SK Energy Daily

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SK 증권

1. News Summary (3 page)

2017년 12월 20일

News		Conclusion
WTI comment	'북해 송유관' 여파 속 상승…WTI 0.5%↑	
Headline	미국산 석유·가스 밀려든다…올해 수입 148% '껑충'	미국산 에너지 수입이 늘며 지속적으로 중동산 비중은 줄어들 전망
News 1.	中 가스전환정책에 LNG선 운임 두달 새 70% 급등	중국의 투르크 發 Lind D 공사가 지연되며 LNG로 단기 수요 몰리는 것
News 2.	-	-
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	57.5	0.5	0.6	1.6	16.1	10.0
Dubai	$/bbl	61.4	0.2	(1.8)	2.9	13.6	17.9
Gasoline	$/bbl	74.5	(0.5)	(3.7)	0.6	5.6	11.4
Diesel	$/bbl	75.3	0.8	(1.7)	3.7	10.4	17.5
Complex margin	$/bbl	7.9	0.1	(0.5)	(0.3)	(1.4)	(0.3)
1M lagging	$/bbl	9.0	(0.0)	(0.3)	(2.5)	(5.7)	(8.5)
Petrochemical			%	%	%	%	%
Naphtha	$/t	589	0.1	(2.7)	0.6	15.0	22.2
Butadiene	$/t	1,100	0.0	0.9	12.2	(29.0)	(43.0)
HDPE	$/t	1,280	(0.8)	(0.8)	1.6	8.5	9.4
MEG	$/t	918	0.4	0.9	3.1	0.0	9.3
PX	$/t	885	0.5	(0.5)	0.6	6.4	5.3
SM	$/t	1,267	(2.0)	(3.8)	1.8	(4.7)	8.3
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.69	(1.9)	0.5	(13.4)	(21.3)	(23.5)
Natural rubber	$/t	1,420	(0.7)	1.4	3.6	(4.7)	(26.4)
Cotton	C/lbs	75.0	(0.2)	2.9	5.8	7.2	8.2

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	12/18	$/t	1,245	2.7	6.9	(0.4)	23.9
Propylene	12/18	$/t	890	4.7	9.9	3.5	15.6
Benzene	12/18	$/t	920	1.7	7.0	15.7	4.5
Toluene	12/18	$/t	735	2.1	2.8	5.0	4.3
Xylene	12/18	$/t	710	2.2	6.0	8.0	6.0
PP	12/18	$/t	1,158	0.0	0.9	(0.9)	13.8
PVC	12/18	$/t	860	0.6	1.2	(9.5)	(6.5)
ABS	12/18	$/t	2,070	2.0	7.3	0.0	26.6
SBR	12/18	$/t	1,650	0.0	3.8	(9.8)	(17.5)
SM	12/18	$/t	1,333	(1.5)	4.1	(1.8)	7.0
BPA	12/18	$/t	1,873	6.1	5.0	13.1	18.7
Caustic	12/18	$/t	621	(11.2)	(11.3)	29.4	47.0
2-EH	12/18	$/t	1,035	1.5	4.5	4.5	19.7
Caprolactam	12/18	$/t	2,060	0.5	1.0	15.7	11.4
Solar				%	%	%	%
Polysilicon	12/13	$/kg	17.3	2.0	3.9	3.6	15.9
Module	12/13	$/W	0.31	(0.3)	(0.6)	(2.8)	(17.4)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.4	(0.6)	(0.4)	2.7	2.8	(8.8)
Shell	EUR	2,416	(0.3)	(0.4)	3.3	13.4	9.8
Petrochina	CNY	7.89	0.1	(1.6)	(2.8)	(1.0)	2.5
Gazprom	RUB	134.0	(0.2)	(1.1)	3.3	10.0	(13.4)
Petrobras	BRL	15.1	(0.5)	(2.3)	(5.5)	0.0	5.4
Refinery							
Phillips66	USD	99.1	(0.8)	0.1	7.0	11.3	13.7
Valero	USD	88.1	(1.0)	1.3	6.3	21.1	30.6
JX	JPY	689.6	0.5	(0.1)	13.3	21.9	37.0
Neste Oil	EUR	53.2	1.3	2.8	6.6	47.7	46.8

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	94.4	(0.9)	0.3	2.8	8.2	8.1
DowDuPont	USD	71.4	0.0	0.9	1.0	2.0	21.5
SABIC	SAR	101.8	0.1	0.6	2.0	0.6	11.3
Formosa Pla.	TWD	94.8	0.1	1.6	2.9	0.0	7.2
Shin-Etsu	JPY	11,795	(0.0)	(1.0)	(4.6)	16.1	28.6
Renewable							
Wacker	EUR	160.0	(1.1)	6.5	14.3	40.1	71.3
First Solar	USD	69.15	(2.1)	0.3	14.9	41.5	97.7
GCL-Poly	HKD	1.26	1.6	0.8	(10.6)	15.6	29.9
Tesla Motors	USD	331.1	(2.3)	(2.9)	5.1	(11.7)	63.3

