SK Energy Daily

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SK증권

1. News Summary (3 page)

2018년 7월 6일

News		Conclusion
WTI comment	재고부담에 상승세 주춤…WTI 1.6%↓	
Headline	이란 원유수출 막은 트럼프, OPEC엔 "油價 내려라" 압박	산유량의 40%를 차지하는 미국과 사우디가 증산하면 결국 하락할 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	72.9	(1.9)	(0.7)	11.3	14.8	60.2
Dubai	$/bbl	74.9	(0.2)	(0.4)	1.8	14.6	59.2
Gasoline	$/bbl	83.5	0.1	0.2	(2.2)	5.1	38.2
Diesel	$/bbl	86.7	0.3	(0.5)	(1.3)	7.7	41.8
Complex margin	$/bbl	5.5	0.3	0.1	(1.9)	(2.6)	(3.0)
1M lagging	$/bbl	6.0	0.8	1.2	(4.5)	(6.1)	(1.2)
Petrochemical			%	%	%	%	%
Naphtha	$/t	666	(0.5)	2.0	1.6	11.8	59.1
Butadiene	$/t	1,610	0.6	1.3	(7.5)	16.7	65.1
HDPE	$/t	1,340	0.0	(0.7)	(1.5)	2.3	24.1
MEG	$/t	895	(0.8)	0.0	(0.4)	(9.1)	11.5
PX	$/t	985	(0.3)	2.0	1.6	5.8	27.8
SM	$/t	1,346	1.7	2.2	(3.1)	2.4	20.9
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.84	(1.1)	(3.5)	(3.5)	0.9	0.6
Natural rubber	$/t	1,270	(1.6)	(6.6)	(9.3)	(4.5)	(11.8)
Cotton	C/lbs	83.7	(1.0)	(1.4)	(10.7)	1.4	11.6

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	07/02	$/t	1,260	0.0	2.9	(0.4)	44.0
Propylene	07/02	$/t	980	(2.5)	(3.4)	3.7	32.0
Benzene	07/02	$/t	808	0.3	(5.3)	(3.0)	6.3
Toluene	07/02	$/t	785	(1.3)	(3.7)	8.3	24.6
Xylene	07/02	$/t	800	(3.0)	(5.9)	4.9	31.1
PP	07/02	$/t	1,283	(0.8)	0.4	4.5	23.6
PVC	07/02	$/t	935	0.0	1.6	(3.1)	7.5
ABS	07/02	$/t	2,000	(2.0)	(3.8)	2.0	11.7
SBR	07/02	$/t	1,780	(1.1)	(6.3)	6.6	22.8
SM	07/02	$/t	1,363	(0.9)	(9.8)	3.2	18.2
BPA	07/02	$/t	1,765	(1.3)	1.6	2.5	18.9
Caustic	07/02	$/t	475	(3.3)	(13.6)	(25.7)	6.1
2-EH	07/02	$/t	1,100	(0.9)	(6.0)	(7.6)	19.6
Caprolactam	07/02	$/t	2,130	0.0	1.2	(3.2)	32.3
Solar				%	%	%	%
Polysilicon	07/04	$/kg	11.2	(1.2)	(14.7)	(27.6)	(19.5)
Module	07/04	$/W	0.27	(1.5)	(7.6)	(11.9)	(19.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.3	0.1	0.4	2.0	8.3	1.8
Shell	EUR	2,617	0.8	(1.2)	1.0	12.1	27.6
Petrochina	CNY	7.43	(0.8)	(3.6)	(6.9)	(0.4)	(4.9)
Gazprom	RUB	145.6	2.3	4.9	(0.3)	3.6	18.6
Petrobras	BRL	17.9	(3.2)	7.6	7.7	(15.6)	46.3
Refinery							
Phillips66	USD	110.2	(0.3)	(1.4)	(7.3)	12.7	33.8
Valero	USD	107.5	(0.6)	(1.4)	(12.8)	12.2	60.3
JX	JPY	775.7	(2.6)	0.3	10.1	21.7	52.7
Neste Oil	EUR	65.3	0.6	(2.0)	(7.6)	16.3	89.2

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.4	1.6	1.6	(3.5)	(2.4)	0.2
DowDuPont	USD	66.1	1.4	(0.1)	(2.7)	1.0	4.2
SABIC	SAR	123.6	(0.6)	(2.1)	(4.5)	5.5	21.6
Formosa Pla.	TWD	113.5	(0.4)	4.1	3.7	11.3	20.9
Shin-Etsu	JPY	9,959	0.9	0.1	(11.3)	(8.1)	(0.7)
Renewable							
Wacker	EUR	116.4	1.3	8.1	(12.9)	(16.6)	21.2
First Solar	USD	53.30	1.8	2.2	(8.5)	(25.6)	36.5
GCL-Poly	HKD	0.68	0.0	(6.8)	(10.5)	(29.2)	(21.8)
Tesla Motors	USD	309.2	(0.5)	(11.7)	6.2	1.1	(5.5)

4. Coverage Summary

	07/05	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,258	(0.3)	(2.4)	(8.0)	(7.1)	(9.2)	(5.2)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,513	0.0	(5.1)	(8.4)	(10.3)	(10.0)	1.3				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	320,500	0.9	(4.0)	(11.8)	(15.4)	(21.7)	10.5	매수	450,000	40.4	11.09	1.48
롯데케미칼	329,000	1.5	(2.5)	(11.7)	(25.6)	(9.4)	(5.7)	매수	480,000	45.9	9.50	0.93
한화케미칼	20,750	0.5	(5.0)	(18.0)	(29.8)	(36.9)	(33.0)	매수	39,000	88.0	7.39	0.53
금호석유화학	112,500	(2.6)	(3.8)	8.2	23.1	9.2	48.8	매수	150,000	33.3	10.95	1.69
KCC	318,000	0.3	(3.0)	(10.4)	(9.5)	(16.3)	(24.1)	매수	450,000	41.5	11.64	0.50
OCI	97,700	0.0	(9.1)	(18.9)	(40.6)	(32.4)	10.8	매수	180,000	84.2	7.28	0.65
SKC	42,000	2.1	(4.2)	2.7	14.6	(14.3)	26.9	매수	50,000	19.0	11.52	1.04
SK이노베이션	189,500	1.6	(6.0)	(8.0)	(10.8)	(6.4)	18.4	매수	230,000	21.4	11.56	0.95
S-Oil	102,500	0.0	(8.9)	(6.4)	(13.9)	(9.7)	6.2	매수	140,000	36.6	12.42	1.61
GS	51,100	0.6	(5.5)	(12.2)	(16.0)	(16.6)	(25.7)	매수	80,000	56.6	4.80	0.64
SK가스	91,300	1.7	(0.9)	(6.6)	(7.4)	(2.7)	(25.5)	매수	130,000	42.4	8.02	0.60
포스코대우	20,650	(2.1)	(2.1)	(13.6)	(10.0)	5.9	(6.3)	매수	25,000	21.1	10.97	0.88
LG상사	22,300	(2.2)	(6.5)	(18.8)	(15.2)	(21.9)	(26.9)	매수	38,000	70.4	7.27	0.66
한국전력	31,650	(1.4)	(1.7)	(3.8)	(7.0)	(15.7)	(23.4)	매수	45,000	42.2	6.97	0.25
한국가스공사	57,000	(0.2)	(9.1)	(7.5)	14.8	29.8	10.3	매수	60,000	5.3	9.93	0.75

