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1. News Summary (3 page)

2016년 4월 6일

News		Conclusion
WTI comment	생산량 동결 기대에 소폭 상승	
Headline	Dow Chemical, 북미 이어 남미까지 PE 가격 인상 결정	브라질 화학수요 25년래 최저인 것 대비 기현상, 차후 추이 주목 필요
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	35.9	0.5	(6.2)	(5.3)	5.7	(31.2)
Dubai	$/bbl	33.8	(2.9)	(6.5)	(1.6)	10.0	(37.3)
Gasoline	$/bbl	50.7	(0.5)	(7.9)	(0.7)	(7.6)	(29.0)
Diesel	$/bbl	42.7	(0.4)	(7.9)	(4.8)	3.3	(37.6)
Complex margin	$/bbl	6.6	0.5	(1.1)	(0.4)	(3.7)	(3.1)
1M lagging	$/bbl	11.8	0.6	(3.7)	(4.7)	11.7	4.3
Petrochemical			%	%	%	%	%
Naphtha	$/t	370	(2.3)	(4.9)	6.2	(12.5)	(28.4)
Butadiene	$/t	1,015	0.0	(2.4)	1.0	43.0	20.1
HDPE	$/t	1,165	1.7	(0.4)	5.0	8.4	(11.4)
MEG	$/t	695	(0.6)	(0.3)	2.2	19.2	(17.5)
PX	$/t	766	(2.4)	(3.7)	2.2	2.9	(6.1)
SM	$/t	1,100	0.1	0.2	0.4	20.4	(5.4)
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	1.95	(2.2)	(1.4)	8.4	(19.0)	(35.3)
Natural rubber	$/t	1,340	3.1	2.3	3.9	24.1	(2.2)
Cotton	C/lbs	58.9	(0.1)	2.6	3.6	(7.2)	(10.3)

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	04/04	$/t	1,150	0.0	6.0	5.5	(12.9)
Propylene	04/04	$/t	710	9.2	8.4	9.2	(29.7)
Benzene	04/04	$/t	640	2.8	7.1	10.3	(16.1)
Toluene	04/04	$/t	660	0.8	6.5	4.8	(5.7)
Xylene	04/04	$/t	650	3.2	10.6	4.0	(8.5)
PP	04/04	$/t	1,065	3.9	19.0	27.5	(17.8)
PVC	04/04	$/t	795	0.0	5.3	11.2	(10.7)
ABS	04/04	$/t	1,365	3.0	12.3	20.8	(13.9)
SBR	04/04	$/t	1,445	0.0	15.6	25.7	7.8
SM	04/04	$/t	1,138	(0.9)	2.9	25.0	(4.8)
BPA	04/04	$/t	1,345	(1.1)	13.7	7.0	(33.7)
Caustic	04/04	$/t	285	1.8	0.0	0.0	(5.0)
2-EH	04/04	$/t	813	0.3	14.4	19.5	(21.5)
Caprolactam	04/04	$/t	1,300	4.8	13.0	3.2	(24.2)
Solar				%	%	%	%
Polysilicon	03/30	$/kg	14.4	3.0	5.7	9.6	(14.5)
Module	03/30	$/W	0.54	(0.7)	(2.2)	(3.6)	(8.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.2	(1.1)	(2.7)	(0.1)	5.2	(2.5)
Shell	EUR	1,644	(2.0)	(0.4)	(2.0)	7.7	(18.8)
Petrochina	CNY	7.66	0.0	2.4	(2.0)	(5.1)	(35.3)
Gazprom	RUB	144.3	(1.4)	(0.2)	(1.2)	5.8	0.3
Petrobras	BRL	7.8	3.3	(7.8)	8.4	17.2	(27.0)
Refinery							
Phillips66	USD	84.8	(1.1)	(3.0)	(1.1)	4.7	8.5
Valero	USD	63.1	(0.2)	(3.3)	(1.2)	(11.3)	5.6
JX	JPY	410.3	(3.5)	(7.1)	(14.4)	(18.7)	(11.5)
Neste Oil	EUR	29.0	0.1	(3.6)	0.3	6.0	20.6

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	63.1	(2.6)	(4.6)	0.1	(6.9)	(31.8)
Dow Chemical	USD	50.7	(0.6)	(0.7)	0.9	2.4	5.2
SABIC	SAR	75.2	(0.5)	1.9	1.2	3.3	(5.2)
Formosa Pla.	TWD	79.5	0.0	(0.1)	(0.6)	9.1	6.3
Shin-Etsu	JPY	5,570	(2.5)	(5.0)	(8.0)	(14.0)	(27.7)
Renewable							
Wacker	EUR	73.4	(3.4)	(1.6)	(6.7)	(2.8)	(32.6)
Yingli	USD	4.63	(2.9)	1.3	1.8	12.1	(75.1)
Tesla	USD	255.5	3.4	11.0	27.1	14.3	33.8
BYD	CNY	59.0	1.1	3.7	9.8	(0.6)	(3.9)

4. Coverage Summary

	04/05	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	1,963	(0.8)	(1.6)	0.4	1.9	(0.8)	(4.0)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,491	(1.7)	(0.6)	5.2	2.6	7.1	20.9				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	316,000	(3.2)	(2.3)	6.0	(6.5)	9.7	38.9	매수	400,000	26.6	12.55	1.65
롯데케미칼	324,000	(4.0)	(6.5)	3.3	24.6	18.5	47.6	매수	390,000	20.4	10.95	1.26
한화케미칼	23,800	(1.7)	0.4	(2.5)	(15.0)	8.4	66.4	매수	30,000	26.1	9.40	0.77
금호석유화학	57,300	0.2	(2.1)	(3.5)	8.1	(7.0)	(25.6)	매수	70,000	22.2	11.30	1.13
KCC	402,500	(1.2)	(1.7)	(4.7)	(1.2)	(5.2)	(24.8)	매수	550,000	36.6	14.32	0.62
OCI	101,000	0.0	6.3	5.2	37.6	23.2	(1.5)	매수	100,000	(1.0)	18.98	0.88
SKC	29,550	(2.2)	(4.7)	(5.7)	(5.6)	(23.8)	(23.9)	매수	43,000	45.5	9.20	0.75
국도화학	69,400	0.0	6.4	11.9	19.7	(1.6)	28.3	매수	100,000	44.1	7.90	0.80
SK이노베이션	166,500	2.1	0.3	11.4	32.1	53.5	62.4	매수	180,000	8.1	12.46	1.01
S-Oil	94,800	0.3	(0.7)	12.6	23.0	43.6	41.1	매수	100,000	5.5	13.34	1.64
GS	57,100	(1.2)	(0.5)	5.4	20.0	18.5	29.0	매수	65,000	13.8	8.18	0.95
SK가스	80,700	(2.8)	2.2	10.7	14.6	(4.8)	(9.6)	매수	100,000	23.9	11.45	0.70
대우인터내셔널	21,400	5.9	(0.7)	3.6	34.6	5.9	(19.5)	매수	24,000	12.1	10.86	1.00
LG상사	33,500	0.6	(2.5)	(8.2)	1.4	16.3	(9.3)	매수	40,000	19.4	9.89	0.86

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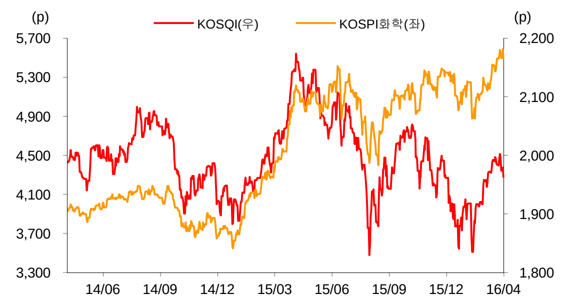
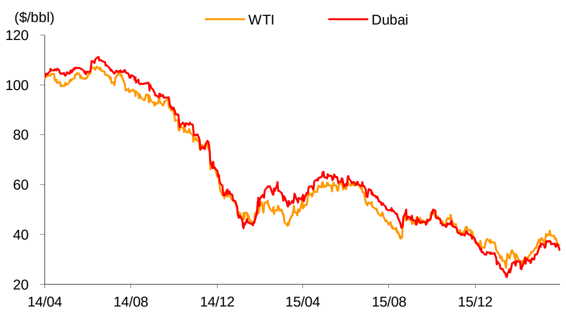
Key Chart