4. Coverage Summary

	12/19	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,479	(0.1)	0.7	(2.2)	2.7	4.5	21.4					
KOSPI화학	6,054	(0.6)	1.8	0.7	6.6	12.4	19.1					
LG화학	398,500	0.3	2.2	(2.4)	2.6	42.8	58.8	매수	400,000	0.4	12.62	2.08
롯데케미칼	361,000	(1.2)	1.1	1.5	(5.2)	9.4	3.1	매수	410,000	13.6	5.68	1.24
한화케미칼	29,800	0.3	(3.6)	(1.7)	(20.3)	2.8	19.0	매수	39,000	30.9	5.03	0.83
금호석유화학	96,100	2.8	8.8	32.4	26.6	29.5	18.9	매수	100,000	4.1	16.29	1.79
KCC	380,500	(1.3)	(0.7)	(3.5)	(0.9)	(3.9)	1.9	매수	450,000	18.3	21.12	0.55
OCI	131,000	0.4	3.1	5.6	18.0	41.6	76.1	매수	120,000	(8.4)	16.63	1.00
SKC	42,600	(4.2)	1.2	1.4	0.1	27.5	31.1	매수	45,000	5.6	11.77	1.16
SK이노베이션	202,500	0.0	2.8	(0.5)	6.0	25.8	33.2	매수	210,000	3.7	8.17	1.08
S-Oil	124,000	0.0	4.2	2.5	3.3	29.4	50.7	매수	140,000	12.9	13.41	2.34
GS	61,500	0.2	2.8	2.2	(7.0)	(7.7)	12.6	매수	80,000	30.1	5.84	0.91
SK가스	92,200	(1.9)	(2.9)	(4.2)	(11.8)	(25.9)	(22.2)	매수	130,000	41.0	6.97	0.68
포스코대우	18,250	2.0	1.7	(1.4)	(12.7)	(18.3)	(37.2)	매수	25,000	37.0	10.22	0.79
LG상사	27,200	(0.9)	(0.2)	0.0	(7.6)	(12.1)	(12.5)	매수	38,000	39.7	9.90	0.88
한국전력	38,950	(0.6)	2.2	2.9	(1.0)	(7.4)	(15.5)	매수	55,000	41.2	7.47	0.31
한국가스공사	43,100	0.2	1.7	(3.6)	(0.5)	(15.5)	(11.6)	매수	60,000	39.2	8.80	0.56

* 추정치는 12M fwd 기준임
* 모든 coverage 업체의 실적은 연결기준임

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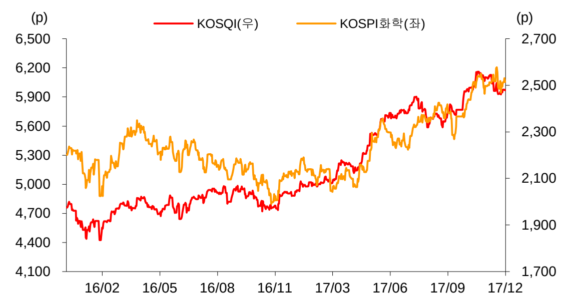
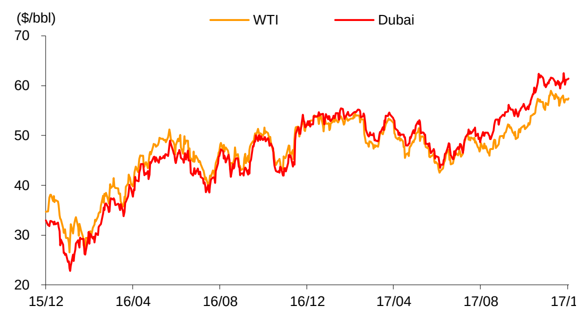
Key Chart

