SK Energy Daily

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SK 증권

1. News Summary (3 page)

2018년 12월 5일

News		Conclusion
WTI comment	숨고르기' 강보합…WTI 0.6%↑	
Headline	Aramco가 Baker Hughes와 계약 체결	글로벌 증산 기조는 장기 저유가 레벨인 $40~$50/bbl로 회귀시킬 것임
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	53.3	0.6	3.3	(15.6)	(23.8)	(7.6)
Dubai	$/bbl	61.5	0.6	4.2	(13.6)	(20.0)	2.2
Gasoline	$/bbl	62.9	(1.3)	1.9	(16.7)	(29.8)	(15.7)
Diesel	$/bbl	73.9	(0.3)	0.7	(15.5)	(21.6)	1.3
Complex margin	$/bbl	5.0	(0.5)	(1.5)	(2.4)	(3.3)	(2.7)
1M lagging	$/bbl	(6.8)	2.1	2.6	(2.1)	(20.8)	(16.2)
Petrochemical			%	%	%	%	%
Naphtha	$/t	513	0.3	5.6	(13.5)	(26.2)	(13.2)
Butadiene	$/t	1,075	0.0	0.5	2.9	(36.4)	6.4
HDPE	$/t	1,020	(1.0)	(6.4)	(17.1)	(20.3)	(21.8)
MEG	$/t	730	3.5	8.3	(8.2)	(25.6)	(20.9)
PX	$/t	1,008	2.4	2.9	(13.6)	(24.5)	13.3
SM	$/t	1,003	4.3	3.5	(9.3)	(29.2)	(22.1)
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	4.51	4.0	5.1	25.9	49.1	42.9
Natural rubber	$/t	1,230	0.0	1.7	0.0	(5.4)	(14.6)
Cotton	C/lbs	78.8	(0.2)	2.6	1.7	(4.8)	5.1

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	12/03	$/t	855	(7.6)	6.2	(28.2)	(28.8)
Propylene	12/03	$/t	775	(6.9)	(19.7)	(25.1)	(8.3)
Benzene	12/03	$/t	638	(2.7)	(13.0)	(27.8)	(28.6)
Toluene	12/03	$/t	655	(4.4)	(22.9)	(21.1)	(8.4)
Xylene	12/03	$/t	735	(7.0)	(17.4)	(15.5)	5.8
PP	12/03	$/t	1,128	(4.2)	(9.3)	(8.9)	(1.7)
PVC	12/03	$/t	860	0.0	1.2	(9.5)	1.2
ABS	12/03	$/t	1,460	(1.4)	(14.6)	(22.3)	(27.0)
SBR	12/03	$/t	1,400	(4.8)	(7.9)	(25.3)	(14.6)
SM	12/03	$/t	993	(3.4)	(13.5)	(31.8)	(25.2)
BPA	12/03	$/t	1,500	0.0	(15.0)	(23.0)	(13.4)
Caustic	12/03	$/t	324	0.0	(13.6)	(19.0)	(54.0)
2-EH	12/03	$/t	1,080	(1.8)	(6.9)	(3.1)	4.9
Caprolactam	12/03	$/t	1,870	(9.2)	(10.1)	(12.2)	(7.4)
Solar				%	%	%	%
Polysilicon	11/28	$/kg	9.53	(0.3)	(2.3)	(15.4)	(43.3)
Module	11/28	$/W	0.22	(1.4)	(3.1)	(13.2)	(30.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	79.4	(2.2)	3.1	(3.1)	(1.1)	(5.0)
Shell	EUR	2,416	0.0	2.7	0.6	(4.7)	1.8
Petrochina	CNY	7.73	0.0	2.2	(7.0)	(6.2)	(5.4)
Gazprom	RUB	164.2	(0.7)	6.8	6.8	11.4	22.7
Petrobras	BRL	25.3	(2.3)	(0.7)	(7.2)	35.9	63.7
Refinery							
Phillips66	USD	91.4	(0.7)	0.2	(7.7)	(23.2)	(6.3)
Valero	USD	79.5	(2.2)	2.7	(13.4)	(33.9)	(4.9)
JX	JPY	683.6	(3.6)	2.2	(10.8)	(10.4)	4.2
Neste Oil	EUR	70.5	(0.3)	2.1	(1.4)	(3.9)	35.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	63.0	(3.6)	(3.6)	(9.9)	(19.7)	(33.0)
DowDuPont	USD	56.5	(4.5)	(1.2)	(2.1)	(19.0)	(21.7)
SABIC	SAR	121.2	(0.2)	4.8	(3.8)	(4.0)	19.7
Formosa Pla.	TWD	101.5	(0.5)	2.5	0.5	(9.8)	8.8
Shin-Etsu	JPY	9,895	(3.0)	2.5	(1.1)	(2.3)	(17.2)
Renewable							
Wacker	EUR	83.8	(4.4)	3.6	(8.0)	(31.0)	(39.5)
First Solar	USD	44.50	(4.1)	(0.8)	3.5	(13.3)	(22.3)
GCL-Poly	HKD	0.56	1.8	3.7	16.7	(5.1)	(55.6)
Tesla Motors	USD	359.7	0.3	4.6	3.8	24.5	17.9

4. Coverage Summary

	12/04	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,114	(0.8)	0.7	0.9	(7.7)	(13.6)	(14.6)				* 추정치는 12M fwd 기준임	
KOSPI화학	4,991	(1.2)	3.2	2.0	(10.2)	(16.7)	(17.7)				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	358,500	(1.8)	4.5	0.1	0.1	(1.2)	(13.0)	매수	400,000	11.6	15.73	1.64
롯데케미칼	285,500	(1.0)	(0.5)	0.0	(5.0)	(24.2)	(20.3)	매수	360,000	26.1	9.29	12.47
한화케미칼	19,050	(1.6)	3.0	5.8	(4.3)	(24.3)	(34.1)	매수	27,000	41.7	9.27	0.46
금호석유화학	93,300	0.2	5.7	(0.3)	(3.3)	(12.4)	2.6	매수	140,000	50.1	10.68	1.22
KCC	286,000	0.7	2.5	7.5	(13.3)	(19.3)	(25.0)	매수	400,000	39.9	16.08	0.48
OCI	105,500	(0.5)	5.5	11.5	(10.2)	(12.1)	(12.4)	매수	140,000	32.7	12.43	0.73
SKC	36,200	(1.6)	4.2	4.5	(22.1)	(7.9)	(11.6)	매수	50,000	38.1	10.02	0.85
SK이노베이션	199,000	(2.2)	1.0	(3.9)	3.9	(4.1)	(1.7)	매수	240,000	20.6	14.21	1.05
S-Oil	113,500	(1.3)	6.6	(5.8)	(4.6)	3.2	(4.6)	매수	150,000	32.2	14.23	1.87
GS	52,300	(0.4)	1.6	6.4	1.0	(11.1)	(13.8)	매수	80,000	53.0	4.97	0.60
SK가스	75,800	(0.4)	1.6	0.1	(14.0)	(22.0)	(21.5)	매수	120,000	58.3	6.22	0.50
포스코대우	19,150	(1.8)	1.6	4.4	5.8	(16.7)	5.5	매수	25,000	30.5	10.98	0.71
LG상사	16,950	(1.7)	1.2	4.0	(20.8)	(36.8)	(38.6)	매수	30,000	77.0	6.12	0.49
한국전력	30,600	2.9	2.5	15.0	1.8	(7.0)	(19.4)	매수	40,000	30.7	7.99	0.25
한국가스공사	52,100	(1.1)	6.7	(1.9)	(3.3)	(14.2)	20.2	매수	75,000	44.0	9.38	0.68