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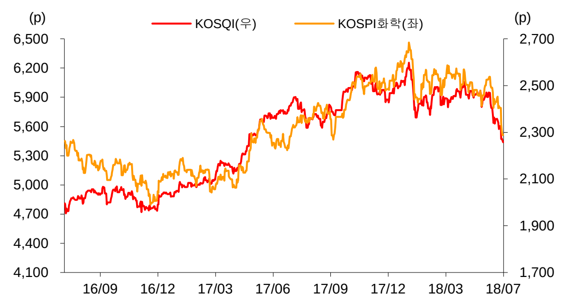
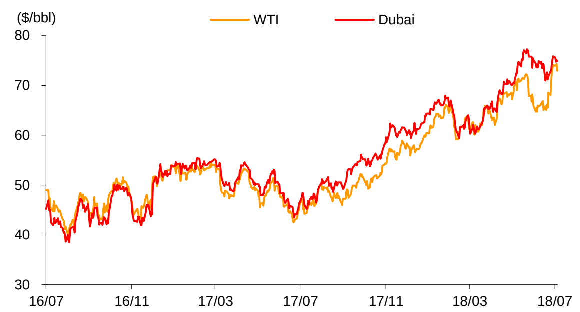
Key Chart

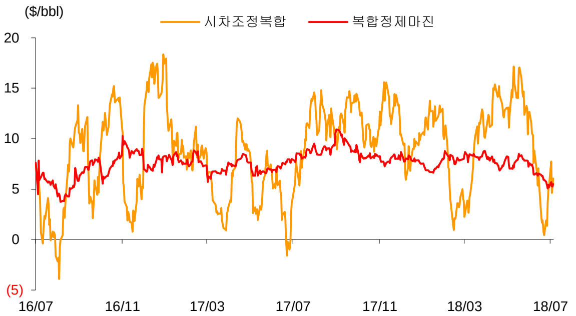
KOSPI/KOSPI화학



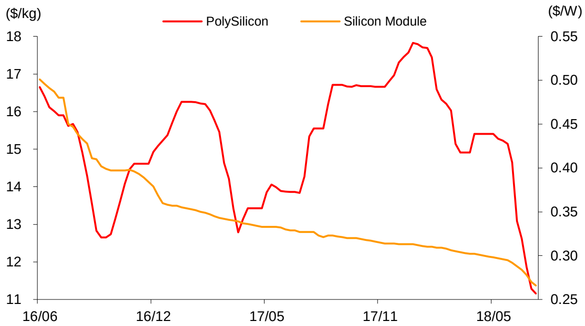
WTI/Dubai



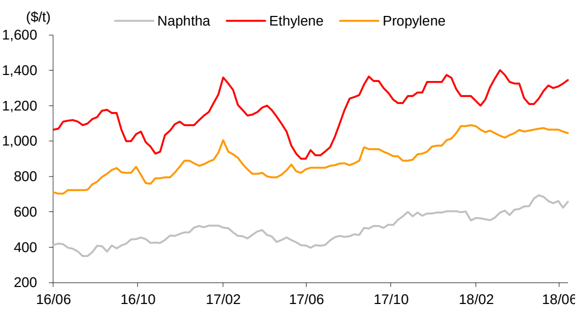
Complex & 1M lagging margin



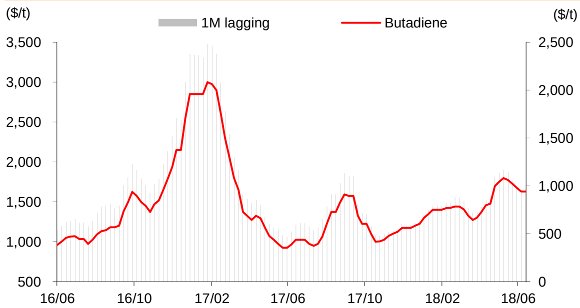
Polysilicon & Module prices



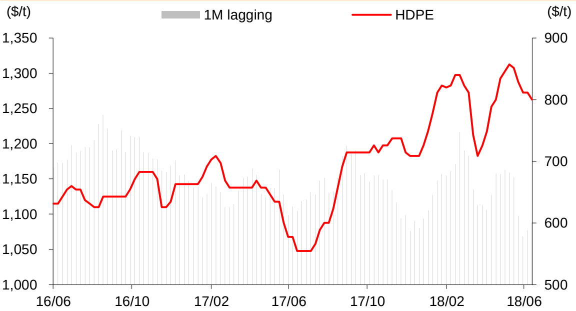
Naphtha/Ethylene/Propylene prices



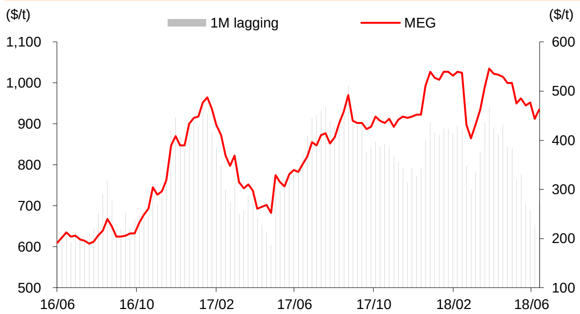
Butadiene price & 1M lagging naphtha spread



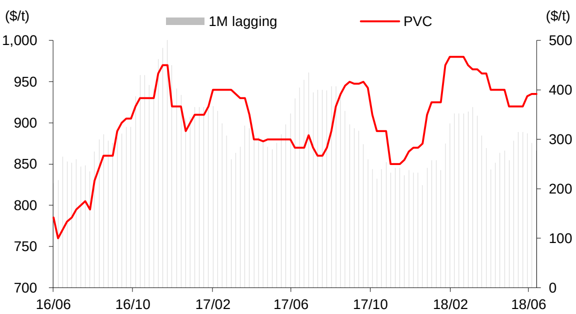
HDPE price & 1M lagging naphtha spread



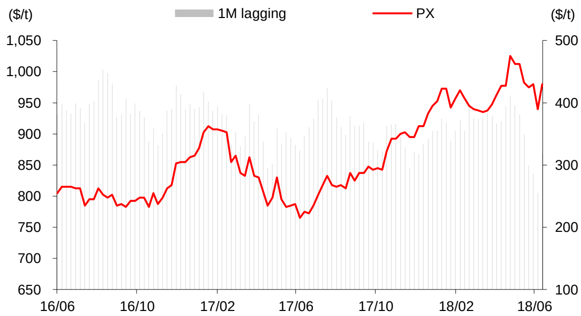
MEG price & 1M lagging naphtha spread



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: 조선일보)
제목	이란 원유수출 막은 트럼프, OPEC엔 "油價 내려라" 압박
결론	산유량의 40%를 차지하는 미국과 사우디가 증산하면 결국 하락할 것
세부	
1)	트럼프, "미국이 OPEC 회원국을 방어할 때 OPEC은 유가 올리고 있음"
2)	트럼프, "서로 주고 받는 게 있어야 하니 당장 가격을 낮추라"
3)	트럼프는 지난주 사우디 국왕에게 200만b/d증산 요구하기도 했음
4)	동시에 동맹국들에 이란산 원유 수입을 중단할 것을 요구하기도 함
5)	산유량의 40%를 차지하는 미국과 사우디가 증산하면 결국 하락할 것

