical	JPY	561	(0.2)	(3.6)	7.5	(12.7)	(28.6)	(24.4)	(27.6)	7,919	9.1	8.1	0.8	0.7	5.7	5.4		
Shin-Etsu Chemical	JPY	6,066	(0.9)	(2.2)	8.7	4.0	(14.6)	(17.9)	(8.3)	24,577	17.2	16.0	1.2	1.2	5.8	5.4		
Asahi Kasei	JPY	737	(0.5)	(2.9)	3.7	1.5	0.4	(34.4)	(10.4)	9,697	10.9	9.8	0.9	0.8	5.4	5.2		
JSR	JPY	1,461	(1.2)	(3.9)	(5.1)	(12.6)	(21.4)	(27.3)	(23.1)	3,097	12.0	11.2	0.9	0.8	4.8	4.5		
Nitto Denko	JPY	6,372	(3.1)	5.6	9.8	3.2	(25.5)	(21.1)	(28.5)	10,382	14.1	13.3	1.5	1.4	5.8	5.5		
SABIC	SAR	83.2	0.0	(2.1)	10.0	23.5	2.4	(22.4)	8.8	66,571	17.5	14.8	1.5	1.4	8.0	7.0		
Yansab	SAR	40.0	0.0	(5.4)	2.8	33.8	(3.3)	(28.1)	23.3	5,994	16.9	14.7	1.5	1.4	8.6	8.1		
Formosa Plastics	TWD	77.8	0.8	(3.1)	0.1	3.3	2.8	(2.8)	1.0	15,281	16.0	14.8	1.6	1.6	24.0	21.9		
Formosa Fiber	TWD	80.4	1.4	(2.4)	2.2	14.0	8.6	0.5	8.6	14,540	16.7	16.1	1.5	1.5	13.8	12.9		
Nan Ya Plastics	TWD	60.2	(0.5)	(4.7)	(8.8)	2.4	(6.1)	(21.5)	(1.3)	14,732	13.6	13.8	1.4	1.3	14.3	13.6		
Sinopec Shanghai	CNY	6.51	(5.5)	(3.1)	(18.1)	18.8	(12.7)	(25.9)	0.5	8,908	18.2	18.8	3.1	2.8	8.7	9.0		
Sinopec Yizheng(Fiber)	CNY	4.45	(3.5)	(1.3)	(14.3)	(29.6)	(53.3)	(51.1)	(45.5)	8,669	#N/A	N/A	445.0	2.6	2.6	17.6	14.7	
Reliance	INR	969	(0.6)	(1.4)	(6.3)	(0.2)	1.7	10.1	(4.6)	47,177	10.9	9.3	1.1	1.0	8.9	7.3		
Industries Qatar	QAR	99.9	0.0	(4.9)	(3.1)	(3.0)	(16.1)	(34.2)	(10.1)	16,602	14.2	13.0	1.8	1.7	53.1	51.1		
PTT Chemical	THB	59.8	0.0	(4.4)	5.8	12.7	5.8	(8.1)	19.5	7,586	10.8	9.7	1.1	1.0	5.4	5.1		
Petronas	MYR	6.4	(2.0)	(4.5)	(4.3)	(8.2)	(2.4)	9.9	(11.8)	12,830	18.3	16.8	2.0	1.9	9.0	8.3		
LG화학	KRW	288,500	0.0	(2.9)	(9.7)	(4.2)	(5.1)	3.0	(12.2)	16,399	0.0	15.3	0.0	1.6	0.0	6.0		
롯데케미칼	KRW	291,500	0.0	(0.3)	(10.7)	1.4	19.2	14.8	19.7	8,570	0.0	8.0	0.0	1.2	0.0	4.3		
한화케미칼	KRW	24,150	0.0	(4.0)	5.7	(2.4)	5.5	48.6	(11.2)	3,414	0.0	10.5	0.0	0.9	0.0	9.0		
금호석유	KRW	66,100	0.0	(3.2)	11.5	17.0	7.5	(22.9)	26.9	1,727	0.0	18.2	0.0	1.4	0.0	11.0		