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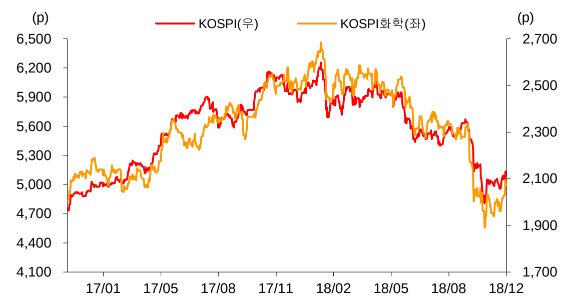
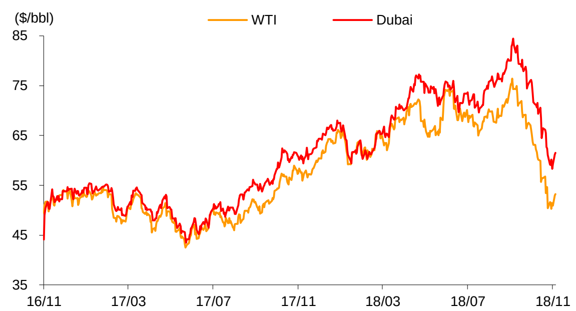
Key Chart

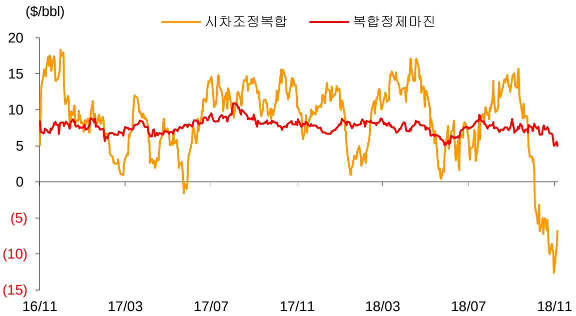
KOSPI/KOSPI화학



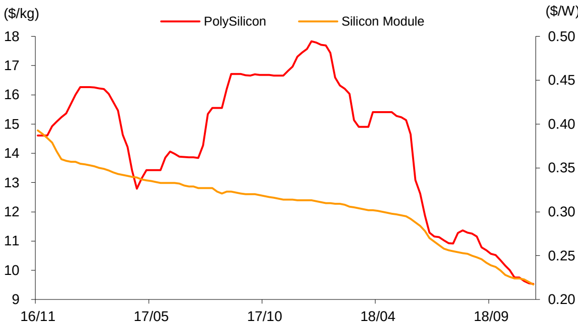
WTI/Dubai



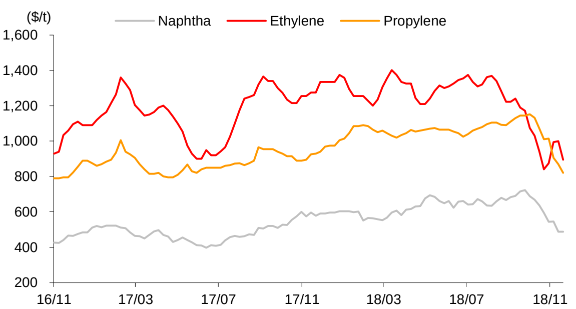
Complex & 1M lagging margin



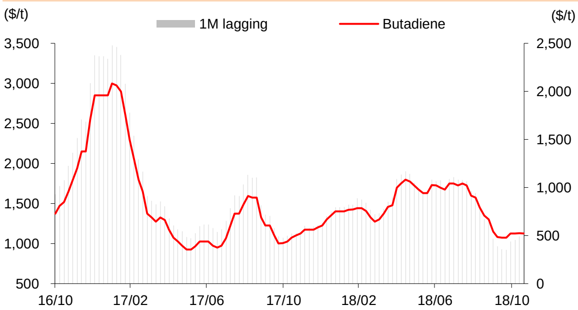
Polysilicon & Module prices



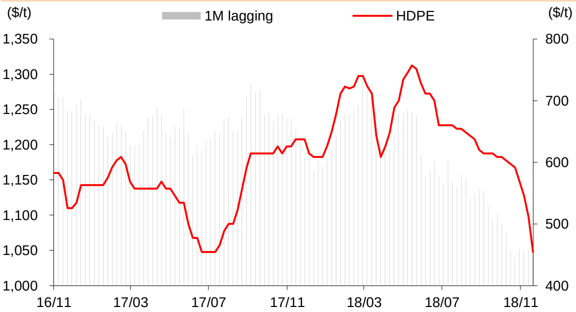
Naphtha/Ethylene/Propylene prices



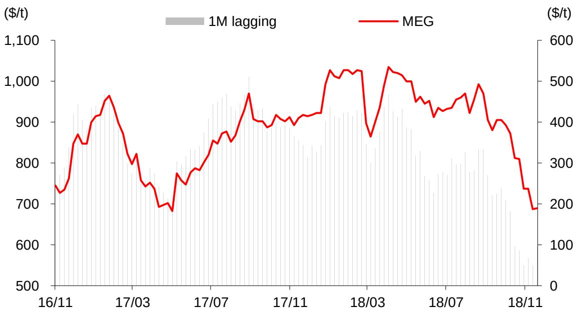
Butadiene price & 1M lagging naphtha spread



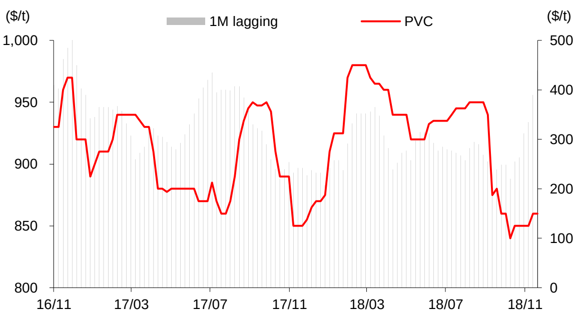
HDPE price & 1M lagging naphtha spread



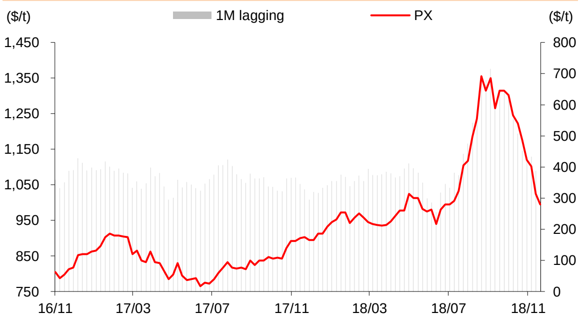
MEG price & 1M lagging naphtha spread



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: The National)
제목	Aramco가 Baker Hughes와 계약 체결
결론	글로벌 증산 기조는 장기 저유가 레벨인 $40~$50/bbl로 회귀시킬 것임
세부	
	1) 사우디가 컨벤셔널 유전에 대한 탐사를 위해 Baker Hughes와 3년 계약
	2) 증산 속도를 올리기 위해 이번 달부터 바로 Baker Hughes 투입함
	3) 관계자, "이번 계약은 사우디 내 컨벤셔널 유전 통합을 촉진시킬 것"
	4) 관계자, "Capacity를 유지시키고 내수 및 글로벌 수요에 대응할 것임"
	5) 글로벌 증산 기조는 장기 저유가 레벨인 $40~$50/bbl로 회귀시킬 것임