WTI Comment	(출처: 연합뉴스)
제목	재고부담에 상승세 주춤…WTI 1.6%↓
상승 요인	美는 11월 초까지 이란산 원유수입 전면 중단을 관련국에 요구
하락 요인	지난주 美 원유 재고가 350만b 축소 전망과 달리 120만b 증가함

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

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

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

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.855	0.858	0.864	0.853	0.817	0.831	0.881	0.833	0.904	0.887	0.828
	Change, %		(0.3)	(1.1)	0.2	4.7	2.9	(2.9)	2.7	(5.4)	(3.5)	3.3
	USD/JPY	110.6	110.5	110.5	109.8	107.4	113.1	113.3	112.6	108.8	112.1	108.8
	Change, %		0.1	0.1	0.8	3.0	(2.1)	(2.3)	(1.8)	1.7	(1.3)	1.7
	USD/KRW	1,118.4	1,114.7	1,123.9	1,070.9	1,060.1	1,062.7	1,150.4	1,066.7	1,160.5	1,130.9	1,077.2
	Change, %		0.3	(0.5)	4.4	5.5	5.2	(2.8)	4.9	(3.6)	(1.1)	3.8
Agriculture	Corn	343.5	342.8	345.0	383.8	389.5	351.3	381.8	350.8	358.5	359.4	373.9
	Change, %		0.2	(0.4)	(10.5)	(11.8)	(2.2)	(10.0)	(2.1)	(4.2)	(4.4)	(8.1)
	Soybean	835.5	844.0	861.3	1,001.3	1,031.3	961.5	976.3	951.8	987.5	975.9	995.9
	Change, %		(1.0)	(3.0)	(16.6)	(19.0)	(13.1)	(14.4)	(12.2)	(15.4)	(14.4)	(16.1)
	Wheat	504.0	491.5	479.5	510.0	464.8	430.8	539.3	427.0	436.4	436.0	476.6
	Change, %		2.5	5.1	(1.2)	8.4	17.0	(6.5)	18.0	15.5	15.6	5.7
	Rice	12.2	12.0	11.4	10.9	12.4	11.6	11.6	11.7	10.3	11.1	12.2
	Change, %		2.0	7.1	11.8	(1.3)	5.8	5.4	4.8	18.3	10.6	0.1
	Oats	258.3	254.0	243.0	244.0	232.8	248.5	279.8	241.0	196.3	252.3	245.9
	Change, %		1.7	6.3	5.8	11.0	3.9	(7.7)	7.2	31.6	2.4	5.0
MYR/mt	Palm Oil	2,270.0	2,269.0	2,325.0	2,405.0	2,442.0	2,570.0	2,670.0	2,444.0	2,653.8	2,787.3	2,424.5
	Change, %		0.0	(2.4)	(5.6)	(7.0)	(11.7)	(15.0)	(7.1)	(14.5)	(18.6)	(6.4)
	Cocoa	2,446.0	2,418.0	2,418.0	2,289.0	2,508.0	1,895.0	1,910.0	1,892.0	2,854.0	2,005.2	2,394.1
	Change, %		1.2	1.2	6.9	(2.5)	29.1	28.1	29.3	(14.3)	22.0	2.2
	Cotton	83.7	84.5	84.9	89.8	82.6	78.0	73.9	78.6	65.6	73.5	83.6
	Change, %		(1.0)	(1.4)	(6.8)	1.4	7.3	13.4	6.5	27.7	13.9	0.2
	Sugar	11.5	11.4	11.9	12.0	12.4	15.1	13.7	15.2	18.2	15.8	12.6
	Change, %		0.8	(3.4)	(4.5)	(7.0)	(23.9)	(16.3)	(24.3)	(36.8)	(27.4)	(9.2)
	Coffee	106.3	108.4	112.2	119.5	117.6	128.5	127.7	126.2	136.1	133.0	118.8
	Change, %		(1.9)	(5.2)	(11.0)	(9.6)	(17.2)	(16.7)	(15.8)	(21.9)	(20.1)	(10.5)
Energy	WTI	72.9	74.1	73.5	65.5	63.5	61.4	45.1	60.4	43.4	51.0	65.7
	Change, %		(1.6)	(0.7)	11.3	14.8	18.7	61.6	20.7	68.1	43.1	11.0
	Brent	77.4	78.2	77.9	75.4	68.3	67.6	47.8	66.9	45.1	54.9	71.3
	Change, %		(1.1)	(0.6)	2.7	13.3	14.4	61.9	15.7	71.7	41.1	8.5
	Natural Gas	2.8	2.9	2.9	2.9	2.7	2.8	2.8	3.0	2.6	3.0	2.8
	Change, %		(1.1)	(3.5)	(1.8)	6.1	1.5	(0.1)	(3.9)	11.2	(6.1)	(0.1)
	Ethanol	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		0.0	(1.0)	(1.9)	(1.3)	6.7	(7.1)	6.3	(7.4)	(6.3)	(2.5)
	RBOB Gasoline	212.9	211.8	213.3	210.6	198.2	178.6	150.2	179.9	140.0	162.9	199.2
	Change, %		0.6	(0.2)	1.1	7.5	19.2	41.7	18.3	52.1	30.7	6.9
	Coal	116.6	116.5	114.4	113.0	94.2	105.3	83.1	100.8	65.5	88.2	103.7
	Change, %		0.1	1.9	3.2	23.8	10.7	40.4	15.7	78.1	32.2	12.5
Metal	Gold	1,257.9	1,254.7	1,248.3	1,296.4	1,326.6	1,319.4	1,227.0	1,302.6	1,248.5	1,258.6	1,316.0
	Change, %		0.3	0.8	(3.0)	(5.2)	(4.7)	2.5	(3.4)	0.8	(0.1)	(4.4)
	Silver	16.1	16.1	16.0	16.5	16.4	17.1	16.1	16.9	17.1	17.1	16.6
	Change, %		(0.2)	0.3	(2.7)	(2.1)	(6.3)	(0.2)	(5.3)	(6.2)	(6.0)	(3.5)
	Copper	6,345.0	6,386.0	6,623.0	7,099.0	6,816.0	7,121.0	5,841.0	7,247.0	4,872.0	6,199.4	6,928.5
