SK Energy Daily

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SK증권

1. News Summary (3 page)

2018년 6월 29일

News		Conclusion
WTI comment	'이란 제재' 영향 부담…WTI, 73달러 돌파	
Headline	미국, "이란산 카펫과 캐비어도 수입하지 마라" 경제 제재 재개	이란산 원유를 주로 수입하는 중국, 인도, 한국은 美 원유 수입 늘릴 것
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	73.5	0.9	12.1	10.1	13.1	63.5
Dubai	$/bbl	75.2	1.1	5.5	(0.8)	15.1	62.2
Gasoline	$/bbl	83.4	1.6	4.5	(7.1)	3.6	39.4
Diesel	$/bbl	87.1	1.2	3.3	(3.9)	6.6	48.2
Complex margin	$/bbl	5.4	0.3	(0.5)	(2.4)	(3.4)	(2.6)
1M lagging	$/bbl	4.8	1.2	4.1	(8.2)	(5.4)	1.1
Petrochemical			%	%	%	%	%
Naphtha	$/t	652	1.5	5.3	(4.8)	8.3	60.9
Butadiene	$/t	1,590	0.0	(3.0)	(7.6)	15.2	72.8
HDPE	$/t	1,350	0.0	(0.4)	(1.5)	2.3	25.0
MEG	$/t	895	0.0	1.5	(1.1)	(3.7)	11.2
PX	$/t	966	0.1	4.1	(1.2)	4.3	26.5
SM	$/t	1,317	(1.2)	(1.9)	(5.2)	3.9	19.3
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.94	(1.4)	(1.1)	(0.8)	3.3	2.3
Natural rubber	$/t	1,370	2.2	3.8	(2.1)	1.5	(4.9)
Cotton	C/lbs	84.9	(1.0)	2.1	(8.8)	4.3	14.8

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	06/25	$/t	1,260	0.0	7.2	(0.4)	44.0
Propylene	06/25	$/t	1,005	(1.0)	(2.7)	5.2	35.4
Benzene	06/25	$/t	805	(3.3)	(5.8)	(5.8)	6.3
Toluene	06/25	$/t	795	(2.5)	(3.6)	10.4	25.2
Xylene	06/25	$/t	825	(0.3)	(1.2)	8.2	34.7
PP	06/25	$/t	1,293	0.0	(0.4)	1.6	24.6
PVC	06/25	$/t	935	0.3	1.6	(3.1)	7.5
ABS	06/25	$/t	2,040	(1.0)	(1.9)	3.6	14.0
SBR	06/25	$/t	1,800	(5.3)	(4.8)	5.9	26.3
SM	06/25	$/t	1,375	(7.9)	(4.5)	6.8	22.2
BPA	06/25	$/t	1,788	0.0	2.9	1.7	22.6
Caustic	06/25	$/t	491	(8.9)	(12.3)	(22.2)	12.2
2-EH	06/25	$/t	1,110	(0.9)	(5.9)	(1.8)	19.4
Caprolactam	06/25	$/t	2,130	(0.9)	1.4	(3.2)	32.3
Solar				%	%	%	%
Polysilicon	06/27	$/kg	11.3	(4.9)	(22.9)	(24.3)	(18.6)
Module	06/27	$/W	0.27	(2.9)	(7.5)	(10.6)	(18.2)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.0	0.3	2.9	4.1	12.6	0.5
Shell	EUR	2,648	0.3	4.9	3.5	18.6	27.7
Petrochina	CNY	7.71	2.7	6.1	(5.2)	1.4	0.3
Gazprom	RUB	138.8	(0.2)	3.2	(4.4)	(1.2)	15.9
Petrobras	BRL	16.6	0.3	9.9	(1.8)	(21.7)	37.4
Refinery							
Phillips66	USD	111.7	0.9	0.3	(3.3)	18.5	36.6
Valero	USD	109.1	(0.4)	(1.9)	(8.1)	20.9	61.7
JX	JPY	773.2	(1.2)	4.0	12.6	22.1	57.7
Neste Oil	EUR	66.6	0.7	1.7	(1.4)	19.4	92.9

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	81.1	(0.6)	(2.7)	(6.4)	(0.3)	(3.5)
DowDuPont	USD	66.2	0.8	1.3	0.7	6.0	4.6
SABIC	SAR	126.2	(0.8)	0.2	4.3	7.5	23.3
Formosa Pla.	TWD	109.0	(0.9)	0.5	(0.9)	5.8	18.0
Shin-Etsu	JPY	9,951	(0.4)	(0.8)	(11.9)	(9.0)	(2.6)
Renewable							
Wacker	EUR	107.7	(4.1)	(5.7)	(27.6)	(18.6)	11.9
First Solar	USD	52.13	2.3	(0.3)	(23.6)	(24.8)	28.7
GCL-Poly	HKD	0.73	(3.9)	0.0	(21.5)	(25.5)	(8.8)
Tesla Motors	USD	349.9	1.6	0.7	25.5	35.7	(5.7)

4. Coverage Summary

	06/28	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,314	(1.2)	(1.0)	(5.8)	(5.4)	(5.0)	(3.2)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,810	0.4	(0.3)	(1.8)	(4.7)	(2.8)	7.1				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	334,000	(0.4)	(4.4)	(2.8)	(13.4)	(15.3)	18.0	매수	450,000	34.7	11.56	1.54
롯데케미칼	337,500	(0.3)	(2.3)	(9.5)	(22.1)	(6.9)	1.0	매수	480,000	42.2	9.74	0.95
한화케미칼	21,850	1.6	(0.2)	(19.2)	(26.7)	(28.0)	(26.7)	매수	39,000	78.5	7.78	0.56
금호석유화학	117,000	1.7	5.4	12.0	21.4	19.6	62.0	매수	150,000	28.2	11.39	1.76
KCC	328,000	(0.3)	0.6	(6.7)	(5.1)	(10.6)	(21.9)	매수	450,000	37.2	12.01	0.51
OCI	107,500	4.9	0.0	(23.2)	(31.5)	(16.7)	18.7	매수	180,000	67.4	8.01	0.72
SKC	43,850	0.1	(3.5)	10.3	14.6	0.0	31.1	매수	50,000	14.0	12.03	1.08
SK이노베이션	201,500	(0.5)	(1.2)	(1.5)	(4.5)	(0.2)	28.8	매수	230,000	14.1	12.30	1.02
S-Oil	112,500	(0.4)	1.4	3.7	(6.3)	(4.7)	19.7	매수	140,000	24.4	13.63	1.77
GS	54,100	0.2	(0.7)	(8.6)	(12.9)	(12.5)	(19.9)	매수	80,000	47.9	5.08	0.68
SK가스	92,100	(1.5)	0.5	(7.0)	(4.1)	(2.3)	(26.3)	매수	130,000	41.2	8.09	0.61
포스코대우	21,100	4.7	3.7	(9.6)	(7.9)	18.2	(1.9)	매수	25,000	18.5	11.21	0.90
LG상사	23,850	0.4	0.4	(12.3)	(12.6)	(11.8)	(20.5)	매수	38,000	59.3	7.78	0.71
한국전력	32,200	(2.6)	(2.1)	(6.5)	(2.0)	(16.1)	(22.5)	매수	45,000	39.8	7.09	0.25
한국가스공사	62,700	0.5	3.8	3.3	29.4	50.4	21.3	매수	60,000	(4.3)	10.93	0.83