WTI Comment	(출처: 연합뉴스)
제목	숨고르기' 강보합…WTI 0.6%↑
상승 요인	미국이 대중 강경 태도를 보이며 압박을 강화
하락 요인	미 국채 금리 하락 및 장단기 금리 역전현상

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

Issue 2	
제목	
결론	
세부	
	1)
	2)
	3)
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	5)

Issue 3	
제목	
결론	
세부	
	1)
	2)
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	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)
	2)
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	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**	0.882	0.881	0.886	0.878	0.863	0.855	0.843	0.833	0.904	0.887	0.845
	Change, %		*0.1*	*(0.5)*	*0.4*	*2.1*	*3.1*	*4.6*	*5.8*	*(2.5)*	*(0.6)*	*4.3*
	USD/JPY	112.8	113.7	113.8	113.2	111.4	109.8	112.4	112.6	108.8	112.1	110.3
	Change, %		*(0.8)*	*(0.9)*	*(0.4)*	*1.2*	*2.7*	*0.3*	*0.1*	*3.7*	*0.6*	*2.2*
	USD/KRW	1,105.5	1,110.5	1,129.3	1,122.0	1,115.0	1,072.0	1,088.9	1,066.7	1,160.5	1,130.9	1,098.5
	Change, %		*(0.5)*	*(2.1)*	*(1.5)*	*(0.9)*	*3.1*	*1.5*	*3.6*	*(4.7)*	*(2.3)*	*0.6*
Agriculture	**Corn**	374.3	371.3	356.5	371.3	354.5	380.8	339.5	350.8	358.5	359.4	367.6
	Change, %		*0.8*	*5.0*	*0.8*	*5.6*	*(1.7)*	*10.2*	*6.7*	*4.4*	*4.1*	*1.8*
	Soybean	911.8	905.8	875.5	875.3	832.0	1,001.8	998.5	951.8	987.5	975.9	934.6
	Change, %		*0.7*	*4.1*	*4.2*	*9.6*	*(9.0)*	*(8.7)*	*(4.2)*	*(7.7)*	*(6.6)*	*(2.4)*
	Wheat	519.3	515.8	498.0	508.8	502.8	505.3	410.3	427.0	436.4	436.0	493.6
	Change, %		*0.7*	*4.3*	*2.1*	*3.3*	*2.8*	*26.6*	*21.6*	*19.0*	*19.1*	*5.2*
	Rice	11.0	11.0	10.8	10.7	10.9	11.2	12.2	11.7	10.3	11.1	11.6
	Change, %		*(0.0)*	*1.2*	*2.6*	*1.2*	*(2.1)*	*(9.9)*	*(6.0)*	*6.1*	*(0.8)*	*(5.6)*
	Oats	283.5	286.8	269.5	284.3	234.0	241.3	241.3	241.0	196.3	252.3	254.4
	Change, %		*(1.1)*	*5.2*	*(0.3)*	*21.2*	*17.5*	*17.5*	*17.6*	*44.4*	*12.4*	*11.4*
MYR/mt	**Palm Oil**	1,800.0	1,813.0	1,805.0	1,985.0	2,242.0	2,414.0	2,480.0	2,444.0	2,653.8	2,787.3	2,273.9
	Change, %		*(0.7)*	*(0.3)*	*(9.3)*	*(19.7)*	*(25.4)*	*(27.4)*	*(26.4)*	*(32.2)*	*(35.4)*	*(20.8)*
	Cocoa	2,105.0	2,144.0	2,086.0	2,267.0	2,335.0	2,351.0	2,002.0	1,892.0	2,854.0	2,005.2	2,312.1
	Change, %		*(1.8)*	*0.9*	*(7.1)*	*(9.9)*	*(10.5)*	*5.1*	*11.3*	*(26.2)*	*5.0*	*(9.0)*
	Cotton	78.8	78.9	76.8	78.8	82.8	92.1	75.0	78.6	65.6	73.5	82.6
	Change, %		*(0.2)*	*2.6*	*(0.0)*	*(4.8)*	*(14.5)*	*5.0*	*0.2*	*20.1*	*7.1*	*(4.6)*
	Sugar	12.8	12.9	12.3	13.4	10.6	11.9	15.1	15.2	18.2	15.8	12.2
	Change, %		*(1.2)*	*3.3*	*(5.1)*	*19.8*	*7.1*	*(15.3)*	*(15.9)*	*(29.8)*	*(19.4)*	*4.2*
	Coffee	101.9	103.5	109.5	120.1	97.8	121.5	126.8	126.2	136.1	133.0	113.7
	Change, %		*(1.5)*	*(6.9)*	*(15.1)*	*4.2*	*(16.1)*	*(19.6)*	*(19.3)*	*(25.1)*	*(23.4)*	*(10.4)*
Energy	**WTI**	52.6	53.0	51.6	63.1	69.9	64.8	57.5	60.4	43.4	51.0	66.1
	Change, %		*(0.6)*	*2.0*	*(16.7)*	*(24.7)*	*(18.7)*	*(8.5)*	*(12.9)*	*21.3*	*3.2*	*(20.4)*
	Brent	61.3	61.7	60.2	72.8	78.2	75.3	62.5	66.9	45.1	54.9	72.7
	Change, %		*(0.7)*	*1.8*	*(15.9)*	*(21.6)*	*(18.6)*	*(1.9)*	*(8.4)*	*35.9*	*11.7*	*(15.7)*
	Natural Gas	4.5	4.3	4.3	3.3	2.8	2.9	3.0	3.0	2.6	3.0	3.0
	Change, %		*4.0*	*5.9*	*37.4*	*59.8*	*54.0*	*51.2*	*52.8*	*76.8*	*49.3*	*49.8*
	Ethanol	1.2	1.2	1.2	1.3	1.3	1.4	1.3	1.3	1.5	1.5	1.4
	Change, %		*0.4*	*1.1*	*(5.1)*	*(5.2)*	*(13.6)*	*(8.3)*	*(6.4)*	*(18.5)*	*(17.5)*	*(10.7)*
	RBOB Gasoline	142.8	143.1	142.1	170.8	199.4	212.2	169.2	179.9	140.0	162.9	195.8
	Change, %		*(0.3)*	*0.5*	*(16.4)*	*(28.4)*	*(32.7)*	*(15.6)*	*(20.6)*	*2.0*	*(12.4)*	*(27.1)*
	Coal	102.9	102.5	101.6	103.4	115.4	113.3	97.3	100.8	65.5	88.2	107.5
	Change, %		*0.4*	*1.3*	*(0.5)*	*(10.8)*	*(9.2)*	*5.7*	*2.0*	*57.1*	*16.6*	*(4.4)*
Metal	**Gold**	1,238.5	1,230.7	1,215.0	1,233.0	1,191.6	1,292.0	1,276.1	1,302.6	1,248.5	1,258.6	1,270.3
	Change, %		*0.6*	*1.9*	*0.4*	*3.9*	*(4.1)*	*(3.0)*	*(4.9)*	*(0.8)*	*(1.6)*	*(2.5)*
	Silver	14.5	14.4	14.1	14.7	14.2	16.4	16.3	16.9	17.1	17.1	15.8
	Change, %		*1.0*	*2.7*	*(1.5)*	*2.7*	*(11.5)*	*(11.0)*	*(14.3)*	*(15.1)*	*(14.9)*	*(7.9)*
	Copper	6,209.0	6,295.0	6,121.5	6,283.0	5,815.0	6,975.0	6,826.0	7,247.0	4,872.0	6,199.4	6,581.7
	Change, %		*(1.4)*	*1.4*	*(1.2)*	*6.8*	*(11.0)*	*(9.0)*	*(14.3)*	*27.4*	*0.2*	*(5.7)*
	Nickel	786.0	789.8	757.1	870.4	891.9	1,038.1	732.2	809.1	646.4	680.2	907.7
	Change, %		*(0.5)*	*3.8*	*(9.7)*	*(11.9)*	*(24.3)*	*7.3*	*(2.9)*	*21.6*	*15.5*	*(13.4)*
	Zinc	2,589.0	2,583.0	2,435.0	2,552.5	2,415.5	3,122.0	3,178.0	3,319.0	2,097.5	2,888.5	2,921.2
	Change, %		*0.2*	*6.3*	*1.4*	*7.2*	*(17.1)*	*(18.5)*	*(22.0)*	*23.4*	*(10.4)*	*(11.4)*
	Lead	1,998.5	1,961.0	1,897.0	1,978.3	2,066.0	2,507.5	2,511.0	2,482.8	1,868.3	2,315.7	2,264.7
	Change, %		*1.9*	*5.4*	*1.0*	*(3.3)*	*(20.3)*	*(20.4)*	*(19.5)*	*7.0*	*(13.7)*	*(11.8)*
	Aluminum	13,725.0	13,735.0	13,740.0	13,895.0	14,715.0	14,595.0	14,490.0	15,020.0	12,373.5	14,556.6	14,303.6
	Change, %		*(0.1)*	*(0.1)*	*(1.2)*	*(6.7)*	*(6.0)*	*(5.3)*	*(8.6)*	*10.9*	*(5.7)*	*(4.0)*
	Cobalt	55,000.0	55,000.0	55,000.0	58,085.0	64,306.0	87,750.0	68,776.0	75,205.0	25,480.1	55,906.9	74,239.9
	Change, %		*0.0*	*0.0*	*(5.3)*	*(14.5)*	*(37.3)*	*(20.0)*	*(26.9)*	*115.9*	*(1.6)*	*(25.9)*
	HR Coil	771.0	778.0	808.0	827.0	860.0	924.0	629.0	662.0	519.3	620.1	835.1
	Change, %		*(0.9)*	*(4.6)*	*(6.8)*	*(10.3)*	*(16.6)*	*22.6*	*16.5*	*48.5*	*24.3*	*(7.7)*
	Scrap	399.0	399.0	400.0	399.0	379.0	400.0	349.0	367.0	275.7	344.7	390.6
	Change, %		*0.0*	*(0.2)*	*0.0*	*5.3*	*(0.2)*	*14.3*	*8.7*	*44.7*	*15.7*	*2.1*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

