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1. News Summary (3 page)

2016년 5월 24일

News		Conclusion
WTI comment	산유량 동결 기대에 하락	
Headline	SK가스, 울산 PDH 설비(프로필렌 60만톤/년) 상업가동 시작	프로필렌-프로판 spread에서 수익확보 여부가 중요함. 현재로선 불투명
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	48.1	0.7	0.8	9.9	50.9	(19.5)
Dubai	$/bbl	44.9	(1.7)	(1.1)	9.4	51.1	(28.8)
Gasoline	$/bbl	60.4	(0.8)	0.8	8.8	36.6	(29.1)
Diesel	$/bbl	56.6	(0.1)	2.1	10.6	43.1	(28.3)
Complex margin	$/bbl	6.4	0.5	1.0	0.8	(0.3)	(4.7)
1M lagging	$/bbl	9.6	(3.0)	(1.5)	0.1	(3.0)	(5.9)
Petrochemical			%	%	%	%	%
Naphtha	$/t	422	(0.6)	(1.2)	3.5	32.7	(26.2)
Butadiene	$/t	1,070	(0.5)	(0.5)	7.0	20.2	0.0
HDPE	$/t	1,120	0.0	(0.9)	(3.0)	0.0	(17.3)
MEG	$/t	614	(0.8)	(1.0)	(9.7)	(7.7)	(34.7)
PX	$/t	765	(1.4)	(1.8)	(4.0)	4.9	(14.8)
SM	$/t	986	(0.8)	(1.1)	(8.2)	(1.0)	(29.4)
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.06	(0.3)	1.3	(6.0)	2.4	(34.3)
Natural rubber	$/t	1,220	(3.2)	(12.9)	(20.3)	9.9	(18.7)
Cotton	C/lbs	61.5	(0.4)	0.8	(4.0)	4.2	(6.1)

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	05/23	$/t	1,130	0.4	0.4	19.6	(19.6)
Propylene	05/23	$/t	695	0.0	(6.4)	7.8	(22.3)
Benzene	05/23	$/t	640	(2.7)	(0.4)	15.3	(12.3)
Toluene	05/23	$/t	650	0.0	(1.5)	11.1	(19.3)
Xylene	05/23	$/t	645	0.0	(1.9)	11.2	(19.4)
PP	05/23	$/t	965	(3.0)	(6.8)	13.5	(29.3)
PVC	05/23	$/t	825	(0.6)	0.6	13.8	(5.7)
ABS	05/23	$/t	1,270	(1.2)	(5.6)	11.4	(23.7)
SBR	05/23	$/t	1,510	(2.3)	4.1	24.8	0.7
SM	05/23	$/t	1,045	(0.2)	(4.1)	5.0	(26.4)
BPA	05/23	$/t	1,313	6.9	5.2	6.9	(25.0)
Caustic	05/23	$/t	293	(0.8)	0.9	1.7	(2.5)
2-EH	05/23	$/t	810	0.0	(1.2)	17.4	(24.7)
Caprolactam	05/23	$/t	1,340	0.0	1.5	20.7	(26.0)
Solar				%	%	%	%
Polysilicon	05/18	$/kg	17.1	0.9	12.9	27.9	7.8
Module	05/18	$/W	0.52	(0.4)	(2.3)	(6.2)	(7.5)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	89.6	(0.2)	0.0	2.4	10.3	3.6
Shell	EUR	1,659	(1.3)	(4.9)	(8.5)	5.3	(15.8)
Petrochina	CNY	7.20	(0.1)	0.0	(5.0)	(3.7)	(43.0)
Gazprom	RUB	144.3	(1.6)	(8.7)	(10.5)	3.2	(3.0)
Petrobras	BRL	8.5	(4.5)	(12.8)	(12.8)	72.8	(35.0)
Refinery							
Phillips66	USD	77.8	(0.1)	(1.1)	(11.5)	(0.9)	(3.9)
Valero	USD	54.5	(3.0)	(1.3)	(11.1)	(5.3)	(10.7)
JX	JPY	424.2	0.4	(0.2)	(11.9)	(4.2)	(20.5)
Neste Oil	EUR	28.7	(0.4)	0.9	(2.0)	0.7	24.2

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	67.2	0.2	(0.8)	(5.1)	12.3	(23.6)
Dow Chemical	USD	52.3	1.8	1.3	(0.7)	11.2	1.9
SABIC	SAR	80.0	(2.9)	(4.6)	0.8	10.2	(23.9)
Formosa Pla.	TWD	77.0	0.9	(0.3)	(4.9)	(0.5)	(0.5)
Shin-Etsu	JPY	6,257	(1.3)	0.3	(0.7)	10.9	(17.2)
Renewable							
Wacker	EUR	82.5	(2.9)	(0.7)	2.9	19.1	(19.7)
Yingli	USD	3.52	(3.0)	3.5	(31.1)	(18.1)	(68.6)
Tesla	USD	216.2	(1.8)	3.8	(14.8)	22.0	(12.7)
BYD	CNY	59.4	0.6	(1.9)	(4.0)	8.6	(21.8)

4. Coverage Summary

	05/23	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	1,955	0.4	(0.6)	(3.0)	2.1	(1.7)	(8.9)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,336	0.2	(2.0)	(4.1)	4.4	2.2	3.7				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	274,000	(0.2)	(3.4)	(11.0)	(8.5)	(15.0)	1.9	매수	400,000	46.0	12.08	1.45
롯데케미칼	289,500	3.6	0.3	(7.4)	(6.5)	17.9	19.9	매수	340,000	17.4	9.79	1.12
한화케미칼	23,250	(0.4)	(0.4)	(10.4)	(9.7)	(7.0)	20.2	매수	30,000	29.0	9.18	0.76
금호석유화학	64,500	1.1	(3.4)	(11.3)	5.9	7.3	(19.6)	매수	70,000	8.5	12.72	1.28
KCC	394,000	0.0	(2.2)	(7.3)	(8.3)	(12.8)	(23.5)	매수	550,000	39.6	14.02	0.60
OCI	105,500	(0.9)	(3.7)	(2.3)	20.8	34.4	7.5	매수	120,000	13.7	19.82	0.92
SKC	27,850	0.2	(4.1)	(7.5)	(10.6)	(24.2)	(32.8)	매수	37,000	32.9	8.69	0.68
국도화학	59,000	(1.3)	(6.5)	(12.6)	3.5	(3.1)	(9.2)	매수	100,000	69.5	6.71	0.68
SK이노베이션	153,000	1.3	(1.0)	(3.8)	3.0	23.4	33.0	매수	180,000	17.6	11.45	0.93
S-Oil	84,400	1.8	(0.6)	(5.3)	3.9	12.2	22.3	매수	100,000	18.5	11.90	1.47
GS	51,300	1.6	(0.6)	(9.2)	(2.8)	0.6	0.6	매수	65,000	26.7	7.35	0.86
SK가스	84,100	1.3	0.4	1.4	12.9	5.4	(15.9)	매수	100,000	18.9	11.93	0.73
대우인터내셔널	23,150	0.0	(0.2)	(1.5)	20.3	20.3	(17.9)	매수	27,000	16.6	10.70	1.03
LG상사	37,400	(0.4)	4.6	1.4	9.4	4.6	(11.0)	매수	42,000	12.3	11.04	0.96

