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SKS Energy Daily

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1. News Summary (3 page)

2016년 1월 15일

News		Conclusion
WTI comment	유가 반등	
Headline	아시아 에틸렌 전일대비 -$80/t, 작년 8월 이후 최대폭 하락	아시아 에틸렌 강세는 정유/화학 모두에게 호재였음, 차후 추이 주목
News 1.	유럽 LDPE, 2개월래 최저치 하락	에틸렌 가격의 하락세와 동반하여 PE 가격도 하락, 차후 추이 주목
News 2.	한화큐셀, 실적호조 불구 부채비율 상승 중	금리인상과 함께 재무안정성 이슈는 올 해 지속 부각될 것으로 판단함
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	31.2	2.4	(6.2)	(16.5)	(34.0)	(35.6)
Dubai	$/bbl	26.0	(1.7)	(6.9)	(23.0)	(44.1)	(38.8)
Gasoline	$/bbl	50.3	(1.2)	(1.3)	(8.7)	(21.9)	(5.7)
Diesel	$/bbl	35.5	(1.6)	(7.5)	(21.8)	(39.9)	(39.8)
Complex margin	$/bbl	10.0	(0.2)	(0.1)	0.5	2.3	1.4
1M lagging	$/bbl	(3.1)	(1.4)	(0.8)	(1.0)	(10.8)	12.7
Petrochemical			%	%	%	%	%
Naphtha	$/t	330	(4.2)	(12.7)	(22.2)	(28.1)	(18.0)
Butadiene	$/t	730	0.0	2.1	4.3	(5.2)	5.8
HDPE	$/t	1,075	0.0	0.0	2.9	(10.4)	(6.1)
MEG	$/t	555	1.6	(3.8)	(2.3)	(16.3)	(19.1)
PX	$/t	681	(1.8)	(5.9)	(8.3)	(14.9)	(4.3)
SM	$/t	896	0.0	(3.3)	2.5	(3.4)	10.8
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.14	(5.7)	(10.2)	14.2	(24.6)	(39.1)
Natural rubber	$/t	1,070	0.0	0.9	(7.0)	(15.7)	(22.5)
Cotton	C/lbs	61.9	(0.4)	0.8	(1.7)	(2.2)	(4.2)

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	01/11	$/t	1,095	0.5	0.5	24.4	15.3
Propylene	01/11	$/t	625	(3.8)	(3.8)	34.4	(7.4)
Benzene	01/11	$/t	583	0.4	(3.3)	(2.9)	(1.3)
Toluene	01/11	$/t	630	0.0	0.0	(5.3)	11.5
Xylene	01/11	$/t	640	2.4	(5.2)	(5.9)	8.5
PP	01/11	$/t	830	(0.6)	(5.1)	(16.6)	(26.5)
PVC	01/11	$/t	715	0.0	(2.1)	(9.5)	(10.1)
ABS	01/11	$/t	1,130	0.0	4.9	(5.8)	(25.9)
SBR	01/11	$/t	1,200	4.3	9.6	(4.4)	(18.6)
SM	01/11	$/t	955	4.9	1.1	1.3	8.8
BPA	01/11	$/t	1,205	(4.2)	(12.2)	(24.1)	(34.1)
Caustic	01/11	$/t	285	0.0	0.9	(9.5)	9.6
2-EH	01/11	$/t	685	0.7	3.0	(13.3)	(29.4)
Caprolactam	01/11	$/t	1,250	(0.8)	(2.7)	(7.4)	(30.4)
Solar				%	%	%	%
Polysilicon	01/13	$/kg	13.0	(0.5)	(4.0)	(10.6)	(32.2)
Module	01/13	$/W	0.55	(0.2)	(0.9)	(0.9)	(9.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	79.1	4.6	3.8	4.1	(1.3)	(11.8)
Shell	EUR	1,392	3.4	(4.3)	(1.9)	(21.3)	(30.7)
Petrochina	CNY	7.63	0.3	(2.6)	(9.5)	(12.6)	(32.5)
Gazprom	RUB	130.9	(0.3)	(3.7)	(0.6)	(7.9)	(10.6)
Petrobras	BRL	5.7	8.0	(9.1)	(21.1)	(28.5)	(34.9)
Refinery							
Phillips66	USD	79.3	5.4	3.7	(2.6)	(3.9)	33.4
Valero	USD	67.3	3.5	(6.6)	(0.3)	9.7	50.1
JX	JPY	435.1	(2.7)	(8.2)	(12.6)	(9.1)	3.5
Neste Oil	EUR	26.6	(2.5)	(0.5)	1.8	23.8	26.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	64.6	2.3	0.8	(5.9)	(7.9)	(8.6)
Dow Chemical	USD	44.2	1.4	(5.1)	(13.7)	(6.1)	1.9
SABIC	SAR	67.3	(2.1)	(0.6)	(19.6)	(24.6)	(12.9)
Formosa Pla.	TWD	75.2	0.4	3.0	5.5	(0.4)	2.7
Shin-Etsu	JPY	6,171	(1.9)	(0.6)	(7.8)	(6.8)	(18.9)
Renewable							
Wacker	EUR	69.7	(1.1)	(2.6)	(4.7)	1.1	(16.6)
Yingli	USD	3.69	7.6	7.6	(35.7)	(50.2)	(81.6)
Tesla	USD	206.2	2.9	(4.4)	(5.7)	(4.9)	7.0
BYD	CNY	59.9	4.4	8.1	(3.4)	2.1	51.7

4. Coverage Summary

	01/12	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	1,891	(0.2)	(2.1)	(3.0)	(5.9)	(8.3)	(1.8)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,244	0.1	(1.4)	1.0	5.4	2.5	44.6				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	322,500	0.0	(5.0)	(1.2)	19.0	27.5	80.7	매수	380,000	17.8	14.37	1.76
롯데케미칼	262,000	1.6	4.8	13.9	1.6	(1.1)	76.4	매수	290,000	10.7	11.65	1.09
한화케미칼	26,350	0.2	(0.4)	(0.9)	27.6	24.6	129.1	매수	30,000	13.9	9.31	0.75
금호석유화학	51,500	(0.6)	(1.3)	(7.4)	(17.6)	(28.1)	(39.8)	매수	70,000	35.9	11.39	1.05
KCC	404,000	0.6	(1.5)	(8.7)	(7.2)	(21.6)	(19.0)	매수	550,000	36.1	12.55	0.63
OCI	70,900	(1.1)	(3.7)	(4.1)	(17.2)	(40.2)	(2.3)	매수	85,000	19.9	16.87	0.70
SKC	32,050	(0.6)	1.3	(6.1)	(13.8)	(15.0)	18.0	매수	43,000	34.2	9.69	0.78
국도화학	56,700	(2.6)	0.2	(1.9)	(17.2)	(17.1)	37.6	매수	100,000	76.4	7.01	0.68
SK이노베이션	132,000	4.3	3.9	3.5	21.1	20.5	55.5	매수	140,000	6.1	7.21	0.70
S-Oil	78,700	0.9	0.1	4.9	18.2	25.1	61.9	매수	85,000	8.0	12.77	1.47
GS	49,300	2.1	(0.6)	(2.2)	1.1	0.2	29.2	매수	60,000	21.7	6.36	0.81
SK가스	67,100	(1.0)	(5.6)	(4.8)	(18.7)	(24.3)	(26.0)	매수	90,000	34.1	7.40	0.60
대우인터내셔널	14,300	(4.7)	(11.5)	(16.1)	(38.4)	(43.0)	(52.1)	매수	22,000	53.8	7.92	0.68
LG상사	31,050	(4.6)	(7.3)	(8.1)	(6.8)	(16.5)	7.6	매수	40,000	28.8	10.00	0.81