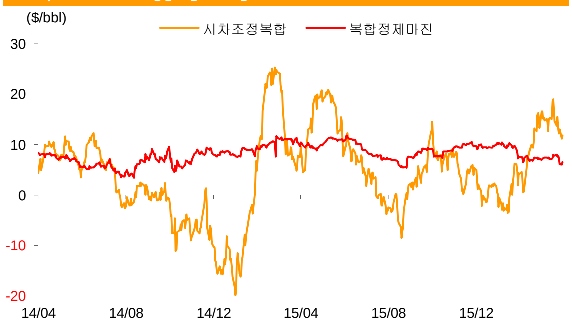
KOSPI/KOSPI화학



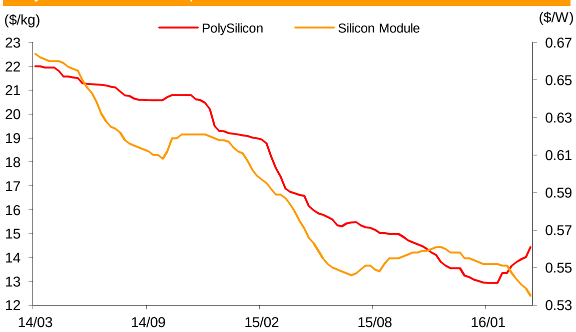
WTI/Dubai



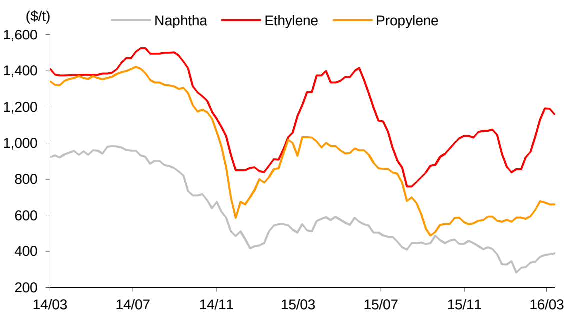
Complex & 1M lagging margin



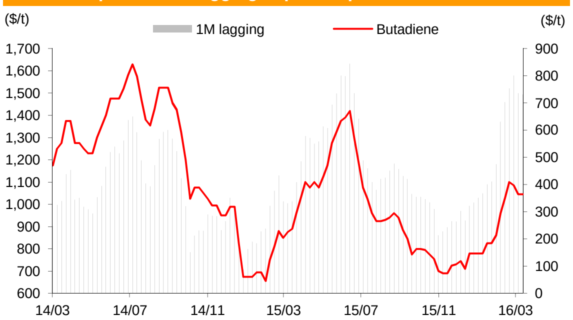
Polysilicon & Module prices



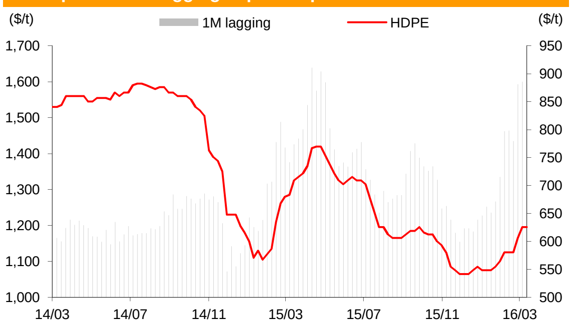
Naphtha/Ethylene/Propylene prices



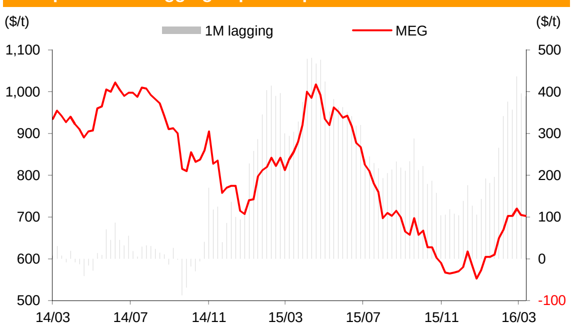
Butadiene price & 1M lagging naphtha spread



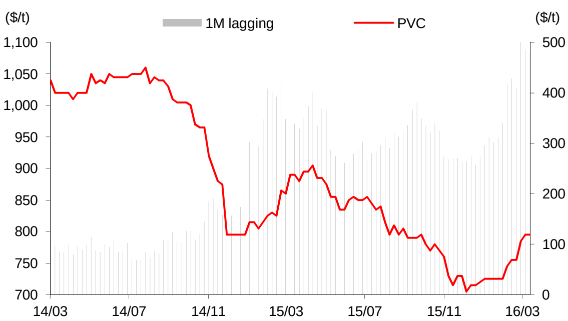
HDPE price & 1M lagging naphtha spread



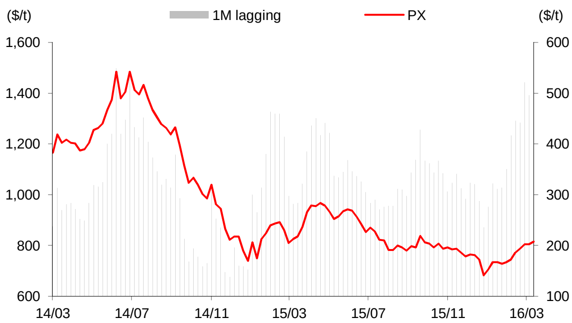
MEG price & 1M lagging naphtha spread



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	Dow Chemical, 북미 이어 남미까지 PE 가격 인상 결정
결론	브라질 화학수요 25년래 최저인 것 대비 기현상, 차후 추이 주목 필요
세부	
	1) 4월에만 두 번째 인상, 4월 초 $110/t 인상 이어 이번에 $90/t 추가 인상
	2) 4월 15일부터 Andean 지역에 한해서 인상, 그 외 남미 지역도 고려 중
	3) Andean은 볼리비아, 칠레, 콜롬비아, 에콰도르, 페루, 베네수엘라 포함
	4) Dow는 이미 미국 5월 PE 가격도 전월대비 $110/t 인상 발표한 바 있음
	5) 브라질 화학수요 25년래 최저인 것 대비 기현상, 차후 추이 주목 필요

WTI Comment	(출처: 연합뉴스)
제목	생산량 동결 기대에 소폭 상승
상승 요인	쿠웨이트, "이란 동참 없이 주요 산유국 생산량 동결 진행."
하락 요인	이란 마르지에 샤흐다에이 석유차관, "제재 이전 수준까지 산유량 증대. 미국 휘발유 수요 14개월 만에 처음 감소