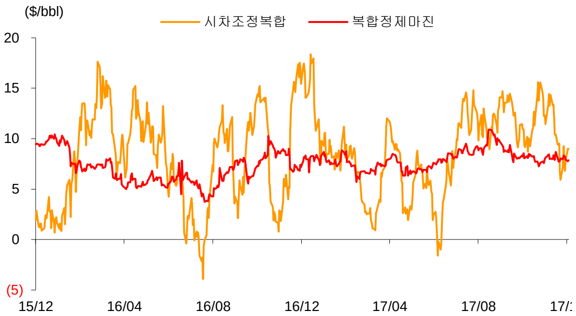
KOSPI/KOSPI화학



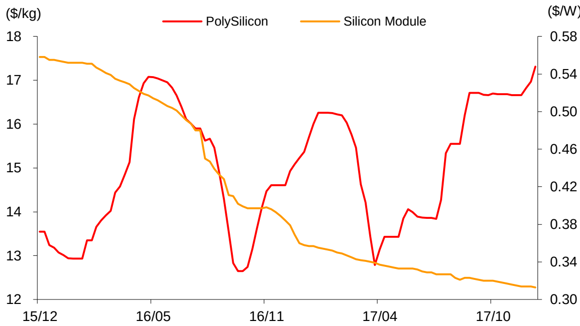
WTI/Dubai



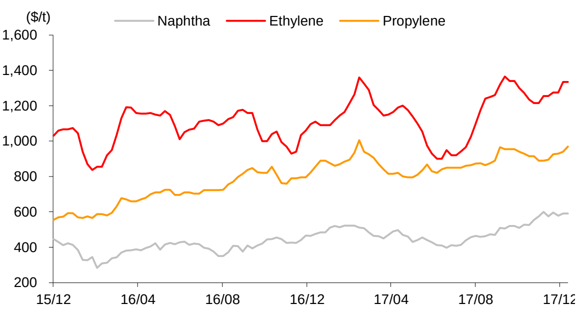
Complex & 1M lagging margin



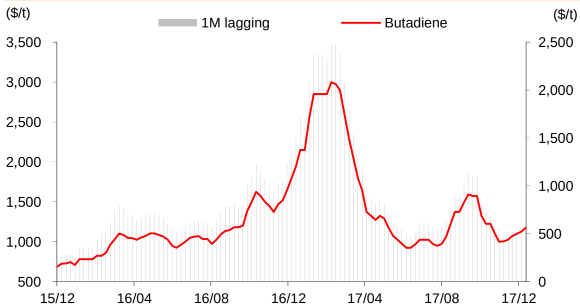
Polysilicon & Module prices



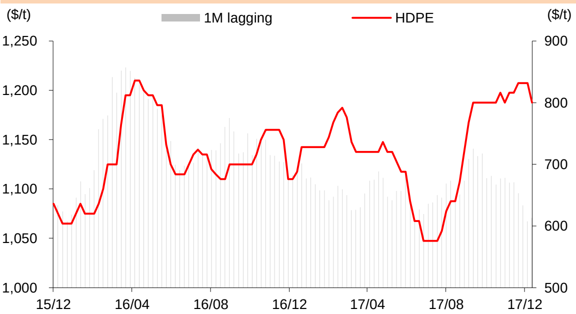
Naphtha/Ethylene/Propylene prices



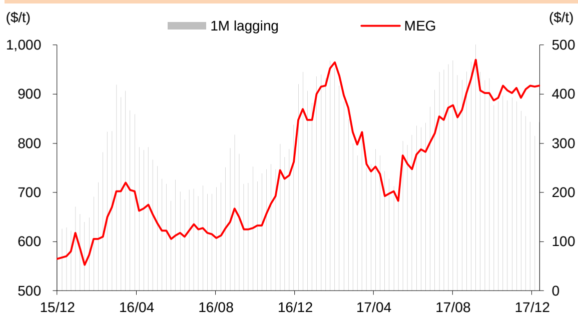
Butadiene price & 1M lagging naphtha spread



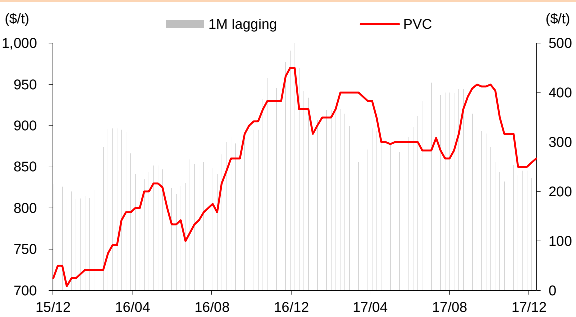
HDPE price & 1M lagging naphtha spread



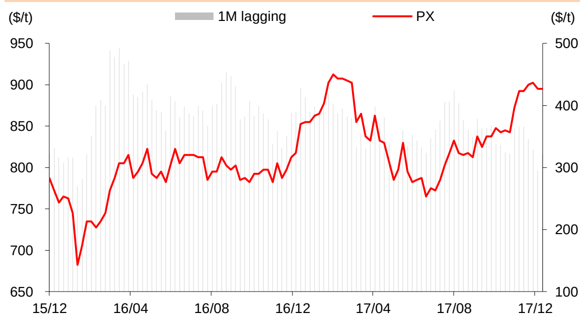
MEG price & 1M lagging naphtha spread



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: 연합뉴스)
제목	미국산 석유·가스 밀려든다…올해 수입 148% '껑충'
결론	미국산 에너지 수입이 늘며 지속적으로 중동산 비중은 줄어들 전망
세부	
	1) 올해 1~11월 미국산 5대 에너지를 수입한 금액은 40억900만달러 기록
	2) YoY 148.2% 상승한 것으로 원유, 석유제품, LNG, LPG, 석탄이 포함됨
	3) LPG는 YoY 57.9% 증가해 중동산을 제치고 수입 점유율 1위(64.5%)함
	4) LNG는 6억 7,300만 달러, 원유는 6억 600만 달러 어치가 수입됨
	5) 미국산 에너지 수입이 늘며 지속적으로 중동산 비중은 줄어들 전망