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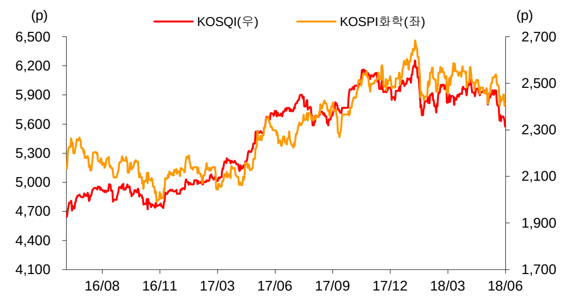
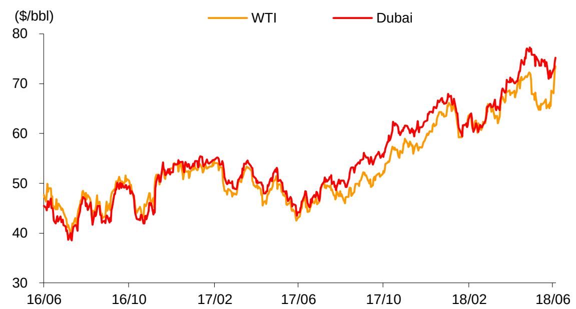
Key Chart

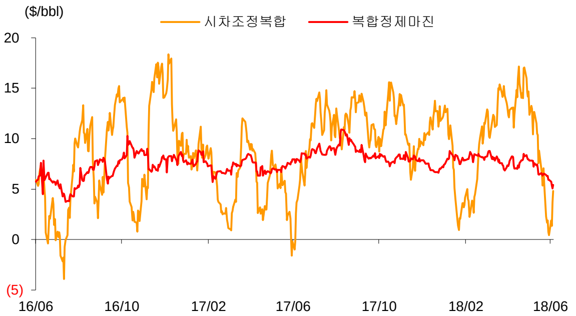
KOSPI/KOSPI화학



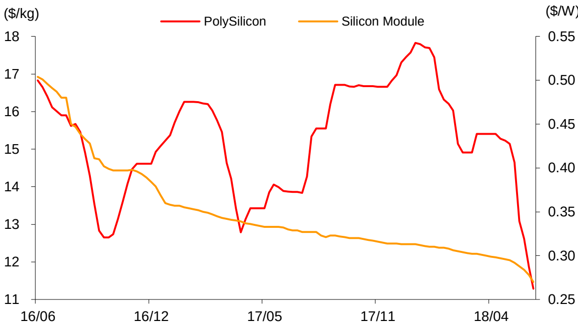
WTI/Dubai



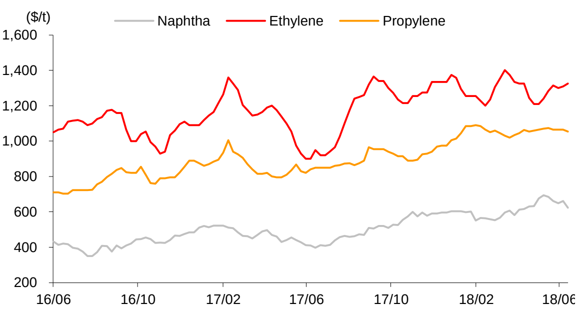
Complex & 1M lagging margin



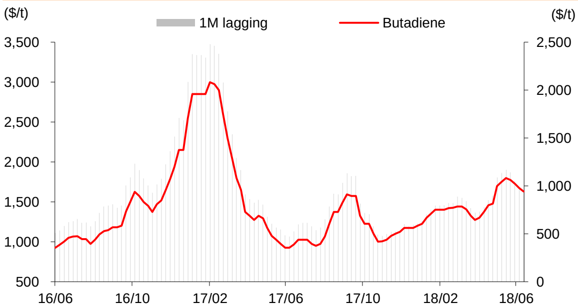
Polysilicon & Module prices



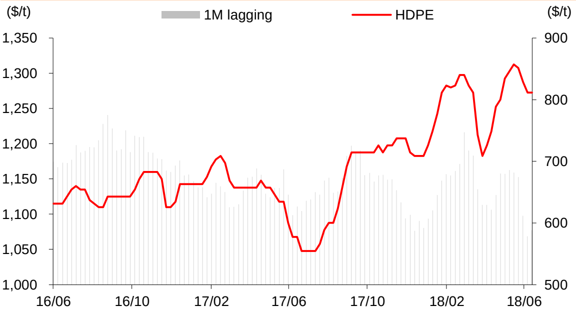
Naphtha/Ethylene/Propylene prices



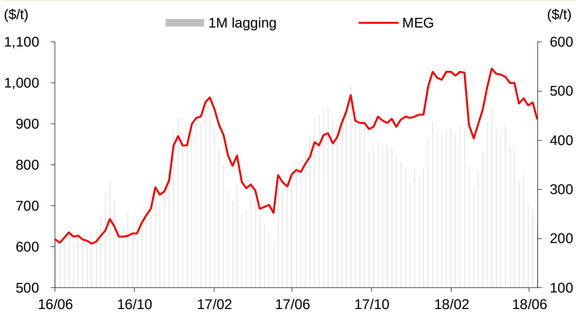
Butadiene price & 1M lagging naphtha spread



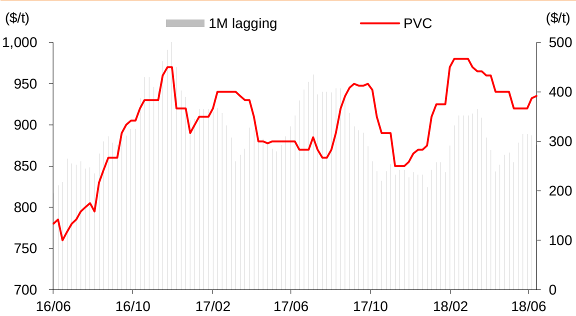
HDPE price & 1M lagging naphtha spread



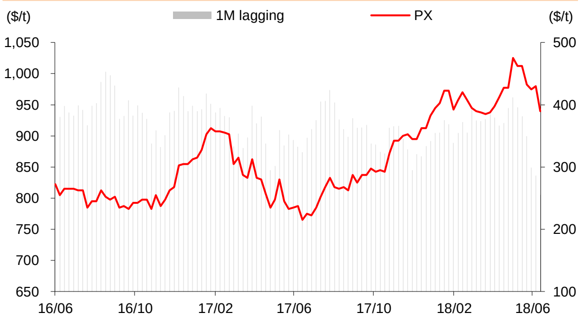
MEG price & 1M lagging naphtha spread



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

News Comment

Headline	(출처: 국민일보)
제목	미국, "이란산 카펫과 캐비어도 수입하지 마라" 경제 제재 재개
결론	이란산 원유를 주로 수입하는 중국, 인도, 한국은 美 원유 수입 늘릴 것
세부	
	1) 미국은 27일 유예해왔던 對 이란 경제 제재를 공식적으로 재개함
	2) 이에 대응해 이란은 9년 만에 일부 핵 시설 재가동에 들어감
	3) 美 재무부는 외국 기업들의 이란 카펫, 피스타치오, 캐비어 수입 금지함
	4) 또한 외국 기업들의 對이란 민항기 부품 수출도 금지함
	5) 이란산 원유를 주로 수입하는 중국, 인도, 한국은 美 원유 수입 늘릴 것