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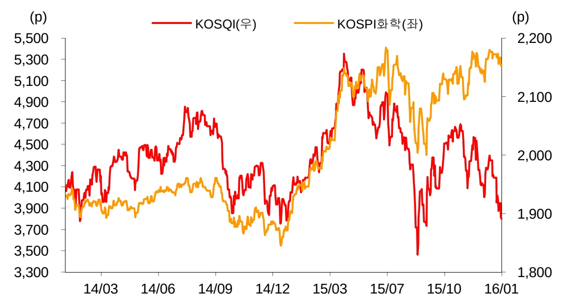
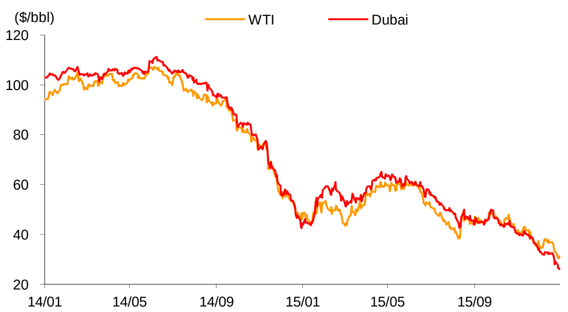
Key Chart

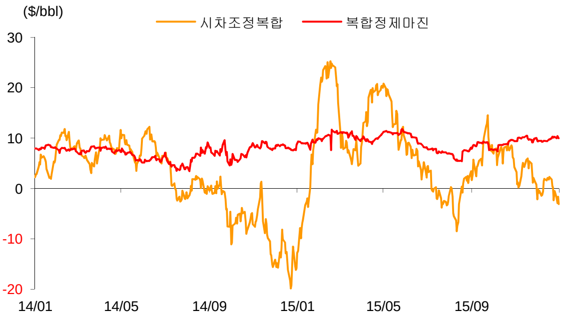
KOSPI/KOSPI화학



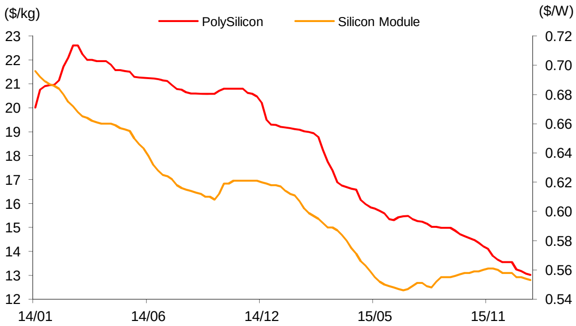
WTI/Dubai



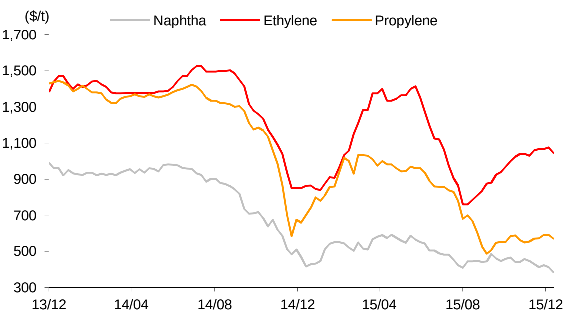
Complex & 1M lagging margin



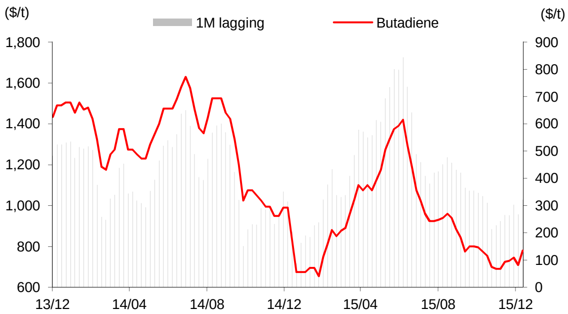
Polysilicon & Module prices



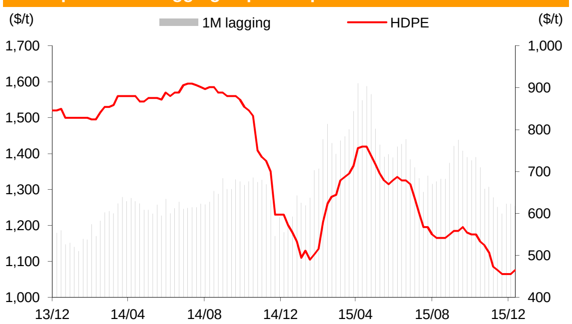
Naphtha/Ethylene/Propylene prices



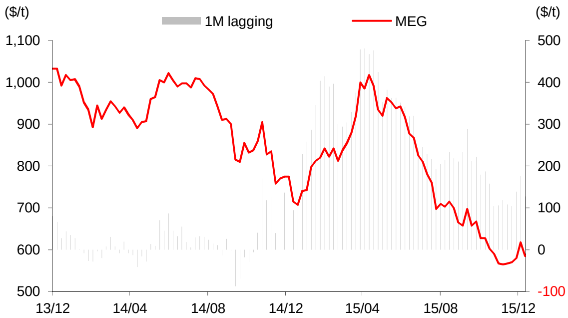
Butadiene price & 1M lagging naphtha spread



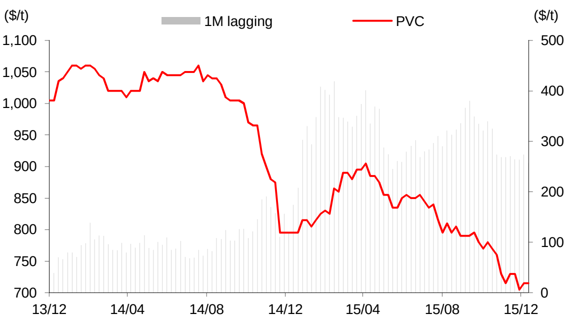
HDPE price & 1M lagging naphtha spread



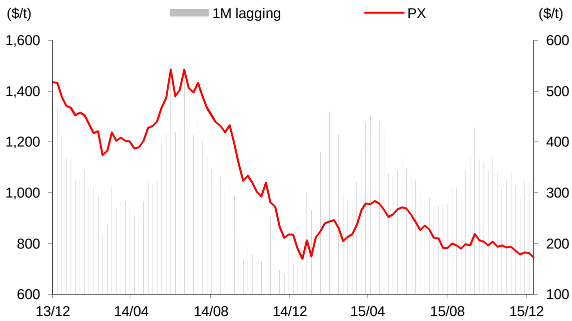
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

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News Comment

Headline	(출처: Platts)
제목	아시아 에틸렌 전일대비 -$80/t, 작년 8월 이후 최대폭 하락
결론	아시아 에틸렌 강세는 정유/화학 모두에게 호재였음, 차후 추이 주목
세부	
	1) 15년 8월 이후 최대 하락폭이자 15년 10월 이후 가장 낮은 수치($1,000/t)
	2) 지속적인 유가하락과 이란의 시장복귀, 미국 재고증가가 부담 때문임
	3) 아시아 에틸렌 $1,000/t은 북미 에틸렌 $370/t 대비 과도하게 비싼 상황
	4) 또한 역사적 가격flow가 유사한 프로필렌($550/t)과도 과도하게 확대
	5) 아시아 에틸렌 강세는 정유/화학 모두에게 호재였음, 차후 추이 주목

WTI Comment	(출처: 연합뉴스)
제목	유가 반등
상승 요인	
하락 요인	이란 경제 제재 해제에 대한 우려 재부각

Issue 1	(출처: Platts)
제목	유럽 LDPE, 2개월래 최저치 하락
결론	에틸렌 가격의 하락세와 동반하여 PE 가격도 하락, 차후 추이 주목
세부	
	1) 유럽 LDPE 가격 $1,495/t, 전일대비 약 $40/t 하락하였음
	2) 유럽 에틸렌 가격 하락이 가장 큰 원인임. 전월대비 $30/t 하락한 $980/t
	3) 더불어서 금주 수요는 매우 약했으며(very weak), 재고도 있는 상황임
	4) 다만 일부에서는 설비 트러블로 인해 재차 가격상승 여지 있다고 보도
	5) 에틸렌 가격의 하락세와 동반하여 PE 가격도 하락, 차후 추이 주목