SKC	KRW	28,100	0.0	0.2	(4.9)	(6.0)	(27.0)	(32.7)	(16.9)	890	0.0	8.6	0.0	0.7	0.0	7.5		
국도화학	KRW	63,500	0.0	(3.3)	(10.7)	12.6	3.6	(4.9)	7.1	316	0.0	7.8	0.0	0.9	0.0	5.0		
효성	KRW	4,090	0.0	(2.9)	32.6	52.9	24.3	(3.8)	56.7	3,509	0.0	7.9	0.0	1.3	0.0	7.1		
Average			(0.5)	(2.7)	1.4	7.4	(6.1)	(12.1)	(1.9)									
Refinery																		
Valero	USD	55.4	(0.4)	(6.0)	(10.2)	(3.1)	(23.1)	(3.8)	(21.7)	26,008	9.0	7.8	1.2	1.1	4.7	4.4		
Conoco Phillips	USD	42.8	(1.0)	(10.5)	4.9	30.0	(23.3)	(36.4)	(8.4)	52,953	#N/A	N/A	168.3	1.4	1.4	14.5	7.7	
Formosa Petrochemical	TWD	90.0	1.9	(1.9)	0.3	11.9	12.6	10.7	14.2	26,454	18.4	18.0	3.1	3.0	11.5	11.4		
Tesoro	USD	77.9	0.1	(2.2)	(5.3)	2.2	(31.5)	(12.3)	(26.1)	9,349	10.3	10.1	1.6	1.4	5.8	5.6		
Marathon Petroleum	USD	35.9	(0.6)	(8.2)	(1.6)	11.1	(35.9)	(29.0)	(30.8)	19,010	9.5	8.2	1.4	1.2	6.5	5.9		
Devon Energy	USD	31.4	0.6	(9.5)	13.9	26.4	(33.0)	(53.5)	(1.9)	16,454	#N/A	N/A	51.6	2.7	2.6	15.7	9.6	
Hollyfrontier	USD	29.9	(0.5)	(16.1)	(12.3)	(3.6)	(40.9)	(24.4)	(25.1)	5,274	11.7	8.6	1.0	1.0	5.8	5.0		
Phillips 66	USD	78.5	(0.7)	(4.4)	(7.6)	0.2	(15.3)	(1.6)	(4.0)	41,269	13.7	11.1	1.7	1.6	8.0	6.9		
Murphy Oil	USD	30.3	0.3	(15.1)	23.1	52.9	(1.6)	(35.5)	35.1	5,224	#N/A	N/A	#N/A	N/A	1.1	1.1	9.7	6.7
JX Holdings	JPY	452.9	(1.4)	(3.8)	10.8	(6.5)	(4.4)	(13.2)	(10.9)	10,597	8.4	7.7	0.7	0.6	10.0	9.7		
Cosmo Oil	JPY	164.0	0.0	0.0	0.0	0.0	0.0	(7.3)	0.0	1,151	#N/A	N/A	#N/A	N/A	#N/A	N/A	#N/A	N/A
Idemitsu	JPY	2,294.0	(2.0)	(2.6)	26.3	20.2	15.0	(2.0)	18.4	3,442	6.6	6.1	0.6	0.6	7.1	6.7		
Tonengeneral	JPY	1,007.0	(1.4)	(3.8)	8.5	0.2	(20.5)	(12.4)	(1.5)	3,456	11.2	9.2	1.5	1.4	12.8	7.3		
Nesteoil	EUR	28.3	0.1	1.4	(2.6)	2.2	17.5	25.4	2.5	0	10.9	11.6	2.0	1.9	6.8	7.2		
Ashland	USD	111.4	0.3	(0.2)	1.5	19.8	(0.5)	(13.3)	8.5	6,915	15.6	14.4	2.5	2.5	8.9	8.6		
Fuchs Petrolub	EUR	36.7	0.3	(1.8)	(5.1)	4.1	(14.0)	(2.4)	(15.7)	5,488	20.4	19.5	4.2	3.8	11.7	11.2		