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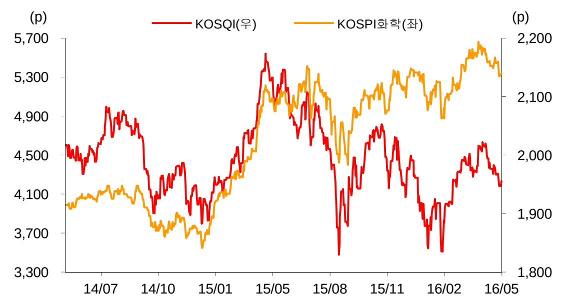
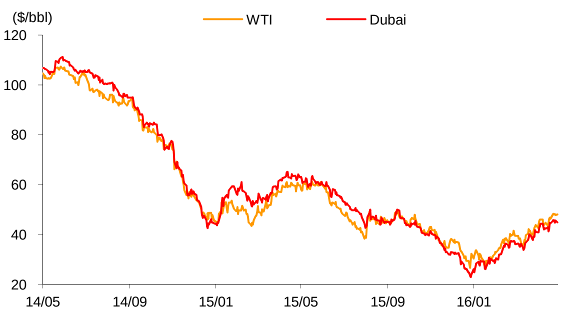
Key Chart

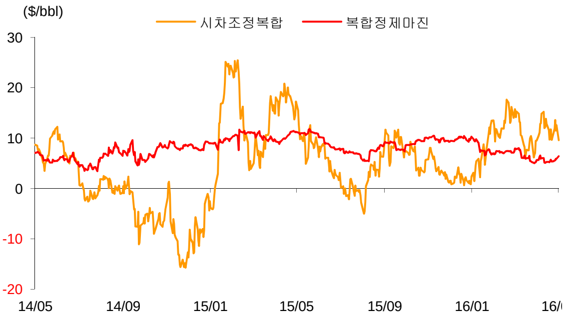
KOSPI/KOSPI화학



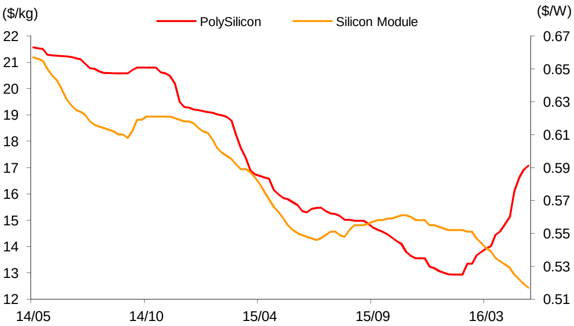
WTI/Dubai



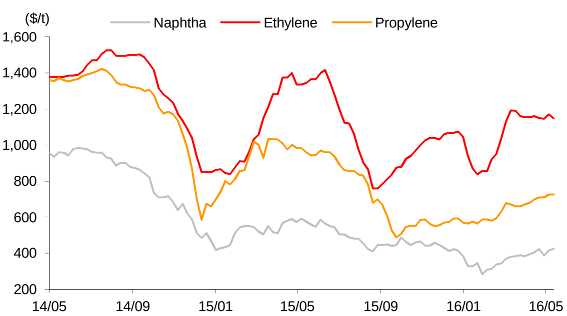
Complex & 1M lagging margin



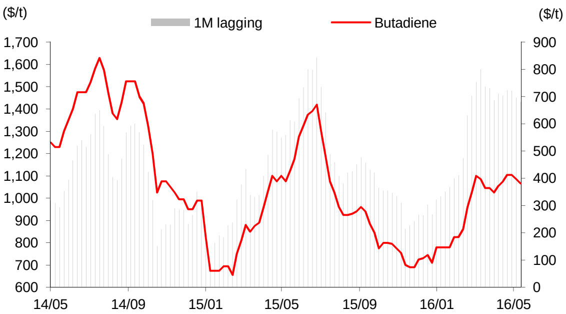
Polysilicon & Module prices



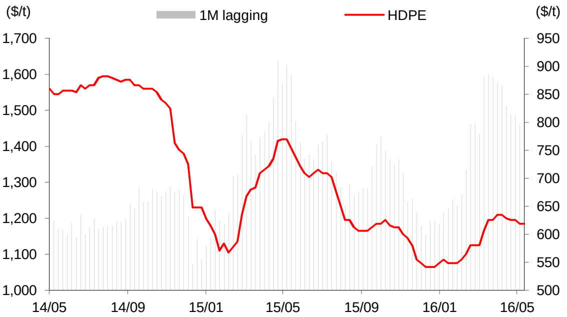
Naphtha/Ethylene/Propylene prices



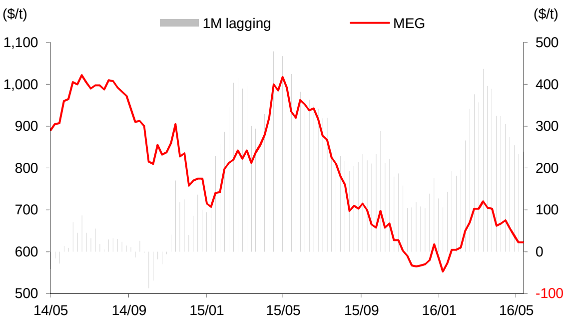
Butadiene price & 1M lagging naphtha spread



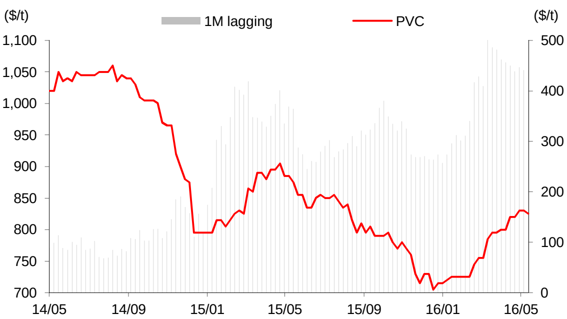
HDPE price & 1M lagging naphtha spread



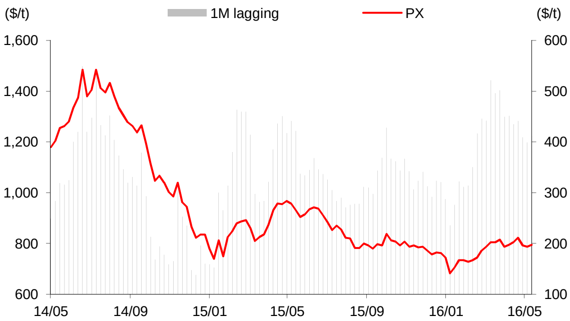
MEG price & 1M lagging naphtha spread



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	SK가스, 울산 PDH 설비(프로필렌 60만톤/년) 상업가동 시작
결론	프로필렌-프로판 spread에서 수익확보 여부가 중요함. 현재로선 불투명
세부	
	1) LPG는 사우디와 쿠웨이트로부터 수입 계획, 총 70만톤/년 투입함
	2) 또한 차후 북미로부터 shale gas 기반의 LPG도 수입 계획임
	3) 울산 PDH는 SK가스 45%, APC(사우디) 30%, KPC(쿠웨이트) 25% 보유
	4) 다만 최근 프로필렌 시황이 좋지 못한 만큼 단기수익확보는 불확실
	5) 프로필렌-프로판 spread에서 수익확보 여부가 중요함. 현재로선 불투명

WTI Comment	(출처: 연합뉴스)
제목	산유량 동결 기대에 하락
상승 요인	
하락 요인	이란 국영석유회사(NIOC) 사장, "원유생산/수출량 증대 멈출계획 없다." 사우디 칼리드 알팔리 사우디 석유장관, "원유정책 큰 변화 없을 것"