Issue 2	(출처: 매일경제)
제목	한화큐셀, 실적호조 불구 부채비율 상승 중
결론	금리인상과 함께 재무안정성 이슈는 올 해 지속 부각될 것으로 판단함
세부	
	1) 3Q15 한화큐셀 부채총계 2.8조원, 자본총계 0.3조원으로 부채비율 900%
	2) 한화케미칼이 지난 8일 1,199억원 채무보증 결정하며 보증잔액 1.8조
	3) 최근 SunEdison, Canadian Solar 등 북미 태양광 재무이슈 불거지는 상황
	4) 금리인상과 함께 재무안정성 이슈는 올 해 지속 부각될 것으로 판단함
	5)

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)

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2013avg.	2014avg.	2015acc.
F/X	USD/EUR	0.920	0.919	0.915	0.910	0.872	0.908	0.848	0.921	0.753	0.754	0.901
	Change, %		0.1	0.6	1.2	5.6	1.3	8.5	(0.1)	(3.9)	13.7	2.1
	USD/JPY	118.1	117.7	117.7	121.0	118.8	123.4	117.3	120.6	97.7	105.9	121.1
	Change, %		0.3	0.3	(2.5)	(0.6)	(4.3)	0.6	(2.1)	21.5	13.8	(2.5)
	USD/KRW	1,213.3	1,203.9	1,200.4	1,184.8	1,147.1	1,142.1	1,082.0	1,172.6	1,094.6	1,053.0	1,131.2
	Change, %		0.8	1.1	2.4	5.8	6.2	12.1	3.5	50.3	3.3	7.3
Agriculture	Corn	358.0	358.0	353.0	381.8	379.0	424.0	381.0	358.8	579.2	415.6	376.8
	Change, %		0.0	1.4	(6.2)	(5.5)	(15.6)	(6.0)	(0.2)	(39.6)	(5.9)	(5.0)
	Soybean	896.0	899.0	877.0	874.3	910.5	1,039.0	992.5	871.3	1,407.0	1,245.5	945.4
	Change, %		(0.3)	2.2	2.5	(1.6)	(13.8)	(9.7)	2.8	(7.5)	(22.3)	(5.2)
	Wheat	468.8	478.0	468.5	487.8	508.3	583.5	537.8	470.0	684.3	588.0	508.1
	Change, %		(1.9)	0.1	(3.9)	(7.8)	(19.7)	(12.8)	(0.3)	(22.2)	(2.6)	(7.8)
	Rice	10.9	11.1	11.4	11.0	12.1	10.9	11.0	11.6	15.5	14.0	11.1
	Change, %		(2.0)	(4.7)	(1.2)	(10.6)	(0.5)	(1.2)	(6.1)	4.4	(25.9)	(1.8)
	Oats	200.3	205.0	208.8	248.5	231.8	240.5	282.8	217.3	367.5	373.1	250.2
	Change, %		(2.3)	(4.1)	(19.4)	(13.6)	(16.7)	(29.2)	(7.8)	1.9	(14.3)	(20.0)
MYR/mt	Palm Oil	2,262.0	2,260.0	2,253.0	2,186.0	2,269.0	2,198.0	2,361.0	2,398.0	2,405.0	2,415.1	2,190.3
	Change, %		0.1	0.4	3.5	(0.3)	2.9	(4.2)	(5.7)	13.3	(12.8)	3.3
	Cocoa	2,857.0	2,892.0	2,963.0	3,369.0	3,109.0	3,377.0	2,992.0	3,211.0	2,403.9	3,006.8	3,091.6
	Change, %		(1.2)	(3.6)	(15.2)	(8.1)	(15.4)	(4.5)	(11.0)	21.2	7.4	(7.6)
	Cotton	61.9	62.1	61.4	63.4	63.8	66.2	59.0	63.3	83.3	76.4	63.3
	Change, %		(0.4)	0.8	(2.3)	(2.9)	(6.5)	5.0	(2.2)	12.6	(28.8)	(2.2)
	Sugar	14.9	14.5	14.8	14.5	14.1	12.6	14.9	15.2	17.5	16.3	13.1
	Change, %		2.8	0.9	2.5	5.6	17.7	(0.3)	(2.4)	(15.9)	(11.5)	13.2
	Coffee	115.9	114.8	118.5	117.3	134.7	129.9	179.9	126.7	126.0	177.1	132.6
	Change, %		1.0	(2.2)	(1.2)	(13.9)	(10.7)	(35.6)	(8.5)	(23.0)	50.5	(12.6)
Energy	WTI	31.2	30.5	33.3	36.3	46.6	53.0	48.5	37.0	98.0	92.9	48.8
	Change, %		2.4	(6.2)	(14.0)	(33.1)	(41.2)	(35.6)	(15.7)	7.2	(45.9)	(36.1)
	Brent	31.0	30.3	33.8	37.9	49.2	58.5	48.7	37.3	108.7	99.5	53.7
	Change, %		2.4	(8.1)	(18.2)	(36.9)	(47.0)	(36.3)	(16.8)	(0.3)	(48.3)	(42.2)
	Natural Gas	2.1	2.3	2.4	1.9	2.5	2.8	3.2	2.3	3.7	4.3	2.6
	Change, %		(5.7)	(10.2)	12.9	(15.1)	(24.7)	(33.8)	(8.5)	26.2	(31.7)	(18.6)
	Ethanol	1.3	1.3	1.3	1.5	1.5	1.6	1.3	1.4	2.3	2.1	1.5
	Change, %		1.3	0.4	(9.0)	(13.6)	(17.4)	(0.4)	(5.4)	(12.7)	(14.9)	(12.2)
	RBOB Gasoline	107.6	105.3	114.6	125.6	130.8	193.1	135.1	126.7	285.0	262.6	163.6
	Change, %		2.2	(6.1)	(14.3)	(17.8)	(44.3)	(20.4)	(15.1)	(0.9)	(48.5)	(34.2)
	Coal	43.2	43.3	43.4	43.1	41.9	41.1	46.4	43.3	56.1	57.5	45.2
	Change, %		(0.0)	(0.5)	0.4	3.1	5.3	(6.9)	(0.2)	(1.0)	(15.5)	(4.3)
Metal	Gold	1,078.5	1,093.7	1,109.0	1,059.9	1,184.1	1,155.8	1,228.7	1,061.4	1,410.4	1,266.5	1,160.6
	Change, %		(1.4)	(2.8)	1.8	(8.9)	(6.7)	(12.2)	1.6	(28.0)	(1.3)	(7.1)
	Silver	13.8	14.2	14.3	13.7	16.1	15.4	16.9	13.8	23.8	19.1	15.7
	Change, %		(2.6)	(3.6)	0.9	(14.5)	(10.2)	(18.1)	(0.1)	(35.8)	(18.9)	(12.2)
	Platinum	836.0	848.5	877.6	848.4	998.2	1,024.6	1,232.3	891.1	1,485.7	1,384.6	1,055.7