SK이노베이션	KRW	152,500	0.0	(1.6)	(9.8)	7.4	29.2	28.2	17.3	12,094	0.0	8.8	0.0	0.9	0.0	5.4		
S-Oil	KRW	85,000	0.0	(2.4)	(10.4)	1.2	22.3	15.2	7.1	8,208	0.0	8.4	0.0	1.6	0.0	5.9		
GS	KRW	52,800	0.0	(4.5)	(9.6)	1.3	1.7	6.3	4.1	4,208	0.0	7.5	0.0	0.8	0.0	7.8		
Average			(0.2)	(4.9)	0.8	9.4	(7.7)	(8.5)	(2.0)									

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	05/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA			
											15	16E	15	16E	15	16E		
E&P/Shale																		
Exxon Mobil	USD	89	0.5	0.1	6.2	10.5	4.8	0.4	13.5	367,017	34.6	20.8	2.2	2.1	11.4	8.5		
BP	GBP	361	0.7	(3.5)	6.3	2.9	(6.6)	(23.8)	1.9	97,318	30.2	14.0	1.1	1.1	6.3	4.8		
Shell	EUR	1,743	0.9	(2.1)	4.8	13.5	1.8	(16.3)	14.2	203,155	23.3	13.1	0.9	1.0	7.2	5.3		
Chevron	USD	102	0.4	(0.3)	7.4	22.9	8.3	(5.6)	13.2	191,976	81.3	22.2	1.3	1.3	9.4	6.5		
Total	EUR	43	0.9	(2.3)	10.4	10.4	(7.1)	(10.3)	4.1	121,605	16.8	12.2	1.2	1.2	7.6	5.9		
Sinopec	CNY	5	(1.7)	(3.1)	(5.2)	8.8	(10.3)	(39.1)	(4.8)	86,362	18.5	12.7	0.8	0.8	5.5	4.8		
Petrochina	CNY	7	(1.6)	(1.1)	(4.7)	1.5	(19.3)	(41.8)	(12.1)	197,355	77.3	22.5	1.1	1.1	8.3	6.5		
CNOOC	CNY	13	(3.4)	(3.5)	(4.7)	(0.4)	(29.8)	(53.9)	(18.5)	7,185	65.2	38.7	1.3	1.3	13.4	11.4		
Gazprom	RUB	159	(0.8)	(5.5)	10.5	18.5	15.6	2.6	17.0	57,248	4.1	3.4	0.3	0.3	4.4	4.1		
Rosneft	RUB	329	(2.2)	(6.3)	6.5	16.9	24.3	26.6	29.9	52,941	10.3	7.2	1.1	1.0	4.9	4.1		
Anadarko	USD	47	1.0	(11.8)	1.9	14.2	(32.1)	(48.1)	(4.2)	23,765	#N/A	N/A	#N/A	N/A	13.0	8.3		
Petrobras	BRL	10	2.8	(1.5)	33.0	122.0	28.9	(26.1)	50.4	43,520	37.5	6.4	0.5	0.5	6.2	5.4		
Lukoil	USD	2,629	(0.0)	(4.5)	(3.2)	1.3	4.7	(1.2)	12.1	33,852	6.7	5.1	0.3	0.4	N/A	N/A		
Kinder	USD	17	(1.7)	(5.1)	(4.3)	7.6	(35.3)	(60.5)	12.9	47,497	25.4	21.3	1.1	1.0	11.2	10.4		
Statoil	NOK	137	0.3	(3.7)	11.9	12.6	(2.0)	(14.1)	10.8	53,377	38.4	17.2	1.4	1.3	4.4	3.2		
BHP	AUD	18	0.2	(10.7)	14.4	14.0	(18.7)	(38.9)	3.4	69,465	36.6	19.8	1.3	1.3	8.1	6.6		
