

1. News Summary (3 page)

2016년 4월 19일

News	Conclusion
WTI comment	공급과잉 우려 확산에 하락
Headline	롯데정밀화학, 폴리실리콘 관계사 SMP 부도 위기
News 1.	-
News 2.	-
News 3.	-
News 4.	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	39.8	(1.4)	(1.4)	0.9	39.8	(29.4)
Dubai	\$/bbl	37.7	(4.2)	(0.2)	0.8	52.6	(36.4)
Gasoline	\$/bbl	52.0	(4.4)	(4.7)	(5.6)	7.8	(32.9)
Diesel	\$/bbl	46.1	(3.9)	0.3	(4.6)	34.7	(37.4)
Complex margin	\$/bbl	5.1	(0.2)	(0.9)	(2.0)	(4.7)	(4.4)
1M lagging	\$/bbl	7.3	(3.0)	(4.9)	(8.0)	9.2	(6.1)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	387	(1.5)	(2.0)	1.5	24.0	(31.6)
Butadiene	\$/t	1,000	0.0	0.0	(4.8)	37.0	2.6
HDPE	\$/t	1,155	(2.9)	(0.4)	1.8	7.9	(14.4)
MEG	\$/t	656	(1.4)	0.9	(8.5)	20.8	(28.7)
PX	\$/t	756	(2.4)	(2.1)	(3.5)	14.5	(17.8)
SM	\$/t	1,025	(2.9)	(5.2)	(8.1)	15.8	(25.0)
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	1.94	2.0	1.5	1.9	(13.9)	(33.9)
Natural rubber	\$/t	1,510	0.7	5.6	14.4	41.1	11.0
Cotton	C/lbs	62.2	3.7	3.3	7.1	(0.3)	(3.6)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	04/18	\$/t	1,145	(1.3)	(0.4)	14.5	(17.6)
Propylene	04/18	\$/t	743	(1.0)	13.4	12.5	(25.0)
Benzene	04/18	\$/t	650	2.8	4.0	19.3	(22.6)
Toluene	04/18	\$/t	655	0.0	0.8	12.0	(16.6)
Xylene	04/18	\$/t	650	0.4	2.4	6.6	(13.3)
PP	04/18	\$/t	1,065	(0.5)	8.1	27.5	(16.5)
PVC	04/18	\$/t	800	0.0	1.9	11.1	(10.6)
ABS	04/18	\$/t	1,335	(0.7)	3.1	21.4	(18.1)
SBR	04/18	\$/t	1,445	(0.3)	0.0	20.9	4.7
SM	04/18	\$/t	1,103	(1.3)	(3.7)	17.9	(20.5)
BPA	04/18	\$/t	1,293	3.2	(4.6)	16.4	(32.3)
Caustic	04/18	\$/t	290	1.8	1.8	1.8	(3.3)
2-EH	04/18	\$/t	820	0.9	7.9	19.7	(21.9)
Caprolactam	04/18	\$/t	1,320	0.8	9.1	5.6	(24.1)
Solar				%	%	%	%
Polysilicon	04/13	\$/kg	14.9	1.9	6.7	14.1	(11.0)
Module	04/13	\$/W	0.53	(0.4)	(1.8)	(4.0)	(8.4)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	85.8	1.0	3.0	1.9	10.6	(1.3)
Shell	EUR	1,804	(0.6)	4.2	6.3	34.8	(13.6)
Petrochina	CNY	7.59	(2.1)	(0.7)	(3.7)	4.4	(43.3)
Gazprom	RUB	146.3	(1.1)	(0.7)	(2.9)	17.4	(2.0)
Petrobras	BRL	9.2	(4.6)	10.1	13.8	92.5	(29.0)
Refinery							
Phillips66	USD	85.7	0.9	1.3	(4.2)	9.1	9.8
Valero	USD	60.7	2.1	(0.0)	(6.8)	(8.6)	5.5
JX	JPY	455.4	0.0	4.3	(0.4)	6.0	(12.3)
Neste Oil	EUR	29.3	(0.0)	(1.8)	(3.0)	13.1	18.0

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	68.4	0.5	6.5	3.4	12.2	(23.2)
Dow Chemical	USD	52.5	0.3	3.5	1.7	22.3	5.8
SABIC	SAR	75.0	(0.9)	(2.7)	(3.1)	18.7	(14.0)
Formosa Pla.	TWD	81.2	(1.0)	2.8	0.9	7.5	4.5
Shin-Etsu	JPY	5,916	(3.4)	1.6	(1.4)	(3.4)	(22.2)
Renewable							
Wacker	EUR	77.4	(0.6)	0.8	(0.2)	18.8	(28.2)
Yingli	USD	5.04	(1.2)	2.4	0.8	44.0	(75.0)
Tesla	USD	253.9	(0.2)	1.6	9.1	23.8	22.8
BYD	CNY	60.0	3.1	3.8	5.4	4.1	5.0

4. Coverage Summary

	04/18	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,009	(0.3)	2.0	0.9	6.3	(1.0)	(6.3)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,625	0.6	2.1	3.8	11.2	10.1	12.3				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	337,000	0.6	5.3	7.3	9.8	16.6	28.9	매수	400,000	18.7	13.38	1.76
롯데케미칼	321,500	(1.7)	(0.2)	(0.8)	26.1	17.6	35.7	매수	390,000	21.3	10.87	1.25
한화케미칼	25,950	0.0	10.9	9.7	8.8	19.6	77.7	매수	30,000	15.6	10.25	0.84
금호석유화학	70,700	4.1	15.9	16.7	38.9	11.2	(17.2)	매수	70,000	(1.0)	13.94	1.40
KCC	416,000	(0.7)	4.4	0.7	2.8	(5.5)	(23.5)	매수	550,000	32.2	14.80	0.64
OCI	94,500	(5.1)	(5.3)	0.3	51.2	8.5	(13.3)	매수	100,000	5.8	17.76	0.82
SKC	30,050	(0.2)	2.7	(2.6)	(2.8)	(18.8)	(21.8)	매수	43,000	43.1	9.36	0.76
국도화학	68,300	(0.6)	0.0	7.7	22.4	(3.7)	27.0	매수	100,000	46.4	7.77	0.79
SK이노베이션	166,000	0.0	(2.4)	3.8	27.2	48.9	46.3	매수	180,000	8.4	12.42	1.01
S-Oil	92,000	1.0	(4.1)	2.4	18.3	32.4	23.7	매수	100,000	8.7	12.94	1.59
GS	58,000	0.3	(1.4)	8.6	22.2	18.0	31.2	매수	65,000	12.1	8.31	0.97
SK가스	80,700	(1.6)	0.6	5.2	26.5	(6.4)	(8.8)	매수	100,000	23.9	11.45	0.70
대우인터내셔널	23,250	(3.7)	0.6	(0.6)	80.9	2.2	(24.3)	매수	24,000	3.2	11.79	1.09
LG상사	37,000	(0.8)	3.2	1.8	35.5	8.2	(5.1)	매수	40,000	8.1	10.92	0.95

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

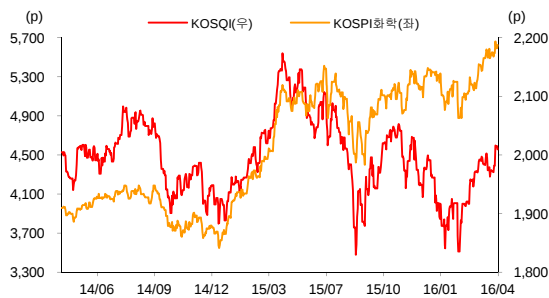
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