	Change, %		(1.5)	(4.7)	(1.5)	(16.3)	(18.4)	(32.2)	(6.2)	(11.2)	(11.5)	(20.8)
	Palladium	493.4	485.9	494.6	547.5	700.8	653.5	775.6	563.0	725.9	803.4	691.9
	Change, %		1.5	(0.2)	(9.9)	(29.6)	(24.5)	(36.4)	(12.4)	1.7	11.4	(28.7)
	Copper	4,415.5	4,392.0	4,524.0	4,680.5	5,299.0	5,565.0	5,548.0	4,705.0	7,352.6	6,828.1	5,503.1
	Change, %		0.5	(2.4)	(5.7)	(16.7)	(20.7)	(20.4)	(6.2)	(7.2)	(14.4)	(19.8)
	Uranium	34.8	34.8	34.5	36.2	37.9	36.3	35.8	34.4	38.5	33.5	36.9
	Change, %		0.0	0.7	(3.9)	(8.3)	(4.1)	(2.8)	1.0	(20.9)	2.5	(5.7)
	HR Coil	395.0	395.0	401.0	364.0	417.0	469.0	590.0	391.0	630.4	653.2	461.5
	Change, %		0.0	(1.5)	8.5	(5.3)	(15.8)	(33.1)	1.0	3.1	(10.4)	(14.4)
	Scrap	250.0	250.0	250.0	250.0	190.0	270.0	350.0	250.0	396.9	401.3	252.9
	Change, %		0.0	0.0	0.0	31.6	(7.4)	(28.6)	0.0	(1.2)	(16.5)	(1.2)
	Zinc	1,511.0	1,495.0	1,506.0	1,552.0	1,817.0	2,054.0	2,035.0	1,609.0	1,940.3	2,165.0	1,941.9
	Change, %		1.1	0.3	(2.6)	(16.8)	(26.4)	(25.7)	(6.1)	(1.2)	6.0	(22.2)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		01/12	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Crude Oil	**WTI**	31.2	30.5	33.3	37.4	47.3	50.9	48.5	37.0	93.1	48.8	33.4
	Change, %		*2.4*	*(6.2)*	*(16.5)*	*(34.0)*	*(38.7)*	*(35.6)*	*(15.8)*	*(66.5)*	*(36.0)*	*(6.5)*
	Dubai	26.0	26.5	28.0	33.8	46.6	55.8	42.6	32.2	96.7	50.8	29.1
	Change, %		*(1.7)*	*(6.9)*	*(23.0)*	*(44.1)*	*(53.3)*	*(38.8)*	*(19.1)*	*(73.1)*	*(48.7)*	*(10.6)*
Crude Oil Product	**Gasoline(휘발유)**	50.3	51.0	51.0	55.1	64.5	77.1	53.4	54.8	110.9	69.5	52.9
	Change, %		*(1.2)*	*(1.3)*	*(8.7)*	*(21.9)*	*(34.7)*	*(5.7)*	*(8.1)*	*(54.6)*	*(27.6)*	*(4.9)*
	Kerosene(등유)	37.3	37.9	39.2	46.1	58.9	66.4	59.1	44.2	112.6	64.7	40.6
	Change, %		*(1.6)*	*(5.0)*	*(19.2)*	*(36.7)*	*(43.9)*	*(37.0)*	*(15.7)*	*(66.9)*	*(42.5)*	*(8.2)*
	Diesel(경유)	35.5	36.1	38.4	45.4	59.1	65.8	58.9	43.2	112.8	64.8	39.4
	Change, %		*(1.6)*	*(7.5)*	*(21.8)*	*(39.9)*	*(46.1)*	*(39.8)*	*(17.9)*	*(68.5)*	*(45.2)*	*(9.9)*
	Bunker-C	21.4	21.8	23.0	27.5	37.8	49.2	39.5	25.3	86.5	45.3	23.8
	Change, %		*(1.7)*	*(7.0)*	*(22.1)*	*(43.3)*	*(56.5)*	*(45.9)*	*(15.4)*	*(75.2)*	*(52.7)*	*(9.9)*
	Naphtha	36.2	37.8	40.2	43.2	48.4	53.5	41.2	43.5	94.3	52.6	41.1
	Change, %		*(4.3)*	*(9.9)*	*(16.1)*	*(25.2)*	*(32.3)*	*(12.2)*	*(16.7)*	*(61.6)*	*(31.2)*	*(11.9)*
Dubai Spread	**Gasoline(휘발유)**	24.3	24.5	23.1	21.3	17.9	21.3	10.9	22.6	14.2	18.7	23.8
	Change		*(0.2)*	*1.2*	*3.0*	*6.4*	*3.0*	*13.5*	*1.7*	*10.1*	*5.6*	*0.5*
	Kerosene(등유)	11.2	11.4	11.3	12.3	12.3	10.6	16.6	12.0	15.9	14.0	11.4
	Change		*(0.2)*	*(0.0)*	*(1.1)*	*(1.1)*	*0.6*	*(5.4)*	*(0.8)*	*(4.7)*	*(2.7)*	*(0.2)*
	Diesel(경유)	9.4	9.6	10.4	11.5	12.5	10.1	16.4	11.0	16.0	14.0	10.3
	Change		*(0.1)*	*(1.0)*	*(2.1)*	*(3.1)*	*(0.6)*	*(7.0)*	*(1.6)*	*(6.6)*	*(4.5)*	*(0.8)*
	Bunker-C	(4.6)	(4.7)	(5.0)	(6.4)	(8.8)	(6.6)	(3.0)	(6.9)	(10.3)	(5.5)	(5.4)
	Change		*0.1*	*0.3*	*1.7*	*4.2*	*1.9*	*(1.6)*	*2.3*	*5.6*	*0.9*	*0.7*
	Naphtha	10.2	11.4	12.2	9.3	1.8	(2.3)	(1.3)	11.3	(2.4)	1.8	12.0
	Change		*(1.2)*	*(2.0)*	*0.8*	*8.3*	*12.5*	*11.5*	*(1.1)*	*12.6*	*8.3*	*(1.8)*
Refining Margin	**Simple(단순)**	4.0	4.1	4.0	3.3	1.3	1.5	4.4	3.2	(0.1)	3.3	3.9
	Change		*(0.1)*	*(0.0)*	*0.8*	*2.8*	*2.5*	*(0.4)*	*0.9*	*4.1*	*0.7*	*0.2*
	Complex(복합)	10.0	10.2	10.1	9.5	7.7	7.7	8.6	9.7	7.1	9.3	10.1
	Change		*(0.2)*	*(0.1)*	*0.5*	*2.3*	*2.2*	*1.4*	*0.3*	*2.9*	*0.7*	*(0.1)*
	Complex(lagging)	(3.1)	(1.6)	(2.3)	(2.1)	7.7	3.3	(15.8)	2.3	2.2	6.5	(0.7)
	Change		*(1.4)*	*(0.8)*	*(1.0)*	*(10.8)*	*(6.3)*	*12.7*	*(5.4)*	*(5.3)*	*(9.6)*	*(2.3)*