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

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
F/X	**USD/EUR**	0.891	0.891	0.883	0.891	0.908	0.940	0.908	0.921	0.754	0.901	0.897
	Change, %		0.0	0.9	0.0	(1.8)	(5.2)	(1.8)	(3.2)	18.2	(1.1)	(0.6)
	USD/JPY	109.2	110.2	109.0	111.8	112.1	122.8	121.5	120.6	105.9	121.1	113.0
	Change, %		(0.8)	0.2	(2.3)	(2.6)	(11.1)	(10.1)	(9.4)	3.1	(9.8)	(3.4)
	USD/KRW	1,182.9	1,190.1	1,179.6	1,143.2	1,231.3	1,158.5	1,090.1	1,172.6	1,053.0	1,131.2	1,184.5
	Change, %		(0.6)	0.3	3.5	(3.9)	2.1	8.5	0.9	12.3	4.6	(0.1)
Agriculture	**Corn**	397.8	394.5	394.0	371.8	362.0	367.3	360.0	358.8	415.6	376.8	368.5
	Change, %		0.8	1.0	7.0	9.9	8.3	10.5	10.9	(4.3)	5.5	7.9
	Soybean	1,058.5	1,074.3	1,064.5	987.0	869.3	864.3	924.3	871.3	1,245.5	945.4	924.9
	Change, %		(1.5)	(0.6)	7.2	21.8	22.5	14.5	21.5	(15.0)	12.0	14.4
	Wheat	462.0	467.8	474.8	467.0	448.0	495.0	515.3	470.0	588.0	508.1	466.1
	Change, %		(1.2)	(2.7)	(1.1)	3.1	(6.7)	(10.3)	(1.7)	(21.4)	(9.1)	(0.9)
	Rice	11.6	11.8	11.9	10.5	10.6	12.1	9.4	11.6	14.0	11.1	10.8
	Change, %		(1.3)	(2.6)	10.7	9.6	(4.0)	23.2	0.4	(16.8)	5.1	7.8
	Oats	189.5	189.5	197.0	197.5	182.8	243.8	242.5	217.3	373.1	250.2	191.4
	Change, %		0.0	(3.8)	(4.1)	3.7	(22.3)	(21.9)	(12.8)	(49.2)	(24.3)	(1.0)
MYR/mt	**Palm Oil**	2,519.0	2,557.0	2,626.0	2,677.0	2,483.0	2,143.0	2,132.0	2,398.0	2,415.1	2,190.3	2,525.9
	Change, %		(1.5)	(4.1)	(5.9)	1.4	17.5	18.2	5.0	4.3	15.0	(0.3)
	Cocoa	2,959.0	2,912.0	2,927.0	3,137.0	2,872.0	3,304.0	3,153.0	3,211.0	3,006.8	3,091.6	2,955.5
	Change, %		1.6	1.1	(5.7)	3.0	(10.4)	(6.2)	(7.8)	(1.6)	(4.3)	0.1
	Cotton	61.5	61.7	61.0	63.1	58.2	60.2	63.3	63.3	76.4	63.3	60.4
	Change, %		(0.4)	0.8	(2.6)	5.6	2.1	(2.9)	(2.9)	(19.5)	(2.9)	1.8
	Sugar	16.8	17.1	16.9	15.3	14.0	15.4	12.3	15.2	16.3	13.1	14.9
	Change, %		(1.6)	(0.5)	10.1	20.0	9.0	36.5	10.2	2.9	27.9	12.9
	Coffee	122.2	124.7	132.7	122.8	117.8	120.0	127.0	126.7	177.1	132.6	121.3
	Change, %		(2.0)	(8.0)	(0.5)	3.7	1.8	(3.8)	(3.6)	(31.0)	(7.9)	0.7
Energy	**WTI**	48.1	47.8	47.7	43.7	31.9	41.8	59.7	37.0	92.9	48.8	37.3
	Change, %		0.7	0.8	9.9	50.9	15.2	(19.5)	29.8	(48.3)	(1.6)	28.9
	Brent	48.4	48.7	49.0	45.1	33.3	44.8	65.4	37.3	99.5	53.7	39.0
	Change, %		(0.8)	(1.3)	7.2	45.3	7.9	(26.0)	29.7	(51.4)	(9.9)	24.1
	Natural Gas	2.1	2.1	2.0	2.1	1.8	2.2	2.9	2.3	4.3	2.6	2.0
	Change, %		(0.3)	1.3	(4.0)	15.3	(7.0)	(28.8)	(12.1)	(51.8)	(21.8)	2.0
	Ethanol	1.6	1.6	1.6	1.5	1.4	1.5	1.6	1.4	2.1	1.5	1.4
	Change, %		0.2	2.7	5.9	13.5	7.7	2.2	15.0	(21.9)	6.6	11.3
	RBOB Gasoline	164.6	163.6	160.6	153.1	96.6	131.3	205.4	126.7	262.6	163.6	130.7
	Change, %		0.6	2.4	7.5	70.3	25.3	(19.9)	29.9	(37.3)	0.6	25.9
	Coal	43.6	43.6	43.5	43.6	43.2	42.4	45.6	43.3	57.5	45.2	43.5
	Change, %		0.0	0.3	0.0	1.1	2.9	(4.3)	0.7	(24.2)	(3.5)	0.4
Metal	**Gold**	1,249.1	1,252.2	1,274.2	1,232.5	1,225.6	1,069.2	1,206.2	1,061.4	1,266.5	1,160.6	1,208.4
	Change, %		(0.2)	(2.0)	1.3	1.9	16.8	3.6	17.7	(1.4)	7.6	3.4
	Silver	16.4	16.5	17.1	17.0	15.3	14.1	17.1	13.8	19.1	15.7	15.5
	Change, %		(0.9)	(4.4)	(3.5)	7.1	15.8	(4.2)	18.6	(14.1)	4.2	5.6
	Platinum	1,011.7	1,022.0	1,051.3	1,010.0	944.4	845.3	1,147.6	891.1	1,384.6	1,055.7	954.5
	Change, %		(1.0)	(3.8)	0.2	7.1	19.7	(11.8)	13.5	(26.9)	(4.2)	6.0
	Palladium	551.5	561.0	591.2	602.6	501.2	540.9	784.0	563.0	803.4	691.9	547.0
	Change, %		(1.7)	(6.7)	(8.5)	10.0	2.0	(29.7)	(2.0)	(31.4)	(20.3)	0.8
	Copper	4,562.0	4,578.0	4,645.0	5,031.0	4,645.0	4,490.0	6,161.5	4,705.0	6,828.1	5,503.1	4,722.3
	Change, %		(0.3)	(1.8)	(9.3)	(1.8)	1.6	(26.0)	(3.0)	(33.2)	(17.1)	(3.4)
	Uranium	28.5	28.7	28.4	28.0	33.4	36.1	35.3	34.4	33.5	36.9	30.9
	Change, %		(0.5)	0.5	1.8	(14.7)	(21.1)	(19.1)	(17.2)	(15.0)	(22.7)	(7.7)
	HR Coil	585.0	581.0	570.0	487.0	396.0	380.0	450.0	391.0	653.2	461.5	449.3
	Change, %		0.7	2.6	20.1	47.7	53.9	30.0	49.6	(10.4)	26.8	30.2
	Scrap	270.0	270.0	270.0	410.0	250.0	190.0	250.0	250.0	401.3	252.9	304.5
	Change, %		0.0	0.0	(34.1)	8.0	42.1	8.0	8.0	(32.7)	6.7	(11.3)
	Zinc	1,841.0	1,866.0	1,900.0	1,909.0	1,737.0	1,546.0	2,178.0	1,609.0	2,165.0	1,941.9	1,755.2
	Change, %		(1.3)	(3.1)	(3.6)	6.0	19.1	(15.5)	14.4	(15.0)	(5.2)	4.9