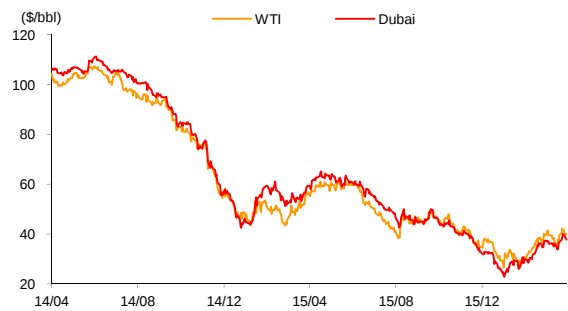
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

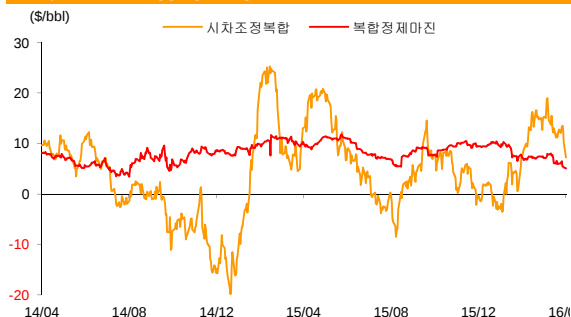
KOSPI/KOSPI화학



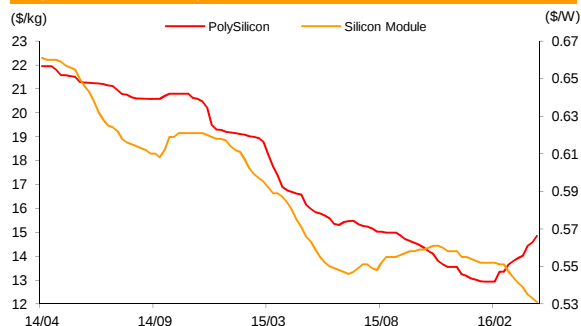
WTI/Dubai



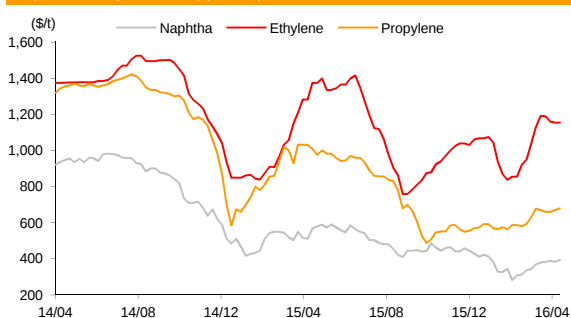
Complex & 1M lagging margin



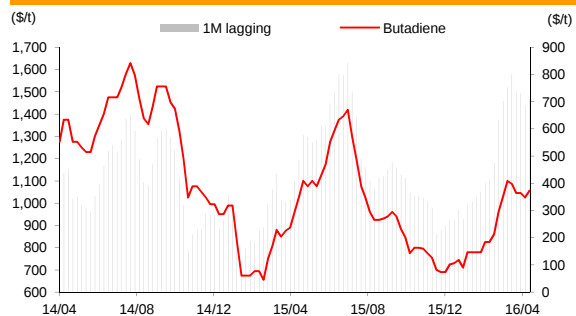
Polysilicon & Module prices



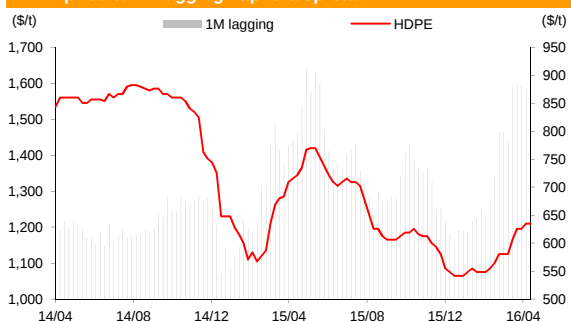
Naphtha/Ethylene/Propylene prices



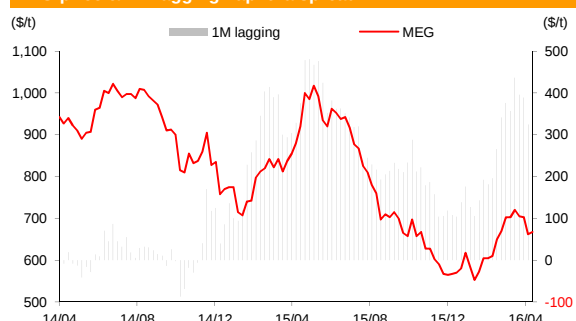
Butadiene price & 1M lagging naphtha spread



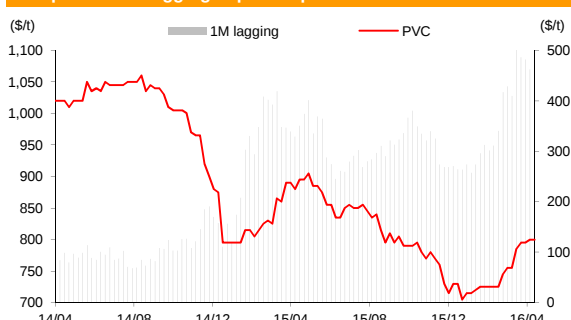
HDPE price & 1M lagging naphtha spread



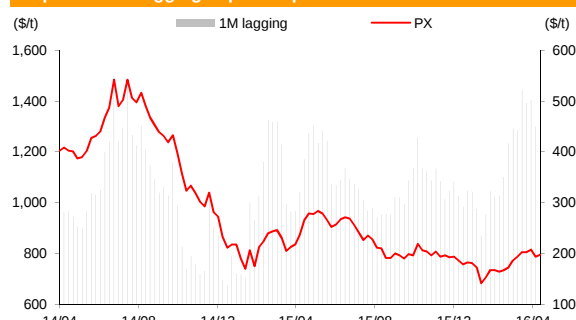
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



자료: Bloomberg, Cischem, Petronet, Platts, Pvsights, SK증권
참고: 상기 데이터는 일괄적으로 과거 2년치 적용

News Comment

Headline	(출처: EBN화학정보)
제목	롯데정밀화학, 폴리실리콘 관계사 SMP 부도 위기
결론	관계자, "평가손실 1분기 실적에 반영될 예정."
세부	1) SMP는 SunEdison과 관련회사들이 85%, 롯데정밀화학이 15% 지분 보유 2) 최대주주 SunEdison 부도 위기로 1개월 간 주가 84% 폭락했음 3) 롯데정밀화학은 SMP에 매추채권 343억원, 미수금 73억원 보유 4) 15% 지분율에 대한 출자금은 762억원이었음 5) 관계자, "평가손실 1분기 실적에 반영될 예정."