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

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Petrochemical Price Data

Daily Price			01/14	01/13	01/12	01/11	01/08	01/07	01/06	01/05	01/04	01/01
Spot Price	**Naphtha**	CFR Japan	329.5	343.9	343.5	361.4	383.9	377.3	409.9	422.9	416.5	410.5
	Ethylene	CFR SE Asia	1,005.0	1,085.0	1,085.0	1,085.0	1,085.0	1,085.0	1,085.0	1,085.0	1,085.0	1,085.0
	Propylene	FOB Korea	551.0	555.0	555.0	555.0	555.0	580.0	590.0	590.0	590.0	590.0
	Butadiene	FOB Korea	730.0	730.0	730.0	730.0	730.0	715.0	710.0	710.0	700.0	700.0
	HDPE	CFR FE Asia	1,075.0	1,075.0	1,075.0	1,075.0	1,090.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0
	LDPE	CFR FE Asia	1,095.0	1,095.0	1,095.0	1,120.0	1,110.0	1,090.0	1,090.0	1,075.0	1,075.0	1,075.0
	LLDPE	CFR FE Asia	1,070.0	1,060.0	1,065.0	1,080.0	1,070.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0
	MEG	CFR China	555.0	546.0	568.0	576.0	582.0	577.0	591.0	583.0	584.0	616.0
	PP	CFR FE Asia	805.0	805.0	805.0	780.0	780.0	800.0	815.0	815.0	815.0	815.0
	PX	CFR China	680.7	693.0	690.7	709.7	724.7	723.0	742.7	744.7	743.3	745.5
	PTA	CFR China	551.0	550.0	555.0	562.0	564.0	571.0	573.0	573.0	571.0	571.0
	Benzene	FOB Korea	541.0	537.0	539.0	554.0	574.0	565.0	588.0	590.0	595.0	596.0
	Toluene	FOB Korea	549.0	548.5	544.0	562.0	583.0	577.0	608.0	607.0	614.0	609.0
	Xylene	FOB Korea	559.0	565.0	572.0	595.0	614.0	612.0	627.0	637.0	637.0	637.0
	SM	FOB Korea	896.0	896.0	896.0	911.0	927.0	927.0	931.0	914.0	908.0	900.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	**Naphtha**	CFR Japan	384.5	413.5	429.0	486.0	445.5	416.5	413.5	865.9	493.0	399.0
	Change, %			*(7.0)*	*(10.4)*	*(20.9)*	*(13.7)*	*(7.7)*	*(7.0)*	*(55.6)*	*(22.0)*	*(3.6)*
	Ethylene	CFR SE Asia	1,095.0	1,090.0	1,090.0	880.0	815.0	950.0	1,090.0	1,401.1	1,103.7	1,092.5
	Change, %			*0.5*	*0.5*	*24.4*	*34.4*	*15.3*	*0.5*	*(21.8)*	*(0.8)*	*0.2*
	Propylene	CFR SE Asia	625.0	650.0	650.0	465.0	630.0	675.0	650.0	1,254.2	770.0	581.3
	Change, %			*(3.8)*	*(3.8)*	*34.4*	*(0.8)*	*(7.4)*	*(3.8)*	*(50.2)*	*(18.8)*	*7.5*
	Butadiene	CFR SE Asia	740.0	720.0	675.0	725.0	910.0	775.0	720.0	1,281.7	877.5	730.0
	Change, %			*2.8*	*9.6*	*2.1*	*(18.7)*	*(4.5)*	*2.8*	*(42.3)*	*(15.7)*	*1.4*
	Benzene	CFR SE Asia	582.5	580.0	602.5	600.0	585.0	590.0	580.0	1,243.1	690.0	581.3
	Change, %			*0.4*	*(3.3)*	*(2.9)*	*(0.4)*	*(1.3)*	*0.4*	*(53.1)*	*(15.6)*	*0.2*
	Toluene	CFR SE Asia	630.0	630.0	630.0	665.0	645.0	565.0	630.0	1,082.5	700.8	630.0
	Change, %			*0.0*	*0.0*	*(5.3)*	*(2.3)*	*11.5*	*0.0*	*(41.8)*	*(10.1)*	*0.0*
	Xylene	CFR SE Asia	640.0	625.0	675.0	680.0	650.0	590.0	625.0	1,055.7	699.3	632.5
	Change, %			*2.4*	*(5.2)*	*(5.9)*	*(1.5)*	*8.5*	*2.4*	*(39.4)*	*(8.5)*	*1.2*
Spread	**Ethylene**	-Naphtha	710.5	676.5	661.0	394.0	369.5	533.5	676.5	535.2	610.6	693.5
	Change, %			*5.0*	*7.5*	*80.3*	*92.3*	*33.2*	*5.0*	*32.8*	*16.4*	*2.5*
	Propylene	-Naphtha	240.5	236.5	221.0	(21.0)	184.5	258.5	236.5	388.3	277.0	182.3
	Change, %			*1.7*	*8.8*	*(1,245.2)*	*30.4*	*(7.0)*	*1.7*	*(38.1)*	*(13.2)*	*32.0*
	Butadiene	-Naphtha	355.5	306.5	246.0	239.0	464.5	358.5	306.5	415.9	384.5	331.0
	Change, %			*16.0*	*44.5*	*48.7*	*(23.5)*	*(0.8)*	*16.0*	*(14.5)*	*(7.5)*	*7.4*
	Benzene	-Naphtha	198.0	166.5	173.5	114.0	139.5	173.5	166.5	377.3	197.0	182.3
	Change, %			*18.9*	*14.1*	*73.7*	*41.9*	*14.1*	*18.9*	*(47.5)*	*0.5*	*8.6*
	Toluene	-Naphtha	245.5	216.5	201.0	179.0	199.5	148.5	216.5	216.6	207.8	231.0
	Change, %			*13.4*	*22.1*	*37.2*	*23.1*	*65.3*	*13.4*	*13.3*	*18.2*	*6.3*
	Xylene	-Naphtha	255.5	211.5	246.0	194.0	204.5	173.5	211.5	189.9	206.3	233.5
	Change, %			*20.8*	*3.9*	*31.7*	*24.9*	*47.3*	*20.8*	*34.6*	*23.9*	*9.4*

자료 : Cischem, Platts, Bloomberg, SK증권