WTI Comment	(출처: 연합뉴스)
제목	'북해 송유관' 여파 속 상승…WTI 0.5%↑
상승 요인	포티스 파이프라인 시스템(FPS)은 긴급 복구를 이유로 폐쇄됨
하락 요인	

Issue 1	(출처: 뉴시스)
제목	中 가스전환정책에 LNG선 운임 두달 새 70% 급등
결론	중국의 투르크 發 Lind D 공사가 지연되며 LNG로 단기 수요 몰리는 것
세부	
	1) 지난 15일 기준 LNG선 운임은 2달간 70% 급등한 8만 달러를 기록
	2) 중국의 '석탄→가스' 에너지 전환 정책으로 가스 수요가 급증했기 때문
	3) 올 8~11월 LNG선 인도량이 지난해 같은 기간에 비해 42% 줄어듬
	4) 아시아 LNG 스팟가격 역시 2달간 73% 급등해 $10.1/MMBtu를 기록
	5) 중국의 투르크 發 Lind D 공사가 지연되며 LNG로 단기 수요 몰리는 것

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

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

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

Issue 5	
제목	
결론	
세부	
	1)
	2)
	3)
	4)
	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	2015avg.	2016avg.	2017acc.
F/X	USD/EUR	0.845	0.849	0.852	0.848	0.834	0.897	0.961	0.951	0.901	0.904	0.888
	Change, %		*(0.5)*	*(0.8)*	*(0.4)*	*1.3*	*(5.8)*	*(12.1)*	*(11.2)*	*(6.3)*	*(6.6)*	*(4.9)*
	USD/JPY	112.9	112.6	113.6	112.1	111.6	111.5	117.1	117.0	121.1	108.8	112.1
	Change, %		*0.3*	*(0.6)*	*0.7*	*1.2*	*1.2*	*(3.6)*	*(3.5)*	*(6.7)*	*3.8*	*0.7*
	USD/KRW	1,084.8	1,088.6	1,092.2	1,097.6	1,131.3	1,132.7	1,187.0	1,205.8	1,131.2	1,160.5	1,132.7
	Change, %		*(0.3)*	*(0.7)*	*(1.2)*	*(4.1)*	*(4.2)*	*(8.6)*	*(10.0)*	*(4.1)*	*(6.5)*	*(4.2)*
Agriculture	Corn	347.5	347.0	335.8	343.0	348.3	375.3	353.3	352.0	376.8	358.5	359.6
	Change, %		*0.1*	*3.5*	*1.3*	*(0.2)*	*(7.4)*	*(1.6)*	*(1.3)*	*(7.8)*	*(3.1)*	*(3.4)*
	Soybean	956.0	961.5	975.8	990.5	965.5	937.8	1,021.5	996.5	945.4	987.5	976.6
	Change, %		*(0.6)*	*(2.0)*	*(3.5)*	*(1.0)*	*1.9*	*(6.4)*	*(4.1)*	*1.1*	*(3.2)*	*(2.1)*
	Wheat	419.5	420.5	387.3	427.3	443.0	467.0	405.0	408.0	508.1	436.4	436.3
	Change, %		*(0.2)*	*8.3*	*(1.8)*	*(5.3)*	*(10.2)*	*3.6*	*2.8*	*(17.4)*	*(3.9)*	*(3.9)*
	Rice	11.7	11.7	12.3	12.3	12.8	11.5	9.5	9.4	11.1	10.3	11.0
	Change, %		*0.0*	*(4.4)*	*(4.6)*	*(8.3)*	*1.7*	*23.6*	*25.2*	*6.0*	*13.3*	*6.1*
	Oats	246.5	251.5	227.3	257.0	240.3	268.3	225.5	228.5	250.2	196.3	252.6
	Change, %		*(2.0)*	*8.5*	*(4.1)*	*2.6*	*(8.1)*	*9.3*	*7.9*	*(1.5)*	*25.6*	*(2.4)*
MYR/mt	Palm Oil	2,469.0	2,468.0	2,365.0	2,680.0	2,785.0	2,640.0	3,166.0	3,218.0	2,190.3	2,653.8	2,798.5
	Change, %		*0.0*	*4.4*	*(7.9)*	*(11.3)*	*(6.5)*	*(22.0)*	*(23.3)*	*12.7*	*(7.0)*	*(11.8)*
	Cocoa	1,912.0	1,922.0	1,872.0	2,126.0	1,965.0	1,898.0	2,303.0	2,126.0	3,091.6	2,854.0	2,009.7
	Change, %		*(0.5)*	*2.1*	*(10.1)*	*(2.7)*	*0.7*	*(17.0)*	*(10.1)*	*(38.2)*	*(33.0)*	*(4.9)*
	Cotton	75.0	75.2	72.9	69.8	70.0	71.4	69.6	70.7	63.3	65.6	73.4
	Change, %		*(0.2)*	*2.9*	*7.5*	*7.2*	*5.1*	*7.8*	*6.2*	*18.6*	*14.4*	*2.2*
	Sugar	14.4	13.8	13.8	15.4	13.8	13.5	18.2	19.5	13.1	18.2	15.8