	Change, %		(0.6)	(4.2)	(10.6)	(6.9)	(10.9)	8.6	(12.4)	30.2	2.3	(8.4)
	Nickel	977.0	970.9	1,011.8	1,057.3	863.6	794.3	593.2	809.1	646.4	680.2	915.8
	Change, %		0.6	(3.4)	(7.6)	13.1	23.0	64.7	20.8	51.2	43.6	6.7
	Zinc	2,700.0	2,700.0	2,897.0	3,199.5	3,237.0	3,354.0	2,781.5	3,319.0	2,097.5	2,888.5	3,229.7
	Change, %		0.0	(6.8)	(15.6)	(16.6)	(19.5)	(2.9)	(18.7)	28.7	(6.5)	(16.4)
	Lead	2,356.0	2,323.3	2,400.3	2,517.0	2,383.8	2,539.8	2,260.3	2,482.8	1,868.3	2,315.7	2,448.9
	Change, %		1.4	(1.8)	(6.4)	(1.2)	(7.2)	4.2	(5.1)	26.1	1.7	(3.8)
	Aluminum	13,880.0	13,965.0	14,125.0	14,590.0	13,990.0	14,965.0	14,065.0	15,020.0	12,373.5	14,556.6	14,369.3
	Change, %		(0.6)	(1.7)	(4.9)	(0.8)	(7.3)	(1.3)	(7.6)	12.2	(4.6)	(3.4)
	Cobalt	72,250.0	71,750.0	77,250.0	86,750.0	91,050.0	75,170.0	58,708.0	75,205.0	25,480.1	55,906.9	84,411.4
	Change, %		0.7	(6.5)	(16.7)	(20.6)	(3.9)	23.1	(3.9)	183.6	29.2	(14.4)
	HR Coil	912.0	920.0	911.0	913.0	860.0	662.0	633.0	662.0	519.3	620.1	818.4
	Change, %		(0.9)	0.1	(0.1)	6.0	37.8	44.1	37.8	75.6	47.1	11.4
	Scrap	388.0	390.0	400.0	400.0	385.0	367.0	360.0	367.0	275.7	344.7	389.0
	Change, %		(0.5)	(3.0)	(3.0)	0.8	5.7	7.8	5.7	40.8	12.5	(0.3)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		07/05	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	72.9	74.3	73.5	65.5	63.5	62.0	45.5	53.7	43.4	50.9	65.7
	Change, %		(1.9)	(0.7)	11.3	14.8	17.6	60.2	35.8	68.2	43.3	11.0
	Dubai	74.9	75.1	75.2	73.6	65.4	65.4	47.1	53.8	41.3	53.1	68.3
	Change, %		(0.2)	(0.4)	1.8	14.6	14.6	59.2	39.2	81.4	41.1	9.7
Crude Oil Product	**Gasoline(휘발유)**	83.5	83.5	83.4	85.4	79.5	76.6	60.5	69.8	56.3	68.0	81.1
	Change, %		0.1	0.2	(2.2)	5.1	9.0	38.2	19.6	48.5	22.8	3.0
	Kerosene(등유)	88.9	88.4	87.7	87.6	81.8	80.2	59.6	66.4	52.9	65.2	83.9
	Change, %		0.6	1.4	1.4	8.6	10.8	49.1	33.7	68.0	36.2	6.0
	Diesel(경유)	86.7	86.4	87.1	87.8	80.5	80.0	61.1	65.5	52.1	65.6	82.9
	Change, %		0.3	(0.5)	(1.3)	7.7	8.3	41.8	32.3	66.3	32.1	4.5
	Bunker-C	70.9	71.0	71.8	69.3	59.2	58.4	46.0	52.1	35.5	49.7	62.2
	Change, %		(0.1)	(1.2)	2.3	19.7	21.5	54.0	36.2	99.5	42.7	14.0
	Naphtha	73.1	73.1	71.5	74.0	64.9	66.9	44.6	53.5	42.6	53.7	67.4
	Change, %		(0.1)	2.2	(1.2)	12.6	9.1	63.7	36.7	71.5	35.9	8.4
Dubai Spread	**Gasoline(휘발유)**	8.6	8.4	8.2	11.8	14.1	11.3	13.4	16.0	14.9	14.9	12.8
	Change		0.2	0.4	(3.2)	(5.5)	(2.7)	(4.8)	(7.4)	(6.3)	(6.3)	(4.2)
	Kerosene(등유)	13.9	13.3	12.5	14.0	16.4	14.8	12.5	12.6	11.6	12.1	15.5
	Change		0.6	1.5	(0.1)	(2.5)	(0.9)	1.4	1.3	2.4	1.8	(1.6)
	Diesel(경유)	11.8	11.3	11.9	14.2	15.1	14.7	14.1	11.7	10.8	12.5	14.6
	Change		0.5	(0.1)	(2.4)	(3.3)	(2.9)	(2.3)	0.1	1.0	(0.8)	(2.9)
	Bunker-C	(4.0)	(4.1)	(3.4)	(4.3)	(6.2)	(7.0)	(1.0)	(1.8)	(5.8)	(3.4)	(6.1)
	Change		0.1	(0.6)	0.3	2.1	2.9	(3.0)	(2.3)	1.7	(0.6)	2.1
	Naphtha	(1.9)	(2.0)	(3.7)	0.4	(0.5)	1.6	(2.4)	(0.4)	1.3	0.6	(0.9)
	Change		0.1	1.8	(2.2)	(1.4)	(3.5)	0.6	(1.5)	(3.2)	(2.5)	(0.9)
Refining Margin	**Simple(단순)**	1.4	1.2	1.5	2.4	2.5	1.6	4.5	3.8	1.9	3.2	2.1
	Change		0.2	(0.0)	(1.0)	(1.0)	(0.2)	(3.0)	(2.4)	(0.5)	(1.7)	(0.6)
	Complex(복합)	5.5	5.2	5.4	7.4	8.1	7.1	8.6	8.3	7.0	8.0	7.5
	Change		0.3	0.1	(1.9)	(2.6)	(1.6)	(3.0)	(2.7)	(1.4)	(2.5)	(2.0)
	Complex(lagging)	6.0	5.2	4.8	10.5	12.2	11.6	7.3	18.0	8.5	8.9	9.6
	Change		0.8	1.2	(4.5)	(6.1)	(5.6)	(1.2)	(11.9)	(2.4)	(2.9)	(3.6)

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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SK 증권