참고 : Spread는 Polymer와 Naphtha의 가격차이임

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	HDPE	CFR SE Asia	1,075.0	1,065.0	1,075.0	1,185.0	1,165.0	1,200.0	1,065.0	1,524.9	1,230.1	1,070.0
	Change, %			0.9	0.0	(9.3)	(7.7)	(10.4)	0.9	(29.5)	(12.6)	0.5
	MEG	CFR SE Asia	585.0	617.5	567.5	697.5	715.0	715.0	617.5	934.1	780.8	601.3
	Change, %			(5.3)	3.1	(16.1)	(18.2)	(18.2)	(5.3)	(37.4)	(25.1)	(2.7)
	PVC	CFR SE Asia	715.0	715.0	730.0	790.0	795.0	795.0	715.0	1,013.9	820.8	715.0
	Change, %			0.0	(2.1)	(9.5)	(10.1)	(10.1)	0.0	(29.5)	(12.9)	0.0
	PP	CFR SE Asia	830.0	835.0	875.0	995.0	1,005.0	1,130.0	835.0	1,503.0	1,109.8	832.5
	Change, %			(0.6)	(5.1)	(16.6)	(17.4)	(26.5)	(0.6)	(44.8)	(25.2)	(0.3)
	2-EH	CFR Korea	685.0	680.0	665.0	790.0	885.0	970.0	680.0	1,397.1	930.1	682.5
	Change, %			0.7	3.0	(13.3)	(22.6)	(29.4)	0.7	(51.0)	(26.3)	0.4
	ABS	CFR SE Asia	1,130.0	1,130.0	1,077.5	1,200.0	1,275.0	1,525.0	1,130.0	1,897.7	1,431.1	1,130.0
	Change, %			0.0	4.9	(5.8)	(11.4)	(25.9)	0.0	(40.5)	(21.0)	0.0
	SBR	CFR SE Asia	1,200.0	1,150.0	1,095.0	1,255.0	1,230.0	1,475.0	1,150.0		1,332.1	1,175.0
	Change, %			4.3	9.6	(4.4)	(2.4)	(18.6)	4.3		(9.9)	2.1
	SM	CFR SE Asia	955.0	910.0	945.0	942.5	965.0	877.5	910.0	1,547.1	1,100.7	932.5
	Change, %			4.9	1.1	1.3	(1.0)	8.8	4.9	(38.3)	(13.2)	2.4
	Caustic	FOB NEA	285.0	285.0	282.5	315.0	315.0	260.0	285.0	310.0	296.8	285.0
	Change, %			0.0	0.9	(9.5)	(9.5)	9.6	0.0	(8.1)	(4.0)	0.0
	PX	CFR SE Asia	745.0	762.5	772.5	837.5	792.5	780.0	762.5	1,228.5	842.9	753.8
	Change, %			(2.3)	(3.6)	(11.0)	(6.0)	(4.5)	(2.3)	(39.4)	(11.6)	(1.2)
	PO	CFR China	1,205.0	1,257.5	1,372.5	1,587.5	1,470.0	1,827.5	1,257.5	2,179.2	1,683.4	1,231.3
	Change, %			(4.2)	(12.2)	(24.1)	(18.0)	(34.1)	(4.2)	(44.7)	(28.4)	(2.1)
	Caprolactam	CFR SE Asia	1,250.0	1,260.0	1,285.0	1,350.0	1,360.0	1,795.0	1,260.0	2,233.4	1,581.5	1,255.0
	Change, %			(0.8)	(2.7)	(7.4)	(8.1)	(30.4)	(0.8)	(44.0)	(21.0)	(0.4)
	PTA	CFR SE Asia	582.5	585.0	597.5	627.5	565.0	602.5	585.0	911.7	648.0	583.8
	Change, %			(0.4)	(2.5)	(7.2)	3.1	(3.3)	(0.4)	(36.1)	(10.1)	(0.2)
Spread	HDPE		690.5	651.5	646.0	699.0	719.5	783.5	651.5	659.0	737.1	671.0
	Change, %			6.0	6.9	(1.2)	(4.0)	(11.9)	6.0	4.8	(6.3)	2.9
	MEG		200.5	204.0	138.5	211.5	269.5	298.5	204.0	68.2	287.8	202.3
	Change, %			(1.7)	44.8	(5.2)	(25.6)	(32.8)	(1.7)	193.8	(30.3)	(0.9)
	PVC		330.5	301.5	301.0	304.0	349.5	378.5	301.5	148.0	327.8	316.0
	Change, %			9.6	9.8	8.7	(5.4)	(12.7)	9.6	123.3	0.8	4.6
	PP		445.5	421.5	446.0	509.0	559.5	713.5	421.5	637.1	616.8	433.5
	Change, %			5.7	(0.1)	(12.5)	(20.4)	(37.6)	5.7	(30.1)	(27.8)	2.8
	2-EH		300.5	266.5	236.0	304.0	439.5	553.5	266.5	531.3	437.0	283.5
	Change, %			12.8	27.3	(1.2)	(31.6)	(45.7)	12.8	(43.4)	(31.2)	6.0
	ABS		745.5	716.5	648.5	714.0	829.5	1,108.5	716.5	1,031.9	938.1	731.0
	Change, %			4.0	15.0	4.4	(10.1)	(32.7)	4.0	(27.8)	(20.5)	2.0
	SBR	BD spread	460.0	430.0	420.0	530.0	320.0	700.0	430.0		454.7	445.0
	Change, %			7.0	9.5	(13.2)	43.8	(34.3)	7.0		1.2	3.4
	SM		570.5	496.5	516.0	456.5	519.5	461.0	496.5	681.2	607.7	533.5
	Change, %			14.9	10.6	25.0	9.8	23.8	14.9	(16.3)	(6.1)	6.9
	Caustic											
	Change, %											
	PX		360.5	349.0	343.5	351.5	347.0	363.5	349.0	362.6	349.9	354.8
	Change, %			3.3	4.9	2.6	3.9	(0.8)	3.3	(0.6)	3.0	1.6
	PO	propylene sprea	580.0	607.5	722.5	1,122.5	840.0	1,152.5	607.5	925.0	913.4	650.0
	Change, %			(4.5)	(19.7)	(48.3)	(31.0)	(49.7)	(4.5)	(37.3)	(36.5)	(10.8)
	Caprolactam	benzene sprea	667.5	680.0	682.5	750.0	775.0	1,205.0	680.0	990.3	891.6	673.8
	Change, %			(1.8)	(2.2)	(11.0)	(13.9)	(44.6)	(1.8)	(32.6)	(25.1)	(0.9)
	PTA	px spread	61.0	51.3	56.8	41.3	10.3	56.5	51.3	51.8	58.0	56.1
	Change, %			19.0	7.5	47.9	495.1	8.0	19.0	17.9	5.2	8.7