	Change, %		*4.7*	*4.6*	*(6.2)*	*4.7*	*7.1*	*(21.0)*	*(26.1)*	*9.7*	*(20.6)*	*(9.1)*
	Coffee	121.8	118.6	117.1	123.8	134.0	124.2	141.2	137.1	132.6	136.1	133.3
	Change, %		*2.7*	*4.0*	*(1.7)*	*(9.1)*	*(2.0)*	*(13.8)*	*(11.2)*	*(8.2)*	*(10.5)*	*(8.7)*
Energy	WTI	57.5	57.2	57.1	56.6	49.5	44.2	52.1	53.7	48.8	43.4	50.7
	Change, %		*0.5*	*0.6*	*1.6*	*16.1*	*30.0*	*10.2*	*7.0*	*17.6*	*32.4*	*13.3*
	Brent	63.8	63.4	63.3	62.7	55.1	46.9	54.9	56.8	53.7	45.1	54.5
	Change, %		*0.6*	*0.8*	*1.8*	*15.7*	*36.0*	*16.2*	*12.3*	*18.9*	*41.6*	*17.1*
	Natural Gas	2.7	2.7	2.7	3.1	3.1	2.9	3.4	3.7	2.6	2.6	3.0
	Change, %		*(1.9)*	*0.5*	*(13.1)*	*(13.8)*	*(7.0)*	*(20.6)*	*(27.7)*	*2.4*	*5.5*	*(11.2)*
	Ethanol	1.3	1.3	1.3	1.4	1.6	1.6	1.6	1.6	1.5	1.5	1.5
	Change, %		*(0.1)*	*(2.1)*	*(10.4)*	*(18.6)*	*(18.2)*	*(20.4)*	*(21.0)*	*(16.0)*	*(16.3)*	*(15.6)*
	RBOB Gasoline	169.7	167.3	169.8	174.5	165.5	145.1	156.4	166.5	163.6	140.0	162.4
	Change, %		*1.4*	*(0.1)*	*(2.8)*	*2.5*	*17.0*	*8.5*	*1.9*	*3.7*	*21.2*	*4.5*
	Coal	100.3	100.2	98.7	96.6	98.2	81.2	86.2	88.4	59.0	65.5	87.8
	Change, %		*0.1*	*1.7*	*3.9*	*2.1*	*23.5*	*16.4*	*13.5*	*70.1*	*53.2*	*14.2*
Metal	Gold	1,261.8	1,262.4	1,244.6	1,294.2	1,311.1	1,243.4	1,137.9	1,152.3	1,160.6	1,248.5	1,257.8
	Change, %		*(0.1)*	*1.4*	*(2.5)*	*(3.8)*	*1.5*	*10.9*	*9.5*	*8.7*	*1.1*	*0.3*
	Silver	16.1	16.1	15.7	17.3	17.3	16.5	16.0	15.9	15.7	17.1	17.1
	Change, %		*(0.1)*	*2.6*	*(6.8)*	*(6.8)*	*(2.2)*	*1.1*	*1.4*	*2.6*	*(5.7)*	*(5.6)*
	Copper	6,942.0	6,905.0	6,663.0	6,777.0	6,539.0	5,724.0	5,496.0	5,535.5	5,503.1	4,872.0	6,168.7
	Change, %		*0.5*	*4.2*	*2.4*	*6.2*	*21.3*	*26.3*	*25.4*	*26.1*	*42.5*	*12.5*
	Nickel	752.2	755.4	716.6	751.2	714.2	580.1	736.3	682.0	759.5	646.4	677.3
	Change, %		*(0.4)*	*5.0*	*0.1*	*5.3*	*29.7*	*2.2*	*10.3*	*(1.0)*	*16.4*	*11.1*
	Zinc	3,201.0	3,196.0	3,157.0	3,180.0	3,106.5	2,556.0	2,607.0	2,576.0	1,941.9	2,097.5	2,876.2
	Change, %		*0.2*	*1.4*	*0.7*	*3.0*	*25.2*	*22.8*	*24.3*	*64.8*	*52.6*	*11.3*
	Lead	2,549.8	2,584.5	2,521.3	2,433.0	2,405.0	2,107.0	2,154.3	2,003.5	1,791.2	1,868.3	2,310.3
	Change, %		*(1.3)*	*1.1*	*4.8*	*6.0*	*21.0*	*18.4*	*27.3*	*42.3*	*36.5*	*10.4*
	Aluminum	14,380.0	14,400.0	14,050.0	15,355.0	16,420.0	13,645.0	12,710.0	12,765.0	12,184.0	12,373.5	14,551.7
	Change, %		*(0.1)*	*2.3*	*(6.3)*	*(12.4)*	*5.4*	*13.1*	*12.7*	*18.0*	*16.2*	*(1.2)*
	Cobalt	74,205.0	72,205.0	72,750.0	61,500.0	59,844.5	57,500.0	32,215.0	32,734.0	28,444.4	25,480.1	55,305.9
	Change, %		*2.8*	*2.0*	*20.7*	*24.0*	*29.1*	*130.3*	*126.7*	*160.9*	*191.2*	*34.2*
	HR Coil	635.0	635.0	642.0	611.0	620.0	589.0	585.0	633.0	461.5	519.3	619.2