SK Energy Daily

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Refining Price Data

Daily Price		12/04	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	53.3	53.0	51.6	63.1	69.9	65.5	57.6	53.7	43.4	50.9	66.1
	Change, %		*0.6*	*3.3*	*(15.6)*	*(23.8)*	*(18.7)*	*(7.6)*	*(0.9)*	*22.8*	*4.6*	*(19.5)*
	Dubai	61.5	61.2	59.1	71.2	76.9	73.6	60.2	53.8	41.3	53.1	70.5
	Change, %		*0.6*	*4.2*	*(13.6)*	*(20.0)*	*(16.4)*	*2.2*	*14.3*	*49.0*	*15.9*	*(12.8)*
Crude Oil Product	**Gasoline(휘발유)**	62.9	63.7	61.7	75.4	89.6	85.4	74.5	69.8	56.3	68.0	81.7
	Change, %		*(1.3)*	*1.9*	*(16.7)*	*(29.8)*	*(26.4)*	*(15.7)*	*(10.0)*	*11.7*	*(7.6)*	*(23.0)*
	Kerosene(등유)	75.3	79.1	75.7	87.4	92.6	87.6	73.2	66.4	52.9	65.2	86.0
	Change, %		*(4.7)*	*(0.5)*	*(13.8)*	*(18.7)*	*(14.0)*	*2.9*	*13.4*	*42.4*	*15.5*	*(12.4)*
	Diesel(경유)	73.9	74.2	73.4	87.5	94.2	87.8	73.0	65.5	52.1	65.6	85.4
	Change, %		*(0.3)*	*0.7*	*(15.5)*	*(21.6)*	*(15.8)*	*1.3*	*12.8*	*41.8*	*12.7*	*(13.5)*
	Bunker-C	63.7	62.6	62.6	74.4	70.1	69.3	55.3	52.1	35.5	49.7	66.1
	Change, %		*1.8*	*1.9*	*(14.3)*	*(9.2)*	*(8.1)*	*15.2*	*22.4*	*79.3*	*28.3*	*(3.7)*
	Naphtha	55.2	54.9	51.6	63.2	75.7	74.0	63.2	53.5	42.6	53.7	68.4
	Change, %		*0.5*	*7.0*	*(12.7)*	*(27.1)*	*(25.4)*	*(12.7)*	*3.3*	*29.6*	*2.7*	*(19.3)*
Dubai Spread	**Gasoline(휘발유)**	1.3	2.5	2.6	4.2	12.7	11.8	14.3	16.0	14.9	14.9	11.1
	Change		*(1.2)*	*(1.3)*	*(2.9)*	*(11.4)*	*(10.5)*	*(13.0)*	*(14.7)*	*(13.6)*	*(13.6)*	*(9.8)*
	Kerosene(등유)	13.8	17.9	16.6	16.2	15.7	14.0	13.0	12.6	11.6	12.1	15.4
	Change		*(4.1)*	*(2.8)*	*(2.4)*	*(1.9)*	*(0.2)*	*0.8*	*1.2*	*2.2*	*1.6*	*(1.7)*
	Diesel(경유)	12.4	13.0	14.4	16.3	17.4	14.2	12.8	11.7	10.8	12.5	14.9
	Change		*(0.6)*	*(2.0)*	*(3.9)*	*(5.0)*	*(1.8)*	*(0.4)*	*0.7*	*1.6*	*(0.1)*	*(2.5)*
	Bunker-C	2.2	1.4	3.5	3.2	(6.8)	(4.3)	(4.9)	(1.8)	(5.8)	(3.4)	(4.4)
	Change		*0.8*	*(1.3)*	*(1.0)*	*8.9*	*6.5*	*7.1*	*3.9*	*8.0*	*5.6*	*6.6*
	Naphtha	(6.4)	(6.3)	(7.5)	(8.0)	(1.2)	0.4	3.0	(0.4)	1.3	0.6	(2.1)
	Change		*(0.1)*	*1.2*	*1.6*	*(5.2)*	*(6.7)*	*(9.3)*	*(6.0)*	*(7.6)*	*(7.0)*	*(4.2)*
Refining Margin	**Simple(단순)**	3.7	4.0	5.2	5.4	2.2	2.4	2.5	3.8	1.9	3.2	2.6
	Change		*(0.3)*	*(1.5)*	*(1.7)*	*1.5*	*1.2*	*1.2*	*(0.1)*	*1.8*	*0.5*	*1.1*
	Complex(복합)	5.0	5.6	6.5	7.4	8.3	7.4	7.7	8.3	7.0	8.0	7.4
	Change		*(0.5)*	*(1.5)*	*(2.4)*	*(3.3)*	*(2.4)*	*(2.7)*	*(3.2)*	*(1.9)*	*(3.0)*	*(2.4)*
	Complex(lagging)	(6.8)	(8.9)	(9.4)	(4.7)	14.0	10.5	9.4	18.0	8.5	8.9	7.8
	Change		*2.1*	*2.6*	*(2.1)*	*(20.8)*	*(17.3)*	*(16.2)*	*(24.8)*	*(15.3)*	*(15.8)*	*(14.6)*