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

Issue 2	
제목	
결론	
세부	
	1)
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Issue 3	
제목	
결론	
세부	
	1)
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Issue 4	
제목	
결론	
세부	
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Issue 5	
제목	
결론	
세부	
	1)
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Issue 6	
제목	
결론	
세부	
	1)
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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2013avg.	2014avg.	2015acc.
F/X	**USD/EUR**	0.878	0.878	0.886	0.909	0.930	0.894	0.911	0.921	0.753	0.754	0.901
	Change, %		*0.0*	*(0.8)*	*(3.3)*	*(5.6)*	*(1.7)*	*(3.6)*	*(4.6)*	*(3.9)*	*13.7*	*(2.5)*
	USD/JPY	110.3	111.3	112.7	113.7	119.1	120.5	119.0	120.6	97.7	105.9	121.1
	Change, %		*(0.9)*	*(2.1)*	*(3.0)*	*(7.3)*	*(8.4)*	*(7.3)*	*(8.5)*	*21.5*	*13.8*	*(8.8)*
	USD/KRW	1,155.1	1,146.1	1,163.8	1,203.4	1,188.2	1,172.2	1,093.0	1,172.6	1,094.6	1,053.0	1,131.2
	Change, %		*0.8*	*(0.7)*	*(4.0)*	*(2.8)*	*(1.5)*	*5.7*	*(1.5)*	*50.3*	*3.3*	*2.1*
Agriculture	**Corn**	356.8	354.5	373.0	354.5	353.0	393.5	386.5	358.8	579.2	415.6	376.8
	Change, %		*0.6*	*(4.4)*	*0.6*	*1.1*	*(9.3)*	*(7.7)*	*(0.6)*	*(39.6)*	*(5.9)*	*(5.3)*
	Soybean	904.8	913.5	916.0	870.5	867.8	884.3	986.0	871.3	1,407.0	1,245.5	945.4
	Change, %		*(1.0)*	*(1.2)*	*3.9*	*4.3*	*2.3*	*(8.2)*	*3.8*	*(7.5)*	*(22.3)*	*(4.3)*
	Wheat	474.0	474.8	476.8	454.8	461.3	515.5	536.3	470.0	684.3	588.0	508.1
	Change, %		*(0.2)*	*(0.6)*	*4.2*	*2.8*	*(8.1)*	*(11.6)*	*0.9*	*(22.2)*	*(2.6)*	*(6.7)*
	Rice	9.8	9.8	10.1	10.3	11.7	13.4	10.9	11.6	15.5	14.0	11.1
	Change, %		*(0.1)*	*(2.7)*	*(4.6)*	*(16.1)*	*(26.9)*	*(9.9)*	*(15.3)*	*4.4*	*(25.9)*	*(11.4)*
	Oats	184.3	187.0	189.8	170.3	210.3	216.0	269.0	217.3	367.5	373.1	250.2
	Change, %		*(1.5)*	*(2.9)*	*8.2*	*(12.4)*	*(14.7)*	*(31.5)*	*(15.2)*	*1.9*	*(14.3)*	*(26.4)*
MYR/mt	**Palm Oil**	2,717.0	2,739.0	2,731.0	2,464.0	2,275.0	2,365.0	2,178.0	2,398.0	2,405.0	2,415.1	2,190.3
	Change, %		*(0.8)*	*(0.5)*	*10.3*	*19.4*	*14.9*	*24.7*	*13.3*	*13.3*	*(12.8)*	*24.0*
	Cocoa	2,882.0	2,871.0	2,970.0	3,001.0	3,059.0	3,092.0	2,768.0	3,211.0	2,403.9	3,006.8	3,091.6
	Change, %		*0.4*	*(3.0)*	*(4.0)*	*(5.8)*	*(6.8)*	*4.1*	*(10.2)*	*21.2*	*7.4*	*(6.8)*
	Cotton	58.9	59.0	57.4	58.9	62.7	60.9	63.7	63.3	83.3	76.4	63.3
	Change, %		*(0.1)*	*2.6*	*(0.1)*	*(6.0)*	*(3.3)*	*(7.5)*	*(6.9)*	*12.6*	*(28.8)*	*(6.9)*
	Sugar	14.6	14.6	15.9	14.8	14.6	13.6	12.7	15.2	17.5	16.3	13.1
	Change, %		*0.0*	*(7.7)*	*(1.3)*	*0.5*	*7.3*	*14.9*	*(3.9)*	*(15.9)*	*(11.5)*	*11.4*
	Coffee	120.9	122.8	127.5	118.8	123.0	127.6	140.9	126.7	126.0	177.1	132.6
	Change, %		*(1.5)*	*(5.1)*	*1.8*	*(1.7)*	*(5.2)*	*(14.2)*	*(4.6)*	*(23.0)*	*50.5*	*(8.9)*
Energy	**WTI**	35.9	35.7	38.3	35.9	36.0	46.3	49.1	37.0	98.0	92.9	48.8
	Change, %		*0.5*	*(6.2)*	*(0.1)*	*(0.2)*	*(22.4)*	*(27.0)*	*(3.1)*	*7.2*	*(45.9)*	*(26.5)*
	Brent	38.3	37.7	39.1	38.7	36.4	49.3	55.0	37.3	108.7	99.5	53.7
	Change, %		*1.7*	*(2.1)*	*(1.0)*	*5.2*	*(22.2)*	*(30.2)*	*2.8*	*(0.3)*	*(48.3)*	*(28.6)*
	Natural Gas	2.0	2.0	1.9	1.7	2.3	2.5	2.7	2.3	3.7	4.3	2.6
	Change, %		*(2.2)*	*2.7*	*17.3*	*(16.0)*	*(20.2)*	*(28.0)*	*(16.4)*	*26.2*	*(31.7)*	*(25.7)*
	Ethanol	1.5	1.5	1.4	1.4	1.4	1.6	1.6	1.4	2.3	2.1	1.5
	Change, %		*0.0*	*1.3*	*5.9*	*8.3*	*(9.1)*	*(6.1)*	*4.9*	*(12.7)*	*(14.9)*	*(2.8)*
	RBOB Gasoline	137.8	137.7	145.4	133.2	125.7	138.5	176.1	126.7	285.0	262.6	163.6
	Change, %		*0.1*	*(5.2)*	*3.4*	*9.6*	*(0.5)*	*(21.8)*	*8.7*	*(0.9)*	*(48.5)*	*(15.8)*
	Coal	43.6	43.6	43.6	43.6	43.3	42.1	51.2	43.3	56.1	57.5	45.2
	Change, %		*0.1*	*0.0*	*0.1*	*0.7*	*3.6*	*(14.8)*	*0.7*	*(1.0)*	*(15.5)*	*(3.5)*
Metal	**Gold**	1,231.4	1,215.6	1,242.3	1,259.3	1,077.7	1,135.7	1,202.9	1,061.4	1,410.4	1,266.5	1,160.6
	Change, %		*1.3*	*(0.9)*	*(2.2)*	*14.3*	*8.4*	*2.4*	*16.0*	*(28.0)*	*(1.3)*	*6.1*