	Change, %		*0.0*	*(1.1)*	*3.9*	*2.4*	*7.8*	*8.5*	*0.3*	*37.6*	*22.3*	*2.6*
	Scrap	360.0	360.0	360.0	343.0	347.0	350.0	295.0	302.0	252.9	275.7	344.1
	Change, %		*0.0*	*0.0*	*5.0*	*3.7*	*2.9*	*22.0*	*19.2*	*42.3*	*30.6*	*4.6*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		12/19	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	57.5	57.2	57.1	56.6	49.5	43.2	52.2	53.7	48.8	43.4	50.6
	Change, %		*0.5*	*0.6*	*1.6*	*16.1*	*32.9*	*10.0*	*7.0*	*17.8*	*32.5*	*13.5*
	Dubai	61.4	61.3	62.5	59.7	54.1	45.6	52.1	53.8	50.8	41.3	52.8
	Change, %		*0.2*	*(1.8)*	*2.9*	*13.6*	*34.6*	*17.9*	*14.1*	*20.9*	*48.6*	*16.3*
Crude Oil Product	**Gasoline(휘발유)**	74.5	74.9	77.4	74.1	70.6	58.1	66.9	69.8	69.5	56.3	67.8
	Change, %		*(0.5)*	*(3.7)*	*0.6*	*5.6*	*28.3*	*11.4*	*6.7*	*7.2*	*32.5*	*10.0*
	Kerosene(등유)	75.3	74.7	76.7	73.2	68.1	56.6	64.4	66.4	64.7	52.9	64.9
	Change, %		*0.8*	*(1.8)*	*2.9*	*10.6*	*33.0*	*17.0*	*13.4*	*16.3*	*42.4*	*16.1*
	Diesel(경유)	75.3	74.7	76.6	72.6	68.2	57.2	64.1	65.5	64.8	52.1	65.2
	Change, %		*0.8*	*(1.7)*	*3.7*	*10.4*	*31.7*	*17.5*	*15.0*	*16.3*	*44.5*	*15.4*
	Bunker-C	56.6	56.3	57.1	55.8	51.4	44.9	50.9	52.1	45.3	35.5	49.4
	Change, %		*0.5*	*(0.8)*	*1.4*	*10.1*	*26.0*	*11.2*	*8.7*	*25.0*	*59.3*	*14.6*
	Naphtha	64.2	64.1	66.3	63.2	55.0	44.3	51.2	53.5	52.6	42.6	53.3
	Change, %		*0.2*	*(3.2)*	*1.5*	*16.8*	*44.9*	*25.3*	*20.1*	*22.0*	*50.7*	*20.4*
Dubai Spread	**Gasoline(휘발유)**	13.1	13.7	14.9	14.4	16.5	12.4	14.8	16.0	18.7	14.9	15.0
	Change		*(0.5)*	*(1.7)*	*(1.3)*	*(3.4)*	*0.7*	*(1.7)*	*(2.9)*	*(5.6)*	*(1.8)*	*(1.8)*
	Kerosene(등유)	13.9	13.4	14.2	13.5	14.0	11.0	12.3	12.6	14.0	11.6	12.1
	Change		*0.5*	*(0.3)*	*0.4*	*(0.1)*	*2.9*	*1.6*	*1.3*	*(0.1)*	*2.3*	*1.8*
	Diesel(경유)	13.9	13.4	14.1	12.9	14.1	11.6	12.0	11.7	14.0	10.8	12.5
	Change		*0.5*	*(0.2)*	*1.0*	*(0.2)*	*2.3*	*1.9*	*2.2*	*(0.1)*	*3.1*	*1.5*
	Bunker-C	(4.8)	(5.0)	(5.5)	(3.8)	(2.7)	(0.7)	(1.2)	(1.8)	(5.5)	(5.8)	(3.4)
	Change		*0.1*	*0.6*	*(1.0)*	*(2.1)*	*(4.1)*	*(3.6)*	*(3.0)*	*0.7*	*1.0*	*(1.4)*
	Naphtha	2.8	2.8	3.8	3.6	0.9	(1.3)	(0.9)	(0.4)	1.8	1.3	0.5
	Change		*0.0*	*(1.0)*	*(0.8)*	*1.9*	*4.1*	*3.7*	*3.2*	*1.0*	*1.5*	*2.3*
Refining Margin	**Simple(단순)**	2.7	2.5	2.7	3.1	4.3	3.9	4.0	3.8	3.3	1.9	3.1
	Change		*0.2*	*(0.0)*	*(0.4)*	*(1.5)*	*(1.1)*	*(1.3)*	*(1.1)*	*(0.6)*	*0.8*	*(0.4)*
	Complex(복합)	7.9	7.8	8.3	8.1	9.3	7.5	8.2	8.3	9.3	7.0	8.0
	Change		*0.1*	*(0.5)*	*(0.3)*	*(1.4)*	*0.4*	*(0.3)*	*(0.4)*	*(1.4)*	*0.9*	*(0.1)*
	Complex(lagging)	9.0	9.0	9.2	11.5	14.7	2.1	17.5	18.0	7.3	8.5	8.8
	Change		*(0.0)*	*(0.3)*	*(2.5)*	*(5.7)*	*6.9*	*(8.5)*	*(9.0)*	*1.7*	*0.5*	*0.2*