WTI Comment	(출처: 연합뉴스)
제목	공급과잉 우려 확산에 하락
상승	뉴욕 연방은행 총재의 금리인상 신중론 지속, 달러약세
요인	쿠웨이트, 파업 영향으로 생산량 절반 이하로 하락
하락	카타르 도하 합의 실패 충격파 여전
요인	

Issue 1
제목
결론
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Issue 2
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Issue 3
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Issue 4
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Issue 5
제목
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Issue 6
제목
결론
세부
1) 2) 3) 4) 5)

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2013avg.	2014avg.	2015acc.
F/X	USD/EUR	0.884	0.886	0.876	0.887	0.918	0.881	0.925	0.921	0.753	0.754	0.901
	Change, %		(0.3)	0.9	(0.4)	(3.7)	0.3	(4.5)	(4.0)	(3.9)	13.7	(1.9)
	USD/JPY	108.8	108.8	107.9	111.6	117.3	119.4	118.9	120.6	97.7	105.9	121.1
	Change, %		0.1	0.8	(2.4)	(7.2)	(8.9)	(8.5)	(9.7)	21.5	13.8	(10.1)
	USD/KRW	1,150.4	1,146.2	1,146.5	1,162.4	1,210.9	1,129.4	1,083.6	1,172.6	1,094.6	1,053.0	1,131.2
	Change, %		0.4	0.3	(1.0)	(5.0)	1.9	6.2	(1.9)	50.3	3.3	1.7
Agriculture	Corn	381.0	378.5	356.8	367.0	363.3	376.8	379.8	358.8	579.2	415.6	376.8
	Change, %		0.7	6.8	3.8	4.9	1.1	0.3	6.2	(39.6)	(5.9)	1.1
	Soybean	954.3	956.0	928.3	897.5	879.0	898.3	968.8	871.3	1,407.0	1,245.5	945.4
	Change, %		(0.2)	2.8	6.3	8.6	6.2	(1.5)	9.5	(7.5)	(22.3)	0.9
	Wheat	472.8	459.8	447.3	463.0	473.8	492.3	494.5	470.0	684.3	588.0	508.1
	Change, %		2.8	5.7	2.1	(0.2)	(4.0)	(4.4)	0.6	(22.2)	(2.6)	(7.0)
	Rice	10.3	10.3	9.8	10.5	10.7	12.1	9.9	11.6	15.5	14.0	11.1
	Change, %		(0.5)	4.2	(1.8)	(3.8)	(15.3)	3.6	(11.3)	4.4	(25.9)	(7.2)
	Oats	190.8	189.5	184.8	188.0	198.8	230.8	262.5	217.3	367.5	373.1	250.2
	Change, %		0.7	3.2	1.5	(4.0)	(17.3)	(27.3)	(12.2)	1.9	(14.3)	(23.8)
MYR/mt	Palm Oil	2,656.0	2,638.0	2,633.0	2,633.0	2,351.0	2,235.0	2,184.0	2,398.0	2,405.0	2,415.1	2,190.3
	Change, %		0.7	0.9	0.9	13.0	18.8	21.6	10.8	13.3	(12.8)	21.3
	Cocoa	2,995.0	2,941.0	2,906.0	3,118.0	2,905.0	3,119.0	2,839.0	3,211.0	2,403.9	3,006.8	3,091.6
	Change, %		1.8	3.1	(3.9)	3.1	(4.0)	5.5	(6.7)	21.2	7.4	(3.1)
	Cotton	62.2	60.0	60.7	57.2	61.4	63.9	63.3	63.3	83.3	76.4	63.3
	Change, %		3.5	2.4	8.7	1.2	(2.7)	(1.8)	(1.8)	12.6	(28.8)	(1.8)
	Sugar	15.4	15.0	14.2	16.0	14.9	14.3	13.2	15.2	17.5	16.3	13.1
	Change, %		2.1	8.5	(3.9)	2.9	7.6	15.9	0.7	(15.9)	(11.5)	16.8
	Coffee	124.0	123.0	123.4	133.9	114.9	125.9	138.7	126.7	126.0	177.1	132.6
	Change, %		0.9	0.5	(7.4)	7.9	(1.5)	(10.6)	(2.1)	(23.0)	50.5	(6.5)
Energy	WTI	39.8	40.4	40.4	39.4	29.4	47.3	55.7	37.0	98.0	92.9	48.8
	Change, %		(1.4)	(1.4)	0.9	35.2	(15.8)	(28.6)	7.4	7.2	(45.9)	(18.6)
	Brent	42.9	43.1	42.8	41.2	28.6	50.5	63.5	37.3	108.7	99.5	53.7
	Change, %		(0.4)	0.2	4.2	50.3	(15.0)	(32.4)	15.1	(0.3)	(48.3)	(20.1)
	Natural Gas	1.9	1.9	1.9	1.9	2.1	2.4	2.6	2.3	3.7	4.3	2.6
	Change, %		2.0	1.5	1.7	(7.6)	(20.2)	(26.3)	(17.0)	26.2	(31.7)	(26.2)
	Ethanol	1.6	1.5	1.5	1.4	1.4	1.5	1.6	1.4	2.3	2.1	1.5
	Change, %		0.4	3.3	9.0	15.0	1.9	(3.9)	10.9	(12.7)	(14.9)	2.9
	RBOB Gasoline	143.7	146.1	150.8	142.7	102.1	132.8	193.0	126.7	285.0	262.6	163.6
	Change, %		(1.7)	(4.7)	0.6	40.7	8.2	(25.6)	13.4	(0.9)	(48.5)	(12.2)
Metal	Coal	43.6	43.6	43.6	43.5	43.2	41.9	49.4	43.3	56.1	57.5	45.2
	Change, %		0.0	0.0	0.4	0.9	4.1	(11.6)	0.7	(1.0)	(15.5)	(3.5)
	Gold	1,232.5	1,234.2	1,257.9	1,255.3	1,088.9	1,177.3	1,204.3	1,061.4	1,410.4	1,266.5	1,160.6
	Change, %		(0.1)	(2.0)	(1.8)	13.2	4.7	2.3	16.1	(28.0)	(1.3)	6.2