PTT E&P	THB	71	0.0	(6.0)	6.4	18.9	(5.4)	(41.0)	23.6	7,995	26.7	15.0	0.7	0.7	2.8	2.5		
Petronas gas	MYR	22	(0.9)	(1.7)	(4.5)	(4.0)	(6.5)	(5.0)	(4.8)	10,694	23.3	22.8	3.6	3.4	13.3	12.9		
Chesapeake	USD	5	(19.6)	(33.2)	23.1	50.0	(37.5)	(68.8)	2.0	3,142	#N/A	N/A	13.3	2.5	2.0	16.5	10.4	
Noble Energy	USD	36	0.9	(1.7)	13.6	21.3	(3.5)	(27.8)	7.8	15,251	#N/A	N/A	#N/A	N/A	11.2	9.4		
Average		0	(1.2)	(5.4)	6.5	18.2	(6.3)	(24.6)	8.6									
PV																		
WACKER	EUR	84.0	0.4	0.3	15.0	38.4	0.4	(23.1)	8.3	5,002	31.1	18.1	1.6	1.5	5.6	5.0		
GCL-Poly	HKD	1.1	1.8	(1.7)	(5.0)	12.9	(29.5)	(47.5)	(1.7)	2,731	7.3	6.5	0.8	0.7	6.2	5.4		
REC	NOK	107.5	0.0	0.0	0.0	0.0	0.0	2.4	0.0	519	#N/A	N/A	#N/A	N/A	#N/A	N/A		
SunPower	USD	17.4	0.9	(13.7)	(19.2)	(29.4)	(39.5)	(45.0)	(42.1)	#N/A	N/A	13.0	9.8	1.6	1.6	6.9	5.6	
Canadian Solar	USD	15.9	(1.4)	(11.2)	(10.8)	(18.2)	(32.5)	(54.1)	(45.1)	913	8.5	5.9	0.9	0.8	5.2	4.4		
JA Solar	USD	8.3	(0.7)	(4.6)	(7.0)	(3.8)	(3.5)	(15.4)	(14.7)	393	5.3	4.4	0.4	0.4	2.5	2.2		
Trina Solar	USD	8.8	(0.5)	(9.5)	(10.4)	(7.5)	(16.2)	(25.9)	(20.0)	816	6.3	5.7	0.6	0.5	5.8	5.1		
Solar City	USD	21.8	0.8	(28.0)	(21.9)	(26.1)	(24.8)	(63.7)	(57.2)	2,147	#N/A	N/A	#N/A	N/A	9.6	#N/A	N/A	N/A
Yingli	USD	3.1	0.0	(31.4)	(32.0)	(28.3)	(56.6)	(82.7)	(31.1)	57	#N/A	N/A	#N/A	N/A	9.2	8.8		
First Solar	USD	51.8	(0.3)	(7.2)	(17.5)	(20.4)	(13.2)	(6.9)	(21.5)	5,296	12.0	16.1	0.9	0.9	6.2	6.8		
한화솔라원	USD	11.3	0.9	(12.4)	(20.7)	(31.6)	(36.5)	(48.8)	(48.6)	#N/A	N/A	#N/A	N/A	#N/A	N/A	#N/A	N/A	
OCI	KRW	109,000	0.0	(4.0)	5.3	58.0	30.1	7.9	45.3	2,230	0.0	12.1	0.0	0.8	0.0	10.2		
웅진에너지	KRW	1,170	0.0	(5.6)	(13.0)	(27.8)	(26.2)	(20.9)	(32.4)	108	N/A	0.0	0.8	0.0	10.2	0.0		
신성솔라에너지	KRW	1,640	0.0	(4.7)	5.1	0.8	23.0	29.3	(11.6)	141	N/A	0.8	0.0	10.2	0.0	7.9		
Average			0.1	(9.6)	(9.4)	(5.9)	(16.1)	(28.2)	(19.5)									
Gas Company																		
Towngas China	HKD	4.1	(0.7)	1.2	3.8	8.2	(20.0)	(51.1)	(9.3)	1,401	8.4	8.3	0.8	0.7	10.4	9.7		