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			12/19	12/18	12/15	12/14	12/13	12/12	12/11	12/08	12/07	12/06
Spot Price	**Naphtha**	CFR Japan	588.5	587.8	590.0	586.5	594.5	605.0	596.3	590.8	581.8	585.6
	Ethylene	CFR SE Asia	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,180.0	1,180.0	1,180.0	1,180.0	1,180.0
	Propylene	FOB Korea	925.0	915.0	915.0	916.0	916.0	916.0	913.0	903.0	903.0	903.0
	Butadiene	FOB Korea	1,100.0	1,100.0	1,100.0	1,095.0	1,090.0	1,090.0	1,090.0	1,090.0	1,020.0	1,010.0
	HDPE	CFR FE Asia	1,280.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0
	LDPE	CFR FE Asia	1,190.0	1,200.0	1,200.0	1,200.0	1,200.0	1,210.0	1,230.0	1,240.0	1,240.0	1,240.0
	LLDPE	CFR FE Asia	1,155.0	1,160.0	1,160.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0
	MEG	CFR China	918.0	914.0	914.0	905.0	906.0	910.0	914.0	913.0	913.0	920.0
	PP	CFR FE Asia	1,130.0	1,130.0	1,130.0	1,130.0	1,130.0	1,125.0	1,125.0	1,130.0	1,130.0	1,140.0
	PX	CFR China	885.0	881.0	881.0	880.0	887.3	889.5	882.7	884.0	883.0	888.2
	PTA	CFR China	720.0	720.0	720.0	720.0	720.0	720.0	715.0	715.0	715.0	715.0
	Benzene	FOB Korea	882.5	904.0	904.0	902.0	909.0	909.0	899.0	902.0	910.0	908.0
	Toluene	FOB Korea	705.5	703.0	703.0	703.0	703.0	702.0	699.0	698.0	695.0	695.0
	Xylene	FOB Korea	710.0	706.0	706.0	704.0	706.0	704.0	702.0	703.0	703.0	707.0
	SM	FOB Korea	1,266.5	1,293.0	1,293.0	1,306.0	1,300.0	1,316.0	1,303.0	1,308.0	1,322.0	1,318.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	**Naphtha**	CFR Japan	590.5	590.5	574.5	506.5	462.0	475.0	484.5	493.0	399.5	490.5
	Change, %			*0.0*	*2.8*	*16.6*	*27.8*	*24.3*	*21.9*	*19.8*	*47.8*	*20.4*
	Ethylene	CFR SE Asia	1,245.0	1,212.5	1,165.0	1,250.0	1,165.0	1,005.0	990.0	1,103.7	1,040.9	1,084.8
	Change, %			*2.7*	*6.9*	*(0.4)*	*6.9*	*23.9*	*25.8*	*12.8*	*19.6*	*14.8*
	Propylene	CFR SE Asia	890.0	850.0	810.0	860.0	775.0	770.0	815.0	770.0	705.7	882.5
	Change, %			*4.7*	*9.9*	*3.5*	*14.8*	*15.6*	*9.2*	*15.6*	*26.1*	*0.8*
	Butadiene	CFR SE Asia	1,125.0	1,075.0	965.0	1,545.0	1,175.0	1,890.0	2,100.0	877.5	1,116.8	1,491.9
	Change, %			*4.7*	*16.6*	*(27.2)*	*(4.3)*	*(40.5)*	*(46.4)*	*28.2*	*0.7*	*(24.6)*
	Benzene	CFR SE Asia	920.0	905.0	860.0	795.0	775.0	880.0	822.5	690.0	646.7	837.3
	Change, %			*1.7*	*7.0*	*15.7*	*18.7*	*4.5*	*11.9*	*33.3*	*42.3*	*9.9*
	Toluene	CFR SE Asia	735.0	720.0	715.0	700.0	655.0	705.0	690.0	700.8	630.5	688.6
	Change, %			*2.1*	*2.8*	*5.0*	*12.2*	*4.3*	*6.5*	*4.9*	*16.6*	*6.7*
	Xylene	CFR SE Asia	710.0	695.0	670.0	657.5	635.0	670.0	675.0	699.3	627.7	667.0
	Change, %			*2.2*	*6.0*	*8.0*	*11.8*	*6.0*	*5.2*	*1.5*	*13.1*	*6.5*
Spread	**Ethylene**	-Naphtha	654.5	622.0	590.5	743.5	703.0	530.0	505.5	610.6	641.4	594.4
	Change, %			*5.2*	*10.8*	*(12.0)*	*(6.9)*	*23.5*	*29.5*	*7.2*	*2.0*	*10.1*
	Propylene	-Naphtha	299.5	259.5	235.5	353.5	313.0	295.0	330.5	277.0	306.2	392.1
	Change, %			*15.4*	*27.2*	*(15.3)*	*(4.3)*	*1.5*	*(9.4)*	*8.1*	*(2.2)*	*(23.6)*
	Butadiene	-Naphtha	534.5	484.5	390.5	1,038.5	713.0	1,415.0	1,615.5	384.5	717.3	1,001.4
	Change, %			*10.3*	*36.9*	*(48.5)*	*(25.0)*	*(62.2)*	*(66.9)*	*39.0*	*(25.5)*	*(46.6)*
	Benzene	-Naphtha	329.5	314.5	285.5	288.5	313.0	405.0	338.0	197.0	247.2	346.8
	Change, %			*4.8*	*15.4*	*14.2*	*5.3*	*(18.6)*	*(2.5)*	*67.3*	*33.3*	*(5.0)*
	Toluene	-Naphtha	144.5	129.5	140.5	193.5	193.0	230.0	205.5	207.8	231.0	198.1
	Change, %			*11.6*	*2.8*	*(25.3)*	*(25.1)*	*(37.2)*	*(29.7)*	*(30.4)*	*(37.4)*	*(27.1)*
	Xylene	-Naphtha	119.5	104.5	95.5	151.0	173.0	195.0	190.5	206.3	228.2	176.5
	Change, %			*14.4*	*25.1*	*(20.9)*	*(30.9)*	*(38.7)*	*(37.3)*	*(42.1)*	*(47.6)*	*(32.3)*