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		05/23	1D	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Crude Oil	**WTI**	48.1	47.8	47.7	43.7	31.9	43.0	59.7	37.0	93.1	48.8	37.1
	Change, %		*0.7*	*0.8*	*9.9*	*50.9*	*11.7*	*(19.5)*	*29.8*	*(48.4)*	*(1.4)*	*29.5*
	Dubai	44.9	45.7	45.4	41.0	29.7	41.4	63.0	32.2	96.7	50.8	34.4
	Change, %		*(1.7)*	*(1.1)*	*9.4*	*51.1*	*8.4*	*(28.8)*	*39.4*	*(53.6)*	*(11.7)*	*30.5*
Crude Oil Product	**Gasoline(휘발유)**	60.4	60.9	60.0	55.6	44.2	59.6	85.3	54.8	110.9	69.5	52.1
	Change, %		*(0.8)*	*0.8*	*8.8*	*36.6*	*1.5*	*(29.1)*	*10.3*	*(45.5)*	*(13.1)*	*16.1*
	Kerosene(등유)	57.1	57.0	55.0	51.6	41.8	57.1	77.2	44.2	112.6	64.7	45.8
	Change, %		*0.1*	*3.9*	*10.7*	*36.7*	*0.0*	*(26.0)*	*29.2*	*(49.3)*	*(11.8)*	*24.8*
	Diesel(경유)	56.6	56.6	55.4	51.2	39.5	57.2	78.9	43.2	112.8	64.8	44.2
	Change, %		*(0.1)*	*2.1*	*10.6*	*43.1*	*(1.2)*	*(28.3)*	*30.9*	*(49.8)*	*(12.7)*	*28.0*
	Bunker-C	35.0	35.4	35.4	30.9	23.6	34.7	59.4	25.3	86.5	45.3	27.2
	Change, %		*(1.0)*	*(1.0)*	*13.4*	*48.5*	*0.9*	*(41.0)*	*38.5*	*(59.5)*	*(22.6)*	*28.8*
	Naphtha	44.6	45.3	45.2	43.2	33.9	48.3	62.5	43.5	94.3	52.6	39.0
	Change, %		*(1.6)*	*(1.3)*	*3.1*	*31.6*	*(7.7)*	*(28.6)*	*2.6*	*(52.7)*	*(15.3)*	*14.4*
Dubai Spread	**Gasoline(휘발유)**	15.6	15.3	14.6	14.6	14.6	18.2	22.3	22.6	14.2	18.7	17.7
	Change		*0.3*	*0.9*	*1.0*	*1.0*	*(2.6)*	*(6.7)*	*(7.0)*	*1.3*	*(3.2)*	*(2.1)*
	Kerosene(등유)	12.3	11.4	9.7	10.6	12.1	15.7	14.3	12.0	15.9	14.0	11.4
	Change		*0.9*	*2.6*	*1.7*	*0.2*	*(3.5)*	*(2.0)*	*0.2*	*(3.6)*	*(1.7)*	*0.9*
	Diesel(경유)	11.7	11.0	10.1	10.1	9.8	15.8	16.0	11.0	16.0	14.0	9.8
	Change		*0.7*	*1.6*	*1.6*	*1.9*	*(4.1)*	*(4.3)*	*0.7*	*(4.3)*	*(2.3)*	*1.9*
	Bunker-C	(9.8)	(10.3)	(10.0)	(10.1)	(6.1)	(6.7)	(3.6)	(6.9)	(10.3)	(5.5)	(7.2)
	Change		*0.4*	*0.1*	*0.3*	*(3.7)*	*(3.2)*	*(6.3)*	*(2.9)*	*0.4*	*(4.3)*	*(2.6)*
	Naphtha	(0.3)	(0.4)	(0.2)	2.2	4.2	6.9	(0.5)	11.3	(2.4)	1.8	4.6
	Change		*0.1*	*(0.1)*	*(2.5)*	*(4.5)*	*(7.2)*	*0.2*	*(11.6)*	*2.1*	*(2.1)*	*(4.9)*
Refining Margin	**Simple(단순)**	0.2	(0.3)	(0.6)	(0.3)	2.0	3.8	4.7	3.2	(0.1)	3.3	1.7
	Change		*0.5*	*0.8*	*0.6*	*(1.7)*	*(3.6)*	*(4.5)*	*(2.9)*	*0.3*	*(3.1)*	*(1.4)*
	Complex(복합)	6.4	5.9	5.4	5.7	6.8	10.1	11.1	9.7	7.1	9.3	7.3
	Change		*0.5*	*1.0*	*0.8*	*(0.3)*	*(3.7)*	*(4.7)*	*(3.3)*	*(0.6)*	*(2.8)*	*(0.9)*
	Complex(lagging)	9.6	12.6	11.1	9.5	12.6	8.1	15.5	2.1	2.3	7.3	9.2
	Change		*(3.0)*	*(1.5)*	*0.1*	*(3.0)*	*1.6*	*(5.9)*	*7.5*	*7.3*	*2.4*	*0.4*

자료 : Petronet, SK증권
참고 1) Crude Oil 가격은 현물(spot) 기준으로 선물(future) 가격과 다를 수 있음
참고 2) Gasoline은 95RON, 경유는 L/P 0.5%, Bunker-C는 380cst/4.0% 기준임