Kulun	HKD	6.2	(2.4)	(8.0)	(7.4)	6.7	(1.3)	(31.7)	(9.9)	6,470	12.7	10.0	0.9	0.9	5.2	4.8		
Beijing Enterprise	HKD	38.5	(0.8)	(5.2)	(1.3)	9.5	(20.4)	(45.6)	(18.0)	6,364	7.8	7.3	0.8	0.7	13.0	11.6		
ENN Energy	HKD	38.4	(0.5)	1.1	(12.0)	11.6	(8.4)	(31.0)	(7.3)	5,349	11.9	10.5	2.2	1.9	7.7	7.0		
China Resources Gas	HKD	21.5	(0.7)	(2.5)	(2.9)	8.0	3.9	(15.9)	(7.3)	6,147	13.8	12.3	2.4	2.1	8.8	7.9		
China Gas Holdings	HKD	10.7	(0.4)	(4.5)	(3.2)	12.4	(9.2)	(19.6)	(4.1)	6,783	11.8	10.5	2.2	1.9	10.0	8.8		
Shenzen Gas	HKD	12.5	(1.4)	(1.3)	(2.3)	2.6	0.2	(9.8)	(12.6)	3,069	11.3	10.4	1.1	1.1	6.4	5.9		
Shann Xi	CNY	9.9	(3.9)	1.2	(5.0)	10.2	(28.5)	(38.7)	(21.7)	1,686	15.7	13.3	#N/A	N/A	#N/A	N/A	N/A	N/A
Suntien	HKD	0.9	(1.1)	(1.1)	4.8	0.0	(35.3)	(54.6)	(29.0)	421	9.2	7.0	0.4	0.3	8.8	7.2		
China Oil & Gas	HKD	0.5	(1.8)	0.0	14.9	13.7	(5.3)	(42.9)	1.9	405	10.8	9.8	#N/A	N/A	#N/A	N/A	N/A	N/A
Average			(1.4)	(1.9)	(1.1)	8.3	(12.4)	(34.1)	(11.7)									
EV																		
LG화학	KRW	288,500	0.0	(2.9)	(9.7)	(4.2)	(5.1)	3.0	(12.2)	16,399	13.6	12.1	1.5	1.3	5.9	5.4		
삼성SDI	KRW	115,500	0.0	1.3	21.3	20.9	3.6	(1.3)	1.3	6,812	15.1	25.4	0.7	0.7	109.4	9.0		
Panasonic	JPY	922.2	0.1	(7.3)	6.0	(2.0)	(33.8)	(45.6)	(25.7)	21,211	10.9	9.5	1.0	0.9	3.1	2.9		
GS Yuasa	JPY	441.0	0.7	(2.9)	(5.2)	(3.7)	(0.5)	(22.1)	(2.4)	1,710	12.0	10.6	1.0	1.0	6.0	5.6		
NEC	JPY	256.0	0.0	(5.2)	(4.5)	(14.7)	(33.7)	(36.3)	(33.5)	6,252	9.6	8.5	0.7	0.7	5.2	5.0		
BYD Auto	CNY	61.2	(3.6)	(3.9)	4.9	22.2	(9.7)	5.2	(5.0)	19,709	39.4	29.9	4.2	3.7	15.8	13.5		
Tesla Motors	USD	214.9	1.6	(10.7)	(19.0)	32.2	(7.5)	(6.7)	(10.4)	28,778	259.0	75.6	18.3	15.0	38.6	21.9		
Kandi Technologies	USD	7.0	(0.9)	(2.9)	(0.4)	(3.7)	(35.3)	(42.5)	(36.0)	328	#N/A	N/A	#N/A	N/A	#N/A	N/A	N/A	N/A
Average			(0.3)	(4.3)	(0.8)	5.9	(15.2)	(18.3)	(15.5)									

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임