	Silver	15.1	14.9	15.4	15.5	14.0	15.7	17.3	13.8	23.8	19.1	15.7
	Change, %		*1.5*	*(1.4)*	*(2.5)*	*8.3*	*(3.3)*	*(12.2)*	*9.6*	*(35.8)*	*(18.9)*	*(3.7)*
	Platinum	952.1	941.3	969.0	979.1	889.5	914.2	1,156.8	891.1	1,485.7	1,384.6	1,055.7
	Change, %		*1.1*	*(1.7)*	*(2.8)*	*7.0*	*4.1*	*(17.7)*	*6.8*	*(11.2)*	*(11.5)*	*(9.8)*
	Palladium	546.6	550.6	577.5	555.3	535.6	692.7	745.8	563.0	725.9	803.4	691.9
	Change, %		*(0.7)*	*(5.3)*	*(1.6)*	*2.1*	*(21.1)*	*(26.7)*	*(2.9)*	*1.7*	*11.4*	*(21.0)*
	Copper	4,775.0	4,760.5	4,890.5	5,027.5	4,645.0	5,177.0	5,980.0	4,705.0	7,352.6	6,828.1	5,503.1
	Change, %		*0.3*	*(2.4)*	*(5.0)*	*2.8*	*(7.8)*	*(20.2)*	*1.5*	*(7.2)*	*(14.4)*	*(13.2)*
	Uranium	28.2	27.9	29.0	31.4	35.0	37.0	39.5	34.4	38.5	33.5	36.9
	Change, %		*0.9*	*(2.9)*	*(10.4)*	*(19.6)*	*(23.9)*	*(28.6)*	*(18.2)*	*(20.9)*	*2.5*	*(23.6)*
	HR Coil	480.0	480.0	416.0	405.0	395.0	420.0	475.0	391.0	630.4	653.2	461.5
	Change, %		*0.0*	*15.4*	*18.5*	*21.5*	*14.3*	*1.1*	*22.8*	*3.1*	*(10.4)*	*4.0*
	Scrap	405.0	405.0	405.0	250.0	250.0	245.0	255.0	250.0	396.9	401.3	252.9
	Change, %		*0.0*	*0.0*	*62.0*	*62.0*	*65.3*	*58.8*	*62.0*	*(1.2)*	*(16.5)*	*60.1*
	Zinc	1,812.0	1,854.0	1,781.0	1,857.0	1,573.0	1,666.0	2,129.0	1,609.0	1,940.3	2,165.0	1,941.9
	Change, %		*(2.3)*	*1.7*	*(2.4)*	*15.2*	*8.8*	*(14.9)*	*12.6*	*(1.2)*	*6.0*	*(6.7)*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		04/05	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Crude Oil	**WTI**	35.9	35.7	38.3	37.9	34.0	49.4	52.1	37.0	93.1	48.8	33.7
	Change, %		*0.5*	*(6.2)*	*(5.3)*	*5.7*	*(27.4)*	*(31.2)*	*(3.1)*	*(61.5)*	*(26.4)*	*6.3*
	Dubai	33.8	34.8	36.2	34.4	30.8	48.4	54.0	32.2	96.7	50.8	30.8
	Change, %		*(2.9)*	*(6.5)*	*(1.6)*	*10.0*	*(30.1)*	*(37.3)*	*5.1*	*(65.0)*	*(33.4)*	*9.9*
Crude Oil Product	**Gasoline(휘발유)**	50.7	50.9	55.0	51.0	54.9	67.4	71.4	54.8	110.9	69.5	49.8
	Change, %		*(0.5)*	*(7.9)*	*(0.7)*	*(7.6)*	*(24.8)*	*(29.0)*	*(7.6)*	*(54.3)*	*(27.1)*	*1.8*
	Kerosene(등유)	45.5	45.7	48.8	46.6	42.3	62.1	67.7	44.2	112.6	64.7	42.6
	Change, %		*(0.5)*	*(6.8)*	*(2.4)*	*7.6*	*(26.8)*	*(32.8)*	*2.9*	*(59.6)*	*(29.7)*	*6.7*
	Diesel(경유)	42.7	42.9	46.3	44.9	41.3	62.8	68.4	43.2	112.8	64.8	40.6
	Change, %		*(0.4)*	*(7.9)*	*(4.8)*	*3.3*	*(32.0)*	*(37.6)*	*(1.3)*	*(62.2)*	*(34.1)*	*5.1*
	Bunker-C	25.6	26.7	28.0	26.3	25.0	39.2	50.5	25.3	86.5	45.3	24.8
	Change, %		*(4.1)*	*(8.6)*	*(2.7)*	*2.4*	*(34.7)*	*(49.2)*	*1.3*	*(70.4)*	*(43.4)*	*3.1*
	Naphtha	39.2	40.3	41.5	37.3	44.0	50.2	57.4	43.5	94.3	52.6	36.9
	Change, %		*(2.7)*	*(5.5)*	*5.2*	*(10.9)*	*(21.8)*	*(31.6)*	*(9.7)*	*(58.4)*	*(25.4)*	*6.3*
Dubai Spread	**Gasoline(휘발유)**	16.8	16.1	18.8	16.7	24.1	18.9	17.4	22.6	14.2	18.7	19.0
	Change		*0.7*	*(2.0)*	*0.2*	*(7.3)*	*(2.1)*	*(0.6)*	*(5.8)*	*2.6*	*(1.9)*	*(2.2)*
	Kerosene(등유)	11.7	10.9	12.6	12.2	11.5	13.7	13.7	12.0	15.9	14.0	11.8
	Change		*0.8*	*(1.0)*	*(0.6)*	*0.1*	*(2.0)*	*(2.0)*	*(0.4)*	*(4.2)*	*(2.3)*	*(0.2)*
	Diesel(경유)	8.9	8.0	10.2	10.5	10.6	14.3	14.5	11.0	16.0	14.0	9.8
	Change		*0.8*	*(1.3)*	*(1.6)*	*(1.7)*	*(5.5)*	*(5.6)*	*(2.2)*	*(7.2)*	*(5.1)*	*(1.0)*
	Bunker-C	(8.2)	(8.1)	(8.2)	(8.1)	(5.8)	(9.2)	(3.5)	(6.9)	(10.3)	(5.5)	(5.9)
	Change		*(0.1)*	*(0.1)*	*(0.2)*	*(2.5)*	*0.9*	*(4.7)*	*(1.3)*	*2.0*	*(2.7)*	*(2.3)*
	Naphtha	5.4	5.5	5.3	2.9	13.3	1.8	3.4	11.3	(2.4)	1.8	6.1
	Change		*(0.1)*	*0.1*	*2.5*	*(7.9)*	*3.6*	*2.0*	*(5.9)*	*7.8*	*3.6*	*(0.7)*
Refining Margin	**Simple(단순)**	0.9	0.6	1.6	1.3	3.8	1.8	4.2	3.2	(0.1)	3.3	2.6
	Change		*0.4*	*(0.6)*	*(0.4)*	*(2.9)*	*(0.8)*	*(3.2)*	*(2.2)*	*1.1*	*(2.3)*	*(1.7)*
	Complex(복합)	6.6	6.0	7.6	7.0	10.3	8.7	9.6	9.7	7.1	9.3	8.1
	Change		*0.5*	*(1.1)*	*(0.4)*	*(3.7)*	*(2.1)*	*(3.1)*	*(3.1)*	*(0.5)*	*(2.7)*	*(1.6)*
	Complex(lagging)	11.8	11.2	15.5	16.5	0.1	10.2	7.5	2.3	2.2	6.5	7.6
	Change		*0.6*	*(3.7)*	*(4.7)*	*11.7*	*1.6*	*4.3*	*9.5*	*9.6*	*5.3*	*4.3*