	Silver	16.2	16.2	15.9	15.8	14.0	16.1	16.3	13.8	23.8	19.1	15.7
	Change, %		(0.1)	1.9	2.7	16.3	1.0	(0.3)	17.4	(35.8)	(18.9)	3.2
	Platinum	978.0	985.0	989.9	972.5	820.9	1,015.0	1,170.8	891.1	1,485.7	1,384.6	1,055.7
	Change, %		(0.7)	(1.2)	0.6	19.1	(3.6)	(16.5)	9.8	(11.2)	(11.5)	(7.4)
	Palladium	566.2	568.5	545.7	589.3	494.9	696.5	786.5	563.0	725.9	803.4	691.9
	Change, %		(0.4)	3.8	(3.9)	14.4	(18.7)	(28.0)	0.6	1.7	11.4	(18.2)
	Copper	4,827.0	4,807.5	4,663.5	5,042.0	4,377.0	5,285.0	6,060.0	4,705.0	7,352.6	6,828.1	5,503.1
	Change, %		0.4	3.5	(4.3)	10.3	(8.7)	(20.3)	2.6	(7.2)	(14.4)	(12.3)
	Uranium	27.0	25.9	28.5	29.8	34.8	37.8	38.9	34.4	38.5	33.5	36.9
	Change, %		4.2	(5.3)	(9.2)	(22.3)	(28.5)	(30.6)	(21.5)	(20.9)	2.5	(26.7)
	HR Coil	479.0	479.0	478.0	418.0	395.0	420.0	455.0	391.0	630.4	653.2	461.5
	Change, %		0.0	0.2	14.6	21.3	14.0	5.3	22.5	3.1	(10.4)	3.8
	Scrap	410.0	410.0	405.0	405.0	250.0	190.0	250.0	250.0	396.9	401.3	252.9
	Change, %		0.0	1.2	1.2	64.0	115.8	64.0	64.0	(1.2)	(16.5)	62.1
	Zinc	1,894.0	1,872.0	1,760.0	1,843.0	1,496.0	1,801.0	2,213.0	1,609.0	1,940.3	2,165.0	1,941.9
	Change, %		1.2	7.6	2.8	26.6	5.2	(14.4)	17.7	(1.2)	6.0	(2.5)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		04/18	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Crude Oil	WTI	39.8	40.4	40.4	39.4	28.5	45.2	56.4	37.0	93.1	48.8	34.5
	Change, %		(1.4)	(1.4)	0.9	39.8	(12.0)	(29.4)	7.4	(57.3)	(18.4)	15.3
	Dubai	37.7	39.4	37.8	37.4	24.7	44.4	59.3	32.2	96.7	50.8	31.6
	Change, %		(4.2)	(0.2)	0.8	52.6	(15.1)	(36.4)	17.2	(61.0)	(25.7)	19.4
Crude Oil	Gasoline(휘발유)	52.0	54.4	54.6	55.1	48.2	61.0	77.5	54.8	110.9	69.5	50.3
Product	Change, %		(4.4)	(4.7)	(5.6)	7.8	(14.8)	(32.9)	(5.2)	(53.2)	(25.2)	3.4
	Kerosene(등유)	47.6	49.5	48.1	50.5	35.7	56.2	73.8	44.2	112.6	64.7	43.3
	Change, %		(3.9)	(1.1)	(5.8)	33.4	(15.4)	(35.5)	7.6	(57.8)	(26.5)	9.9
	Diesel(경유)	46.1	48.0	46.0	48.4	34.3	56.5	73.8	43.2	112.8	64.8	41.3
	Change, %		(3.9)	0.3	(4.6)	34.7	(18.3)	(37.4)	6.7	(59.1)	(28.8)	11.7
	Bunker-C	28.1	29.3	29.2	28.0	20.3	36.5	54.8	25.3	86.5	45.3	25.3
	Change, %		(3.9)	(3.5)	0.6	38.9	(22.8)	(48.7)	11.3	(67.5)	(37.8)	11.4
	Naphtha	40.8	42.4	42.0	39.6	34.5	46.4	61.8	43.5	94.3	52.6	37.5
	Change, %		(3.9)	(3.1)	2.9	18.2	(12.1)	(34.0)	(6.2)	(56.8)	(22.5)	8.7
Dubai	Gasoline(휘발유)	14.2	15.0	16.8	17.7	23.5	16.6	18.1	22.6	14.2	18.7	18.7
Spread	Change		(0.8)	(2.5)	(3.4)	(9.2)	(2.3)	(3.9)	(8.4)	0.0	(4.5)	(4.4)
	Kerosene(등유)	9.8	10.2	10.3	13.1	10.9	11.8	14.5	12.0	15.9	14.0	11.7
	Change		(0.3)	(0.5)	(3.2)	(1.1)	(1.9)	(4.6)	(2.2)	(6.0)	(4.1)	(1.8)
	Diesel(경유)	8.4	8.7	8.2	11.0	9.5	12.0	14.4	11.0	16.0	14.0	9.7
	Change		(0.2)	0.2	(2.6)	(1.1)	(3.6)	(6.0)	(2.6)	(7.6)	(5.6)	(1.3)
	Bunker-C	(9.6)	(10.1)	(8.6)	(9.4)	(4.5)	(8.0)	(4.5)	(6.9)	(10.3)	(5.5)	(6.3)
	Change		0.5	(0.9)	(0.1)	(5.1)	(1.6)	(5.1)	(2.7)	0.7	(4.1)	(3.2)
	Naphtha	3.0	3.0	4.3	2.2	9.8	1.9	2.4	11.3	(2.4)	1.8	5.9
	Change		0.0	(1.2)	0.8	(6.7)	1.1	0.6	(8.2)	5.4	1.2	(2.8)
Refining	Simple(단순)	(0.5)	(0.6)	0.3	0.9	4.0	1.4	3.7	3.2	(0.1)	3.3	2.3
Margin	Change		0.1	(0.8)	(1.4)	(4.5)	(1.9)	(4.2)	(3.7)	(0.4)	(3.8)	(2.8)
	Complex(복합)	5.1	5.3	6.0	7.1	9.8	7.4	9.5	9.7	7.1	9.3	7.8
	Change		(0.2)	(0.9)	(2.0)	(4.7)	(2.3)	(4.4)	(4.6)	(2.0)	(4.2)	(2.7)
	Complex(lagging)	7.3	10.3	12.2	15.3	(1.9)	6.1	13.3	2.3	2.2	6.5	8.0
	Change		(3.0)	(4.9)	(8.0)	9.2	1.2	(6.1)	5.0	5.0	0.8	(0.8)