SK securities Happiness Partner

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Petrochemical Price Data

Daily Price			05/23	05/20	05/19	05/18	05/17	05/16	05/13	05/12	05/11	05/10
Spot Price	**Naphtha**	CFR Japan	422.3	424.6	418.4	427.5	429.3	427.3	415.8	419.3	395.0	387.3
	Ethylene	CFR SE Asia	1,130.0	1,135.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,145.0	1,145.0	1,145.0
	Propylene	FOB Korea	705.0	710.0	710.0	710.0	710.0	709.0	715.0	700.0	695.0	698.0
	Butadiene	FOB Korea	1,070.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0	1,075.0
	HDPE	CFR FE Asia	1,120.0	1,120.0	1,130.0	1,130.0	1,110.0	1,130.0	1,130.0	1,135.0	1,135.0	1,130.0
	LDPE	CFR FE Asia	1,130.0	1,130.0	1,140.0	1,140.0	1,130.0	1,150.0	1,150.0	1,150.0	1,150.0	1,150.0
	LLDPE	CFR FE Asia	1,110.0	1,110.0	1,120.0	1,120.0	1,120.0	1,135.0	1,135.0	1,140.0	1,140.0	1,130.0
	MEG	CFR China	614.0	619.0	614.0	618.0	626.0	620.0	619.0	627.0	621.0	618.0
	PP	CFR FE Asia	930.0	930.0	930.0	930.0	935.0	940.0	940.0	955.0	950.0	945.0
	PX	CFR China	764.7	775.3	772.3	781.0	786.8	778.7	769.7	776.8	772.3	769.3
	PTA	CFR China	599.0	603.0	605.0	610.0	602.0	600.0	600.0	606.0	606.0	606.0
	Benzene	FOB Korea	628.0	630.0	630.0	633.0	630.0	631.0	644.5	648.3	645.0	647.0
	Toluene	FOB Korea	582.0	588.0	586.0	588.5	590.0	593.5	590.0	593.0	590.5	593.0
	Xylene	FOB Korea	689.0	695.0	691.0	695.0	691.0	686.0	686.0	681.0	671.0	665.0
	SM	FOB Korea	986.0	994.0	994.0	996.0	999.5	996.5	990.5	1,010.0	1,009.0	1,009.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2014avg.	2015avg.	2016acc.
Spot Price	**Naphtha**	CFR Japan	424.5	415.5	405.0	313.0	326.5	575.5	413.5	865.9	493.0	368.6
	Change, %			*2.2*	*4.8*	*35.6*	*30.0*	*(26.2)*	*2.7*	*(51.0)*	*(13.9)*	*15.2*
	Ethylene	CFR SE Asia	1,130.0	1,125.0	1,125.0	945.0	925.0	1,405.0	1,090.0	1,401.1	1,103.7	1,062.4
	Change, %			*0.4*	*0.4*	*19.6*	*22.2*	*(19.6)*	*3.7*	*(19.3)*	*2.4*	*6.4*
	Propylene	CFR SE Asia	695.0	695.0	742.5	645.0	645.0	895.0	650.0	1,254.2	770.0	639.8
	Change, %			*0.0*	*(6.4)*	*7.8*	*7.8*	*(22.3)*	*6.9*	*(44.6)*	*(9.7)*	*8.6*
	Butadiene	CFR SE Asia	1,025.0	1,045.0	1,035.0	820.0	740.0	1,075.0	720.0	1,281.7	877.5	918.3
	Change, %			*(1.9)*	*(1.0)*	*25.0*	*38.5*	*(4.7)*	*42.4*	*(20.0)*	*16.8*	*11.6*
	Benzene	CFR SE Asia	640.0	657.5	642.5	555.0	537.5	730.0	580.0	1,243.1	690.0	604.0
	Change, %			*(2.7)*	*(0.4)*	*15.3*	*19.1*	*(12.3)*	*10.3*	*(48.5)*	*(7.2)*	*6.0*
	Toluene	CFR SE Asia	650.0	650.0	660.0	585.0	575.0	805.0	630.0	1,082.5	700.8	627.9
	Change, %			*0.0*	*(1.5)*	*11.1*	*13.0*	*(19.3)*	*3.2*	*(40.0)*	*(7.2)*	*3.5*
	Xylene	CFR SE Asia	645.0	645.0	657.5	580.0	570.0	800.0	625.0	1,055.7	699.3	620.7
	Change, %			*0.0*	*(1.9)*	*11.2*	*13.2*	*(19.4)*	*3.2*	*(38.9)*	*(7.8)*	*3.9*
Spread	**Ethylene**	-Naphtha	705.5	709.5	720.0	632.0	598.5	829.5	676.5	535.2	610.6	693.8
	Change, %			*(0.6)*	*(2.0)*	*11.6*	*17.9*	*(14.9)*	*4.3*	*31.8*	*15.5*	*1.7*
	Propylene	-Naphtha	270.5	279.5	337.5	332.0	318.5	319.5	236.5	388.3	277.0	271.2
	Change, %			*(3.2)*	*(19.9)*	*(18.5)*	*(15.1)*	*(15.3)*	*14.4*	*(30.3)*	*(2.3)*	*(0.2)*
	Butadiene	-Naphtha	600.5	629.5	630.0	507.0	413.5	499.5	306.5	415.9	384.5	549.7
	Change, %			*(4.6)*	*(4.7)*	*18.4*	*45.2*	*20.2*	*95.9*	*44.4*	*56.2*	*9.2*
	Benzene	-Naphtha	215.5	242.0	237.5	242.0	211.0	154.5	166.5	377.3	197.0	235.5
	Change, %			*(11.0)*	*(9.3)*	*(11.0)*	*2.1*	*39.5*	*29.4*	*(42.9)*	*9.4*	*(8.5)*
	Toluene	-Naphtha	225.5	234.5	255.0	272.0	248.5	229.5	216.5	216.6	207.8	259.3
	Change, %			*(3.8)*	*(11.6)*	*(17.1)*	*(9.3)*	*(1.7)*	*4.2*	*4.1*	*8.5*	*(13.0)*
	Xylene	-Naphtha	220.5	229.5	252.5	267.0	243.5	224.5	211.5	189.9	206.3	252.1