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			04/05	04/04	04/01	03/31	03/30	03/29	03/28	03/25	03/24	03/23
Spot Price	**Naphtha**	CFR Japan	370.0	378.6	391.5	387.0	396.0	389.3	396.3	386.0	386.0	394.8
	Ethylene	CFR SE Asia	1,155.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0
	Propylene	FOB Korea	650.0	655.0	655.0	650.0	650.0	650.0	655.0	655.0	655.0	650.0
	Butadiene	FOB Korea	1,015.0	1,015.0	1,015.0	1,040.0	1,040.0	1,040.0	1,040.0	1,040.0	1,045.0	1,050.0
	HDPE	CFR FE Asia	1,165.0	1,145.0	1,145.0	1,170.0	1,165.0	1,170.0	1,170.0	1,170.0	1,170.0	1,165.0
	LDPE	CFR FE Asia	1,225.0	1,225.0	1,225.0	1,230.0	1,235.0	1,235.0	1,230.0	1,230.0	1,230.0	1,205.0
	LLDPE	CFR FE Asia	1,180.0	1,180.0	1,180.0	1,180.0	1,175.0	1,175.0	1,175.0	1,175.0	1,175.0	1,170.0
	MEG	CFR China	695.0	699.0	699.0	698.0	702.0	697.0	713.0	703.0	703.0	698.0
	PP	CFR FE Asia	1,020.0	1,010.0	1,010.0	1,000.0	1,000.0	995.0	995.0	990.0	990.0	980.0
	PX	CFR China	766.2	785.3	797.8	791.5	795.5	796.0	795.0	789.0	789.0	792.0
	PTA	CFR China	620.0	612.0	612.0	607.0	605.0	603.0	603.0	602.0	602.0	605.0
	Benzene	FOB Korea	623.0	623.5	632.0	629.5	631.5	633.5	641.5	622.5	622.5	633.5
	Toluene	FOB Korea	619.0	621.0	634.5	621.5	624.5	618.5	622.5	614.0	614.0	618.5
	Xylene	FOB Korea	633.0	643.0	651.0	651.0	651.0	657.0	664.0	669.5	669.5	669.5
	SM	FOB Korea	1,100.0	1,099.0	1,101.0	1,103.5	1,103.5	1,098.0	1,104.0	1,100.5	1,100.5	1,100.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	**Naphtha**	CFR Japan	388.5	383.0	343.5	413.5	446.5	516.0	413.5	865.9	493.0	350.5
	Change, %			*1.4*	*13.1*	*(6.0)*	*(13.0)*	*(24.7)*	*(6.0)*	*(55.1)*	*(21.2)*	*10.8*
	Ethylene	CFR SE Asia	1,150.0	1,150.0	1,085.0	1,090.0	1,075.0	1,320.0	1,090.0	1,401.1	1,103.7	1,026.8
	Change, %			*0.0*	*6.0*	*5.5*	*7.0*	*(12.9)*	*5.5*	*(17.9)*	*4.2*	*12.0*
	Propylene	CFR SE Asia	710.0	650.0	655.0	650.0	615.0	1,010.0	650.0	1,254.2	770.0	608.2
	Change, %			*9.2*	*8.4*	*9.2*	*15.4*	*(29.7)*	*9.2*	*(43.4)*	*(7.8)*	*16.7*
	Butadiene	CFR SE Asia	1,005.0	1,005.0	990.0	720.0	640.0	840.0	720.0	1,281.7	877.5	860.7
	Change, %			*0.0*	*1.5*	*39.6*	*57.0*	*19.6*	*39.6*	*(21.6)*	*14.5*	*16.8*
	Benzene	CFR SE Asia	640.0	622.5	597.5	580.0	617.5	762.5	580.0	1,243.1	690.0	581.3
	Change, %			*2.8*	*7.1*	*10.3*	*3.6*	*(16.1)*	*10.3*	*(48.5)*	*(7.2)*	*10.1*
	Toluene	CFR SE Asia	660.0	655.0	620.0	630.0	655.0	700.0	630.0	1,082.5	700.8	612.5
	Change, %			*0.8*	*6.5*	*4.8*	*0.8*	*(5.7)*	*4.8*	*(39.0)*	*(5.8)*	*7.8*
	Xylene	CFR SE Asia	650.0	630.0	587.5	625.0	675.0	710.0	625.0	1,055.7	699.3	605.0
	Change, %			*3.2*	*10.6*	*4.0*	*(3.7)*	*(8.5)*	*4.0*	*(38.4)*	*(7.0)*	*7.4*
Spread	**Ethylene**	-Naphtha	761.5	767.0	741.5	676.5	628.5	804.0	676.5	535.2	610.6	676.3
	Change, %			*(0.7)*	*2.7*	*12.6*	*21.2*	*(5.3)*	*12.6*	*42.3*	*24.7*	*12.6*
	Propylene	-Naphtha	321.5	267.0	311.5	236.5	168.5	494.0	236.5	388.3	277.0	257.7
	Change, %			*20.4*	*3.2*	*35.9*	*90.8*	*(34.9)*	*35.9*	*(17.2)*	*16.1*	*24.8*
	Butadiene	-Naphtha	616.5	622.0	646.5	306.5	193.5	324.0	306.5	415.9	384.5	510.2
	Change, %			*(0.9)*	*(4.6)*	*101.1*	*218.6*	*90.3*	*101.1*	*48.2*	*60.4*	*20.8*
	Benzene	-Naphtha	251.5	239.5	254.0	166.5	171.0	246.5	166.5	377.3	197.0	230.7
	Change, %			*5.0*	*(1.0)*	*51.1*	*47.1*	*2.0*	*51.1*	*(33.3)*	*27.7*	*9.0*
	Toluene	-Naphtha	271.5	272.0	276.5	216.5	208.5	184.0	216.5	216.6	207.8	262.0
	Change, %			*(0.2)*	*(1.8)*	*25.4*	*30.2*	*47.6*	*25.4*	*25.3*	*30.7*	*3.6*
	Xylene	-Naphtha	261.5	247.0	244.0	211.5	228.5	194.0	211.5	189.9	206.3	254.5
	Change, %			*5.9*	*7.2*	*23.6*	*14.4*	*34.8*	*23.6*	*37.7*	*26.8*	*2.8*