WTI Comment	(출처: 연합뉴스)
제목	'이란 제재' 영향 부담…WTI, 73달러 돌파
상승 요인	미국 정부가 대(對)이란 제재 복원을 선언함 11월 초까지 이란산 원유 수입을 전면 중단할 것을 관련국에게 요구
하락 요인	

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

Issue 2	
제목	
결론	
세부	
	1)
	2)
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	5)

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

Issue 4	
제목	
결론	
세부	
	1)
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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	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.864	0.866	0.862	0.860	0.812	0.837	0.879	0.833	0.904	0.887	0.826
	Change, %		(0.1)	0.3	0.5	6.4	3.2	(1.7)	3.8	(4.4)	(2.5)	4.6
	USD/JPY	110.5	110.3	110.0	109.4	106.9	112.9	112.3	112.6	108.8	112.1	108.7
	Change, %		0.2	0.5	1.0	3.4	(2.1)	(1.6)	(1.9)	1.6	(1.5)	1.6
	USD/KRW	1,123.9	1,117.7	1,112.4	1,074.0	1,070.7	1,070.6	1,143.9	1,066.7	1,160.5	1,130.9	1,075.5
	Change, %		0.6	1.0	4.6	5.0	5.0	(1.7)	5.4	(3.2)	(0.6)	4.5
Agriculture	**Corn**	345.0	352.5	357.0	406.0	373.5	352.0	356.8	350.8	358.5	359.4	375.2
	Change, %		(2.1)	(3.4)	(15.0)	(7.6)	(2.0)	(3.3)	(1.6)	(3.8)	(4.0)	(8.0)
	Soybean	861.3	867.5	880.5	1,041.5	1,018.0	945.8	914.0	951.8	987.5	975.9	1,002.5
	Change, %		(0.7)	(2.2)	(17.3)	(15.4)	(8.9)	(5.8)	(9.5)	(12.8)	(11.7)	(14.1)
	Wheat	479.5	479.5	495.3	543.0	445.5	427.8	457.3	427.0	436.4	436.0	475.8
	Change, %		0.0	(3.2)	(11.7)	7.6	12.1	4.9	12.3	9.9	10.0	0.8
	Rice	11.4	11.7	12.7	11.6	12.4	11.7	11.4	11.7	10.3	11.1	12.2
	Change, %		(2.4)	(10.0)	(1.3)	(8.2)	(2.0)	(0.0)	(2.2)	10.4	3.2	(6.7)
	Oats	243.0	254.0	242.0	248.8	221.8	243.0	266.5	241.0	196.3	252.3	245.5
	Change, %		(4.3)	0.4	(2.3)	9.6	0.0	(8.8)	0.8	23.8	(3.7)	(1.0)
MYR/mt	**Palm Oil**	2,325.0	2,304.0	2,254.0	2,414.0	2,397.0	2,459.0	2,585.0	2,444.0	2,653.8	2,787.3	2,430.7
	Change, %		0.9	3.1	(3.7)	(3.0)	(5.4)	(10.1)	(4.9)	(12.4)	(16.6)	(4.3)
	Cocoa	2,418.0	2,339.0	2,509.0	2,556.0	2,597.0	1,911.0	1,835.0	1,892.0	2,854.0	2,005.2	2,391.5
	Change, %		3.4	(3.6)	(5.4)	(6.9)	26.5	31.8	27.8	(15.3)	20.6	1.1
	Cotton	84.9	85.8	83.2	89.2	80.7	78.8	74.4	78.6	65.6	73.5	83.5
	Change, %		(1.0)	2.1	(4.8)	5.2	7.8	14.1	8.0	29.5	15.5	1.7
	Sugar	11.9	11.7	11.9	12.5	12.2	15.0	12.6	15.2	18.2	15.8	12.7
	Change, %		1.4	0.1	(4.7)	(2.7)	(20.8)	(5.3)	(21.6)	(34.5)	(24.9)	(6.4)
	Coffee	112.2	114.3	112.6	120.4	117.8	124.8	122.8	126.2	136.1	133.0	119.2
	Change, %		(1.9)	(0.4)	(6.9)	(4.8)	(10.1)	(8.6)	(11.1)	(17.6)	(15.7)	(5.9)
Energy	**WTI**	73.5	72.8	65.5	67.9	64.4	59.8	44.7	60.4	43.4	51.0	65.3
	Change, %		0.9	12.1	8.2	14.1	22.7	64.2	21.6	69.3	44.1	12.4
	Brent	77.9	77.6	73.1	75.3	69.5	66.7	47.3	66.9	45.1	54.9	71.0
	Change, %		0.3	6.6	3.4	12.0	16.7	64.6	16.4	72.7	41.9	9.6
	Natural Gas	2.9	3.0	3.0	2.9	2.7	2.9	3.1	3.0	2.6	3.0	2.8
	Change, %		(1.9)	(1.2)	0.0	9.0	0.9	(4.1)	(0.4)	15.2	(2.7)	3.6
	Ethanol	1.4	1.4	1.4	1.5	1.4	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		0.1	(0.2)	(5.6)	(0.6)	8.4	(3.7)	7.3	(6.4)	(5.3)	(1.6)
	RBOB Gasoline	213.3	213.4	201.2	218.1	201.2	179.3	148.3	179.9	140.0	162.9	198.5
	Change, %		(0.0)	6.0	(2.2)	6.0	19.0	43.8	18.5	52.4	30.9	7.4
	Coal	114.4	114.4	114.0	107.4	96.7	101.2	80.7	100.8	65.5	88.2	103.2
	Change, %		0.0	0.4	6.6	18.4	13.0	41.8	13.5	74.8	29.7	10.9
Metal	**Gold**	1,248.3	1,252.3	1,267.2	1,298.1	1,325.1	1,294.9	1,249.3	1,302.6	1,248.5	1,258.6	1,318.9
	Change, %		(0.3)	(1.5)	(3.8)	(5.8)	(3.6)	(0.1)	(4.2)	(0.0)	(0.8)	(5.4)
	Silver	16.0	16.1	16.3	16.5	16.3	16.9	16.8	16.9	17.1	17.1	16.7
	Change, %		(0.4)	(1.9)	(2.9)	(1.8)	(5.1)	(4.8)	(5.6)	(6.5)	(6.3)	(3.9)
	Copper	6,623.0	6,692.5	6,786.0	6,885.0	6,665.0	7,289.0	5,881.0	7,247.0	4,872.0	6,199.4	6,947.8
	Change, %		(1.0)	(2.4)	(3.8)	(0.6)	(9.1)	12.6	(8.6)	35.9	6.8	(4.7)
	Nickel	1,011.8	1,019.1	1,018.2	995.8	841.4	787.8	593.7	809.1	646.4	680.2	912.2
	Change, %		(0.7)	(0.6)	1.6	20.3	28.4	70.4	25.1	56.5	48.7	10.9
	Zinc	2,897.0	2,876.0	2,918.0	3,051.0	3,284.0	3,305.0	2,734.0	3,319.0	2,097.5	2,888.5	3,249.6
	Change, %		0.7	(0.7)	(5.0)	(11.8)	(12.3)	6.0	(12.7)	38.1	0.3	(10.9)
	Lead	2,400.3	2,437.5	2,376.8	2,437.3	2,429.5	2,521.5	2,293.0	2,482.8	1,868.3	2,315.7	2,452.0
	Change, %		(1.5)	1.0	(1.5)	(1.2)	(4.8)	4.7	(3.3)	28.5	3.7	(2.1)
	Aluminum	14,125.0	14,090.0	14,125.0	14,730.0	13,715.0	14,800.0	13,860.0	15,020.0	12,373.5	14,556.6	14,386.6
	Change, %		0.2	0.0	(4.1)	3.0	(4.6)	1.9	(6.0)	14.2	(3.0)	(1.8)
	Cobalt	77,250.0	78,750.0	80,000.0	90,750.0	93,300.0	75,205.0	59,300.0	75,205.0	25,480.1	55,906.9	84,841.0
	Change, %		(1.9)	(3.4)	(14.9)	(17.2)	2.7	30.3	2.7	203.2	38.2	(8.9)
	HR Coil	911.0	907.0	900.0	875.0	860.0	663.0	629.0	662.0	519.3	620.1	814.2
	Change, %		0.4	1.2	4.1	5.9	37.4	44.8	37.6	75.4	46.9	11.9
	Scrap	400.0	400.0	400.0	395.0	400.0	367.0	350.0	367.0	275.7	344.7	388.8
	Change, %		0.0	0.0	1.3	0.0	9.0	14.3	9.0	45.1	16.0	2.9