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			04/18	04/15	04/14	04/13	04/12	04/11	04/08	04/07	04/06	04/05
Spot Price	Naphtha	CFR Japan	386.9	392.6	399.9	402.0	399.3	394.8	382.5	376.5	370.3	370.0
	Ethylene	CFR SE Asia	1,170.0	1,170.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,155.0	1,155.0	1,155.0
	Propylene	FOB Korea	675.0	675.0	675.0	675.0	675.0	675.0	675.0	675.0	645.0	650.0
	Butadiene	FOB Korea	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	960.0	960.0	1,015.0
	HDPE	CFR FE Asia	1,155.0	1,190.0	1,190.0	1,190.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,165.0
	LDPE	CFR FE Asia	1,195.0	1,205.0	1,205.0	1,205.0	1,180.0	1,180.0	1,180.0	1,195.0	1,220.0	1,225.0
	LLDPE	CFR FE Asia	1,155.0	1,155.0	1,170.0	1,170.0	1,160.0	1,160.0	1,160.0	1,170.0	1,180.0	1,180.0
	MEG	CFR China	656.0	665.0	661.0	657.0	648.0	650.0	660.0	667.0	673.0	695.0
	PP	CFR FE Asia	985.0	995.0	995.0	1,010.0	1,000.0	1,010.0	1,010.0	1,015.0	1,020.0	1,020.0
	PX	CFR China	756.0	774.3	782.3	781.3	775.3	772.3	769.3	773.2	770.3	766.2
	PTA	CFR China	610.0	618.0	617.0	617.0	612.0	611.0	610.0	615.0	618.0	620.0
	Benzene	FOB Korea	621.0	640.0	641.0	650.0	648.0	640.0	639.0	631.0	630.0	623.0
	Toluene	FOB Korea	587.5	602.0	597.0	603.0	603.0	606.0	612.0	614.0	621.0	619.0
	Xylene	FOB Korea	645.0	651.0	651.0	672.0	656.0	656.0	646.0	646.0	633.0	633.0
	SM	FOB Korea	1,025.0	1,056.0	1,065.0	1,062.0	1,081.0	1,081.0	1,087.0	1,082.0	1,093.0	1,100.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	Naphtha	CFR Japan	395.0	383.5	381.0	328.0	412.5	567.5	413.5	865.9	493.0	355.4
	Change, %			3.0	3.7	20.4	(4.2)	(30.4)	(4.5)	(54.4)	(19.9)	11.2
	Ethylene	CFR SE Asia	1,145.0	1,160.0	1,150.0	1,000.0	1,100.0	1,390.0	1,090.0	1,401.1	1,103.7	1,042.5
	Change, %			(1.3)	(0.4)	14.5	4.1	(17.6)	5.0	(18.3)	3.7	9.8
	Propylene	CFR SE Asia	742.5	750.0	655.0	660.0	650.0	990.0	650.0	1,254.2	770.0	616.6
	Change, %			(1.0)	13.4	12.5	14.2	(25.0)	14.2	(40.8)	(3.6)	20.4
	Butadiene	CFR SE Asia	1,015.0	985.0	1,045.0	740.0	680.0	980.0	720.0	1,281.7	877.5	878.1
	Change, %			3.0	(2.9)	37.2	49.3	3.6	41.0	(20.8)	15.7	15.6
	Benzene	CFR SE Asia	650.0	632.5	625.0	545.0	567.5	840.0	580.0	1,243.1	690.0	588.8
	Change, %			2.8	4.0	19.3	14.5	(22.6)	12.1	(47.7)	(5.8)	10.4
	Toluene	CFR SE Asia	655.0	655.0	650.0	585.0	625.0	785.0	630.0	1,082.5	700.8	617.8
	Change, %			0.0	0.8	12.0	4.8	(16.6)	4.0	(39.5)	(6.5)	6.0
	Xylene	CFR SE Asia	650.0	647.5	635.0	610.0	655.0	750.0	625.0	1,055.7	699.3	610.5
	Change, %			0.4	2.4	6.6	(0.8)	(13.3)	4.0	(38.4)	(7.0)	6.5
Spread	Ethylene	-Naphtha	750.0	776.5	769.0	672.0	687.5	822.5	676.5	535.2	610.6	687.1
	Change, %			(3.4)	(2.5)	11.6	9.1	(8.8)	10.9	40.1	22.8	9.2
	Propylene	-Naphtha	347.5	366.5	274.0	332.0	237.5	422.5	236.5	388.3	277.0	261.2
	Change, %			(5.2)	26.8	4.7	46.3	(17.8)	46.9	(10.5)	25.5	33.0
	Butadiene	-Naphtha	620.0	601.5	664.0	412.0	267.5	412.5	306.5	415.9	384.5	522.8
	Change, %			3.1	(6.6)	50.5	131.8	50.3	102.3	49.1	61.3	18.6
	Benzene	-Naphtha	255.0	249.0	244.0	217.0	155.0	272.5	166.5	377.3	197.0	233.4
	Change, %			2.4	4.5	17.5	64.5	(6.4)	53.2	(32.4)	29.5	9.3
	Toluene	-Naphtha	260.0	271.5	269.0	257.0	212.5	217.5	216.5	216.6	207.8	262.4
	Change, %			(4.2)	(3.3)	1.2	22.4	19.5	20.1	20.0	25.1	(0.9)
	Xylene	-Naphtha	255.0	264.0	254.0	282.0	242.5	182.5	211.5	189.9	206.3	255.1
	Change, %			(3.4)	0.4	(9.6)	5.2	39.7	20.6	34.3	23.6	(0.0)