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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Petrochemical Price Data

Daily Price			12/04	12/03	11/30	11/29	11/28	11/27	11/26	11/23	11/22	11/21
Spot Price	**Naphtha**	CFR Japan	512.8	511.3	489.8	472.3	487.8	485.8	487.8	487.8	500.8	507.3
	Ethylene	CFR SE Asia	830.0	850.0	860.0	910.0	920.0	920.0	920.0	950.0	960.0	960.0
	Propylene	FOB Korea	855.0	845.0	835.0	835.0	835.0	835.0	835.0	845.0	880.0	885.0
	Butadiene	FOB Korea	1,075.0	1,075.0	1,075.0	1,070.0	1,070.0	1,070.0	1,070.0	1,075.0	1,090.0	1,090.0
	HDPE	CFR FE Asia	1,020.0	1,030.0	1,030.0	1,035.0	1,040.0	1,090.0	1,140.0	1,140.0	1,140.0	1,140.0
	LDPE	CFR FE Asia	980.0	990.0	990.0	990.0	990.0	1,000.0	1,030.0	1,030.0	1,030.0	1,030.0
	LLDPE	CFR FE Asia	980.0	980.0	980.0	980.0	980.0	990.0	1,030.0	1,030.0	1,030.0	1,030.0
	MEG	CFR China	730.0	705.0	680.0	684.0	684.0	674.0	674.0	677.0	690.0	690.0
	PP	CFR FE Asia	1,010.0	1,020.0	1,030.0	1,030.0	1,040.0	1,110.0	1,130.0	1,130.0	1,130.0	1,130.0
	PX	CFR China	1,008.0	984.3	983.0	979.3	988.0	980.0	992.3	1,015.7	1,049.7	1,064.0
	PTA	CFR China	840.0	839.0	839.0	840.0	840.0	840.0	840.0	840.0	850.0	880.0
	Benzene	FOB Korea	644.0	641.0	634.0	641.3	661.3	645.3	639.7	654.7	665.7	663.7
	Toluene	FOB Korea	595.0	580.0	596.0	596.0	597.0	595.0	595.0	632.5	638.5	638.5
	Xylene	FOB Korea	698.0	696.0	680.0	686.0	693.0	687.0	691.0	717.0	739.0	753.0
	SM	FOB Korea	1,003.0	962.0	938.5	956.5	970.5	969.5	971.5	971.5	1,003.0	1,004.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	487.0	488.0	594.0	680.0	659.0	579.0	484.5	399.5	493.5	624.5
	Change, %			*(0.2)*	*(18.0)*	*(28.4)*	*(26.1)*	*(15.9)*	*0.5*	*21.9*	*(1.3)*	*(22.0)*
	Ethylene	CFR SE Asia	855.0	925.0	805.0	1,190.0	1,242.5	1,200.0	990.0	1,040.9	1,090.9	1,171.5
	Change, %			*(7.6)*	*6.2*	*(28.2)*	*(31.2)*	*(28.8)*	*(13.6)*	*(17.9)*	*(21.6)*	*(27.0)*
	Propylene	CFR SE Asia	775.0	832.5	965.0	1,035.0	1,020.0	845.0	815.0	705.7	823.6	1,056.5
	Change, %			*(6.9)*	*(19.7)*	*(25.1)*	*(24.0)*	*(8.3)*	*(4.9)*	*9.8*	*(5.9)*	*(26.6)*
	Butadiene	CFR SE Asia	1,075.0	1,080.0	1,025.0	1,675.0	1,700.0	1,050.0	2,100.0	1,116.8	1,481.1	1,408.2
	Change, %			*(0.5)*	*4.9*	*(35.8)*	*(36.8)*	*2.4*	*(48.8)*	*(3.7)*	*(27.4)*	*(23.7)*
	Benzene	CFR SE Asia	637.5	655.0	732.5	882.5	872.5	892.5	822.5	646.7	838.8	843.5
	Change, %			*(2.7)*	*(13.0)*	*(27.8)*	*(26.9)*	*(28.6)*	*(22.5)*	*(1.4)*	*(24.0)*	*(24.4)*
	Toluene	CFR SE Asia	655.0	685.0	850.0	830.0	810.0	715.0	690.0	630.5	689.5	785.0
	Change, %			*(4.4)*	*(22.9)*	*(21.1)*	*(19.1)*	*(8.4)*	*(5.1)*	*3.9*	*(5.0)*	*(16.6)*
	Xylene	CFR SE Asia	735.0	790.0	890.0	870.0	825.0	695.0	675.0	627.7	668.8	812.0
	Change, %			*(7.0)*	*(17.4)*	*(15.5)*	*(10.9)*	*5.8*	*8.9*	*17.1*	*9.9*	*(9.5)*
Spread	**Ethylene**	-Naphtha	368.0	437.0	211.0	510.0	583.5	621.0	505.5	641.4	597.4	547.0
	Change, %			*(15.8)*	*74.4*	*(27.8)*	*(36.9)*	*(40.7)*	*(27.2)*	*(42.6)*	*(38.4)*	*(32.7)*
	Propylene	-Naphtha	288.0	344.5	371.0	355.0	361.0	266.0	330.5	306.2	330.1	432.0
	Change, %			*(16.4)*	*(22.4)*	*(18.9)*	*(20.2)*	*8.3*	*(12.9)*	*(5.9)*	*(12.7)*	*(33.3)*
	Butadiene	-Naphtha	588.0	592.0	431.0	995.0	1,041.0	471.0	1,615.5	717.3	987.6	783.8
	Change, %			*(0.7)*	*36.4*	*(40.9)*	*(43.5)*	*24.8*	*(63.6)*	*(18.0)*	*(40.5)*	*(25.0)*
	Benzene	-Naphtha	150.5	167.0	138.5	202.5	213.5	313.5	338.0	247.2	345.3	219.1
	Change, %			*(9.9)*	*8.7*	*(25.7)*	*(29.5)*	*(52.0)*	*(55.5)*	*(39.1)*	*(56.4)*	*(31.3)*
	Toluene	-Naphtha	168.0	197.0	256.0	150.0	151.0	136.0	205.5	231.0	196.0	160.5
	Change, %			*(14.7)*	*(34.4)*	*12.0*	*11.3*	*23.5*	*(18.2)*	*(27.3)*	*(14.3)*	*4.7*
	Xylene	-Naphtha	248.0	302.0	296.0	190.0	166.0	116.0	190.5	228.2	175.3	187.6
	Change, %			*(17.9)*	*(16.2)*	*30.5*	*49.4*	*113.8*	*30.2*	*8.7*	*41.5*	*32.2*