Petrochemical Price Data

Daily Price			07/05	07/04	07/03	07/02	06/29	06/28	06/27	06/26	06/25	06/22
Spot Price	**Naphtha**	CFR Japan	665.5	669.0	664.6	663.1	658.8	652.4	642.8	632.8	632.0	623.5
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,270.0	1,270.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,060.0	1,060.0	1,060.0	1,060.0	1,055.0	1,050.0	1,050.0	1,050.0	1,050.0	1,060.0
	Butadiene	FOB Korea	1,610.0	1,600.0	1,600.0	1,600.0	1,600.0	1,590.0	1,590.0	1,590.0	1,620.0	1,620.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,340.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,355.0	1,355.0
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,170.0	1,175.0	1,175.0	1,175.0	1,175.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,135.0	1,140.0	1,140.0	1,140.0	1,150.0	1,150.0	1,150.0	1,150.0	1,160.0	1,160.0
	MEG	CFR China	895.0	902.0	896.0	895.0	905.0	895.0	895.0	893.0	885.0	880.0
	PP	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,245.0	1,245.0	1,245.0
	PX	CFR China	984.8	987.8	987.8	982.7	973.7	965.7	964.7	942.7	936.2	931.7
	PTA	CFR China	850.0	850.0	845.0	845.0	845.0	845.0	835.0	830.0	830.0	830.0
	Benzene	FOB Korea	832.3	828.7	820.7	819.2	813.7	817.7	814.7	808.0	811.0	800.0
	Toluene	FOB Korea	740.0	744.0	745.0	745.0	746.0	744.0	736.0	728.0	725.0	725.0
	Xylene	FOB Korea	834.0	840.0	837.0	833.0	831.5	819.5	819.5	792.5	787.5	783.5
	SM	FOB Korea	1,346.0	1,323.0	1,315.0	1,298.0	1,311.0	1,316.5	1,332.0	1,347.0	1,362.0	1,349.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	658.5	623.5	662.0	607.0	558.0	411.5	484.5	399.5	493.5	613.7
	Change, %			*5.6*	*(0.5)*	*8.5*	*18.0*	*60.0*	*35.9*	*64.8*	*33.4*	*7.3*
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,225.0	1,265.0	1,187.5	875.0	990.0	1,040.9	1,090.9	1,233.5
	Change, %			*0.0*	*2.9*	*(0.4)*	*6.1*	*44.0*	*27.3*	*21.0*	*15.5*	*2.2*
	Propylene	CFR SE Asia	980.0	1,005.0	1,015.0	945.0	985.0	742.5	815.0	705.7	823.6	1,067.0
	Change, %			*(2.5)*	*(3.4)*	*3.7*	*(0.5)*	*32.0*	*20.2*	*38.9*	*19.0*	*(8.2)*
	Butadiene	CFR SE Asia	1,580.0	1,580.0	1,725.0	1,275.0	1,375.0	975.0	2,100.0	1,116.8	1,481.1	1,423.3
	Change, %			*0.0*	*(8.4)*	*23.9*	*14.9*	*62.1*	*(24.8)*	*41.5*	*6.7*	*11.0*
	Benzene	CFR SE Asia	807.5	805.0	852.5	832.5	905.0	760.0	822.5	646.7	838.8	871.3
	Change, %			*0.3*	*(5.3)*	*(3.0)*	*(10.8)*	*6.3*	*(1.8)*	*24.9*	*(3.7)*	*(7.3)*
	Toluene	CFR SE Asia	785.0	795.0	815.0	725.0	750.0	630.0	690.0	630.5	689.5	766.0
	Change, %			*(1.3)*	*(3.7)*	*8.3*	*4.7*	*24.6*	*13.8*	*24.5*	*13.9*	*2.5*
	Xylene	CFR SE Asia	800.0	825.0	850.0	762.5	762.5	610.0	675.0	627.7	668.8	779.2
	Change, %			*(3.0)*	*(5.9)*	*4.9*	*4.9*	*31.1*	*18.5*	*27.4*	*19.6*	*2.7*
Spread	**Ethylene**	-Naphtha	601.5	636.5	563.0	658.0	629.5	463.5	505.5	641.4	597.4	619.7
	Change, %			*(5.5)*	*6.8*	*(8.6)*	*(4.4)*	*29.8*	*19.0*	*(6.2)*	*0.7*	*(2.9)*
	Propylene	-Naphtha	321.5	381.5	353.0	338.0	427.0	331.0	330.5	306.2	330.1	453.3
	Change, %			*(15.7)*	*(8.9)*	*(4.9)*	*(24.7)*	*(2.9)*	*(2.7)*	*5.0*	*(2.6)*	*(29.1)*
	Butadiene	-Naphtha	921.5	956.5	1,063.0	668.0	817.0	563.5	1,615.5	717.3	987.6	809.5
	Change, %			*(3.7)*	*(13.3)*	*37.9*	*12.8*	*63.5*	*(43.0)*	*28.5*	*(6.7)*	*13.8*
	Benzene	-Naphtha	149.0	181.5	190.5	225.5	347.0	348.5	338.0	247.2	345.3	257.6
	Change, %			*(17.9)*	*(21.8)*	*(33.9)*	*(57.1)*	*(57.2)*	*(55.9)*	*(39.7)*	*(56.9)*	*(42.2)*
	Toluene	-Naphtha	126.5	171.5	153.0	118.0	192.0	218.5	205.5	231.0	196.0	152.2
	Change, %			*(26.2)*	*(17.3)*	*7.2*	*(34.1)*	*(42.1)*	*(38.4)*	*(45.2)*	*(35.5)*	*(16.9)*
	Xylene	-Naphtha	141.5	201.5	188.0	155.5	204.5	198.5	190.5	228.2	175.3	165.5
	Change, %			*(29.8)*	*(24.7)*	*(9.0)*	*(30.8)*	*(28.7)*	*(25.7)*	*(38.0)*	*(19.3)*	*(14.5)*