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	1,210.0	1,210.0	1,165.0	1,085.0	1,065.0	1,345.0	1,065.0	1,524.9	1,230.1	1,124.1
	Change, %			0.0	3.9	11.5	13.6	(10.0)	13.6	(20.6)	(1.6)	7.6
	MEG	CFR SE Asia	667.5	662.5	720.0	552.5	570.0	920.0	617.5	934.1	780.8	645.6
	Change, %			0.8	(7.3)	20.8	17.1	(27.4)	8.1	(28.5)	(14.5)	3.4
	PVC	CFR SE Asia	800.0	800.0	785.0	720.0	730.0	895.0	715.0	1,013.9	820.8	750.3
	Change, %			0.0	1.9	11.1	9.6	(10.6)	11.9	(21.1)	(2.5)	6.6
	PP	CFR SE Asia	1,065.0	1,070.0	985.0	835.0	835.0	1,275.0	835.0	1,503.0	1,109.8	912.5
	Change, %			(0.5)	8.1	27.5	27.5	(16.5)	27.5	(29.1)	(4.0)	16.7
	2-EH	CFR Korea	820.0	812.5	760.0	685.0	680.0	1,050.0	680.0	1,397.1	930.1	728.4
	Change, %			0.9	7.9	19.7	20.6	(21.9)	20.6	(41.3)	(11.8)	12.6
	ABS	CFR SE Asia	1,335.0	1,345.0	1,295.0	1,100.0	1,080.0	1,630.0	1,130.0	1,897.7	1,431.1	1,204.4
	Change, %			(0.7)	3.1	21.4	23.6	(18.1)	18.1	(29.7)	(6.7)	10.8
	SBR	CFR SE Asia	1,445.0	1,450.0	1,445.0	1,195.0	1,085.0	1,380.0	1,150.0		1,332.1	1,291.9
	Change, %			(0.3)	0.0	20.9	33.2	4.7	25.7		8.5	11.9
	SM	CFR SE Asia	1,102.5	1,117.5	1,145.0	935.0	900.0	1,387.5	910.0	1,547.1	1,100.7	1,032.8
	Change, %			(1.3)	(3.7)	17.9	22.5	(20.5)	21.2	(28.7)	0.2	6.7
	Caustic	FOB NEA	290.0	285.0	285.0	285.0	285.0	300.0	285.0	310.0	296.8	285.9
	Change, %			1.8	1.8	1.8	1.8	(3.3)	1.8	(6.5)	(2.3)	1.4
	PX	CFR SE Asia	795.0	787.5	805.0	682.5	757.5	930.0	762.5	1,228.5	842.9	758.8
	Change, %			1.0	(1.2)	16.5	5.0	(14.5)	4.3	(35.3)	(5.7)	4.8
	PO	CFR China	1,292.5	1,252.5	1,355.0	1,110.0	1,372.5	1,910.0	1,257.5	2,179.2	1,683.4	1,209.7
	Change, %			3.2	(4.6)	16.4	(5.8)	(32.3)	2.8	(40.7)	(23.2)	6.8
	Caprolactam	CFR SE Asia	1,320.0	1,310.0	1,210.0	1,250.0	1,285.0	1,740.0	1,260.0	2,233.4	1,581.5	1,215.0
	Change, %			0.8	9.1	5.6	2.7	(24.1)	4.8	(40.9)	(16.5)	8.6
	PTA	CFR SE Asia	625.0	622.5	610.0	562.5	587.5	735.0	585.0	911.7	648.0	591.1
	Change, %			0.4	2.5	11.1	6.4	(15.0)	6.8	(31.4)	(3.6)	5.7
Spread	HDPE		815.0	826.5	784.0	757.0	652.5	777.5	651.5	659.0	737.1	768.7
	Change, %			(1.4)	4.0	7.7	24.9	4.8	25.1	23.7	10.6	6.0
	MEG		272.5	279.0	339.0	224.5	157.5	352.5	204.0	68.2	287.8	290.3
	Change, %			(2.3)	(19.6)	21.4	73.0	(22.7)	33.6	299.4	(5.3)	(6.1)
	PVC		405.0	416.5	404.0	392.0	317.5	327.5	301.5	148.0	327.8	394.9
	Change, %			(2.8)	0.2	3.3	27.6	23.7	34.3	173.6	23.6	2.5
	PP		670.0	686.5	604.0	507.0	422.5	707.5	421.5	637.1	616.8	557.1
	Change, %			(2.4)	10.9	32.1	58.6	(5.3)	59.0	5.2	8.6	20.3
	2-EH		425.0	429.0	379.0	357.0	267.5	482.5	266.5	531.3	437.0	373.1
	Change, %			(0.9)	12.1	19.0	58.9	(11.9)	59.5	(20.0)	(2.8)	13.9
	ABS		940.0	961.5	914.0	772.0	667.5	1,062.5	716.5	1,031.9	938.1	849.0
	Change, %			(2.2)	2.8	21.8	40.8	(11.5)	31.2	(8.9)	0.2	10.7
	SBR	BD spread	430.0	465.0	400.0	455.0	405.0	400.0	430.0		454.7	413.8
	Change, %			(7.5)	7.5	(5.5)	6.2	7.5	0.0		(5.4)	3.9
	SM		707.5	734.0	764.0	607.0	487.5	820.0	496.5	681.2	607.7	677.4
	Change, %			(3.6)	(7.4)	16.6	45.1	(13.7)	42.5	3.9	16.4	4.4
	Caustic											
	Change, %											
	PX		400.0	404.0	424.0	354.5	345.0	362.5	349.0	362.6	349.9	403.4
	Change, %			(1.0)	(5.7)	12.8	15.9	10.3	14.6	10.3	14.3	(0.8)
	PO	propylene spread	550.0	502.5	700.0	450.0	722.5	920.0	607.5	925.0	913.4	593.1
	Change, %			9.5	(21.4)	22.2	(23.9)	(40.2)	(9.5)	(40.5)	(39.8)	(7.3)
	Caprolactam	benzene spread	670.0	677.5	585.0	705.0	717.5	900.0	680.0	990.3	891.6	626.3
	Change, %			(1.1)	14.5	(5.0)	(6.6)	(25.6)	(1.5)	(32.3)	(24.9)	7.0
	PTA	px spread	68.5	71.3	46.5	84.8	57.3	84.0	51.3	51.8	58.0	60.0
	Change, %			(3.9)	47.3	(19.2)	19.7	(18.5)	33.7	32.4	18.1	14.2