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	1,047.5	1,097.5	1,167.5	1,207.5	1,222.5	1,207.5	1,142.5	1,134.6	1,142.5	1,224.8
	Change, %			(4.6)	(10.3)	(13.3)	(14.3)	(13.3)	(8.3)	(7.7)	(8.3)	(14.5)
	MEG	CFR SE Asia	690.0	687.5	810.0	992.5	960.0	917.5	847.5	660.8	850.6	934.5
	Change, %			0.4	(14.8)	(30.5)	(28.1)	(24.8)	(18.6)	4.4	(18.9)	(26.2)
	PVC	CFR SE Asia	860.0	860.0	850.0	950.0	945.0	850.0	920.0	823.4	899.9	923.6
	Change, %			0.0	1.2	(9.5)	(9.0)	1.2	(6.5)	4.4	(4.4)	(6.9)
	PP	CFR SE Asia	1,127.5	1,177.5	1,242.5	1,237.5	1,222.5	1,147.5	1,032.5	978.4	1,099.6	1,248.5
	Change, %			(4.2)	(9.3)	(8.9)	(7.8)	(1.7)	9.2	15.2	2.5	(9.7)
	2-EH	CFR Korea	1,080.0	1,100.0	1,160.0	1,115.0	1,105.0	1,030.0	865.0	772.4	970.0	1,123.3
	Change, %			(1.8)	(6.9)	(3.1)	(2.3)	4.9	24.9	39.8	11.3	(3.9)
	ABS	CFR SE Asia	1,460.0	1,480.0	1,710.0	1,880.0	1,945.0	2,000.0	1,635.0	1,347.1	1,844.7	1,929.6
	Change, %			(1.4)	(14.6)	(22.3)	(24.9)	(27.0)	(10.7)	8.4	(20.9)	(24.3)
	SBR	CFR SE Asia	1,400.0	1,470.0	1,520.0	1,875.0	1,760.0	1,640.0	2,000.0	1,483.0	1,980.5	1,719.5
	Change, %			(4.8)	(7.9)	(25.3)	(20.5)	(14.6)	(30.0)	(5.6)	(29.3)	(18.6)
	SM	CFR SE Asia	992.5	1,027.5	1,147.5	1,455.0	1,465.0	1,327.5	1,205.0	1,064.6	1,253.8	1,367.6
	Change, %			(3.4)	(13.5)	(31.8)	(32.3)	(25.2)	(17.6)	(6.8)	(20.8)	(27.4)
	Caustic	FOB NEA	324.0	324.0	375.0	400.0	369.0	705.0	422.5	316.6	491.2	494.5
	Change, %			0.0	(13.6)	(19.0)	(12.2)	(54.0)	(23.3)	2.3	(34.0)	(34.5)
	PX	CFR SE Asia	995.0	1,025.0	1,175.0	1,355.0	1,105.0	902.5	855.0	790.4	844.4	1,059.2
	Change, %			(2.9)	(15.3)	(26.6)	(10.0)	10.2	16.4	25.9	17.8	(6.1)
	PO	CFR China	1,500.0	1,500.0	1,765.0	1,947.5	1,777.5	1,732.5	1,562.5	1,396.8	1,601.2	1,850.1
	Change, %			0.0	(15.0)	(23.0)	(15.6)	(13.4)	(4.0)	7.4	(6.3)	(18.9)
	Caprolactam	CFR SE Asia	1,870.0	2,060.0	2,080.0	2,130.0	2,155.0	2,020.0	1,850.0	1,344.9	1,936.4	2,123.2
	Change, %			(9.2)	(10.1)	(12.2)	(13.2)	(7.4)	1.1	39.0	(3.4)	(11.9)
	PTA	CFR SE Asia	845.0	835.0	930.0	1,075.0	882.5	715.0	642.5	613.7	667.8	872.0
	Change, %			1.2	(9.1)	(21.4)	(4.2)	18.2	31.5	37.7	26.5	(3.1)
Spread	HDPE		560.5	609.5	573.5	527.5	563.5	628.5	658.0	735.1	649.0	600.4
	Change, %			(8.0)	(2.3)	6.3	(0.5)	(10.8)	(14.8)	(23.7)	(13.6)	(6.6)
	MEG		203.0	199.5	216.0	312.5	301.0	338.5	363.0	261.3	357.1	310.1
	Change, %			1.8	(6.0)	(35.0)	(32.6)	(40.0)	(44.1)	(22.3)	(43.2)	(34.5)
	PVC		373.0	372.0	256.0	270.0	286.0	271.0	435.5	423.9	406.4	299.1
	Change, %			0.3	45.7	38.1	30.4	37.6	(14.4)	(12.0)	(8.2)	24.7
	PP		640.5	689.5	648.5	557.5	563.5	568.5	548.0	578.9	606.1	624.0
	Change, %			(7.1)	(1.2)	14.9	13.7	12.7	16.9	10.6	5.7	2.6
	2-EH		593.0	612.0	566.0	435.0	446.0	451.0	380.5	372.9	476.5	498.9
	Change, %			(3.1)	4.8	36.3	33.0	31.5	55.8	59.0	24.4	18.9
	ABS		973.0	992.0	1,116.0	1,200.0	1,286.0	1,421.0	1,150.5	947.6	1,351.2	1,305.1
	Change, %			(1.9)	(12.8)	(18.9)	(24.3)	(31.5)	(15.4)	2.7	(28.0)	(25.4)
	SBR	BD spread	325.0	390.0	495.0	200.0	60.0	590.0	(100.0)	366.2	499.4	311.3
	Change, %			(16.7)	(34.3)	62.5	441.7	(44.9)	(425.0)	(11.2)	(34.9)	4.4
	SM		505.5	539.5	553.5	775.0	806.0	748.5	720.5	665.1	760.3	743.1
	Change, %			(6.3)	(8.7)	(34.8)	(37.3)	(32.5)	(29.8)	(24.0)	(33.5)	(32.0)
	Caustic											
	Change, %											
	PX		508.0	537.0	581.0	675.0	446.0	323.5	370.5	390.9	351.0	434.7
	Change, %			(5.4)	(12.6)	(24.7)	13.9	57.0	37.1	30.0	44.7	16.9
	PO	propylene sprea	725.0	667.5	800.0	912.5	757.5	887.5	747.5	691.1	777.6	793.6
	Change, %			8.6	(9.4)	(20.5)	(4.3)	(18.3)	(3.0)	4.9	(6.8)	(8.6)
	Caprolactam	benzene spreac	1,232.5	1,405.0	1,347.5	1,247.5	1,282.5	1,127.5	1,027.5	698.2	1,097.6	1,279.7
	Change, %			(12.3)	(8.5)	(1.2)	(3.9)	9.3	20.0	76.5	12.3	(3.7)
	PTA	px spread	148.5	117.5	107.5	126.5	109.0	83.3	44.0	60.4	76.7	130.5
	Change, %			26.4	38.1	17.4	36.2	78.4	237.5	145.8	93.6	13.8