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

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	HDPE	CFR SE Asia	1,195.0	1,195.0	1,125.0	1,065.0	1,085.0	1,325.0	1,065.0	1,524.9	1,230.1	1,111.8
	Change, %			0.0	6.2	12.2	10.1	(9.8)	12.2	(21.6)	(2.9)	7.5
	MEG	CFR SE Asia	702.5	705.0	702.5	617.5	565.0	855.0	617.5	934.1	780.8	642.9
	Change, %			(0.4)	0.0	13.8	24.3	(17.8)	13.8	(24.8)	(10.0)	9.3
	PVC	CFR SE Asia	795.0	795.0	755.0	715.0	715.0	890.0	715.0	1,013.9	820.8	743.2
	Change, %			0.0	5.3	11.2	11.2	(10.7)	11.2	(21.6)	(3.1)	7.0
	PP	CFR SE Asia	1,065.0	1,025.0	895.0	835.0	885.0	1,295.0	835.0	1,503.0	1,109.8	890.4
	Change, %			3.9	19.0	27.5	20.3	(17.8)	27.5	(29.1)	(4.0)	19.6
	2-EH	CFR Korea	812.5	810.0	710.0	680.0	685.0	1,035.0	680.0	1,397.1	930.1	715.9
	Change, %			0.3	14.4	19.5	18.6	(21.5)	19.5	(41.8)	(12.6)	13.5
	ABS	CFR SE Asia	1,365.0	1,325.0	1,215.0	1,130.0	1,117.5	1,585.0	1,130.0	1,897.7	1,431.1	1,185.0
	Change, %			3.0	12.3	20.8	22.1	(13.9)	20.8	(28.1)	(4.6)	15.2
	SBR	CFR SE Asia	1,445.0	1,445.0	1,250.0	1,150.0	1,105.0	1,340.0	1,150.0		1,332.1	1,269.6
	Change, %			0.0	15.6	25.7	30.8	7.8	25.7		8.5	13.8
	SM	CFR SE Asia	1,137.5	1,147.5	1,105.0	910.0	917.5	1,195.0	910.0	1,547.1	1,100.7	1,021.8
	Change, %			(0.9)	2.9	25.0	24.0	(4.8)	25.0	(26.5)	3.3	11.3
	Caustic	FOB NEA	285.0	280.0	285.0	285.0	290.0	300.0	285.0	310.0	296.8	285.7
	Change, %			1.8	0.0	0.0	(1.7)	(5.0)	0.0	(8.1)	(4.0)	(0.3)
	PX	CFR SE Asia	815.0	805.0	772.5	762.5	787.5	835.0	762.5	1,228.5	842.9	754.1
	Change, %			1.2	5.5	6.9	3.5	(2.4)	6.9	(33.7)	(3.3)	8.1
	PO	CFR China	1,345.0	1,360.0	1,182.5	1,257.5	1,445.0	2,030.0	1,257.5	2,179.2	1,683.4	1,200.7
	Change, %			(1.1)	13.7	7.0	(6.9)	(33.7)	7.0	(38.3)	(20.1)	12.0
	Caprolactam	CFR SE Asia	1,300.0	1,240.0	1,150.0	1,260.0	1,300.0	1,715.0	1,260.0	2,233.4	1,581.5	1,200.7
	Change, %			4.8	13.0	3.2	0.0	(24.2)	3.2	(41.8)	(17.8)	8.3
	PTA	CFR SE Asia	622.5	610.0	585.0	585.0	620.0	640.0	585.0	911.7	648.0	586.4
	Change, %			2.0	6.4	6.4	0.4	(2.7)	6.4	(31.7)	(3.9)	6.2
Spread	HDPE		806.5	812.0	781.5	651.5	638.5	809.0	651.5	659.0	737.1	761.3
	Change, %			(0.7)	3.2	23.8	26.3	(0.3)	23.8	22.4	9.4	5.9
	MEG		314.0	322.0	359.0	204.0	118.5	339.0	204.0	68.2	287.8	292.3
	Change, %			(2.5)	(12.5)	53.9	165.0	(7.4)	53.9	360.2	9.1	7.4
	PVC		406.5	412.0	411.5	301.5	268.5	374.0	301.5	148.0	327.8	392.7
	Change, %			(1.3)	(1.2)	34.8	51.4	8.7	34.8	174.6	24.0	3.5
	PP		676.5	642.0	551.5	421.5	438.5	779.0	421.5	637.1	616.8	539.8
	Change, %			5.4	22.7	60.5	54.3	(13.2)	60.5	6.2	9.7	25.3
	2-EH		424.0	427.0	366.5	266.5	238.5	519.0	266.5	531.3	437.0	365.4
	Change, %			(0.7)	15.7	59.1	77.8	(18.3)	59.1	(20.2)	(3.0)	16.1
	ABS		976.5	942.0	871.5	716.5	671.0	1,069.0	716.5	1,031.9	938.1	834.5
	Change, %			3.7	12.0	36.3	45.5	(8.7)	36.3	(5.4)	4.1	17.0
	SBR	BD spread	440.0	440.0	260.0	430.0	465.0	500.0	430.0		454.7	408.9
	Change, %			0.0	69.2	2.3	(5.4)	(12.0)	2.3		(3.2)	7.6
	SM		749.0	764.5	761.5	496.5	471.0	679.0	496.5	681.2	607.7	671.3
	Change, %			(2.0)	(1.6)	50.9	59.0	10.3	50.9	9.9	23.3	11.6
	Caustic											
	Change, %											
	PX		426.5	422.0	429.0	349.0	341.0	319.0	349.0	362.6	349.9	403.6
	Change, %			1.1	(0.6)	22.2	25.1	33.7	22.2	17.6	21.9	5.7
	PO	propylene sprea	635.0	710.0	527.5	607.5	830.0	1,020.0	607.5	925.0	913.4	592.5
	Change, %			(10.6)	20.4	4.5	(23.5)	(37.7)	4.5	(31.4)	(30.5)	7.2
	Caprolactam	benzene spread	660.0	617.5	552.5	680.0	682.5	952.5	680.0	990.3	891.6	619.5
	Change, %			6.9	19.5	(2.9)	(3.3)	(30.7)	(2.9)	(33.4)	(26.0)	6.5
	PTA	px spread	52.0	46.5	44.3	51.3	68.8	55.5	51.3	51.8	58.0	58.6
	Change, %			11.8	17.5	1.5	(24.4)	(6.3)	1.5	0.5	(10.4)	(11.2)