자료 : Ciscem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	04/18	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	52.5	0.3	3.5	1.7	22.3	10.3	5.8	2.1	58,941	15.3	13.3	2.5	2.4	8.0	7.3		
Du Pont	USD	64.7	(0.9)	2.3	(0.2)	19.6	13.0	(4.8)	(2.9)	56,493	21.5	18.5	6.1	5.0	11.6	10.3		
Eastman	USD	74.8	0.2	3.6	1.8	21.1	8.3	(1.4)	10.8	11,063	10.6	9.7	2.4	2.1	8.1	7.7		
BASF	EUR	68.4	0.5	6.5	3.4	12.2	(4.0)	(23.2)	(3.3)	71,120	15.6	13.9	2.0	1.9	7.8	7.2		
Akzo Nobel	EUR	60.6	(0.5)	4.1	5.1	6.2	0.7	(14.3)	(1.8)	17,073	14.6	13.7	2.2	2.1	7.7	7.3		
Arkema	EUR	69.6	(0.4)	4.6	8.4	28.4	10.0	(2.2)	7.8	5,874	14.5	12.1	1.4	1.3	6.0	5.6		
Lanxess	EUR	44.5	1.0	6.6	5.5	24.1	(1.3)	(8.9)	4.4	4,617	20.0	16.0	1.7	1.6	5.9	5.4		
Sumitomo Chemical	JPY	479	(4.0)	3.9	(5.0)	(15.1)	(31.0)	(26.2)	(31.7)	7,285	8.6	7.6	0.9	0.8	6.9	6.4		
Mitsubishi Chemical	JPY	547	(3.5)	4.5	(9.5)	(17.8)	(22.8)	(25.1)	(29.4)	7,569	8.9	7.8	0.8	0.7	5.6	5.4		
Shin-Etsu Chemical	JPY	5,916	(3.4)	1.6	(1.4)	(3.4)	(12.6)	(22.2)	(10.6)	23,485	16.8	15.6	1.2	1.1	5.8	5.4		
Asahi Kasei	JPY	734	(0.2)	4.6	2.9	(2.9)	(8.0)	(33.8)	(10.8)	9,461	10.8	9.7	0.9	0.8	5.4	5.1		
JSR	JPY	1,522	(1.9)	1.2	(9.8)	(9.5)	(19.2)	(29.8)	(19.9)	3,161	11.7	10.7	0.9	0.9	4.7	4.4		
Nitto Denko	JPY	6,007	(4.8)	1.8	(10.4)	(15.5)	(23.6)	(21.5)	(32.6)	9,589	12.7	12.2	1.4	1.3	5.3	5.1		
SABIC	SAR	75.0	(0.9)	(2.7)	(3.1)	18.7	(16.9)	(14.0)	(2.0)	59,998	15.8	13.3	1.3	1.3	7.5	6.5		
Yansab	SAR	39.1	(0.2)	1.4	0.6	53.2	(20.3)	(16.8)	20.5	5,857	16.5	14.4	1.4	1.4	8.4	7.9		
Formosa Plastics	TWD	81.2	(1.0)	2.8	0.9	7.5	7.7	4.5	5.5	15,993	16.8	15.4	1.7	1.6	25.0	22.6		
Formosa Fiber	TWD	84.9	0.1	5.5	6.4	21.1	12.0	12.5	14.7	15,396	17.9	17.3	1.6	1.6	14.3	13.9		
Nan Ya Plastics	TWD	66.3	0.0	1.2	(1.2)	17.1	2.2	(9.5)	8.7	16,269	15.2	15.0	1.5	1.5	15.5	14.7		
Sinopec Shanghai	CNY	7.28	(2.2)	(4.5)	11.3	35.3	(5.2)	8.0	12.3	9,871	20.3	20.9	3.5	3.1	9.9	10.2		
Sinopec Yizheng(Fiber)	CNY	5.03	(2.3)	(0.6)	(0.8)	(17.7)	(55.7)	(43.8)	(38.4)	9,817	#N/A	N/A	295.9	2.9	2.9	18.8	15.8	
Reliance	INR	1,065	(0.1)	2.4	3.7	4.7	16.7	14.9	4.9	51,892	11.7	10.2	1.3	1.1	8.7	7.4		
Industries Qatar	QAR	105.8	(0.2)	1.1	(1.9)	15.6	(15.9)	(27.5)	(4.8)	17,577	14.3	13.1	1.9	1.8	54.2	52.0		
PTT Chemical	THB	60.8	3.0	5.2	2.1	35.0	2.1	(2.0)	21.5	7,745	10.7	9.6	1.1	1.0	5.4	5.1		
Petronas	MYR	6.7	(0.3)	0.6	(2.7)	(4.0)	3.7	16.8	(7.4)	13,801	18.7	17.3	2.1	1.9	9.3	8.5		
LG화학	KRW	337,000	0.6	5.3	7.3	10.7	16.6	28.9	2.6	19,521	0.0	16.3	0.0	1.8	0.0	6.6		
롯데케미칼	KRW	321,500	(1.7)	(0.2)	(0.8)	26.6	17.6	35.7	32.0	9,632	0.0	8.2	0.0	1.3	0.0	4.4		
한화케미칼	KRW	25,950	0.0	10.9	9.7	2.8	19.6	77.7	(4.6)	3,738	0.0	10.5	0.0	0.9	0.0	9.0		
금호석유	KRW	70,700	4.1	15.9	16.7	36.2	11.2	(17.2)	35.7	1,883	0.0	17.4	0.0	1.4	0.0	10.7		
SKC	KRW	30,050	(0.2)	2.7	(2.6)	(3.2)	(18.8)	(21.8)	(11.1)	969	0.0	8.3	0.0	0.7	0.0	7.5		
국도화학	KRW	68,300	(0.6)	0.0	7.7	23.5	(3.7)	27.0	15.2	347	0.0	7.9	0.0	0.9	0.0	5.1		
효성	KRW	4,090	2.3	25.5	36.3	74.4	40.5	(6.3)	56.7	4,190	0.0	8.1	0.0	1.3	0.0	7.2		
Average			(0.6)	3.9	2.6	13.8	(2.2)	(4.5)	1.4									
Refinery																		
Valero	USD	60.7	2.1	(0.0)	(6.8)	(8.6)	(4.8)	5.5	(14.1)	28,520	9.2	8.5	1.3	1.2	4.8	4.7		
Conoco Phillips	USD	45.0	3.0	9.2	4.6	14.3	(18.5)	(33.5)	(3.6)	55,726	#N/A	N/A	107.1	1.5	1.5	12.6	7.3	
Formosa Petrochemical	TWD	92.5	(1.6)	3.0	(0.2)	17.1	14.9	24.3	17.4	27,263	19.2	18.6	3.2	3.1	12.3	12.3		
Tesoro	USD	82.8	2.3	0.7	(7.7)	(10.7)	(21.1)	(2.3)	(21.4)	9,928	10.4	10.7	1.6	1.5	5.8	5.8		
Marathon Petroleum	USD	38.4	1.4	1.1	0.5	(7.2)	(24.9)	(22.2)	(25.9)	20,333	9.9	8.9	1.5	1.3	6.4	6.0		
Devon Energy	USD	32.0	1.9	10.2	16.2	30.7	(31.1)	(51.5)	0.0	16,765	#N/A	N/A	51.0	2.1	2.1	15.4	9.2	
Hollyfrontier	USD	34.8	2.0	0.4	(3.7)	2.3	(31.2)	(8.3)	(12.9)	6,138	12.3	9.7	1.1	1.1	6.1	5.5		
Phillips 66	USD	85.7	0.9	1.3	(4.2)	9.1	1.8	9.8	4.7	45,071	14.4	11.7	1.9	1.7	8.3	7.2		
Murphy Oil	USD	29.1	2.2	10.7	14.7	69.8	0.6	(41.3)	29.8	5,016	#N/A	N/A	#N/A	N/A	1.0	1.0	8.7	5.9
JX Holdings	JPY	455.4	0.0	4.3	(0.4)	6.0	(6.2)	(12.3)	(10.4)	10,440	8.4	7.7	0.7	0.6	10.1	9.7		
Cosmo Oil	JPY	164.0	0.0	0.0	0.0	0.0	0.0	(9.9)	0.0	1,151	#N/A	N/A	#N/A	N/A	#N/A	N/A	#N/A	N/A
Idemitsu	JPY	2,054.0	0.8	6.5	5.0	20.8	2.2	(14.4)	6.0	3,019	6.1	5.6	0.5	0.5	7.2	6.7		
Tonengeneral	JPY	1,000.0	(1.7)	4.1	4.5	4.1	(18.6)	(12.2)	(2.2)	3,362	11.1	9.2	1.4	1.3	12.8	7.2		
Nesteoil	EUR	29.3	(0.0)	(1.8)	(3.0)	13.1	33.2	18.0	5.9	0	11.0	12.0	2.1	1.9	7.0	7.4		
Ashland	USD	113.1	0.2	3.2	5.8	16.5	6.3	(10.3)	10.1	7,150	15.8	14.2	2.8	2.5	9.1	8.8		
Fuchs Petrolub	EUR	39.1	0.2	1.6	(1.7)	3.3	(5.3)	2.7	(10.1)	5,767	21.7	20.7	4.5	4.0	12.5	11.9		
SK이노베이션	KRW	166,000	0.0	(2.4)	3.8	24.8	48.9	46.3	27.7	13,416	0.0	9.2	0.0	0.9	0.0	5.6		
S-Oil	KRW	92,000	1.0	(4.1)	2.4	16.0	32.4	23.7	15.9	9,053	0.0	9.3	0.0	1.7	0.0	6.6		
GS	KRW	58,000	0.3	(1.4)	8.6	22.0	18.0	31.2	14.4	4,710	0.0	7.8	0.0	0.8	0.0	7.8		
Average			0.8	2.5	2.0	12.8	(0.2)	(3.0)	1.6									