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

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,262.5	1,272.5	1,307.5	1,212.5	1,297.5	1,047.5	1,142.5	1,134.6	1,142.5	1,259.3
	Change, %			(0.8)	(3.4)	4.1	(2.7)	20.5	10.5	11.3	10.5	0.3
	MEG	CFR SE Asia	935.0	912.5	962.5	935.0	1,025.0	802.5	847.5	660.8	850.6	980.9
	Change, %			2.5	(2.9)	0.0	(8.8)	16.5	10.3	41.5	9.9	(4.7)
	PVC	CFR SE Asia	935.0	935.0	920.0	965.0	980.0	870.0	920.0	823.4	899.9	942.8
	Change, %			0.0	1.6	(3.1)	(4.6)	7.5	1.6	13.6	3.9	(0.8)
	PP	CFR SE Asia	1,282.5	1,292.5	1,277.5	1,227.5	1,307.5	1,037.5	1,032.5	978.4	1,099.6	1,261.7
	Change, %			(0.8)	0.4	4.5	(1.9)	23.6	24.2	31.1	16.6	1.7
	2-EH	CFR Korea	1,100.0	1,110.0	1,170.0	1,190.0	1,125.0	920.0	865.0	772.4	970.0	1,118.8
	Change, %			(0.9)	(6.0)	(7.6)	(2.2)	19.6	27.2	42.4	13.4	(1.7)
	ABS	CFR SE Asia	2,000.0	2,040.0	2,080.0	1,960.0	2,120.0	1,790.0	1,635.0	1,347.1	1,844.7	2,033.5
	Change, %			(2.0)	(3.8)	2.0	(5.7)	11.7	22.3	48.5	8.4	(1.6)
	SBR	CFR SE Asia	1,780.0	1,800.0	1,900.0	1,670.0	1,750.0	1,450.0	2,000.0	1,483.0	1,980.5	1,753.1
	Change, %			(1.1)	(6.3)	6.6	1.7	22.8	(11.0)	20.0	(10.1)	1.5
	SM	CFR SE Asia	1,362.5	1,375.0	1,510.0	1,320.0	1,452.5	1,152.5	1,205.0	1,064.6	1,253.8	1,401.7
	Change, %			(0.9)	(9.8)	3.2	(6.2)	18.2	13.1	28.0	8.7	(2.8)
	Caustic	FOB NEA	475.0	491.0	550.0	639.0	590.0	447.5	422.5	316.6	491.2	578.1
	Change, %			(3.3)	(13.6)	(25.7)	(19.5)	6.1	12.4	50.0	(3.3)	(17.8)
	PX	CFR SE Asia	980.0	940.0	982.5	935.0	957.5	775.0	855.0	790.4	844.4	964.2
	Change, %			4.3	(0.3)	4.8	2.3	26.5	14.6	24.0	16.1	1.6
	PO	CFR China	1,765.0	1,787.5	1,737.5	1,722.5	1,962.5	1,485.0	1,562.5	1,396.8	1,601.2	1,883.1
	Change, %			(1.3)	1.6	2.5	(10.1)	18.9	13.0	26.4	10.2	(6.3)
	Caprolactam	CFR SE Asia	2,130.0	2,130.0	2,105.0	2,200.0	2,130.0	1,610.0	1,850.0	1,344.9	1,936.4	2,119.4
	Change, %			0.0	1.2	(3.2)	0.0	32.3	15.1	58.4	10.0	0.5
	PTA	CFR SE Asia	860.0	845.0	857.5	772.5	790.0	630.0	642.5	613.7	667.8	801.9
	Change, %			1.8	0.3	11.3	8.9	36.5	33.9	40.1	28.8	7.2
Spread	HDPE		604.0	649.0	645.5	605.5	739.5	636.0	658.0	735.1	649.0	645.6
	Change, %			(6.9)	(6.4)	(0.2)	(18.3)	(5.0)	(8.2)	(17.8)	(6.9)	(6.4)
	MEG		276.5	289.0	300.5	328.0	467.0	391.0	363.0	261.3	357.1	367.1
	Change, %			(4.3)	(8.0)	(15.7)	(40.8)	(29.3)	(23.8)	5.8	(22.6)	(24.7)
	PVC		276.5	311.5	258.0	358.0	422.0	458.5	435.5	423.9	406.4	329.1
	Change, %			(11.2)	7.2	(22.8)	(34.5)	(39.7)	(36.5)	(34.8)	(32.0)	(16.0)
	PP		624.0	669.0	615.5	620.5	749.5	626.0	548.0	578.9	606.1	647.9
	Change, %			(6.7)	1.4	0.6	(16.7)	(0.3)	13.9	7.8	3.0	(3.7)
	2-EH		441.5	486.5	508.0	583.0	567.0	508.5	380.5	372.9	476.5	505.1
	Change, %			(9.2)	(13.1)	(24.3)	(22.1)	(13.2)	16.0	18.4	(7.3)	(12.6)
	ABS		1,341.5	1,416.5	1,418.0	1,353.0	1,562.0	1,378.5	1,150.5	947.6	1,351.2	1,419.7
	Change, %			(5.3)	(5.4)	(0.8)	(14.1)	(2.7)	16.6	41.6	(0.7)	(5.5)
	SBR	BD spread	200.0	220.0	175.0	395.0	375.0	475.0	(100.0)	366.2	499.4	329.8
	Change, %			(9.1)	14.3	(49.4)	(46.7)	(57.9)	(300.0)	(45.4)	(60.0)	(39.4)
	SM		704.0	751.5	848.0	713.0	894.5	741.0	720.5	665.1	760.3	788.0
	Change, %			(6.3)	(17.0)	(1.3)	(21.3)	(5.0)	(2.3)	5.8	(7.4)	(10.7)
	Caustic											
	Change, %											
	PX		321.5	316.5	320.5	328.0	399.5	363.5	370.5	390.9	351.0	350.5
	Change, %			1.6	0.3	(2.0)	(19.5)	(11.6)	(13.2)	(17.7)	(8.4)	(8.3)
	PO	propylene sprea	785.0	782.5	722.5	777.5	977.5	742.5	747.5	691.1	777.6	816.1
	Change, %			0.3	8.7	1.0	(19.7)	5.7	5.0	13.6	0.9	(3.8)
	Caprolactam	benzene spreac	1,322.5	1,325.0	1,252.5	1,367.5	1,225.0	850.0	1,027.5	698.2	1,097.6	1,248.1
	Change, %			(0.2)	5.6	(3.3)	8.0	55.6	28.7	89.4	20.5	6.0
	PTA	px spread	174.0	187.0	169.8	118.0	119.8	87.5	44.0	60.4	76.7	127.0
	Change, %			(7.0)	2.5	47.5	45.3	98.9	295.5	188.0	126.9	37.0