	Change, %			*(3.9)*	*(12.7)*	*(17.4)*	*(9.4)*	*(1.8)*	*4.3*	*16.1*	*6.9*	*(12.5)*

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	1,185.0	1,185.0	1,200.0	1,100.0	1,075.0	1,395.0	1,065.0	1,524.9	1,230.1	1,140.2
	Change, %			0.0	(1.3)	7.7	10.2	(15.1)	11.3	(22.3)	(3.7)	3.9
	MEG	CFR SE Asia	622.5	622.5	675.0	650.0	572.5	935.0	617.5	934.1	780.8	644.9
	Change, %			0.0	(7.8)	(4.2)	8.7	(33.4)	0.8	(33.4)	(20.3)	(3.5)
	PVC	CFR SE Asia	825.0	830.0	820.0	725.0	725.0	875.0	715.0	1,013.9	820.8	768.1
	Change, %			(0.6)	0.6	13.8	13.8	(5.7)	15.4	(18.6)	0.5	7.4
	PP	CFR SE Asia	965.0	995.0	1,035.0	850.0	820.0	1,365.0	835.0	1,503.0	1,109.8	935.0
	Change, %			(3.0)	(6.8)	13.5	17.7	(29.3)	15.6	(35.8)	(13.0)	3.2
	2-EH	CFR Korea	810.0	810.0	820.0	690.0	685.0	1,075.0	680.0	1,397.1	930.1	744.5
	Change, %			0.0	(1.2)	17.4	18.2	(24.7)	19.1	(42.0)	(12.9)	8.8
	ABS	CFR SE Asia	1,270.0	1,285.0	1,345.0	1,140.0	1,100.0	1,665.0	1,130.0	1,897.7	1,431.1	1,230.2
	Change, %			(1.2)	(5.6)	11.4	15.5	(23.7)	12.4	(33.1)	(11.3)	3.2
	SBR	CFR SE Asia	1,510.0	1,545.0	1,450.0	1,210.0	1,210.0	1,500.0	1,150.0		1,332.1	1,345.5
	Change, %			(2.3)	4.1	24.8	24.8	0.7	31.3		13.4	12.2
	SM	CFR SE Asia	1,045.0	1,047.5	1,090.0	995.0	905.0	1,420.0	910.0	1,547.1	1,100.7	1,041.5
	Change, %			(0.2)	(4.1)	5.0	15.5	(26.4)	14.8	(32.5)	(5.1)	0.3
	Caustic	FOB NEA	292.5	295.0	290.0	287.5	285.0	300.0	285.0	310.0	296.8	287.4
	Change, %			(0.8)	0.9	1.7	2.6	(2.5)	2.6	(5.7)	(1.4)	1.8
	PX	CFR SE Asia	795.0	787.5	805.0	735.0	705.0	932.5	762.5	1,228.5	842.9	768.7
	Change, %			1.0	(1.2)	8.2	12.8	(14.7)	4.3	(35.3)	(5.7)	3.4
	PO	CFR China	1,312.5	1,227.5	1,247.5	1,227.5	995.0	1,750.0	1,257.5	2,179.2	1,683.4	1,220.4
	Change, %			6.9	5.2	6.9	31.9	(25.0)	4.4	(39.8)	(22.0)	7.6
	Caprolactam	CFR SE Asia	1,340.0	1,340.0	1,320.0	1,110.0	1,250.0	1,810.0	1,260.0	2,233.4	1,581.5	1,242.9
	Change, %			0.0	1.5	20.7	7.2	(26.0)	6.3	(40.0)	(15.3)	7.8
	PTA	CFR SE Asia	627.5	625.0	625.0	582.5	555.0	755.0	585.0	911.7	648.0	599.8
	Change, %			0.4	0.4	7.7	13.1	(16.9)	7.3	(31.2)	(3.2)	4.6
Spread	HDPE		760.5	769.5	795.0	787.0	748.5	819.5	651.5	659.0	737.1	771.6
	Change, %			(1.2)	(4.3)	(3.4)	1.6	(7.2)	16.7	15.4	3.2	(1.4)
	MEG		198.0	207.0	270.0	337.0	246.0	359.5	204.0	68.2	287.8	276.3
	Change, %			(4.3)	(26.7)	(41.2)	(19.5)	(44.9)	(2.9)	190.2	(31.2)	(28.3)
	PVC		400.5	414.5	415.0	412.0	398.5	299.5	301.5	148.0	327.8	399.5
	Change, %			(3.4)	(3.5)	(2.8)	0.5	33.7	32.8	170.6	22.2	0.3
	PP		540.5	579.5	630.0	537.0	493.5	789.5	421.5	637.1	616.8	566.4
	Change, %			(6.7)	(14.2)	0.7	9.5	(31.5)	28.2	(15.2)	(12.4)	(4.6)
	2-EH		385.5	394.5	415.0	377.0	358.5	499.5	266.5	531.3	437.0	375.9
	Change, %			(2.3)	(7.1)	2.3	7.5	(22.8)	44.7	(27.4)	(11.8)	2.5
	ABS		845.5	869.5	940.0	827.0	773.5	1,089.5	716.5	1,031.9	938.1	861.6
	Change, %			(2.8)	(10.1)	2.2	9.3	(22.4)	18.0	(18.1)	(9.9)	(1.9)
	SBR	BD spread	485.0	500.0	415.0	390.0	470.0	425.0	430.0		454.7	427.1
	Change, %			(3.0)	16.9	24.4	3.2	14.1	12.8		6.7	13.5
	SM		620.5	632.0	685.0	682.0	578.5	844.5	496.5	681.2	607.7	673.0
	Change, %			(1.8)	(9.4)	(9.0)	7.3	(26.5)	25.0	(8.9)	2.1	(7.8)
	Caustic											
	Change, %											
	PX		370.5	372.0	400.0	422.0	378.5	357.0	349.0	362.6	349.9	400.1
	Change, %			(0.4)	(7.4)	(12.2)	(2.1)	3.8	6.2	2.2	5.9	(7.4)
	PO	propylene sprea	617.5	532.5	505.0	582.5	350.0	855.0	607.5	925.0	913.4	580.6
	Change, %			16.0	22.3	6.0	76.4	(27.8)	1.6	(33.2)	(32.4)	6.4
	Caprolactam	benzene sprea	700.0	682.5	677.5	555.0	712.5	1,080.0	680.0	990.3	891.6	638.8
	Change, %			2.6	3.3	26.1	(1.8)	(35.2)	2.9	(29.3)	(21.5)	9.6
	PTA	px spread	71.0	73.8	61.5	68.0	61.5	102.3	51.3	51.8	58.0	61.7
	Change, %			(3.7)	15.4	4.4	15.4	(30.6)	38.5	37.2	22.4	15.1