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

SK Energy Daily

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SK 증권

Global peers

	Currency	12/04	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	56.5	(4.5)	(1.2)	(2.1)	(19.0)	(15.8)	(21.7)	(20.7)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	77.7	(4.1)	(0.3)	(5.9)	(19.6)	(26.8)	(15.0)	(16.2)	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	63.0	(3.6)	(3.6)	(9.9)	(19.7)	(25.9)	(33.0)	(31.3)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.0	(0.9)	2.5	(1.8)	(7.6)	(2.4)	1.8	1.3	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	83.2	(2.6)	0.5	(13.0)	(21.2)	(20.0)	(19.6)	(18.1)	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	49.3	(1.4)	(0.0)	(14.1)	(25.9)	(27.6)	(22.0)	(25.6)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	622	(1.0)	5.4	3.3	1.8	(6.5)	(21.4)	(23.2)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	920	(1.6)	(1.5)	(1.2)	(5.6)	(7.7)	(23.6)	(25.6)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,895	(3.0)	2.5	(1.1)	(2.3)	(11.2)	(17.2)	(13.6)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,216	(3.3)	(0.9)	(6.7)	(23.4)	(18.9)	(12.5)	(16.3)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,806	(2.0)	3.5	1.6	(14.7)	(14.9)	(16.2)	(18.6)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	6,046	(3.6)	(0.5)	(3.0)	(27.5)	(32.0)	(44.6)	(39.6)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	121.2	(0.2)	4.8	(3.8)	(4.0)	(6.5)	19.7	19.5	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	69.5	0.6	8.6	0.7	(6.0)	(7.3)	14.4	17.8	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	101.5	(0.5)	2.5	0.5	(9.8)	(8.1)	8.8	2.8	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	107.0	(0.5)	2.4	(1.8)	(11.9)	(8.5)	12.6	3.9	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	74.2	(0.3)	(0.8)	(4.7)	(12.2)	(14.1)	(1.9)	(4.7)	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.09	(0.4)	3.7	(4.3)	(10.4)	(10.9)	(20.0)	(19.6)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.94	0.0	1.0	0.0	(2.0)	(6.3)	(34.0)	(27.3)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,152	(0.4)	2.1	7.2	(7.2)	22.5	27.8	26.7	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	139.0	1.5	3.3	(2.1)	12.1	29.0	53.6	43.3	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	81.0	0.0	4.9	4.2	0.9	(5.8)	1.6	(4.7)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	9.2	(0.2)	(1.3)	(3.5)	(3.6)	10.9	23.1	18.8	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	358,500	(1.8)	4.5	0.1	(2.4)	(1.2)	(14.6)	(11.5)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	285,500	(1.0)	(0.5)	0.0	(7.5)	(24.2)	(22.6)	(22.4)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	19,050	(1.6)	3.0	5.8	(5.7)	(24.3)	(37.0)	(39.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	93,300	0.2	5.7	(0.3)	(3.2)	(12.4)	2.5	(6.2)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	36,200	(1.6)	4.2	4.5	(22.2)	(7.9)	(13.4)	(23.0)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	46,800	(0.8)	1.7	0.1	(18.6)	(32.0)	(26.9)	(25.8)	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	4,985	(1.7)	0.5	9.3	(26.1)	(35.3)	(38.5)	(34.2)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(1.3)**	**1.9**	**(1.4)**	**(10.8)**	**(11.7)**	**(9.7)**	**(11.1)**							
Refinery																
Valero	USD	79.5	(2.2)	2.7	(13.4)	(33.9)	(36.1)	(4.9)	(13.5)	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	66.9	(3.2)	2.5	(1.4)	(8.5)	(1.4)	30.5	21.9	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	112.5	(2.6)	(0.4)	(6.6)	(11.1)	(8.9)	2.7	(2.6)	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	153.5	0.0	0.0	0.0	(1.6)	2.6	43.5	34.2	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	63.3	(2.0)	(0.6)	(8.9)	(24.8)	(22.7)	0.1	(4.0)	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	28.2	(2.1)	5.9	(12.7)	(33.5)	(29.7)	(27.1)	(32.0)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	58.1	(1.2)	(3.4)	(12.6)	(23.7)	(28.2)	31.2	13.5	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	91.4	(0.7)	0.2	(7.7)	(23.2)	(23.3)	(6.3)	(9.6)	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	31.0	(3.2)	1.7	1.9	3.1	(2.1)	7.2	(0.2)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	683.6	(3.6)	2.2	(10.8)	(10.4)	(4.4)	4.2	(6.0)	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,070.0	(4.6)	5.4	(20.5)	(27.6)	8.1	3.4	(10.1)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	70.5	(0.3)	2.1	(1.4)	(3.9)	0.0	35.4	32.2	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	81.1	(2.1)	0.8	6.2	(3.3)	2.6	10.6	13.9	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	36.3	(2.1)	(2.4)	(14.6)	(27.0)	(20.6)	(16.4)	(18.0)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	199,000	(2.2)	1.0	(3.9)	3.1	(4.1)	(4.1)	(2.7)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	113,500	(1.3)	6.6	(5.8)	(5.8)	3.2	(5.4)	(3.0)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	52,300	(0.4)	1.6	6.4	(0.2)	(11.1)	(14.1)	(15.9)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**(2.0)**	**1.5**	**(6.2)**	**(13.7)**	**(10.4)**	**5.3**	**(0.1)**							