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		06/28	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	73.5	72.8	65.5	66.7	64.9	59.8	44.9	53.7	43.4	50.9	65.4
	Change, %		*0.9*	*12.1*	*10.1*	*13.1*	*22.7*	*63.5*	*36.7*	*69.4*	*44.3*	*12.4*
	Dubai	75.2	74.4	71.3	75.8	65.3	63.9	46.4	53.8	41.3	53.1	68.0
	Change, %		*1.1*	*5.5*	*(0.8)*	*15.1*	*17.8*	*62.2*	*39.7*	*82.0*	*41.6*	*10.5*
Crude Oil Product	**Gasoline(휘발유)**	83.4	82.1	79.8	89.8	80.5	76.4	59.8	69.8	56.3	68.0	81.0
	Change, %		*1.6*	*4.5*	*(7.1)*	*3.6*	*9.1*	*39.4*	*19.4*	*48.2*	*22.6*	*2.9*
	Kerosene(등유)	87.7	86.5	84.5	91.1	81.9	78.5	57.9	66.4	52.9	65.2	83.7
	Change, %		*1.4*	*3.7*	*(3.7)*	*7.0*	*11.7*	*51.5*	*31.9*	*65.7*	*34.4*	*4.8*
	Diesel(경유)	87.1	86.1	84.4	90.7	81.7	78.0	58.8	65.5	52.1	65.6	82.8
	Change, %		*1.2*	*3.3*	*(3.9)*	*6.6*	*11.6*	*48.2*	*33.0*	*67.1*	*32.8*	*5.2*
	Bunker-C	71.8	70.5	67.2	69.4	58.0	57.9	45.5	52.1	35.5	49.7	61.8
	Change, %		*1.8*	*6.8*	*3.4*	*23.6*	*23.9*	*57.7*	*37.8*	*102.0*	*44.5*	*16.1*
	Naphtha	71.5	70.2	67.8	76.0	66.6	67.2	44.2	53.5	42.6	53.7	67.2
	Change, %		*1.8*	*5.5*	*(5.9)*	*7.3*	*6.4*	*61.8*	*33.7*	*67.8*	*33.0*	*6.4*
Dubai Spread	**Gasoline(휘발유)**	8.2	7.7	8.5	14.0	15.2	12.6	13.5	16.0	14.9	14.9	13.0
	Change		*0.5*	*(0.3)*	*(5.8)*	*(7.0)*	*(4.4)*	*(5.3)*	*(7.8)*	*(6.8)*	*(6.7)*	*(4.8)*
	Kerosene(등유)	12.5	12.1	13.3	15.3	16.6	14.6	11.5	12.6	11.6	12.1	15.6
	Change		*0.4*	*(0.8)*	*(2.8)*	*(4.1)*	*(2.1)*	*1.0*	*(0.1)*	*0.9*	*0.3*	*(3.2)*
	Diesel(경유)	11.9	11.7	13.1	14.9	16.4	14.2	12.4	11.7	10.8	12.5	14.7
	Change		*0.2*	*(1.2)*	*(3.0)*	*(4.5)*	*(2.3)*	*(0.5)*	*0.2*	*1.1*	*(0.6)*	*(2.8)*
	Bunker-C	(3.4)	(3.8)	(4.0)	(6.4)	(7.3)	(6.0)	(0.9)	(1.8)	(5.8)	(3.4)	(6.2)
	Change		*0.4*	*0.6*	*3.0*	*3.9*	*2.5*	*(2.6)*	*(1.7)*	*2.4*	*0.0*	*2.8*
	Naphtha	(3.7)	(4.2)	(3.5)	0.2	1.3	3.4	(2.2)	(0.4)	1.3	0.6	(0.9)
	Change		*0.5*	*(0.2)*	*(3.9)*	*(5.0)*	*(7.1)*	*(1.5)*	*(3.3)*	*(5.0)*	*(4.4)*	*(2.8)*
Refining Margin	**Simple(단순)**	1.5	1.1	1.7	2.0	2.5	2.2	4.1	3.8	1.9	3.2	2.1
	Change		*0.3*	*(0.2)*	*(0.5)*	*(1.0)*	*(0.8)*	*(2.6)*	*(2.4)*	*(0.5)*	*(1.7)*	*(0.6)*
	Complex(복합)	5.4	5.1	5.9	7.8	8.8	7.6	8.0	8.3	7.0	8.0	7.6
	Change		*0.3*	*(0.5)*	*(2.4)*	*(3.4)*	*(2.2)*	*(2.6)*	*(2.9)*	*(1.6)*	*(2.6)*	*(2.2)*
	Complex(lagging)	4.8	3.7	0.7	13.0	10.2	9.8	3.7	18.0	8.5	8.9	9.8
	Change		*1.2*	*4.1*	*(8.2)*	*(5.4)*	*(5.0)*	*1.1*	*(13.2)*	*(3.7)*	*(4.1)*	*(4.9)*