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	05/23	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	52.3	1.8	1.3	(0.7)	11.2	(1.4)	1.9	1.5	58,679	14.9	13.4	2.4	2.4	8.1	7.6
Du Pont	USD	67.0	1.9	4.1	1.6	13.9	0.7	(0.4)	0.6	58,525	21.4	18.2	6.1	4.8	12.1	10.5
Eastman	USD	73.2	(0.2)	(1.0)	(4.4)	16.3	2.5	(6.3)	8.4	10,817	10.4	9.5	2.3	2.1	8.0	7.7
BASF	EUR	67.2	0.2	(0.8)	(5.1)	12.3	(13.4)	(23.6)	(4.9)	69,223	14.8	13.2	2.0	1.9	7.6	7.0
Akzo Nobel	EUR	61.7	0.2	0.4	(2.9)	14.8	(6.3)	(11.7)	(0.0)	17,212	14.7	14.0	2.3	2.1	8.0	7.7
Arkema	EUR	71.2	(0.5)	0.4	0.6	31.7	6.1	1.3	10.2	6,024	14.3	12.2	1.4	1.3	6.1	5.7
Lanxess	EUR	41.8	(1.5)	(1.3)	(8.6)	12.3	(12.8)	(19.6)	(2.1)	4,285	19.4	14.8	1.5	1.4	5.5	5.1
Sumitomo Chemical	JPY	485	(1.2)	1.5	(8.3)	(4.0)	(29.5)	(30.4)	(30.8)	7,342	8.9	7.9	0.9	0.8	6.7	6.2
Mitsubishi Chemical	JPY	558	(0.9)	(0.5)	(7.1)	(7.8)	(32.4)	(28.4)	(27.9)	7,688	9.0	8.1	0.8	0.7	5.5	5.2
Shin-Etsu Chemical	JPY	6,257	(1.3)	0.3	(0.7)	10.9	(12.8)	(17.2)	(5.4)	24,723	17.7	16.4	1.3	1.2	6.1	5.6
Asahi Kasei	JPY	710	(1.3)	(2.3)	(11.9)	8.8	(8.2)	(35.8)	(13.7)	9,104	10.6	9.4	0.8	0.8	5.0	4.8
JSR	JPY	1,590	(0.9)	3.5	(3.9)	1.1	(16.8)	(28.6)	(16.3)	3,287	13.5	12.6	1.0	0.9	5.4	5.0
Nitto Denko	JPY	6,732	(0.3)	(3.8)	5.1	11.2	(19.3)	(26.8)	(24.5)	10,696	16.3	14.5	1.6	1.5	6.6	6.0
SABIC	SAR	80.0	(2.9)	(4.6)	0.8	10.2	(10.0)	(23.9)	4.5	63,937	16.2	14.1	1.4	1.4	7.5	6.8
Yansab	SAR	40.2	(3.2)	(0.5)	(1.4)	23.2	(10.3)	(25.7)	24.2	6,033	16.6	14.6	1.5	1.4	8.6	8.1
Formosa Plastics	TWD	77.0	0.9	(0.3)	(4.9)	(0.5)	1.3	(0.5)	0.0	15,020	15.8	14.6	1.6	1.6	23.1	20.9
Formosa Fiber	TWD	80.6	(0.2)	(0.4)	(4.2)	11.3	12.1	2.8	8.9	14,477	16.3	15.7	1.6	1.5	13.6	12.7
Nan Ya Plastics	TWD	60.8	2.7	1.8	(6.5)	(0.8)	(1.6)	(17.3)	(0.3)	14,776	13.9	14.0	1.4	1.4	13.7	13.6
Sinopec Shanghai	CNY	6.11	0.0	(0.7)	(11.7)	5.5	(14.5)	(33.4)	(5.7)	8,475	16.9	17.5	2.9	2.6	8.4	8.6
Sinopec Yizheng(Fibe	CNY	3.96	0.3	(1.5)	(13.5)	(40.1)	(59.5)	(58.2)	(51.5)	7,655	#N/A N/A	396.0	2.3	2.3	15.6	13.2
Reliance	INR	930	(0.4)	(4.7)	(10.5)	(2.1)	(2.5)	2.9	(8.4)	44,665	10.6	9.0	1.1	1.0	8.6	7.1
Industries Qatar	QAR	97.6	(0.5)	(3.3)	(8.6)	(10.9)	(11.3)	(31.3)	(12.2)	16,215	14.4	13.1	1.8	1.7	54.4	53.3
PTT Chemical	THB	59.3	0.9	(1.7)	(7.1)	4.9	5.3	(9.2)	18.5	7,407	10.8	9.9	1.1	1.0	5.3	5.0
Petronas	MYR	6.4	0.5	3.4	(4.0)	(9.1)	(3.3)	2.9	(11.6)	12,570	18.8	17.0	2.0	1.9	9.2	8.4
LG화학	KRW	274,000	(0.2)	(3.4)	(11.0)	(8.5)	(14.9)	1.9	(16.6)	15,327	0.0	13.5	0.0	1.4	0.0	5.3
롯데케미칼	KRW	289,500	3.6	0.3	(7.4)	(6.5)	16.5	19.9	18.9	8,376	0.0	7.2	0.0	1.1	0.0	4.1
한화케미칼	KRW	23,250	(0.4)	(0.4)	(10.4)	(9.7)	(8.5)	20.2	(14.5)	3,234	0.0	8.9	0.0	0.8	0.0	8.4
금호석유	KRW	64,500	1.1	(3.4)	(11.3)	5.9	9.7	(19.6)	23.8	1,659	0.0	15.5	0.0	1.3	0.0	10.4
SKC	KRW	27,850	0.2	(4.1)	(7.5)	(10.6)	(22.9)	(32.8)	(17.6)	869	0.0	8.3	0.0	0.7	0.0	7.6
국도화학	KRW	59,000	(1.3)	(6.5)	(12.6)	3.5	(0.8)	(9.2)	(0.5)	289	0.0	6.8	0.0	0.7	0.0	3.7
효성	KRW	4,335	(1.7)	6.3	(7.3)	58.5	52.4	16.8	66.1	3,379	0.0	7.1	0.0	1.1	0.0	6.8
Average			**(0.2)**	**(0.7)**	**(6.0)**	**5.1**	**(6.7)**	**(13.5)**	**(2.5)**							
Refinery																
Valero	USD	54.5	(3.0)	(1.3)	(11.1)	(5.3)	(25.1)	(10.7)	(23.0)	25,585	9.1	7.8	1.2	1.1	4.8	4.4
Conoco Phillips	USD	43.6	0.0	(1.1)	(8.5)	32.4	(18.2)	(33.1)	(6.6)	53,981	#N/A N/A	184.7	1.4	1.4	14.4	7.9
Formosa Petrochemi	TWD	89.8	3.5	5.0	(0.9)	8.8	15.7	14.2	14.0	26,214	18.7	18.8	3.1	3.0	11.8	11.8
Tesoro	USD	77.0	(2.6)	(0.9)	(10.7)	2.0	(34.5)	(14.5)	(26.9)	9,239	10.4	10.2	1.6	1.5	5.9	5.6
Marathon Petroleum	USD	35.6	(2.9)	(0.2)	(14.2)	12.5	(36.9)	(31.0)	(31.4)	18,846	9.8	8.3	1.4	1.2	6.7	6.0
Devon Energy	USD	34.5	0.8	2.2	(1.9)	82.7	(23.1)	(48.8)	7.9	18,099	#N/A N/A	43.6	2.9	2.8	16.6	10.1
Hollyfrontier	USD	27.4	(1.7)	(1.4)	(24.5)	(10.0)	(46.0)	(36.2)	(31.4)	4,830	11.8	8.1	0.9	0.9	6.0	5.0
Phillips 66	USD	77.8	(0.1)	(1.1)	(11.5)	(0.9)	(15.6)	(3.9)	(4.9)	40,901	14.3	11.3	1.7	1.6	8.2	6.9
Murphy Oil	USD	29.6	0.8	(1.4)	(11.9)	83.3	4.0	(31.8)	32.0	5,104	#N/A N/A	#N/A N/A	1.0	1.0	9.4	6.7
JX Holdings	JPY	424.2	0.4	(0.2)	(11.9)	(4.2)	(15.1)	(20.5)	(16.6)	9,680	7.7	7.3	0.6	0.6	8.3	8.4
Cosmo Oil	JPY	164.0	0.0	0.0	0.0	0.0	0.0	(18.8)	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	2,285.0	(0.1)	7.4	(3.5)	28.9	13.7	(2.1)	17.9	3,343	6.6	6.1	0.6	0.6	6.4	6.2
Tonengeneral	JPY	1,016.0	(1.1)	6.6	(3.1)	13.1	(18.3)	(14.2)	(0.6)	3,400	9.8	9.3	1.4	1.3	7.5	7.7
Nesteoil	EUR	28.7	(0.4)	0.9	(2.0)	0.7	13.0	24.2	4.0	0	11.1	11.8	2.1	1.9	6.9	7.3
Ashland	USD	112.5	0.1	(0.3)	(2.9)	21.8	0.3	(12.5)	9.5	6,982	15.8	14.6	2.6	2.5	8.9	8.7
Fuchs Petrolub	EUR	36.3	(1.3)	(0.3)	(7.9)	(1.5)	(18.0)	(9.8)	(16.4)	5,394	20.3	19.3	4.2	3.7	11.7	11.2
SK이노베이션	KRW	153,000	1.3	(1.0)	(3.8)	3.0	22.4	33.0	17.7	11,942	0.0	7.9	0.0	0.8	0.0	4.6
S-Oil	KRW	84,400	1.8	(0.6)	(5.3)	3.9	11.3	22.3	6.3	8,021	0.0	7.8	0.0	1.5	0.0	5.3
GS	KRW	51,300	1.6	(0.6)	(9.2)	(2.8)	1.2	0.6	1.2	4,023	0.0	7.1	0.0	0.7	0.0	8.0
Average			**(0.1)**	**0.6**	**(7.6)**	**14.1**	**(8.9)**	**(10.2)**	**(2.5)**							