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	07/05	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
Petrochemical																
DowDuPont	USD	66.1	1.4	(0.1)	(2.7)	1.0	(12.4)	4.2	(7.2)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.5	0.9	(0.3)	(6.5)	(5.6)	2.4	19.0	7.4	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	82.4	1.6	1.6	(3.5)	(2.4)	(13.1)	0.2	(10.2)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.0	0.5	0.7	(2.7)	(4.2)	(1.5)	(5.2)	1.3	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	100.7	0.3	0.9	(2.9)	(5.9)	(3.5)	5.5	(0.9)	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	66.6	1.5	1.7	(3.2)	6.8	(3.6)	(1.2)	0.4	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	606	(1.3)	(2.7)	(8.7)	0.2	(29.5)	(7.3)	(25.2)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	900	(1.3)	(1.1)	(8.9)	(10.6)	(30.7)	(6.0)	(27.2)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,959	0.9	0.1	(11.3)	(8.1)	(18.2)	(0.7)	(13.0)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,382	(1.0)	(1.9)	(8.8)	(2.4)	(10.0)	12.9	(5.0)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,840	(0.6)	(1.4)	(13.3)	(21.1)	(20.0)	(6.4)	(17.0)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,030	(1.1)	(3.7)	(9.9)	(0.6)	(23.6)	(15.3)	(19.8)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	123.6	(0.6)	(2.1)	(4.5)	5.5	21.9	21.6	21.9	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	75.3	1.1	1.1	0.8	1.9	25.8	38.1	27.6	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	113.5	(0.4)	4.1	3.7	11.3	15.3	20.9	15.0	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	116.5	(8.3)	(0.9)	0.9	8.4	12.0	21.2	13.1	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	88.0	0.0	4.1	1.7	8.2	12.8	16.1	13.0	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.46	(0.2)	(3.4)	(4.5)	(5.2)	(21.4)	(18.4)	(13.7)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.84	(2.6)	(3.2)	(11.1)	(8.5)	(37.2)	(44.9)	(31.1)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	965	(2.6)	2.1	1.8	6.2	4.5	33.7	6.0	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	112.5	0.0	5.1	2.3	3.1	15.3	18.7	16.0	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	72.0	(2.0)	(5.6)	(18.4)	(24.8)	(20.2)	3.2	(15.3)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.1	0.7	1.9	3.7	3.8	19.0	9.9	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	320,500	0.9	(4.0)	(11.8)	(16.4)	(20.9)	10.1	(20.9)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	329,000	1.5	(2.5)	(11.7)	(26.4)	(6.4)	(6.0)	(10.6)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	20,750	0.5	(5.0)	(18.0)	(30.9)	(38.4)	(33.1)	(34.3)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	112,500	(2.6)	(3.8)	8.2	17.9	3.7	52.4	13.1	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	42,000	2.1	(4.2)	2.7	14.1	(10.5)	24.1	(10.6)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	57,200	(1.5)	(6.5)	(15.9)	(7.1)	(9.5)	8.5	(9.4)	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	5,930	1.2	(7.6)	(23.1)	(39.2)	(28.9)	5.0	(21.8)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(0.4)**	**(1.3)**	**(5.9)**	**(4.4)**	**(8.1)**	**6.3**	**(5.0)**							
Refinery																
Valero	USD	107.5	(0.6)	(1.4)	(12.8)	12.2	14.4	60.3	17.0	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	68.9	(0.9)	0.8	2.0	14.0	21.2	56.1	25.6	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	119.0	3.0	(1.7)	(2.1)	2.6	(0.8)	12.8	3.0	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	131.9	(1.1)	1.2	(10.2)	22.4	13.4	40.1	15.3	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	69.6	(1.7)	0.2	(13.4)	(5.2)	0.4	31.6	5.5	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.0	(0.0)	0.9	11.9	36.2	2.0	41.4	6.3	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	67.3	(2.5)	0.4	(14.9)	28.2	31.3	150.3	31.4	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	110.2	(0.3)	(1.4)	(7.3)	12.7	7.8	33.8	8.9	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.1	(1.2)	(1.7)	2.7	23.0	0.3	31.0	6.7	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	775.7	(2.6)	0.3	10.1	21.7	2.6	52.7	6.7	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,795.0	(3.4)	(6.1)	3.4	0.0	(15.4)	33.7	(16.1)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	65.3	0.6	(2.0)	(7.6)	16.3	24.2	89.2	22.4	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	78.6	0.8	0.6	(1.8)	11.4	6.1	19.2	10.4	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	42.3	0.4	1.2	(7.6)	(2.8)	(7.8)	(13.3)	(4.5)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	189,500	1.6	(6.0)	(8.0)	(11.2)	(6.0)	18.4	(7.3)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	102,500	0.0	(8.9)	(6.4)	(14.6)	(9.3)	6.3	(12.4)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	51,100	0.6	(5.5)	(12.2)	(16.1)	(17.8)	(25.3)	(17.8)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**(0.4)**	**(1.7)**	**(4.4)**	**8.9**	**3.9**	**37.6**	**5.9**							