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			06/28	06/27	06/26	06/25	06/22	06/21	06/20	06/19	06/18	06/15
Spot Price	**Naphtha**	CFR Japan	652.4	642.8	632.8	632.0	623.5	619.5	634.0	632.0	625.5	653.5
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,050.0	1,050.0	1,050.0	1,050.0	1,060.0	1,060.0	1,070.0	1,070.0	1,070.0	1,070.0
	Butadiene	FOB Korea	1,590.0	1,590.0	1,590.0	1,620.0	1,620.0	1,640.0	1,640.0	1,670.0	1,680.0	1,680.0
	HDPE	CFR FE Asia	1,350.0	1,350.0	1,350.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0	1,360.0	1,360.0
	LDPE	CFR FE Asia	1,175.0	1,175.0	1,175.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,150.0	1,150.0	1,150.0	1,160.0	1,160.0	1,160.0	1,165.0	1,165.0	1,165.0	1,165.0
	MEG	CFR China	895.0	895.0	893.0	885.0	880.0	882.0	880.0	885.0	922.0	922.0
	PP	CFR FE Asia	1,240.0	1,240.0	1,245.0	1,245.0	1,245.0	1,245.0	1,245.0	1,245.0	1,250.0	1,250.0
	PX	CFR China	965.7	964.7	942.7	936.2	931.7	927.7	937.7	935.3	944.3	971.7
	PTA	CFR China	845.0	835.0	830.0	830.0	830.0	830.0	830.0	839.0	842.0	842.0
	Benzene	FOB Korea	817.7	814.7	808.0	811.0	800.0	800.7	807.7	806.7	812.7	835.0
	Toluene	FOB Korea	744.0	736.0	728.0	725.0	725.0	732.0	734.0	752.0	769.0	779.0
	Xylene	FOB Korea	819.5	819.5	792.5	787.5	783.5	778.5	783.5	785.5	793.5	814.0
	SM	FOB Korea	1,316.5	1,332.0	1,347.0	1,362.0	1,349.0	1,342.0	1,339.0	1,342.0	1,394.0	1,420.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	623.5	661.5	684.5	596.0	563.5	397.5	484.5	399.5	493.5	611.9
	Change, %			*(5.7)*	*(8.9)*	*4.6*	*10.6*	*56.9*	*28.7*	*56.1*	*26.3*	*1.9*
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,175.0	1,265.0	1,165.0	875.0	990.0	1,040.9	1,090.9	1,232.4
	Change, %			*0.0*	*7.2*	*(0.4)*	*8.2*	*44.0*	*27.3*	*21.0*	*15.5*	*2.2*
	Propylene	CFR SE Asia	1,005.0	1,015.0	1,032.5	955.0	1,005.0	742.5	815.0	705.7	823.6	1,055.9
	Change, %			*(1.0)*	*(2.7)*	*5.2*	*0.0*	*35.4*	*23.3*	*42.4*	*22.0*	*(4.8)*
	Butadiene	CFR SE Asia	1,580.0	1,625.0	1,750.0	1,355.0	1,370.0	915.0	2,100.0	1,116.8	1,481.1	1,417.0
	Change, %			*(2.8)*	*(9.7)*	*16.6*	*15.3*	*72.7*	*(24.8)*	*41.5*	*6.7*	*11.5*
	Benzene	CFR SE Asia	805.0	832.5	855.0	855.0	925.0	757.5	822.5	646.7	838.8	873.9
	Change, %			*(3.3)*	*(5.8)*	*(5.8)*	*(13.0)*	*6.3*	*(2.1)*	*24.5*	*(4.0)*	*(7.9)*
	Toluene	CFR SE Asia	795.0	815.0	825.0	720.0	750.0	635.0	690.0	630.5	689.5	765.2
	Change, %			*(2.5)*	*(3.6)*	*10.4*	*6.0*	*25.2*	*15.2*	*26.1*	*15.3*	*3.9*
	Xylene	CFR SE Asia	825.0	827.5	835.0	762.5	760.0	612.5	675.0	627.7	668.8	778.4
	Change, %			*(0.3)*	*(1.2)*	*8.2*	*8.6*	*34.7*	*22.2*	*31.4*	*23.4*	*6.0*
Spread	**Ethylene**	-Naphtha	636.5	598.5	490.5	669.0	601.5	477.5	505.5	641.4	597.4	620.5
	Change, %			*6.3*	*29.8*	*(4.9)*	*5.8*	*33.3*	*25.9*	*(0.8)*	*6.5*	*2.6*
	Propylene	-Naphtha	381.5	353.5	348.0	359.0	441.5	345.0	330.5	306.2	330.1	444.0
	Change, %			*7.9*	*9.6*	*6.3*	*(13.6)*	*10.6*	*15.4*	*24.6*	*15.6*	*(14.1)*
	Butadiene	-Naphtha	956.5	963.5	1,065.5	759.0	806.5	517.5	1,615.5	717.3	987.6	805.1
	Change, %			*(0.7)*	*(10.2)*	*26.0*	*18.6*	*84.8*	*(40.8)*	*33.3*	*(3.1)*	*18.8*
	Benzene	-Naphtha	181.5	171.0	170.5	259.0	361.5	360.0	338.0	247.2	345.3	262.0
	Change, %			*6.1*	*6.5*	*(29.9)*	*(49.8)*	*(49.6)*	*(46.3)*	*(26.6)*	*(47.4)*	*(30.7)*
	Toluene	-Naphtha	171.5	153.5	140.5	124.0	186.5	237.5	205.5	231.0	196.0	153.3
	Change, %			*11.7*	*22.1*	*38.3*	*(8.0)*	*(27.8)*	*(16.5)*	*(25.8)*	*(12.5)*	*11.9*
	Xylene	-Naphtha	201.5	166.0	150.5	166.5	196.5	215.0	190.5	228.2	175.3	166.5
	Change, %			*21.4*	*33.9*	*21.0*	*2.5*	*(6.3)*	*5.8*	*(11.7)*	*14.9*	*21.1*