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	01/12	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 15	PER 16E	PBR 15	PBR 16E	EV/EBITDA 15	EV/EBITDA 16E
Petrochemical																
Dow Chemical	USD	44.2	1.4	(5.1)	(13.7)	(6.1)	(16.6)	1.9	(14.1)	51,257	13.5	12.7	2.4	2.2	7.4	7.5
Du Pont	USD	57.4	1.1	(6.7)	(15.5)	1.8	(3.4)	(17.2)	(13.8)	50,306	20.7	18.0	4.8	4.8	11.1	10.8
Eastman	USD	64.0	2.0	(1.2)	(4.1)	(9.4)	(19.3)	(9.6)	(5.3)	9,505	8.8	8.4	2.3	1.9	7.2	7.1
BASF	EUR	64.6	2.3	0.8	(5.9)	(7.9)	(22.6)	(8.6)	(8.7)	64,432	12.9	12.5	2.0	1.9	6.9	6.9
Akzo Nobel	EUR	58.0	(1.7)	(1.9)	(4.0)	(1.1)	(14.3)	(2.7)	(6.0)	15,687	14.6	13.7	2.4	2.2	7.9	7.5
Arkema	EUR	57.6	(1.2)	(1.0)	(6.0)	(7.7)	(15.9)	1.9	(10.9)	4,656	13.1	11.3	1.2	1.2	5.7	5.3
Lanxess	EUR	38.2	0.1	(1.3)	(9.1)	(14.3)	(30.1)	12.2	(10.5)	3,796	17.1	13.1	1.5	1.4	5.5	5.1
Sumitomo Chemical	JPY	576	(2.5)	(4.8)	(15.2)	(15.2)	(19.0)	27.4	(17.8)	8,074	11.1	9.5	1.1	1.0	6.9	6.7
Mitsubishi Chemical	JPY	682	(3.0)	(2.5)	(11.4)	(1.5)	(11.1)	17.1	(12.0)	8,695	14.2	10.3	1.0	0.9	6.3	6.1
Shin-Etsu Chemical	JPY	6,171	(1.9)	(0.6)	(7.8)	(6.8)	(17.2)	(18.9)	(6.7)	22,579	18.0	16.8	1.3	1.2	6.2	5.8
Asahi Kasei	JPY	768	(3.3)	(5.0)	(4.1)	(16.3)	(18.6)	(30.5)	(6.6)	9,125	11.5	10.3	0.9	0.9	5.3	5.2
JSR	JPY	1,709	(1.7)	(2.8)	(7.2)	(7.8)	(19.6)	(16.0)	(10.0)	3,271	13.1	11.9	1.0	1.0	5.4	4.9
Nitto Denko	JPY	7,191	(3.4)	(4.9)	(17.4)	(6.4)	(27.3)	6.2	(19.3)	10,580	13.2	12.6	1.8	1.6	6.0	5.8
SABIC	SAR	67.3	(2.1)	(0.6)	(19.6)	(24.6)	(32.6)	(12.9)	(12.1)	53,823	10.5	10.5	1.2	1.2	5.8	6.0
Yansab	SAR	25.9	(4.1)	(1.1)	(34.8)	(46.1)	(50.1)	(38.9)	(20.0)	3,890	13.2	9.7	0.9	0.9	7.3	6.5
Formosa Plastics	TWD	75.2	0.4	3.0	5.5	(0.4)	6.7	2.7	(2.3)	14,309	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Formosa Fiber	TWD	70.4	0.0	2.0	5.2	(4.3)	(3.0)	6.8	(4.9)	12,334	16.7	16.3	1.4	1.3	13.1	13.5
Nan Ya Plastics	TWD	56.7	(0.7)	(1.6)	0.9	(11.4)	(16.9)	(12.0)	(7.0)	13,442	12.5	13.2	1.4	1.3	12.7	12.9
Sinopec Shanghai	CNY	5.75	4.4	4.5	(10.2)	(17.9)	(22.9)	38.6	(11.3)	7,729	22.4	19.3	3.2	2.9	9.4	8.7
Sinopec Yizheng(Fibe	CNY	6.39	2.6	(4.9)	(24.1)	(36.8)	(29.7)	24.1	(21.7)	12,168	#N/A N/A	#N/A N/A	3.9	4.1	29.2	22.6
Reliance	INR	1,062	(1.4)	4.8	11.2	17.6	6.4	27.2	4.6	51,042	12.8	11.4	1.4	1.2	10.0	8.5
Industries Qatar	QAR	98.9	(1.1)	(4.9)	0.9	(21.3)	(26.5)	(32.3)	(11.0)	16,431	11.8	11.7	1.8	1.7	47.9	49.4
PTT Chemical	THB	48.5	(3.0)	6.6	(2.0)	(19.2)	(28.4)	(8.5)	(3.0)	5,962	8.2	7.5	0.9	0.8	5.6	5.3
Petronas	MYR	7.0	(6.2)	(6.6)	5.0	7.1	9.4	36.9	(4.0)	12,714	20.5	18.2	2.3	2.2	10.3	9.1
LG화학	KRW	322,000	(2.9)	(0.3)	(0.3)	18.8	28.8	81.4	(2.0)	17,623	18.8	15.3	1.8	1.7	7.1	6.4
롯데케미칼	KRW	256,000	(1.7)	1.0	10.3	(0.8)	(2.3)	77.8	5.1	7,246	8.5	8.1	1.2	1.1	4.2	3.9
한화케미칼	KRW	26,350	(1.5)	(1.7)	5.0	27.6	26.7	136.3	(3.1)	3,524	17.9	11.6	0.9	0.9	10.5	8.8
금호석유	KRW	55,400	2.2	6.7	1.5	(11.4)	(22.9)	(33.7)	6.3	1,394	11.9	10.1	1.0	1.0	8.9	7.5
SKC	KRW	31,500	(2.9)	(1.3)	(4.7)	(15.3)	(14.3)	15.2	(6.8)	957	3.9	8.2	0.8	0.8	7.3	7.2
국도화학	KRW	55,900	(1.9)	(1.1)	(2.6)	(18.4)	(18.6)	32.8	(5.7)	268	6.0	6.8	0.8	0.7	4.0	3.8
효성	KRW	2,390	(1.8)	(8.3)	(7.5)	(17.9)	(23.2)	(13.4)	(8.4)	3,335	9.0	7.0	1.3	1.1	7.0	6.1
Average			**(1.1)**	**(1.3)**	**(5.9)**	**(8.8)**	**(14.5)**	**9.4**	**(8.0)**							
Refinery																
Valero	USD	67.3	3.5	(6.6)	(0.3)	9.7	1.5	50.1	(4.8)	32,415	7.8	8.8	1.5	1.4	4.0	4.6
Conoco Phillips	USD	41.3	5.8	(6.4)	(16.7)	(25.6)	(30.7)	(34.1)	(11.7)	50,929	#N/A N/A	#N/A N/A	1.1	1.3	8.4	7.5
Formosa Petrochemi	TWD	79.0	0.1	3.7	6.5	(2.1)	2.2	20.6	0.3	22,495	17.9	18.7	2.8	2.8	12.3	12.4
Tesoro	USD	96.5	5.0	(9.8)	(5.2)	(2.5)	(2.3)	44.6	(8.4)	11,616	6.8	10.4	2.2	1.9	4.3	5.5
Marathon Petroleum	USD	43.7	3.3	(9.0)	(9.0)	(10.1)	(25.7)	12.5	(15.8)	23,270	7.3	8.2	1.8	1.7	4.2	4.3
Devon Energy	USD	26.0	4.7	(7.5)	(17.7)	(41.9)	(53.8)	(55.6)	(18.9)	10,670	10.5	#N/A N/A	0.9	1.0	5.0	7.5
Hollyfrontier	USD	36.3	3.0	(6.3)	(13.2)	(26.0)	(21.3)	15.5	(9.0)	6,638	7.3	8.8	1.2	1.2	4.0	4.6
Phillips 66	USD	79.3	5.4	3.7	(2.6)	(3.9)	(5.1)	33.4	(3.1)	42,291	10.3	10.9	1.8	1.7	6.0	6.5
Murphy Oil	USD	18.4	6.5	(5.2)	(17.3)	(36.1)	(54.9)	(60.3)	(18.0)	3,169	#N/A N/A	#N/A N/A	0.5	0.6	3.8	4.8
JX Holdings	JPY	435.1	(2.7)	(8.2)	(12.6)	(9.1)	(16.5)	3.5	(14.4)	9,194	#N/A N/A	7.6	0.6	0.6	15.4	9.9
Cosmo Oil	JPY	164.0	0.0	0.0	0.0	0.0	(17.2)	3.8	0.0	1,151	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Idemitsu	JPY	1,714.0	(2.7)	(8.2)	(12.4)	(13.7)	(29.7)	(11.1)	(11.6)	2,322	17.5	5.8	0.5	0.4	12.8	8.7
Tonengeneral	JPY	959.0	(2.7)	(5.5)	(13.4)	(22.7)	(18.6)	(3.5)	(6.2)	4,589	26.1	9.7	1.3	1.2	36.2	9.7
Nesteoil	EUR	26.6	(2.5)	(0.5)	1.8	23.8	8.6	26.4	(3.9)	0	11.3	11.1	2.3	2.0	7.8	7.2
Ashland	USD	98.4	0.6	0.1	(4.4)	(6.8)	(18.1)	(17.4)	(4.2)	6,219	14.3	13.1	2.1	2.2	7.8	7.7
Fuchs Petrolub	EUR	39.7	(1.6)	(3.2)	(4.7)	(1.0)	0.2	18.6	(8.8)	5,593	22.8	20.9	5.5	4.6	13.2	12.0
SK이노베이션	KRW	134,500	0.0	8.9	10.2	23.4	25.7	60.9	3.5	10,271	10.7	9.1	0.8	0.7	6.5	6.2
S-Oil	KRW	79,100	(0.9)	4.9	9.1	18.8	27.2	57.9	(0.4)	7,354	12.1	10.2	1.7	1.5	7.7	7.3
GS	KRW	48,950	(1.0)	4.3	(1.3)	0.4	0.6	27.5	(3.5)	3,756	8.7	6.9	0.7	0.7	7.5	6.6
Average			**1.2**	**(2.7)**	**(5.4)**	**(6.6)**	**(12.0)**	**10.2**	**(7.3)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임
* 국내업체의 multiple은 Dataguidepro 기준임