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

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SK증권

Global peers

	Currency	07/05	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	0.1	0.4	2.0	8.3	(5.1)	1.8	(1.6)	348,487	16.7	15.4	1.8	1.7	7.6	7.1
BP	GBP	583	0.4	0.0	1.0	16.5	10.0	31.1	11.4	153,898	14.3	13.3	1.5	1.5	5.4	5.2
Shell	EUR	2,617	0.8	(1.2)	1.0	12.1	3.4	27.6	5.5	292,311	12.3	11.1	1.4	1.4	5.7	5.5
Chevron	USD	124	(0.6)	(1.3)	1.0	5.7	(3.1)	18.5	(1.0)	236,921	15.6	14.9	1.6	1.5	6.3	6.1
Total	EUR	54	1.4	3.0	2.7	10.6	12.3	24.0	16.7	167,430	11.9	11.1	1.3	1.3	5.5	5.3
Sinopec	CNY	6	1.3	(2.2)	(4.1)	(1.9)	(10.6)	4.3	2.9	112,865	10.1	9.6	1.0	1.0	3.7	3.7
Petrochina	CNY	7	(0.8)	(3.6)	(6.9)	(0.4)	(13.5)	(4.9)	(8.2)	196,315	24.2	20.6	1.1	1.1	5.4	5.3
CNOOC	CNY	9	(2.9)	(3.7)	(13.9)	(20.1)	(23.8)	(19.0)	(14.2)	71,464	8.9	9.0	1.2	1.1	3.8	3.8
Gazprom	RUB	146	2.3	4.9	(0.3)	3.6	6.1	18.6	11.5	54,637	3.2	3.2	0.3	0.3	2.6	2.6
Rosneft	RUB	406	3.3	2.4	6.3	25.8	30.2	24.1	39.3	68,237	7.7	6.6	0.9	0.9	4.5	4.4
Anadarko	USD	73	(1.2)	(1.4)	4.8	20.7	31.9	62.0	35.3	37,385	24.9	21.4	3.6	3.2	6.9	6.1
Petrobras	BRL	18	(3.2)	7.6	7.7	(15.6)	6.1	46.3	10.9	63,668	6.9	6.1	0.7	0.6	4.3	4.1
Lukoil	USD	4,462	2.9	5.5	4.3	11.8	25.0	51.2	33.8	59,369	5.7	5.9	0.8	0.7	N/A	N/A
Kinder	USD	18	(0.6)	0.6	4.4	13.4	(7.2)	(9.0)	(2.7)	47,497	20.3	18.1	1.1	1.2	10.6	10.4
Equinor ASA	NOK	220	2.7	2.3	3.6	15.4	20.6	60.6	25.5	91,153	14.3	13.3	2.0	1.9	3.5	3.4
BHP	AUD	33	(0.5)	(2.8)	0.4	15.3	7.5	36.1	11.2	124,312	14.9	16.6	2.1	2.0	6.1	6.4
PTT E&P	THB	133	(1.5)	(2.6)	(2.6)	16.7	23.8	52.3	32.5	15,849	13.1	12.3	1.3	1.3	4.0	3.7
Petronas gas	MYR	18	0.6	(0.1)	(3.3)	(2.7)	(4.7)	(5.9)	0.1	8,552	18.3	18.1	2.7	2.6	10.1	10.0
Chesapeake	USD	5	(0.2)	1.7	22.0	71.1	32.1	10.3	33.1	4,805	6.4	7.3	#N/A N/A	6.9	6.5	6.3
Noble Energy	USD	35	0.5	(0.7)	1.1	14.9	10.6	24.2	19.6	16,883	30.5	22.5	1.5	1.5	7.7	6.5
Average		**0**	**0.2**	**0.4**	**1.6**	**11.1**	**7.6**	**22.7**	**13.1**							
PV																
WACKER	EUR	116.4	1.3	8.1	(12.9)	(16.6)	(31.9)	21.2	(28.2)	7,101	16.9	15.0	1.8	1.7	5.9	5.6
GCL-Poly	HKD	0.7	0.0	(6.8)	(10.5)	(29.2)	(51.4)	(21.8)	(51.4)	1,611	6.1	5.3	0.4	0.4	6.3	5.8
SunPower	USD	7.9	2.5	1.9	0.3	(2.2)	(8.8)	(7.9)	(6.4)	1,111	#N/A N/A	#N/A N/A	1.4	1.4	20.7	12.0
Canadian Solar	USD	12.4	1.7	0.7	(5.2)	(23.9)	(27.0)	(19.7)	(26.4)	727	8.2	8.3	0.7	0.7	7.7	8.3
JA Solar	USD	6.8	(0.3)	(0.4)	(5.2)	(4.8)	(8.9)	5.8	(9.4)	322	#N/A N/A	#N/A N/A	1.6	1.7	4.8	6.8
Yingli	USD	0.3	(42.8)	(83.2)	(83.1)	(84.9)	(87.8)	(88.6)	(84.8)	5	#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	53.3	1.8	2.2	(8.5)	(25.6)	(22.9)	36.5	(21.1)	5,584	31.4	17.4	1.0	1.0	9.4	5.1
한화큐셀	USD	5.4	(3.0)	(23.1)	(20.1)	(26.4)	(27.6)	(22.2)	(22.6)	452	9.7	20.1	#N/A N/A	#N/A N/A	7.7	7.9
OCI	KRW	97,700	0.0	(9.1)	(18.9)	(41.8)	(39.5)	10.0	(28.2)	2,084	0.0	9.6	0.0	0.7	0.0	4.4
웅진에너지	KRW	3,365	(3.0)	(8.1)	(35.9)	(49.9)	(61.6)	(52.0)	(59.1)	89	N/A	0.0	0.7	0.0	4.4	0.0
신성솔라에너지	KRW	1,315	(4.0)	(9.9)	(22.9)	(17.3)	(34.9)	(38.4)	(31.3)	203	N/A	0.7	0.0	4.4	0.0	6.8
Average			**(4.2)**	**(11.6)**	**(20.3)**	**(29.3)**	**(36.6)**	**(16.1)**	**(33.5)**							
Gas Company																
Towngas China	HKD	7.5	0.1	1.6	(0.1)	5.8	21.1	46.9	19.7	2,653	14.6	13.0	1.2	1.2	12.3	11.2
Kulun	HKD	6.8	1.8	0.0	(6.9)	1.6	(13.7)	0.6	(16.0)	7,037	9.8	8.4	1.1	1.0	5.6	5.1
Beijing Enterprise	HKD	37.4	(0.3)	(1.7)	(13.1)	(10.1)	(19.7)	(1.7)	(19.4)	6,015	6.5	5.9	0.6	0.6	11.7	11.1
ENN Energy	HKD	78.5	3.3	11.4	(3.9)	8.3	48.0	65.0	40.7	10,849	17.5	14.7	3.5	3.0	10.2	9.0
China Resources Gas	HKD	33.0	0.9	7.8	10.7	18.3	22.0	19.8	16.4	9,353	17.3	15.5	3.0	2.5	9.5	8.6
China Gas Holdings	HKD	31.0	2.7	2.7	(15.4)	8.4	40.0	83.4	43.3	19,597	20.1	16.8	4.7	3.9	15.3	13.0
Shenzen Gas	HKD	14.5	(3.1)	(7.2)	(17.0)	(12.4)	(7.3)	5.1	(2.4)	3,902	8.9	7.6	1.2	1.0	5.6	4.9
Shann Xi	CNY	6.7	(2.8)	(1.9)	(17.9)	(4.3)	(20.8)	(24.7)	(20.6)	1,121	15.4	13.5	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.1	(1.4)	(1.9)	(21.6)	(5.0)	1.9	48.6	1.9	999	5.5	4.8	0.7	0.6	8.1	7.0
China Oil & Gas	HKD	0.6	(1.7)	(1.7)	(7.9)	(6.5)	(21.6)	5.5	(31.8)	432	7.6	6.7	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(0.0)**	**0.9**	**(9.3)**	**0.4**	**5.0**	**24.8**	**3.2**							
EV																
LG화학	KRW	320,500	0.9	(4.0)	(11.8)	(16.4)	(20.9)	10.1	(20.9)	20,235	12.0	10.9	1.4	1.2	5.6	5.1
삼성SDI	KRW	215,000	0.9	(2.3)	0.0	12.6	(2.5)	21.5	5.1	13,223	20.2	14.7	1.2	1.2	14.0	10.9
Panasonic	JPY	1406.5	(1.9)	(4.9)	(7.6)	(7.6)	(18.2)	(7.1)	(14.7)	31,187	12.8	11.3	1.8	1.6	4.7	4.3
GS Yuasa	JPY	488.0	(1.8)	(1.4)	(7.6)	(14.1)	(15.7)	(0.8)	(13.0)	1,824	14.1	13.0	1.1	1.0	6.6	6.2
NEC	JPY	2971.0	(1.0)	(1.0)	(2.6)	1.8	(4.5)	(0.3)	(2.3)	6,995	22.6	12.7	0.9	0.8	7.1	5.4
BYD Auto	CNY	45.6	(0.5)	(0.9)	(11.0)	(16.9)	(29.2)	(10.9)	(29.9)	18,032	26.7	20.0	2.1	2.0	12.1	10.3
Tesla Motors	USD	309.2	(0.5)	(11.7)	6.2	1.1	(2.3)	(5.5)	(0.7)	52,493	#N/A N/A	132.3	10.3	9.5	60.6	19.7
Kandi Technologies	USD	4.3	(1.1)	1.2	(1.7)	(10.4)	(45.2)	(2.3)	(36.8)	219	#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			**(0.6)**	**(3.1)**	**(4.5)**	**(6.2)**	**(17.3)**	**0.6**	**(14.1)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임