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

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,272.5	1,272.5	1,312.5	1,272.5	1,282.5	1,067.5	1,142.5	1,134.6	1,142.5	1,259.2
	Change, %			0.0	(3.0)	0.0	(0.8)	19.2	11.4	12.2	11.4	1.1
	MEG	CFR SE Asia	912.5	952.5	950.0	900.0	1,027.5	782.5	847.5	660.8	850.6	982.7
	Change, %			(4.2)	(3.9)	1.4	(11.2)	16.6	7.7	38.1	7.3	(7.1)
	PVC	CFR SE Asia	935.0	932.5	920.0	965.0	980.0	870.0	920.0	823.4	899.9	943.1
	Change, %			0.3	1.6	(3.1)	(4.6)	7.5	1.6	13.6	3.9	(0.9)
	PP	CFR SE Asia	1,292.5	1,292.5	1,297.5	1,272.5	1,278.5	1,037.5	1,032.5	978.4	1,099.6	1,260.8
	Change, %			0.0	(0.4)	1.6	1.1	24.6	25.2	32.1	17.5	2.5
	2-EH	CFR Korea	1,110.0	1,120.0	1,180.0	1,130.0	1,080.0	930.0	865.0	772.4	970.0	1,119.6
	Change, %			(0.9)	(5.9)	(1.8)	2.8	19.4	28.3	43.7	14.4	(0.9)
	ABS	CFR SE Asia	2,040.0	2,060.0	2,080.0	1,970.0	2,060.0	1,790.0	1,635.0	1,347.1	1,844.7	2,034.8
	Change, %			(1.0)	(1.9)	3.6	(1.0)	14.0	24.8	51.4	10.6	0.3
	SBR	CFR SE Asia	1,800.0	1,900.0	1,890.0	1,700.0	1,800.0	1,425.0	2,000.0	1,483.0	1,980.5	1,752.0
	Change, %			(5.3)	(4.8)	5.9	0.0	26.3	(10.0)	21.4	(9.1)	2.7
	SM	CFR SE Asia	1,375.0	1,492.5	1,440.0	1,287.5	1,442.5	1,125.0	1,205.0	1,064.6	1,253.8	1,403.3
	Change, %			(7.9)	(4.5)	6.8	(4.7)	22.2	14.1	29.2	9.7	(2.0)
	Caustic	FOB NEA	491.0	539.0	560.0	631.0	571.0	437.5	422.5	316.6	491.2	582.2
	Change, %			(8.9)	(12.3)	(22.2)	(14.0)	12.2	16.2	55.1	(0.0)	(15.7)
	PX	CFR SE Asia	940.0	980.0	1,012.5	937.5	970.0	765.0	855.0	790.4	844.4	963.6
	Change, %			(4.1)	(7.2)	0.3	(3.1)	22.9	9.9	18.9	11.3	(2.4)
	PO	CFR China	1,787.5	1,787.5	1,737.5	1,757.5	1,955.0	1,457.5	1,562.5	1,396.8	1,601.2	1,887.8
	Change, %			0.0	2.9	1.7	(8.6)	22.6	14.4	28.0	11.6	(5.3)
	Caprolactam	CFR SE Asia	2,130.0	2,150.0	2,100.0	2,200.0	2,060.0	1,610.0	1,850.0	1,344.9	1,936.4	2,119.0
	Change, %			(0.9)	1.4	(3.2)	3.4	32.3	15.1	58.4	10.0	0.5
	PTA	CFR SE Asia	845.0	857.5	850.0	785.0	790.0	625.0	642.5	613.7	667.8	799.6
	Change, %			(1.5)	(0.6)	7.6	7.0	35.2	31.5	37.7	26.5	5.7
Spread	HDPE		649.0	611.0	628.0	676.5	719.0	670.0	658.0	735.1	649.0	647.3
	Change, %			6.2	3.3	(4.1)	(9.7)	(3.1)	(1.4)	(11.7)	(0.0)	0.3
	MEG		289.0	291.0	265.5	304.0	464.0	385.0	363.0	261.3	357.1	370.8
	Change, %			(0.7)	8.9	(4.9)	(37.7)	(24.9)	(20.4)	10.6	(19.1)	(22.1)
	PVC		311.5	271.0	235.5	369.0	416.5	472.5	435.5	423.9	406.4	331.2
	Change, %			14.9	32.3	(15.6)	(25.2)	(34.1)	(28.5)	(26.5)	(23.4)	(5.9)
	PP		669.0	631.0	613.0	676.5	715.0	640.0	548.0	578.9	606.1	648.9
	Change, %			6.0	9.1	(1.1)	(6.4)	4.5	22.1	15.6	10.4	3.1
	2-EH		486.5	458.5	495.5	534.0	516.5	532.5	380.5	372.9	476.5	507.7
	Change, %			6.1	(1.8)	(8.9)	(5.8)	(8.6)	27.9	30.5	2.1	(4.2)
	ABS		1,416.5	1,398.5	1,395.5	1,374.0	1,496.5	1,392.5	1,150.5	947.6	1,351.2	1,422.9
	Change, %			1.3	1.5	3.1	(5.3)	1.7	23.1	49.5	4.8	(0.4)
	SBR	BD spread	220.0	275.0	140.0	345.0	430.0	510.0	(100.0)	366.2	499.4	335.0
	Change, %			(20.0)	57.1	(36.2)	(48.8)	(56.9)	(320.0)	(39.9)	(55.9)	(34.3)
	SM		751.5	831.0	755.5	691.5	879.0	727.5	720.5	665.1	760.3	791.4
	Change, %			(9.6)	(0.5)	8.7	(14.5)	3.3	4.3	13.0	(1.2)	(5.0)
	Caustic											
	Change, %											
	PX		316.5	318.5	328.0	341.5	406.5	367.5	370.5	390.9	351.0	351.7
	Change, %			(0.6)	(3.5)	(7.3)	(22.1)	(13.9)	(14.6)	(19.0)	(9.8)	(10.0)
	PO	propylene sprea	782.5	772.5	705.0	802.5	950.0	715.0	747.5	691.1	777.6	831.9
	Change, %			1.3	11.0	(2.5)	(17.6)	9.4	4.7	13.2	0.6	(5.9)
	Caprolactam	benzene spread	1,325.0	1,317.5	1,245.0	1,345.0	1,135.0	852.5	1,027.5	698.2	1,097.6	1,245.1
	Change, %			0.6	6.4	(1.5)	16.7	55.4	29.0	89.8	20.7	6.4
	PTA	px spread	187.0	171.5	141.3	128.8	111.0	89.5	44.0	60.4	76.7	125.1
	Change, %			9.0	32.4	45.2	68.5	108.9	325.0	209.5	143.8	49.5