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

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Global peers

	Currency	12/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
E&P/Shale																
Exxon Mobil	USD	79	(2.2)	3.1	(3.1)	(1.1)	(1.9)	(5.0)	(5.0)	336,291	16.7	13.9	1.7	1.7	7.5	6.4
BP	GBP	537	0.9	2.4	0.7	(2.9)	(7.2)	8.9	2.7	136,953	11.4	10.6	1.3	1.3	4.7	4.3
Shell	EUR	2,416	0.0	2.7	0.6	(4.7)	(7.9)	1.8	(2.6)	255,646	11.4	9.4	1.3	1.2	5.4	4.9
Chevron	USD	117	(2.8)	1.8	2.2	(1.4)	(4.1)	(3.0)	(6.4)	224,019	13.9	12.0	1.5	1.4	5.7	5.1
Total	EUR	49	(0.6)	3.1	(1.5)	(7.7)	(6.0)	3.5	7.5	150,751	10.2	9.0	1.2	1.1	5.2	4.6
Sinopec	CNY	6	(0.7)	3.6	(4.7)	(12.6)	(14.6)	(0.2)	(1.8)	106,466	9.3	9.1	1.0	0.9	3.5	3.5
Petrochina	CNY	8	0.0	2.2	(7.0)	(6.2)	(2.9)	(5.4)	(4.4)	198,399	21.7	19.1	1.2	1.1	5.0	4.9
CNOOC	CNY	10	1.3	4.6	(2.4)	(9.9)	(7.7)	(12.7)	(9.1)	79,174	9.4	8.4	1.3	1.2	3.8	3.6
Gazprom	RUB	164	(0.7)	6.8	6.8	11.4	12.1	22.7	25.8	58,205	2.9	2.9	0.3	0.3	2.5	2.5
Rosneft	RUB	439	1.2	4.6	(4.5)	(0.1)	14.1	50.0	50.6	69,666	6.6	5.5	1.1	1.0	4.1	3.9
Anadarko	USD	53	(4.5)	1.9	(0.4)	(17.2)	(23.6)	9.0	(1.2)	26,717	19.2	12.5	2.3	2.0	5.7	4.9
Petrobras	BRL	25	(2.3)	(0.7)	(7.2)	35.9	44.6	63.7	57.4	91,737	8.2	6.5	1.1	0.9	5.2	4.5
Lukoil	USD	5,209	2.2	11.1	4.6	10.4	21.2	53.6	56.2	58,530	5.7	5.7	0.9	0.8	N/A	N/A
Kinder	USD	17	(3.6)	(0.3)	(1.1)	(5.3)	(1.5)	(3.3)	(7.7)	47,497	20.5	16.2	1.1	1.1	9.9	9.7
Equinor ASA	NOK	205	(1.1)	2.2	(3.1)	(5.1)	(4.8)	20.4	16.8	80,356	11.6	9.9	1.8	1.7	3.1	2.7
BHP	AUD	32	(0.6)	2.4	(5.6)	(4.4)	(4.8)	12.9	6.9	117,554	12.6	13.8	2.3	2.3	5.9	6.2
PTT E&P	THB	140	(0.4)	8.9	(0.7)	(1.8)	2.6	50.5	40.0	16,960	13.3	11.5	1.4	1.3	4.1	3.7
Petronas gas	MYR	19	0.2	2.7	4.7	3.7	8.8	21.1	10.4	9,245	19.8	19.9	2.9	2.8	10.9	10.8
Chesapeake	USD	3	(6.5)	(3.3)	(17.2)	(32.9)	(33.1)	(26.8)	(27.0)	2,641	3.5	3.5	#N/A N/A	2.5	6.0	5.3
Noble Energy	USD	24	(2.7)	1.4	(7.6)	(16.5)	(29.9)	(9.4)	(16.5)	11,674	23.3	18.1	1.1	1.1	6.1	5.5
Average		**0**	**(1.1)**	**3.1**	**(2.3)**	**(3.4)**	**(2.3)**	**12.6**	**9.6**							
PV																
WACKER	EUR	83.8	(4.4)	3.6	(8.0)	(31.0)	(36.6)	(39.5)	(48.3)	4,959	12.8	13.4	1.3	1.3	4.6	4.8
GCL-Poly	HKD	0.6	1.8	3.7	16.7	(5.1)	(29.1)	(55.6)	(60.0)	1,315	11.4	7.8	0.4	0.4	7.4	6.5
SunPower	USD	6.7	(4.6)	(7.0)	9.4	(0.9)	(18.6)	(6.0)	(21.0)	940	#N/A N/A	#N/A N/A	30.3	18.3	20.5	11.7
Canadian Solar	USD	16.5	(4.7)	(5.9)	12.9	13.6	22.0	2.3	(2.2)	966	6.6	8.9	0.9	0.8	6.7	7.6
JA Solar	USD	7.5	0.0	0.0	0.0	0.0	5.2	3.5	0.4	356	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Yingli	USD	0.2	(27.5)	(21.1)	(13.7)	(27.5)	(88.7)	(90.8)	(89.3)	3	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
First Solar	USD	44.5	(4.1)	(0.8)	3.5	(13.3)	(27.9)	(22.3)	(34.1)	4,664	28.8	14.8	0.9	0.8	7.7	3.5
한화큐셀	USD	9.7	(0.1)	(0.2)	(0.2)	14.8	44.3	29.8	37.9	806	17.3	35.9	#N/A N/A	#N/A N/A	9.4	9.7
OCI	KRW	105,500	(0.5)	5.5	11.5	(11.7)	(12.1)	(12.4)	(22.4)	2,265	0.0	16.2	0.0	0.7	0.0	5.7
웅진에너지	KRW	1,675	0.0	2.1	(21.5)	(41.7)	(68.5)	(80.8)	(79.6)	45	N/A	0.0	0.7	0.0	5.7	0.0
신성솔라에너지	KRW	1,070	2.4	(4.0)	(8.2)	(23.6)	(37.6)	(47.5)	(44.1)	167	N/A	0.7	0.0	5.7	0.0	0.4
Average			**(3.8)**	**(2.2)**	**0.2**	**(11.5)**	**(22.5)**	**(29.0)**	**(33.0)**							
Gas Company																
Towngas China	HKD	6.2	1.0	2.8	7.2	(14.4)	(17.4)	0.3	(1.0)	2,239	12.1	10.8	1.0	1.0	11.5	10.4
Kulun	HKD	9.6	4.3	2.9	3.9	15.4	31.0	37.7	18.4	9,971	11.7	10.4	1.6	1.4	6.0	5.5
Beijing Enterprise	HKD	47.0	2.3	4.1	8.7	23.5	9.2	5.3	1.3	7,600	7.9	7.1	0.8	0.7	15.4	13.1
ENN Energy	HKD	75.6	3.3	5.7	12.0	2.1	(3.9)	32.9	35.5	10,894	17.2	14.6	3.6	3.1	10.6	9.1
China Resources Gas	HKD	31.8	2.6	(1.5)	4.3	(14.6)	8.3	8.5	12.2	9,062	15.6	13.9	2.8	2.4	8.7	7.8
China Gas Holdings	HKD	28.4	1.4	3.8	12.5	12.3	(19.7)	16.9	31.5	18,454	18.3	15.6	4.2	3.5	14.2	12.3
Shenzen Gas	HKD	16.0	(0.2)	3.1	2.6	6.5	(7.6)	11.0	7.4	4,327	9.5	8.5	1.2	1.1	5.6	5.2
Shann Xi	CNY	7.8	2.8	5.3	4.0	9.3	(4.0)	(5.5)	(7.8)	1,265	18.7	16.4	1.5	1.4	#N/A N/A	#N/A N/A
Suntien	HKD	2.3	4.1	5.6	6.6	(3.4)	(15.9)	18.8	9.7	1,081	5.9	5.2	0.7	0.7	8.4	7.3
China Oil & Gas	HKD	0.5	3.9	0.0	(3.6)	(10.2)	(15.9)	(10.2)	(37.6)	397	#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			**2.5**	**3.2**	**5.8**	**2.6**	**(3.6)**	**11.6**	**7.0**							
EV																
LG화학	KRW	358,500	(1.8)	4.5	0.1	(2.4)	(1.2)	(14.6)	(11.5)	22,784	15.7	14.1	1.6	1.4	7.0	6.2
삼성SDI	KRW	218,500	(1.1)	4.3	(6.8)	(10.8)	(0.2)	2.1	6.8	13,527	19.7	13.2	1.3	1.2	11.5	8.5
Panasonic	JPY	1160.0	(2.0)	1.4	(1.8)	(11.2)	(23.9)	(28.8)	(29.7)	25,233	10.7	9.6	1.4	1.3	4.3	4.1
GS Yuasa	JPY	2616.0	(2.6)	(0.6)	8.0	(0.9)	(0.3)	(8.7)	(6.7)	1,919	15.6	14.1	1.2	1.1	7.1	6.6
NEC	JPY	3440.0	(0.9)	0.3	4.1	13.0	11.9	15.8	13.2	7,946	24.9	14.2	1.0	0.9	9.1	6.7
BYD Auto	CNY	56.3	0.4	(1.6)	17.3	26.5	12.2	(11.2)	(13.4)	21,659	46.4	33.0	2.7	2.5	14.5	11.9
Tesla Motors	USD	359.7	0.3	4.6	3.8	24.5	21.2	17.9	15.5	61,772	#N/A N/A	52.7	10.6	9.7	33.3	17.2
Kandi Technologies	USD	4.5	(4.5)	3.2	(9.8)	5.9	16.9	(37.9)	(33.8)	232	#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			**(1.5)**	**2.0**	**1.9**	**5.6**	**4.6**	**(8.2)**	**(7.5)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임