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

SK securities Happiness Partner | SKS Energy Daily

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Global peers

	Currency	04/05	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	50.7	(0.6)	(0.7)	0.9	2.4	9.6	5.2	(1.4)	56,922	14.9	12.8	2.4	2.2	7.8	7.1
Du Pont	USD	63.2	(1.0)	(0.7)	(0.0)	(1.7)	23.2	(6.9)	(5.2)	55,158	20.9	18.0	5.9	4.9	11.6	10.2
Eastman	USD	72.1	(0.5)	(1.5)	3.5	7.5	5.5	6.0	6.9	10,672	10.3	9.3	2.3	2.1	7.9	7.6
BASF	EUR	63.1	(2.6)	(4.6)	0.1	(6.9)	(8.7)	(31.8)	(10.7)	66,087	14.3	12.7	1.9	1.8	7.2	6.7
Akzo Nobel	EUR	57.5	(2.4)	(3.1)	3.5	(3.8)	(1.9)	(19.2)	(6.7)	16,326	13.9	13.2	2.1	2.0	7.4	7.0
Arkema	EUR	64.0	(3.1)	(1.8)	2.5	4.3	5.5	(13.5)	(0.9)	5,433	13.1	11.0	1.2	1.2	5.6	5.2
Lanxess	EUR	41.2	(4.1)	0.4	(0.4)	1.3	(3.1)	(17.4)	(3.4)	4,301	17.2	13.7	1.5	1.4	5.5	5.0
Sumitomo Chemical	JPY	462	(1.9)	(10.6)	(10.8)	(26.6)	(30.8)	(25.0)	(34.1)	6,937	8.2	7.3	0.8	0.8	6.5	6.1
Mitsubishi Chemical	JPY	548	(1.9)	(10.3)	(12.8)	(26.5)	(17.7)	(23.0)	(29.3)	7,484	8.7	7.7	0.8	0.7	5.6	5.3
Shin-Etsu Chemical	JPY	5,570	(2.5)	(5.0)	(8.0)	(14.0)	(13.6)	(27.7)	(15.8)	21,831	15.7	14.5	1.1	1.1	5.3	4.9
Asahi Kasei	JPY	710	(2.5)	(6.0)	2.5	(16.4)	(18.6)	(38.7)	(13.7)	9,033	10.4	9.4	0.8	0.8	5.2	5.0
JSR	JPY	1,535	(2.4)	(6.8)	(10.7)	(17.2)	(16.4)	(29.1)	(19.2)	3,148	11.3	10.6	0.9	0.9	4.5	4.3
Nitto Denko	JPY	5,809	(2.0)	(9.9)	(13.2)	(32.3)	(27.5)	(26.0)	(34.8)	9,155	11.7	11.3	1.4	1.3	4.9	4.7
SABIC	SAR	75.2	(0.5)	1.9	1.2	3.3	(5.3)	(5.2)	(1.7)	60,162	15.9	13.4	1.3	1.3	7.5	6.5
Yansab	SAR	38.1	0.2	0.2	3.8	30.3	(16.7)	(9.9)	17.5	5,712	16.5	14.3	1.4	1.4	8.7	8.1
Formosa Plastics	TWD	79.5	0.0	(0.1)	(0.6)	9.1	12.6	6.3	3.2	15,682	16.6	15.4	1.6	1.5	24.2	22.2
Formosa Fiber	TWD	81.1	0.0	3.3	5.2	18.4	17.0	14.2	9.6	14,729	17.7	16.9	1.5	1.5	14.1	13.5
Nan Ya Plastics	TWD	66.9	0.0	0.6	1.4	16.3	14.2	(3.7)	9.7	16,441	15.4	15.1	1.5	1.5	15.1	14.5
Sinopec Shanghai	CNY	7.48	0.8	16.1	17.8	28.7	17.2	32.6	15.4	10,164	21.1	22.1	3.6	3.2	10.1	10.3
Sinopec Yizheng(Fibe	CNY	5.16	1.6	6.6	(8.8)	(27.8)	(46.3)	(42.0)	(36.8)	10,041	#N/A N/A	215.0	3.0	2.9	17.3	14.2
Reliance	INR	1,027	(0.8)	(0.9)	2.0	2.2	15.6	22.8	1.1	50,058	11.2	9.9	1.2	1.1	8.5	7.2
Industries Qatar	QAR	102.5	(4.3)	(5.0)	(4.7)	(2.2)	(16.0)	(27.8)	(7.7)	17,029	13.9	12.7	1.8	1.8	52.3	50.2
PTT Chemical	THB	56.5	(5.0)	(5.0)	1.3	14.1	0.4	4.6	13.0	7,136	10.4	9.3	1.0	0.9	5.4	5.1
Petronas	MYR	6.7	(0.1)	(0.1)	(3.7)	(9.9)	10.0	20.9	(7.6)	13,635	18.7	17.2	2.1	1.9	9.3	8.5
LG화학	KRW	316,000	(3.2)	(2.3)	6.0	(6.9)	9.7	38.9	(3.8)	18,014	0.0	15.3	0.0	1.6	0.0	6.3
롯데케미칼	KRW	324,000	(4.0)	(6.5)	3.3	29.6	18.5	47.6	33.1	9,553	0.0	8.5	0.0	1.3	0.0	4.5
한화케미칼	KRW	23,800	(1.7)	0.4	(2.5)	(10.0)	8.4	66.4	(12.5)	3,374	0.0	9.6	0.0	0.8	0.0	8.8
금호석유	KRW	57,300	0.2	(2.1)	(3.5)	9.8	(7.0)	(25.6)	10.0	1,502	0.0	13.9	0.0	1.1	0.0	9.4
SKC	KRW	29,550	(2.2)	(4.7)	(5.7)	(6.6)	(23.8)	(23.9)	(12.6)	936	0.0	8.0	0.0	0.7	0.0	7.1
국도화학	KRW	69,400	0.0	6.4	11.9	22.6	(1.6)	28.3	17.0	347	0.0	8.0	0.0	0.9	0.0	4.9
효성	KRW	2,985	(0.2)	0.2	1.5	15.0	2.4	(25.2)	14.4	4,138	0.0	8.8	0.0	1.3	0.0	7.1
Average			**(1.5)**	**(1.7)**	**(0.6)**	**0.2**	**(2.7)**	**(4.1)**	**(3.4)**							
Refinery																
Valero	USD	63.1	(0.2)	(3.3)	(1.2)	(11.3)	(2.2)	5.6	(10.7)	29,662	8.8	8.6	1.3	1.2	4.7	4.7
Conoco Phillips	USD	39.0	(0.2)	(1.5)	(5.1)	(17.6)	(26.3)	(38.2)	(16.4)	48,346	#N/A N/A	71.6	1.3	1.3	11.2	6.6
Formosa Petrochemi	TWD	92.9	0.0	2.9	6.1	21.8	17.6	36.8	17.9	27,422	20.3	19.7	3.2	3.1	13.1	13.1
Tesoro	USD	82.7	(1.3)	(7.8)	(2.5)	(22.2)	(21.1)	(4.5)	(21.5)	9,916	10.0	10.4	1.6	1.5	5.6	5.7
Marathon Petroleum	USD	36.3	(1.0)	(1.0)	(2.1)	(28.3)	(28.3)	(25.3)	(30.0)	19,200	8.6	8.2	1.4	1.3	6.1	5.8
Devon Energy	USD	26.4	1.3	1.1	13.2	(19.6)	(38.5)	(57.8)	(17.5)	13,825	#N/A N/A	38.7	1.8	1.8	13.6	8.3
Hollyfrontier	USD	34.0	(1.7)	(4.4)	(2.7)	(17.4)	(33.8)	(10.3)	(14.9)	5,997	11.4	9.4	1.1	1.1	5.8	5.4
Phillips 66	USD	84.8	(1.1)	(3.0)	(1.1)	4.7	3.7	8.5	3.7	44,629	13.6	11.5	1.9	1.7	7.6	7.0
Murphy Oil	USD	23.5	(1.4)	(4.3)	(0.9)	4.0	(13.7)	(51.5)	4.6	4,045	#N/A N/A	#N/A N/A	0.8	0.8	7.5	5.1
JX Holdings	JPY	410.3	(3.5)	(7.1)	(14.4)	(18.7)	(8.8)	(11.5)	(19.3)	9,287	7.6	7.0	0.6	0.6	9.9	9.5
Cosmo Oil	JPY	164.0	0.0	0.0	0.0	0.0	0.0	(3.0)	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	1,830.0	(4.4)	(6.1)	(3.1)	(7.1)	(2.0)	(12.8)	(5.6)	2,656	5.6	5.3	0.5	0.4	7.9	7.9
Tonengeneral	JPY	940.0	(3.4)	(5.9)	0.8	(8.3)	(23.1)	(11.7)	(8.0)	3,121	10.5	8.6	1.4	1.3	12.3	7.0
Nesteoil	EUR	29.0	0.1	(3.6)	0.3	6.0	35.5	20.6	4.8	0	10.9	11.8	2.1	1.9	6.9	7.4
Ashland	USD	109.6	(1.0)	0.8	8.8	6.9	4.6	(13.9)	6.7	6,929	15.4	13.8	2.7	2.4	8.9	8.7
Fuchs Petrolub	EUR	38.3	(1.6)	(2.7)	(0.1)	(11.1)	(6.8)	1.2	(11.9)	5,657	21.2	20.2	4.4	3.9	12.1	11.6
SK이노베이션	KRW	166,500	2.1	0.3	11.4	31.1	53.5	62.4	28.1	13,243	0.0	9.8	0.0	0.9	0.0	6.0
S-Oil	KRW	94,800	0.3	(0.7)	12.6	20.6	43.6	41.1	19.4	9,181	0.0	10.5	0.0	1.8	0.0	7.2
GS	KRW	57,100	(1.2)	(0.5)	5.4	15.1	18.5	29.0	12.6	4,564	0.0	8.1	0.0	0.8	0.0	7.4
Average			**(1.0)**	**(2.5)**	**1.3**	**(2.7)**	**(1.5)**	**(1.8)**	**(3.1)**							