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	06/28	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	66.2	0.8	1.3	0.7	6.0	(7.5)	4.6	(7.1)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.7	0.6	(1.2)	(6.2)	(4.3)	6.7	18.3	7.6	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	81.1	(0.6)	(2.7)	(6.4)	(0.3)	(12.7)	(3.5)	(11.6)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	73.5	(1.2)	(1.2)	(4.1)	(6.0)	(0.2)	(4.9)	0.6	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	99.8	(1.0)	(0.8)	(6.5)	(6.2)	(2.6)	6.4	(1.8)	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	65.5	(1.5)	(4.6)	(6.3)	6.2	(1.8)	(2.5)	(1.2)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	623	0.2	1.6	(5.7)	2.8	(23.5)	0.6	(23.1)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	909	1.1	0.4	(10.7)	(10.1)	(27.1)	(1.1)	(26.5)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,951	(0.4)	(0.8)	(11.9)	(9.0)	(14.2)	(2.6)	(13.1)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,409	(0.5)	0.3	(4.9)	0.1	(3.4)	15.8	(3.1)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,867	0.9	0.9	(11.6)	(21.4)	(15.8)	(3.5)	(15.8)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,337	1.0	1.2	(6.0)	6.7	(17.1)	(7.6)	(16.7)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	126.2	(0.8)	0.2	4.3	7.5	23.9	23.3	24.4	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	74.5	0.9	2.8	4.3	2.0	28.0	33.5	26.3	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	109.0	(0.9)	0.5	(0.9)	5.8	12.5	18.0	10.4	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	117.5	(0.4)	1.7	0.4	7.8	16.9	23.9	14.1	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	84.5	(1.2)	0.4	(2.1)	2.4	9.5	12.2	8.5	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.65	(0.9)	(0.9)	(2.9)	(5.5)	(10.5)	(14.1)	(10.7)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.90	(0.5)	1.6	(10.8)	(15.2)	(28.8)	(43.6)	(28.8)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	945	(2.2)	(8.4)	2.7	7.1	2.2	35.1	3.9	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	107.0	0.9	0.1	(1.8)	1.1	9.2	12.0	10.3	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	76.3	(3.5)	(5.0)	(13.4)	(21.2)	(10.3)	10.9	(10.3)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.4	(0.6)	0.0	1.1	1.8	7.7	18.3	9.1	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	334,000	(0.4)	(4.4)	(5.1)	(13.5)	(17.5)	19.1	(17.5)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	337,500	(0.3)	(2.3)	(11.2)	(22.5)	(8.3)	2.4	(8.3)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	21,850	1.6	(0.2)	(20.1)	(25.0)	(30.9)	(28.4)	(30.9)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	117,000	1.7	5.4	10.4	21.7	17.6	59.0	17.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	43,850	0.1	(3.5)	12.1	14.8	(6.7)	29.9	(6.7)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	61,200	0.2	(1.4)	(4.1)	3.0	(3.0)	18.1	(3.0)	359	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
효성	KRW	6,420	(3.0)	(7.2)	(9.2)	(33.5)	(15.3)	12.4	(15.3)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(0.3)**	**(0.9)**	**(4.2)**	**(3.2)**	**(4.1)**	**8.7**	**(4.0)**							
Refinery																
Valero	USD	109.1	(0.4)	(1.9)	(8.1)	20.9	18.2	61.7	18.7	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	68.4	(0.5)	5.1	4.5	16.5	24.0	55.6	24.6	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	121.0	0.0	1.3	0.0	2.1	4.3	15.2	4.8	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	130.3	0.3	(3.5)	(7.7)	31.6	12.9	37.9	13.9	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	69.5	0.4	(4.1)	(9.8)	(3.2)	4.7	32.1	5.3	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	43.6	0.3	5.9	7.4	39.7	4.4	42.7	5.3	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	67.0	0.7	(7.0)	(7.9)	40.8	30.1	140.0	30.8	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	111.7	0.9	0.3	(3.3)	18.5	9.6	36.6	10.5	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.7	(0.4)	(1.3)	15.0	32.8	6.5	36.0	8.5	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	773.2	(1.2)	4.0	12.6	22.1	5.9	57.7	6.4	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,040.0	1.5	14.3	9.0	1.4	(10.6)	25.3	(10.7)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	66.6	0.7	1.7	(1.4)	19.4	23.3	92.9	24.9	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	78.1	1.4	0.6	(1.2)	13.0	9.2	17.4	9.7	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	41.8	(2.4)	(2.5)	(10.8)	(5.4)	(6.7)	(14.7)	(5.6)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	201,500	(0.5)	(1.2)	(1.0)	(2.7)	(1.5)	27.5	(1.5)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	112,500	(0.4)	1.4	3.7	(3.8)	(3.8)	19.6	(3.8)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	54,100	0.2	(0.7)	(8.3)	(13.0)	(13.0)	(20.8)	(13.0)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.0**	**0.7**	**(0.4)**	**13.6**	**6.9**	**39.0**	**7.6**							