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Global peers

	Currency	01/12	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 15	PER 16E	PBR 15	PBR 16E	EV/EBITDA 15	EV/EBITDA 16E
E&P/Shale																
Exxon Mobil	USD	79	4.6	3.8	4.1	(1.3)	(4.8)	(11.8)	1.5	329,372	20.4	23.1	1.9	1.9	8.5	8.6
BP	GBP	348	3.5	3.0	5.6	(7.9)	(19.0)	(9.0)	(1.8)	92,121	14.0	15.9	0.9	0.9	5.2	4.8
Shell	EUR	1,392	3.4	(4.3)	(1.9)	(21.3)	(24.3)	(30.7)	(8.8)	128,941	11.7	11.1	0.7	0.7	4.1	3.9
Chevron	USD	85	5.1	3.0	(4.3)	(4.8)	(10.5)	(17.7)	(5.0)	160,858	25.0	27.3	1.1	1.1	6.5	6.2
Total	EUR	39	2.6	0.1	(4.3)	(13.0)	(13.9)	(4.9)	(5.9)	103,431	10.1	12.5	1.0	1.0	5.4	5.6
Sinopec	CNY	5	0.0	(0.2)	(5.5)	(8.5)	(33.6)	(29.5)	(6.5)	81,110	14.8	11.8	0.9	0.8	5.3	4.8
Petrochina	CNY	8	0.3	(2.6)	(9.5)	(12.6)	(37.9)	(32.5)	(8.6)	199,610	30.9	33.3	1.2	1.2	7.1	7.0
CNOOC	CNY	13	1.4	1.7	(16.1)	(21.3)	(30.9)	(30.2)	(13.3)	7,310	33.7	34.2	1.4	1.3	11.4	11.1
Gazprom	RUB	131	(0.3)	(3.7)	(0.6)	(7.9)	(10.7)	(10.6)	(3.8)	40,593	2.6	2.6	0.2	0.2	2.1	2.4
Rosneft	RUB	238	(0.8)	(5.8)	(3.0)	(8.9)	3.9	13.4	(6.2)	33,003	6.2	5.9	0.7	0.7	3.1	3.2
Anadarko	USD	35	0.4	(12.7)	(26.5)	(51.1)	(54.2)	(54.8)	(28.0)	17,785	#N/A N/A	#N/A N/A	1.2	1.3	7.6	8.1
Petrobras	BRL	6	8.0	(9.1)	(21.1)	(28.5)	(52.6)	(34.9)	(15.1)	21,403	9.2	6.0	0.3	0.3	6.0	5.6
Lukoil	USD	2,189	(1.6)	(8.0)	(10.0)	(6.5)	(9.6)	(15.4)	(6.7)	24,199	5.3	4.8	0.3	0.3	N/A	N/A
Kinder	USD	14	8.0	(1.9)	(12.6)	(55.9)	(63.2)	(66.1)	(6.3)	47,497	21.5	19.4	0.8	0.8	10.2	9.6
Statoil	NOK	103	(1.4)	(10.3)	(14.1)	(25.1)	(26.8)	(18.4)	(16.6)	37,499	16.3	16.1	0.9	0.9	2.4	2.5
BHP	AUD	15	0.7	(8.9)	(10.4)	(39.7)	(45.1)	(41.5)	(16.7)	53,348	30.0	21.0	0.9	0.9	6.3	5.5
PTT E&P	THB	48	(6.4)	(2.6)	(18.1)	(35.4)	(52.5)	(55.2)	(17.0)	5,190	8.7	10.0	0.5	0.5	1.5	1.6
Petronas gas	MYR	22	(0.4)	(0.8)	(2.4)	(5.1)	1.1	(0.5)	(4.8)	9,731	23.6	22.9	3.8	3.6	13.5	13.1
Chesapeake	USD	4	1.9	(15.9)	(7.3)	(54.9)	(67.4)	(80.2)	(17.6)	2,467	#N/A N/A	#N/A N/A	1.0	1.3	6.5	10.2
Noble Energy	USD	29	4.0	(5.9)	(8.4)	(16.4)	(26.6)	(32.2)	(11.7)	12,443	387.6	#N/A N/A	1.0	1.1	8.5	7.9
Average		**0**	**1.6**	**(4.1)**	**(8.3)**	**(21.3)**	**(28.9)**	**(28.1)**	**(9.9)**							
PV																
WACKER	EUR	69.7	(1.1)	(2.6)	(4.7)	1.1	(24.5)	(16.6)	(10.2)	3,945	20.8	18.2	1.5	1.4	4.9	4.6
GCL-Poly	HKD	1.1	0.9	1.8	(14.3)	(34.9)	(31.8)	(36.7)	(2.6)	2,698	8.5	6.6	0.9	0.8	8.1	6.9
REC	NOK	107.5	0.0	0.0	0.0	0.0	1.4	5.9	0.0	519	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
SunEdison	USD	2.8	0.4	(15.6)	(35.8)	(69.6)	(91.1)	(86.5)	(44.6)	894	#N/A N/A	#N/A N/A	0.2	0.3	#N/A N/A	24.4
Canadian Solar	USD	20.3	(1.7)	(11.8)	(17.7)	(4.0)	(23.9)	(8.5)	(30.0)	1,135	8.2	7.6	1.4	1.1	8.2	6.0
JA Solar	USD	8.5	0.9	0.1	(5.4)	(0.1)	10.1	5.5	(12.3)	430	6.0	5.7	0.5	0.4	3.7	3.4
Trina Solar	USD	9.7	1.1	(11.6)	(8.9)	(9.3)	(8.7)	11.5	(11.9)	895	11.4	7.1	0.8	0.7	7.0	5.2
Solar City	USD	37.1	(13.2)	(21.1)	(10.8)	(20.8)	(31.6)	(28.2)	(27.3)	3,622	#N/A N/A	#N/A N/A	4.0	4.2	#N/A N/A	#N/A N/A
Yingli	USD	3.7	7.6	7.6	(35.7)	(50.2)	(63.5)	(81.6)	(18.5)	67	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	9.4	9.1
First Solar	USD	61.8	0.7	(6.7)	5.8	18.9	34.9	46.1	(6.4)	6,235	13.8	15.0	1.2	1.1	6.6	8.6
한화솔라원	USD	17.0	(0.6)	(18.0)	(27.0)	(1.5)	18.4	69.5	(22.7)	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
OCI	KRW	69,000	(2.5)	(3.6)	(7.4)	(19.4)	(43.2)	(4.6)	(8.0)	1,359	8.0	15.1	0.6	0.6	12.0	9.7
웅진에너지	KRW	1,525	(2.6)	(8.1)	(10.6)	(4.7)	(20.8)	4.1	(11.8)	93	N/A	0.6	0.6	12.0	9.7	9.0
신성솔라에너지	KRW	1,805	(2.4)	(6.0)	(3.2)	29.9	34.7	68.7	(10.6)	113	N/A	0.6	12.0	9.7	9.0	7.0
Average			**(0.9)**	**(6.8)**	**(12.5)**	**(11.8)**	**(17.1)**	**(3.7)**	**(15.5)**							
Gas Company																
Towngas China	HKD	3.8	(2.6)	(8.3)	(12.5)	(34.7)	(44.8)	(45.9)	(16.2)	1,291	7.9	7.1	0.7	0.6	10.2	8.7
Kulun	HKD	5.8	0.2	(9.6)	(10.0)	(10.6)	(19.1)	(23.9)	(16.5)	5,973	12.2	10.3	0.8	0.8	5.5	5.0
Beijing Enterprise	HKD	40.5	(1.9)	(6.4)	(10.0)	(18.0)	(27.3)	(34.0)	(13.8)	6,666	9.2	8.1	0.8	0.8	14.0	12.8
ENN Energy	HKD	35.2	(0.8)	(6.4)	(10.1)	(21.0)	(25.6)	(22.8)	(15.0)	4,888	12.6	10.8	2.2	1.9	8.5	7.5
China Resources Gas	HKD	19.5	(0.9)	(5.8)	(9.5)	(12.7)	(12.1)	8.5	(15.9)	5,560	14.5	12.4	2.3	2.0	9.1	7.9
China Gas Holdings	HKD	10.1	(0.6)	(1.2)	(2.1)	(19.4)	(22.0)	(16.8)	(9.8)	6,429	13.5	11.1	2.4	2.0	11.1	9.4
Shenzen Gas	HKD	12.5	1.1	(6.2)	(5.6)	2.5	(8.2)	9.3	(13.0)	3,044	11.5	11.1	1.2	1.1	8.5	9.1
Shann Xi	CNY	10.9	1.9	(0.3)	(11.7)	(15.2)	(34.5)	(0.6)	(13.3)	1,843	19.1	15.9	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Suntien	HKD	1.1	(0.9)	(6.8)	(3.5)	(30.1)	(32.3)	(39.4)	(12.1)	520	8.4	6.8	0.4	0.4	7.5	6.0
China Oil & Gas	HKD	0.5	(1.0)	(2.9)	(11.6)	0.0	(26.1)	(46.6)	(6.6)	370	10.8	7.7	0.7	0.7	6.3	5.2
Average			**(0.6)**	**(5.4)**	**(8.7)**	**(15.9)**	**(25.2)**	**(21.2)**	**(13.2)**							
EV																
LG화학	KRW	322,000	(2.9)	(0.3)	(0.3)	18.8	28.8	81.4	(2.0)	17,623	17.8	14.0	1.8	1.6	7.2	6.6
삼성SDI	KRW	109,500	0.0	(1.4)	(14.5)	3.3	0.0	(2.2)	(3.9)	6,218	24.7	11.0	0.7	0.6	11.5	10.7
Panasonic	JPY	1097.0	(3.8)	(6.2)	(13.0)	(15.5)	(33.3)	(18.1)	(11.6)	22,786	13.2	10.8	1.3	1.1	3.7	3.5
GS Yuasa	JPY	416.0	(1.2)	(2.3)	(6.5)	(17.1)	(13.2)	(14.4)	(8.0)	1,457	13.0	11.2	1.1	1.0	6.5	6.0
NEC	JPY	366.0	(0.8)	2.5	(4.9)	(5.7)	(3.9)	6.1	(4.9)	8,072	13.4	11.2	1.1	1.0	6.4	6.1
BYD Auto	CNY	59.9	4.4	8.1	(3.4)	2.1	6.6	51.7	(7.0)	18,608	64.5	52.8	5.1	4.6	20.3	17.0
Tesla Motors	USD	206.2	2.9	(4.4)	(5.7)	(4.9)	(22.4)	7.0	(14.1)	27,000	#N/A N/A	120.4	23.9	20.3	122.1	32.5
Kandi Technologies	USD	8.8	2.5	(1.0)	(4.9)	18.5	8.4	(30.3)	(19.4)	412	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**0.1**	**(0.6)**	**(6.6)**	**(0.1)**	**(3.6)**	**10.2**	**(8.9)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임