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

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Global peers

	Currency	04/05	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	82	(1.1)	(2.7)	(0.1)	5.2	7.0	(2.5)	5.5	341,398	34.0	19.1	2.0	2.0	10.8	7.8
BP	GBP	337	(2.1)	(2.4)	(8.3)	(3.1)	(8.3)	(23.8)	(4.7)	89,105	27.8	12.4	1.0	1.0	5.4	4.3
Shell	EUR	1,644	(2.0)	(0.4)	(2.0)	7.7	(2.7)	(18.8)	7.7	187,354	20.9	11.8	0.9	0.9	5.6	4.2
Chevron	USD	93	(0.8)	(2.8)	5.4	3.4	10.3	(12.0)	3.0	174,512	69.0	19.0	1.2	1.2	8.2	5.6
Total	EUR	38	(2.1)	(4.2)	(10.1)	(4.5)	(10.8)	(16.4)	(7.1)	107,235	15.3	10.8	1.1	1.1	6.6	5.1
Sinopec	CNY	5	(0.4)	7.5	4.1	3.0	3.0	(24.3)	(1.6)	88,194	18.9	13.2	0.9	0.8	5.6	4.9
Petrochina	CNY	8	0.0	2.4	(2.0)	(5.1)	(6.9)	(35.3)	(8.3)	204,666	55.5	24.1	1.2	1.1	7.9	6.8
CNOOC	CNY	13	1.8	5.7	(0.2)	(5.8)	(15.5)	(40.7)	(14.3)	7,406	56.6	30.8	1.4	1.3	13.1	11.1
Gazprom	RUB	144	(1.4)	(0.2)	(1.2)	5.8	5.5	0.3	6.1	49,233	3.2	2.8	0.3	0.3	3.3	2.7
Rosneft	RUB	306	(1.1)	3.3	1.3	20.9	25.5	16.1	20.9	46,757	8.7	5.9	0.8	0.7	4.2	3.6
Anadarko	USD	44	(1.1)	(4.6)	(2.6)	(9.1)	(33.7)	(47.8)	(9.2)	22,755	#N/A N/A	#N/A N/A	1.7	1.9	11.6	7.7
Petrobras	BRL	8	3.3	(7.8)	8.4	17.2	0.1	(27.0)	16.9	31,823	23.7	5.6	0.4	0.4	6.4	5.1
Lukoil	USD	2,699	0.2	3.2	(2.8)	13.4	22.9	(4.5)	15.0	32,976	8.9	5.6	0.3	0.3	N/A	N/A
Kinder	USD	17	(1.0)	(3.6)	(8.2)	9.2	(45.0)	(59.2)	14.0	47,497	23.9	20.8	1.0	1.0	10.8	10.1
Statoil	NOK	123	(1.7)	(3.0)	(8.4)	1.7	(7.5)	(14.9)	(0.9)	46,848	33.5	14.7	1.1	1.1	3.4	2.6
BHP	AUD	16	(3.3)	(4.4)	(9.6)	(9.1)	(32.0)	(43.4)	(10.5)	60,566	33.9	17.6	1.2	1.1	7.4	6.0
PTT E&P	THB	67	(2.6)	(2.2)	(8.3)	23.1	(7.0)	(41.4)	16.2	7,476	24.9	14.5	0.7	0.6	2.7	2.4
Petronas gas	MYR	22	(0.3)	0.1	(2.0)	(1.2)	(2.3)	(5.0)	(3.6)	10,981	23.5	23.1	3.6	3.5	13.5	13.1
Chesapeake	USD	4	1.1	(6.9)	(26.0)	(25.0)	(55.3)	(74.2)	(16.4)	2,559	#N/A N/A	11.3	1.5	1.2	15.0	9.8
Noble Energy	USD	30	0.6	0.4	(7.0)	(10.3)	(9.3)	(39.6)	(8.4)	13,081	#N/A N/A	#N/A N/A	1.3	1.4	10.0	8.8
Average		**0**	**(0.7)**	**(1.1)**	**(4.0)**	**1.9**	**(8.1)**	**(25.7)**	**1.0**							
PV																
WACKER	EUR	73.4	(3.4)	(1.6)	(6.7)	(2.8)	4.4	(32.6)	(5.4)	4,361	26.9	15.4	1.4	1.4	5.0	4.6
GCL-Poly	HKD	1.2	(4.7)	(2.4)	0.0	6.1	(24.0)	(43.3)	5.2	2,924	7.6	6.9	0.9	0.8	6.1	5.4
REC	NOK	107.5	0.0	0.0	0.0	0.0	0.0	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	0.3	23.2	(54.4)	(85.4)	(95.4)	(97.1)	(99.0)	(94.9)	96	#N/A N/A	#N/A N/A	0.0	0.0	20.3	10.6
Canadian Solar	USD	18.0	(0.1)	(6.7)	(20.2)	(34.6)	(8.0)	(46.9)	(37.9)	1,006	9.7	6.6	1.1	0.9	6.6	5.2
JA Solar	USD	8.7	(0.9)	2.3	(4.8)	(8.3)	6.6	(9.7)	(10.0)	441	5.4	4.9	0.4	0.4	2.7	2.3
Trina Solar	USD	9.8	0.3	(1.3)	(6.8)	(10.9)	(2.1)	(20.8)	(11.3)	901	6.9	6.2	0.7	0.6	6.1	5.1
Solar City	USD	26.7	6.9	19.0	19.4	(47.0)	(43.4)	(48.9)	(47.6)	2,617	#N/A N/A	#N/A N/A	11.7	#N/A N/A	#N/A N/A	#N/A N/A
Yingli	USD	4.6	(2.9)	1.3	1.8	12.1	2.9	(75.1)	2.2	84	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	9.0	8.9
First Solar	USD	62.4	(7.2)	(9.9)	(10.2)	(13.3)	33.8	2.0	(5.4)	6,352	14.5	16.6	1.1	1.1	8.9	8.3
한화솔라원	USD	14.2	(0.8)	(8.7)	(18.5)	(35.0)	(7.7)	(27.6)	(35.3)	#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	101,000	0.0	6.3	5.2	37.2	23.2	(1.5)	34.7	2,072	0.0	14.1	0.0	0.8	0.0	11.1
웅진에너지	KRW	1,360	2.3	(10.8)	(18.6)	(21.4)	(12.8)	(20.0)	(21.4)	126	N/A	0.0	0.8	0.0	11.1	0.0
신성솔라에너지	KRW	1,545	1.6	(6.1)	(11.1)	(13.5)	30.3	21.0	(16.8)	134	N/A	0.8	0.0	11.1	0.0	8.8
Average			**1.0**	**(5.2)**	**(11.1)**	**(16.2)**	**(6.7)**	**(28.3)**	**(17.4)**							
Gas Company																
Towngas China	HKD	3.9	(0.5)	0.8	(12.0)	(10.8)	(23.1)	(48.9)	(13.6)	1,337	7.9	7.8	0.7	0.7	9.9	9.2
Kulun	HKD	6.8	1.0	2.4	9.6	0.3	14.6	(12.0)	(2.2)	7,025	13.9	10.9	1.0	0.9	5.6	5.1
Beijing Enterprise	HKD	38.0	(3.3)	(2.2)	(3.1)	(16.2)	(19.9)	(38.3)	(19.1)	6,285	7.7	7.1	0.8	0.7	12.5	11.2
ENN Energy	HKD	41.7	(1.1)	3.5	3.9	5.2	6.9	(17.8)	0.7	5,813	12.9	11.5	2.3	2.0	8.4	7.6
China Resources Gas	HKD	21.7	0.2	(3.6)	(3.6)	0.2	6.7	(9.2)	(6.5)	6,208	13.9	12.4	2.4	2.1	8.9	8.0
China Gas Holdings	HKD	11.1	(1.6)	(2.3)	(0.5)	4.5	0.7	(15.5)	(0.4)	7,052	12.4	10.9	2.2	1.9	10.3	9.1
Shenzen Gas	HKD	12.8	1.9	3.4	3.6	(8.5)	14.5	6.0	(11.0)	3,124	11.8	10.6	1.2	1.1	7.3	6.7
Shann Xi	CNY	10.5	0.9	10.8	20.4	(9.4)	(8.8)	(30.9)	(17.1)	1,794	15.7	12.7	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Suntien	HKD	0.9	(1.1)	(8.5)	(15.7)	(29.5)	(39.0)	(58.5)	(30.6)	412	8.1	6.2	0.3	0.3	6.9	5.7
China Oil & Gas	HKD	0.5	1.1	2.2	2.2	(12.3)	(2.1)	(46.2)	(12.3)	349	7.6	6.8	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(0.2)**	**0.7**	**0.5**	**(7.6)**	**(5.0)**	**(27.1)**	**(11.2)**							
EV																
LG화학	KRW	316,000	(3.2)	(2.3)	6.0	(6.9)	9.7	38.9	(3.8)	18,014	14.6	13.0	1.6	1.5	6.4	5.9
삼성SDI	KRW	97,600	(1.7)	(2.9)	0.2	(15.1)	(7.5)	(28.0)	(14.4)	5,773	8.1	20.9	0.6	0.6	9.7	7.2
Panasonic	JPY	899.3	(0.9)	(12.5)	(11.4)	(26.0)	(28.1)	(42.6)	(27.5)	20,009	10.1	9.1	1.0	0.9	3.0	2.8
GS Yuasa	JPY	460.0	(3.8)	(5.9)	(7.1)	3.8	(5.0)	(14.3)	1.8	1,726	12.5	11.1	1.1	1.0	6.2	5.7
NEC	JPY	267.0	(1.8)	(5.0)	(0.4)	(29.2)	(29.4)	(26.6)	(30.6)	6,308	9.6	8.6	0.7	0.7	5.7	5.6
BYD Auto	CNY	59.0	1.1	3.7	9.8	(0.6)	(1.7)	(3.9)	(8.4)	19,051	42.0	29.2	4.1	3.7	13.8	11.8
Tesla Motors	USD	255.5	3.4	11.0	27.1	14.3	3.8	33.8	6.4	33,736	221.0	83.8	27.0	20.7	44.0	29.0
Kandi Technologies	USD	7.0	(0.4)	(4.5)	(2.0)	(34.0)	13.6	(43.0)	(35.8)	329	#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			**(0.9)**	**(2.3)**	**2.8**	**(11.7)**	**(5.6)**	**(10.7)**	**(14.0)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임