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

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Global peers

	Currency	06/28	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 18E	PER 19E	PBR 18E	PBR 19E	EV/EBITDA 18E	EV/EBITDA 19E
E&P/Shale																
Exxon Mobil	USD	82	0.3	2.9	4.1	12.6	(2.4)	0.5	(2.0)	347,047	16.8	15.5	1.8	1.7	7.5	7.1
BP	GBP	583	0.0	4.1	4.9	23.6	12.3	27.9	11.4	152,420	14.4	13.6	1.5	1.4	5.4	5.2
Shell	EUR	2,648	0.3	4.9	3.5	18.6	7.6	27.7	6.8	293,203	12.4	11.3	1.4	1.4	5.9	5.7
Chevron	USD	126	(0.3)	2.5	2.8	12.1	0.1	20.5	0.4	240,131	16.0	15.4	1.6	1.6	6.4	6.1
Total	EUR	52	(0.6)	2.7	2.8	13.8	12.6	17.4	13.3	161,000	11.7	11.0	1.3	1.2	5.5	5.1
Sinopec	CNY	6	2.5	0.6	(6.8)	0.3	4.4	9.1	5.2	115,683	10.3	9.9	1.0	1.0	3.8	3.8
Petrochina	CNY	8	2.7	6.1	(5.2)	1.4	(4.3)	0.3	(4.7)	204,109	23.8	20.0	1.1	1.1	5.5	5.4
CNOOC	CNY	9	(1.3)	3.9	(11.0)	(15.1)	(9.4)	(13.5)	(10.9)	76,687	9.4	9.6	1.3	1.2	4.1	4.1
Gazprom	RUB	139	(0.2)	3.2	(4.4)	(1.2)	6.3	15.9	6.3	52,189	3.0	3.1	0.2	0.2	2.5	2.6
Rosneft	RUB	397	0.5	1.0	4.5	28.4	36.8	19.3	36.0	66,762	7.6	6.5	0.9	0.8	4.5	4.4
Anadarko	USD	74	(1.0)	5.9	8.9	24.9	36.9	68.0	37.2	37,900	25.4	21.7	3.7	3.2	7.0	6.2
Petrobras	BRL	17	0.3	9.9	(1.8)	(21.7)	3.1	37.4	3.1	60,593	6.6	5.9	0.7	0.6	4.2	4.0
Lukoil	USD	4,231	0.2	2.3	(1.4)	7.7	27.5	47.2	26.9	57,073	5.4	5.6	0.8	0.7	N/A	N/A
Kinder	USD	17	(0.9)	1.9	10.0	18.0	(4.5)	(8.1)	(3.3)	47,497	20.4	18.0	1.1	1.2	10.6	10.3
Equinor ASA	NOK	215	(0.1)	2.9	4.7	16.4	22.0	52.5	22.7	87,702	14.1	13.4	2.0	1.8	3.4	3.3
BHP	AUD	34	1.8	3.2	5.3	18.0	14.6	47.8	14.4	126,576	15.5	17.2	2.2	2.1	6.2	6.5
PTT E&P	THB	136	0.0	7.9	3.8	16.7	37.0	56.3	36.0	16,291	13.5	12.8	1.4	1.3	4.1	3.8
Petronas gas	MYR	18	1.3	1.6	(1.6)	(1.8)	0.8	(6.4)	0.2	8,566	18.4	18.2	2.7	2.6	10.1	10.0
Chesapeake	USD	5	0.4	6.4	20.5	73.2	28.2	6.6	30.8	4,723	6.3	7.1	#N/A N/A	6.8	6.5	6.3
Noble Energy	USD	35	(1.7)	0.4	(0.7)	19.6	19.7	25.3	20.5	17,004	30.5	22.6	1.5	1.5	7.7	6.5
Average		**0**	**0.2**	**3.7**	**2.2**	**13.3**	**12.5**	**22.6**	**12.5**							
PV																
WACKER	EUR	107.7	(4.1)	(5.7)	(27.6)	(18.6)	(33.4)	11.9	(33.6)	6,503	15.6	13.9	1.6	1.6	5.5	5.2
GCL-Poly	HKD	0.7	(3.9)	0.0	(21.5)	(25.5)	(47.9)	(8.8)	(47.9)	1,729	6.6	5.7	0.5	0.4	6.4	5.9
SunPower	USD	7.7	0.8	(3.0)	(12.0)	1.0	(10.8)	(19.2)	(8.2)	1,090	#N/A N/A	#N/A N/A	1.4	1.4	19.4	11.6
Canadian Solar	USD	12.3	3.4	(0.7)	(26.1)	(22.6)	(27.1)	(22.9)	(26.9)	722	7.9	8.1	0.7	0.7	7.6	8.2
JA Solar	USD	6.8	0.3	(0.7)	(6.2)	8.5	(8.5)	6.1	(9.0)	323	#N/A N/A	#N/A N/A	1.6	1.7	4.8	6.8
Yingli	USD	1.5	(2.5)	(4.0)	(9.5)	(10.0)	(11.6)	(33.5)	(9.5)	28	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
First Solar	USD	52.1	2.3	(0.3)	(23.6)	(24.8)	(23.7)	28.7	(22.8)	5,461	30.6	16.8	1.0	0.9	8.9	4.8
한화큐셀	USD	7.1	1.9	17.1	(2.4)	(3.8)	0.4	(5.2)	0.6	588	12.6	26.1	#N/A N/A	#N/A N/A	8.3	8.6
OCI	KRW	107,500	4.9	0.0	(24.8)	(29.7)	(21.0)	17.9	(21.0)	2,284	0.0	10.5	0.0	0.7	0.0	4.8
웅진에너지	KRW	3,660	(2.5)	(8.8)	(33.1)	(44.5)	(55.5)	(46.6)	(55.5)	97	N/A	0.0	0.7	0.0	4.8	0.0
신성솔라에너지	KRW	1,460	(2.3)	(4.6)	(20.0)	(14.4)	(23.8)	(35.1)	(23.8)	225	N/A	0.7	0.0	4.8	0.0	6.8
Average			**(0.2)**	**(1.0)**	**(18.8)**	**(16.8)**	**(23.9)**	**(9.7)**	**(23.4)**							
Gas Company																
Towngas China	HKD	7.4	(2.4)	0.7	(5.0)	6.8	18.4	46.0	17.8	2,611	14.4	12.8	1.2	1.1	12.2	11.0
Kulun	HKD	6.8	0.1	(1.2)	(6.4)	2.1	(15.7)	6.5	(16.0)	7,035	9.8	8.5	1.1	1.0	5.6	5.1
Beijing Enterprise	HKD	38.1	1.2	(4.8)	(9.1)	(8.8)	(18.1)	1.2	(18.0)	6,119	6.7	6.0	0.7	0.6	11.8	11.2
ENN Energy	HKD	70.5	(5.8)	(6.6)	(9.7)	3.5	28.1	51.3	26.4	9,741	15.7	13.2	3.2	2.7	9.3	8.2
China Resources Gas	HKD	30.6	(3.0)	1.7	5.2	15.9	9.5	14.4	7.9	8,671	16.2	14.6	2.7	2.4	8.9	8.1
China Gas Holdings	HKD	30.2	(1.1)	(5.2)	(2.9)	6.5	37.7	97.1	39.6	19,088	19.6	16.4	4.6	3.8	15.0	12.7
Shenzen Gas	HKD	15.6	(0.3)	(2.1)	(11.7)	(9.0)	5.8	8.0	5.1	4,203	9.5	8.2	1.2	1.1	6.0	5.2
Shann Xi	CNY	6.8	(2.4)	1.8	(14.0)	(0.4)	(19.8)	(22.2)	(19.1)	1,146	15.7	13.7	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.2	1.4	(6.1)	(18.9)	(1.8)	4.4	54.7	3.9	1,018	5.6	4.9	0.7	0.6	8.2	7.0
China Oil & Gas	HKD	0.6	(1.7)	(4.8)	1.7	(10.6)	(26.3)	9.3	(30.6)	438	7.8	6.9	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(1.4)**	**(2.7)**	**(7.1)**	**0.4**	**2.4**	**26.6**	**1.7**							
EV																
LG화학	KRW	334,000	(0.4)	(4.4)	(5.1)	(13.5)	(17.5)	19.1	(17.5)	21,005	12.4	11.3	1.4	1.3	5.9	5.3
삼성SDI	KRW	220,000	(2.4)	(2.7)	5.3	11.7	7.6	29.0	7.6	13,477	20.5	14.8	1.3	1.2	14.4	11.2
Panasonic	JPY	1478.5	0.8	(2.9)	(2.6)	(5.6)	(10.2)	(5.4)	(10.4)	32,870	13.4	11.8	1.9	1.7	5.2	4.8
GS Yuasa	JPY	495.0	0.2	(1.2)	(6.4)	(12.7)	(11.3)	1.2	(11.8)	1,855	14.3	13.2	1.1	1.0	6.6	6.2
NEC	JPY	3000.0	(0.8)	(3.1)	0.1	(0.7)	(1.0)	2.7	(1.3)	7,082	22.7	12.8	0.9	0.8	7.2	5.5
BYD Auto	CNY	46.0	(2.3)	0.5	(12.8)	(18.1)	(29.9)	(9.0)	(29.3)	17,944	27.0	20.2	2.2	2.0	12.1	10.4
Tesla Motors	USD	349.9	1.6	0.7	25.5	35.7	11.0	(5.7)	12.4	59,416	#N/A N/A	162.2	11.7	10.8	66.9	22.7
Kandi Technologies	USD	4.3	1.2	(7.6)	(25.4)	(13.3)	(38.8)	(4.5)	(37.5)	217	#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			**(0.3)**	**(2.6)**	**(2.7)**	**(2.0)**	**(11.3)**	**3.4**	**(11.0)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임