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

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Global peers

	Currency	05/23	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	90	(0.2)	0.0	2.4	10.3	11.6	3.6	14.9	371,536	34.4	21.5	2.2	2.1	11.6	8.9
BP	GBP	358	(1.1)	(2.3)	(2.9)	3.5	(6.1)	(21.9)	1.0	96,575	28.9	14.0	1.0	1.0	6.0	4.8
Shell	EUR	1,659	(1.3)	(4.9)	(8.5)	5.3	2.0	(15.8)	8.7	193,166	21.7	12.6	0.9	0.9	6.9	5.0
Chevron	USD	99	(0.4)	(2.8)	(2.6)	17.0	10.4	(5.3)	10.5	187,302	76.0	21.9	1.3	1.3	9.1	6.5
Total	EUR	42	(1.4)	(1.8)	(3.3)	6.5	(7.4)	(11.2)	2.7	117,792	16.1	11.5	1.2	1.2	7.4	5.7
Sinopec	CNY	5	0.0	0.6	(4.1)	4.9	(8.2)	(38.5)	(5.2)	85,234	18.6	12.9	0.8	0.8	5.6	4.9
Petrochina	CNY	7	(0.1)	0.0	(5.0)	(3.7)	(19.3)	(43.0)	(13.8)	191,891	87.8	23.2	1.1	1.1	8.0	6.5
CNOOC	CNY	12	0.3	(0.4)	(2.8)	(6.5)	(29.6)	(55.2)	(20.6)	6,935	89.9	41.3	1.3	1.2	13.9	11.5
Gazprom	RUB	144	(1.6)	(8.7)	(10.5)	3.2	(5.1)	(3.0)	6.0	51,105	3.8	3.5	0.3	0.3	3.5	3.2
Rosneft	RUB	313	(3.6)	(2.9)	(2.8)	9.9	13.9	25.3	23.6	49,639	10.6	6.9	1.1	0.9	4.7	4.0
Anadarko	USD	49	(0.2)	0.1	(6.4)	39.4	(18.5)	(42.9)	1.3	25,113	#N/A N/A	#N/A N/A	2.1	2.2	13.5	8.7
Petrobras	BRL	9	(4.5)	(12.8)	(12.8)	72.8	5.2	(35.0)	26.9	36,300	20.5	5.6	0.4	0.4	5.7	5.0
Lukoil	USD	2,647	(2.4)	(0.6)	(8.4)	1.4	(0.2)	4.3	12.8	33,776	6.5	5.0	0.3	0.4	N/A	N/A
Kinder	USD	17	(1.8)	1.2	(3.8)	0.1	(26.4)	(59.2)	16.8	47,497	26.2	22.5	1.1	1.1	11.3	10.7
Statoil	NOK	134	(0.2)	(1.0)	(3.2)	9.5	0.5	(11.0)	8.3	51,166	35.4	15.5	1.2	1.2	4.1	3.0
BHP	AUD	18	(2.5)	(1.0)	(9.8)	4.2	(8.5)	(37.2)	2.9	67,376	34.9	19.8	1.2	1.2	7.8	6.5
PTT E&P	THB	76	0.7	0.0	2.0	9.4	6.7	(33.5)	31.9	8,401	27.0	15.7	0.8	0.7	2.9	2.6
Petronas gas	MYR	21	(0.8)	1.7	(3.3)	(5.8)	(7.2)	(4.1)	(6.3)	10,290	23.1	22.8	3.5	3.3	13.5	13.1
Chesapeake	USD	4	(1.3)	(5.9)	(44.0)	67.6	(28.6)	(75.6)	(18.4)	2,513	#N/A N/A	9.7	4.7	2.7	15.6	10.2
Noble Energy	USD	36	0.2	(1.2)	(0.9)	19.4	(1.7)	(18.5)	8.4	15,336	#N/A N/A	#N/A N/A	1.6	1.7	10.9	9.2
Average		**0**	**(1.1)**	**(2.1)**	**(6.5)**	**13.4**	**(5.8)**	**(23.9)**	**5.6**							
PV																
WACKER	EUR	82.5	(2.9)	(0.7)	2.9	19.1	(0.3)	(19.7)	6.4	4,824	30.5	17.8	1.6	1.5	5.5	5.0
GCL-Poly	HKD	1.1	0.9	1.8	(8.3)	(6.7)	(31.3)	(47.4)	(4.3)	2,656	7.0	6.4	0.8	0.7	6.0	5.3
REC	NOK	107.5	0.0	0.0	0.0	0.0	0.0	2.4	0.0	519	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
SunPower	USD	16.6	4.2	(0.8)	(23.5)	(19.3)	(28.3)	(49.2)	(44.8)	2,289	12.2	10.2	1.5	1.5	7.7	6.2
Canadian Solar	USD	18.5	2.7	5.9	(2.6)	(9.2)	(12.3)	(45.0)	(36.0)	1,065	8.5	6.8	1.0	0.9	8.5	7.0
JA Solar	USD	7.9	(0.9)	(2.1)	(10.8)	(10.5)	(7.9)	(9.8)	(19.0)	374	5.1	4.3	0.4	0.4	2.5	2.1
Trina Solar	USD	8.5	1.7	3.7	(14.6)	(14.8)	(7.2)	(33.1)	(23.3)	781	6.1	5.4	0.6	0.5	5.8	5.0
Solar City	USD	24.1	9.6	19.9	(27.9)	34.0	(14.7)	(61.6)	(52.9)	2,364	#N/A N/A	#N/A N/A	6.5	#N/A N/A	#N/A N/A	#N/A N/A
Yingli	USD	3.5	(3.0)	3.5	(31.1)	(18.1)	(46.7)	(68.6)	(22.3)	64	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	6.4	13.0
First Solar	USD	49.0	2.1	(0.1)	(20.3)	(20.6)	(10.6)	(10.9)	(25.7)	5,014	11.4	15.5	0.8	0.8	5.7	6.5
한화솔라원	USD	12.2	0.2	5.9	(10.0)	(23.5)	(28.6)	(43.0)	(44.6)	1,021	7.2	7.1	#N/A N/A	#N/A N/A	5.6	5.4
OCI	KRW	105,500	(0.9)	(3.7)	(2.3)	20.8	35.6	7.5	40.7	2,124	0.0	8.0	0.0	0.8	0.0	8.8
웅진에너지	KRW	1,140	3.6	0.4	(9.2)	(28.8)	(22.2)	(23.5)	(34.1)	104	N/A	0.0	0.8	0.0	8.8	0.0
신성솔라에너지	KRW	1,635	1.9	(2.1)	0.6	(2.3)	26.2	26.2	(11.9)	139	N/A	0.8	0.0	8.8	0.0	7.1
Average			**1.4**	**2.3**	**(11.2)**	**(5.7)**	**(10.6)**	**(26.8)**	**(19.4)**							
Gas Company																
Towngas China	HKD	4.1	(1.0)	(1.0)	(4.7)	3.0	(18.4)	(50.1)	(9.1)	1,403	8.6	8.1	0.8	0.7	10.5	9.9
Kulun	HKD	6.1	(0.3)	1.5	(11.7)	8.8	(7.4)	(29.0)	(11.7)	6,329	12.6	9.9	0.9	0.9	5.2	4.8
Beijing Enterprise	HKD	38.4	(1.8)	(0.3)	(7.3)	6.2	(24.5)	(44.0)	(18.3)	6,271	7.7	7.3	0.8	0.7	13.1	11.9
ENN Energy	HKD	36.3	(1.2)	(3.7)	(12.7)	(1.2)	(13.3)	(30.1)	(12.3)	5,051	11.4	10.2	2.1	1.8	7.4	6.7
China Resources Gas	HKD	21.3	(0.9)	(2.3)	(5.8)	7.5	(1.4)	(11.8)	(8.2)	6,085	13.7	12.3	2.4	2.1	8.8	7.9
China Gas Holdings	HKD	10.7	0.2	0.8	(5.6)	4.7	(9.0)	(19.6)	(4.1)	6,777	12.0	10.6	2.2	1.9	10.0	8.9
Shenzen Gas	HKD	11.5	0.3	(4.8)	(10.4)	(6.0)	(13.1)	(16.3)	(19.8)	2,812	10.7	9.9	1.1	1.0	7.4	6.8
Shann Xi	CNY	10.1	1.7	1.3	2.8	9.1	(24.6)	(43.1)	(19.7)	1,716	16.1	13.7	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Suntien	HKD	0.8	(1.2)	0.0	(3.5)	(8.9)	(37.4)	(58.4)	(33.9)	392	8.7	6.6	0.3	0.3	8.7	7.2
China Oil & Gas	HKD	0.5	1.9	1.9	(1.9)	16.5	(7.0)	(43.9)	0.0	398	9.8	8.5	1.0	0.9	5.8	5.2
Average			**(0.2)**	**(0.7)**	**(6.1)**	**4.0**	**(15.6)**	**(34.6)**	**(13.7)**							
EV																
LG화학	KRW	274,000	(0.2)	(3.4)	(11.0)	(8.5)	(14.9)	1.9	(16.6)	15,327	12.7	11.4	1.4	1.3	5.4	5.0
삼성SDI	KRW	107,500	0.5	0.0	(3.2)	11.2	(15.4)	(11.9)	(5.7)	6,240	16.6	23.3	0.7	0.6	#N/A N/A	7.6
Panasonic	JPY	963.0	(0.3)	3.1	(7.8)	10.7	(32.6)	(46.4)	(22.4)	21,601	11.9	10.3	1.1	1.0	3.3	3.0
GS Yuasa	JPY	455.0	(1.7)	2.9	(0.2)	2.5	(0.4)	(16.4)	0.7	1,721	12.7	11.0	1.1	1.0	6.0	5.5
NEC	JPY	249.0	2.0	0.0	(12.0)	(10.8)	(40.0)	(39.4)	(35.3)	5,931	9.6	8.6	0.7	0.7	5.4	5.2
BYD Auto	CNY	59.4	0.6	(1.9)	(4.0)	8.6	(8.4)	(21.8)	(7.7)	19,087	36.6	28.9	4.1	3.6	15.4	13.2
Tesla Motors	USD	216.2	(1.8)	3.8	(14.8)	22.0	(0.7)	(12.7)	(9.9)	31,542	301.6	80.6	16.5	13.6	42.1	23.9
Kandi Technologies	USD	6.7	0.9	5.3	(12.5)	(9.6)	(31.7)	(32.6)	(38.4)	320	#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			**(0.0)**	**1.3**	**(8.2)**	**3.3**	**(18.0)**	**(22.4)**	**(16.9)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임