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	04/18	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	86	1.0	3.0	1.9	10.6	4.0	(1.3)	10.0	356,008	36.0	20.4	2.1	2.1	11.0	8.1	
BP	GBP	356	(0.0)	1.1	(0.3)	4.5	(7.3)	(25.8)	0.5	94,730	34.1	13.8	1.0	1.0	5.9	4.5	
Shell	EUR	1,804	(0.6)	4.2	6.3	34.8	(0.2)	(13.6)	18.2	206,636	23.5	13.3	1.0	1.0	6.1	4.6	
Chevron	USD	99	1.5	3.6	1.0	18.0	8.1	(9.5)	9.7	186,020	72.5	21.2	1.3	1.3	8.6	5.9	
Total	EUR	42	(0.7)	5.1	(1.5)	10.9	(7.4)	(13.6)	2.4	118,590	16.8	11.9	1.2	1.2	7.1	5.5	
Sinopec	CNY	5	(3.0)	(1.6)	3.6	9.5	(6.7)	(33.8)	(2.0)	88,957	19.8	13.2	0.9	0.8	5.7	4.9	
Petrochina	CNY	8	(2.1)	(0.7)	(3.7)	4.4	(15.2)	(43.3)	(9.1)	204,020	60.2	23.8	1.2	1.1	8.1	6.8	
CNOOC	CNY	13	(2.4)	(0.8)	(1.3)	2.9	(27.6)	(51.9)	(15.9)	7,444	59.1	30.7	1.3	1.3	13.1	11.1	
Gazprom	RUB	146	(1.1)	(0.7)	(2.9)	17.4	3.8	(2.0)	7.5	52,311	3.8	3.3	0.3	0.3	3.8	3.4	
Rosneft	RUB	304	(1.9)	(6.5)	(3.7)	31.0	19.9	18.7	20.0	48,646	8.3	5.7	0.9	0.8	4.5	3.9	
Anadarko	USD	50	2.5	5.5	2.8	56.6	(31.7)	(46.5)	3.2	25,866	#N/A	N/A	#N/A	N/A	12.7	8.4	
Petrobras	BRL	9	(4.6)	10.1	13.8	92.5	16.2	(29.0)	37.9	39,053	33.6	6.2	0.5	0.5	6.7	5.4	
Lukoil	USD	2,777	(1.6)	(0.8)	(1.2)	31.5	20.5	7.8	18.4	34,792	9.4	6.2	0.4	0.3	N/A	N/A	
Kinder	USD	19	1.9	4.0	(1.2)	42.3	(42.6)	(57.9)	24.0	47,497	26.1	22.8	1.2	1.1	11.2	10.5	
Statoil	NOK	129	(1.1)	1.0	(4.6)	26.0	(9.0)	(17.3)	4.4	50,267	36.5	15.6	1.2	1.2	3.6	2.8	
BHP	AUD	19	(3.0)	13.0	3.3	27.8	(25.2)	(33.2)	4.7	74,200	40.6	21.5	1.4	1.3	8.5	6.8	
PTT E&P	THB	69	(1.8)	(1.4)	(1.4)	61.2	(8.7)	(43.9)	19.7	7,773	26.1	14.8	0.7	0.7	2.8	2.5	
Petronas gas	MYR	22	(0.4)	0.7	(2.0)	2.3	(2.6)	(3.9)	(3.1)	11,158	23.7	23.2	3.7	3.5	13.6	13.2	
Chesapeake	USD	6	(1.2)	32.4	21.4	67.4	(29.0)	(61.4)	32.4	4,056	#N/A	N/A	16.8	3.2	2.6	17.0	11.1
Noble Energy	USD	33	1.3	1.1	(5.5)	17.9	(12.2)	(37.5)	(1.1)	14,122	#N/A	N/A	#N/A	N/A	10.5	9.1	
Average		0	(0.9)	3.6	1.2	28.5	(7.6)	(24.9)	9.1								
PV																	
WACKER	EUR	77.4	(0.6)	0.8	(0.2)	18.8	9.0	(28.2)	(0.1)	4,573	30.7	17.3	1.5	1.4	5.3	4.9	
GCL-Poly	HKD	1.2	(2.4)	2.5	(9.6)	19.4	(29.5)	(52.3)	6.0	2,948	7.9	6.9	0.9	0.8	6.3	5.4	
REC	NOK	107.5	0.0	0.0	0.0	0.0	0.0	5.4	0.0	519	#N/A	N/A	#N/A	N/A	#N/A	N/A	
SunEdison	USD	0.3	(7.0)	(12.4)	(83.8)	(87.4)	(96.2)	(98.7)	(93.2)	127	#N/A	N/A	#N/A	N/A	20.3	10.6	
Canadian Solar	USD	18.5	2.9	7.5	(9.7)	(1.3)	(14.6)	(46.8)	(36.0)	1,038	9.9	6.8	1.0	0.9	6.5	5.1	
JA Solar	USD	8.9	(0.2)	1.0	(0.1)	11.0	2.2	(9.8)	(8.5)	448	5.5	5.0	0.4	0.4	2.8	2.3	
Trina Solar	USD	9.8	0.4	0.0	(8.4)	10.1	(9.8)	(18.5)	(11.3)	901	7.0	6.3	0.7	0.6	5.9	5.2	
Solar City	USD	30.3	4.2	7.0	11.8	(14.1)	(31.5)	(45.9)	(40.7)	2,962	#N/A	N/A	#N/A	N/A	13.2	#N/A	N/A
Yingli	USD	5.0	(1.2)	2.4	0.8	44.0	(40.7)	(75.0)	11.3	92	#N/A	N/A	#N/A	N/A	9.1	8.9	
First Solar	USD	60.4	1.3	0.7	(16.7)	(1.6)	16.0	(2.6)	(8.5)	6,170	14.1	17.4	1.1	1.0	7.9	8.2	
한화솔라원	USD	14.2	0.9	3.9	(2.9)	(9.0)	(19.9)	(34.1)	(35.1)	#N/A	N/A	#N/A	N/A	#N/A	N/A	N/A	
OCI	KRW	94,500	(5.1)	(5.3)	0.3	44.9	8.5	(13.3)	26.0	1,970	0.0	11.7	0.0	0.7	0.0	10.4	
웅진에너지	KRW	1,205	(7.3)	(12.7)	(28.1)	(24.0)	(28.3)	(29.9)	(30.3)	114	N/A	0.0	0.7	0.0	10.4	0.0	
신성솔라에너지	KRW	1,590	(4.5)	3.2	(1.1)	(3.9)	25.4	25.8	(14.3)	140	N/A	0.7	0.0	10.4	0.0	8.1	
Average			(1.3)	(0.1)	(10.6)	0.5	(15.0)	(30.3)	(16.8)								
Gas Company																	
Towngas China	HKD	4.4	(0.7)	7.8	4.0	19.1	(22.7)	(45.9)	(1.8)	1,519	9.0	8.8	0.8	0.8	10.7	10.0	
Kulun	HKD	6.8	0.6	0.0	8.2	25.7	2.7	(30.4)	(2.2)	7,026	13.8	10.9	1.0	0.9	5.6	5.1	
Beijing Enterprise	HKD	42.6	(0.9)	7.4	2.9	6.8	(16.1)	(36.7)	(9.3)	7,047	8.6	8.0	0.9	0.8	13.5	12.1	
ENN Energy	HKD	46.3	(1.1)	6.1	18.3	35.2	1.0	(17.5)	12.0	6,463	14.3	12.7	2.6	2.3	9.0	8.1	
China Resources Gas	HKD	24.0	0.2	2.8	10.9	24.1	5.3	(6.4)	3.5	6,868	15.4	13.8	2.6	2.3	9.6	8.6	
China Gas Holdings	HKD	12.6	0.3	8.5	11.3	28.2	(2.2)	(11.5)	12.3	7,953	14.0	12.3	2.5	2.2	11.2	10.0	
Shenzen Gas	HKD	12.8	0.0	0.9	(0.6)	4.9	3.9	(10.5)	(11.0)	3,125	11.6	10.6	1.2	1.1	7.6	7.0	
Shann Xi	CNY	10.2	(4.3)	(3.8)	11.4	(3.5)	(23.9)	(33.9)	(19.0)	1,752	16.2	13.8	#N/A	N/A	#N/A	N/A	
Suntien	HKD	0.9	0.0	1.2	(8.5)	(19.6)	(43.4)	(59.6)	(30.6)	412	8.9	6.8	0.3	0.3	8.7	7.2	
China Oil & Gas	HKD	0.5	(3.6)	11.3	20.0	17.4	1.9	(45.5)	1.9	406	10.8	9.8	#N/A	N/A	#N/A	N/A	
Average			(0.9)	4.2	7.8	13.8	(9.4)	(29.8)	(4.4)								
EV																	
LG화학	KRW	337,000	0.6	5.3	7.3	10.7	16.6	28.9	2.6	19,521	15.5	13.8	1.7	1.6	6.7	6.2	
삼성SDI	KRW	107,500	0.9	5.9	7.6	0.0	0.9	(21.5)	(5.7)	6,461	9.3	24.0	0.6	0.6	10.6	7.9	
Panasonic	JPY	953.3	(4.4)	5.2	(6.9)	(12.3)	(26.9)	(38.8)	(23.2)	21,484	11.0	9.8	1.0	1.0	3.3	3.1	
GS Yuasa	JPY	494.0	(2.2)	6.7	5.3	22.0	(2.8)	(13.2)	9.3	1,877	13.4	11.9	1.1	1.1	6.5	6.0	
NEC	JPY	275.0	(2.5)	3.0	(2.1)	(24.2)	(30.7)	(29.8)	(28.6)	6,581	9.9	8.8	0.8	0.7	6.0	5.8	
BYD Auto	CNY	60.0	3.1	3.8	5.4	4.1	(1.0)	5.0	(6.8)	19,631	43.0	29.6	4.3	3.8	14.1	11.9	
Tesla Motors	USD	253.9	(0.2)	1.6	9.1	23.8	11.8	22.8	5.8	33,994	215.0	84.1	26.9	20.6	44.4	29.2	
Kandi Technologies	USD	7.8	(0.3)	7.6	(3.1)	(6.8)	0.4	(35.7)	(28.3)	367	#N/A	N/A	#N/A	N/A	#N/A	N/A	
Average			(0.6)	4.9	2.8	2.2	(3.9)	(10.3)	(9.4)								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임