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

SK Energy Daily

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	HDPE	CFR SE Asia	1,187.5	1,207.5	1,197.5	1,187.5	1,087.5	1,117.5	1,142.5	1,230.1	1,134.6	1,140.6
	Change, %			(1.7)	(0.8)	0.0	9.2	6.3	3.9	(3.5)	4.7	4.1
	MEG	CFR SE Asia	917.5	915.0	892.5	907.5	867.5	870.0	847.5	780.8	660.8	849.5
	Change, %			0.3	2.8	1.1	5.8	5.5	8.3	17.5	38.9	8.0
	PVC	CFR SE Asia	860.0	855.0	850.0	950.0	890.0	920.0	920.0	820.8	823.4	900.2
	Change, %			0.6	1.2	(9.5)	(3.4)	(6.5)	(6.5)	4.8	4.4	(4.5)
	PP	CFR SE Asia	1,157.5	1,157.5	1,147.5	1,167.5	1,107.5	1,017.5	1,032.5	1,109.8	978.4	1,096.8
	Change, %			0.0	0.9	(0.9)	4.5	13.8	12.1	4.3	18.3	5.5
	2-EH	CFR Korea	1,035.0	1,020.0	990.0	990.0	960.0	865.0	865.0	930.1	772.4	966.4
	Change, %			1.5	4.5	4.5	7.8	19.7	19.7	11.3	34.0	7.1
	ABS	CFR SE Asia	2,070.0	2,030.0	1,930.0	2,070.0	1,870.0	1,635.0	1,635.0	1,431.1	1,347.1	1,837.9
	Change, %			2.0	7.3	0.0	10.7	26.6	26.6	44.6	53.7	12.6
	SBR	CFR SE Asia	1,650.0	1,650.0	1,590.0	1,830.0	1,540.0	2,000.0	2,000.0	1,332.1	1,483.0	1,989.3
	Change, %			0.0	3.8	(9.8)	7.1	(17.5)	(17.5)	23.9	11.3	(17.1)
	SM	CFR SE Asia	1,332.5	1,352.5	1,280.0	1,357.5	1,192.5	1,245.0	1,205.0	1,100.7	1,064.6	1,250.7
	Change, %			(1.5)	4.1	(1.8)	11.7	7.0	10.6	21.1	25.2	6.5
	Caustic	FOB NEA	621.0	699.5	700.0	480.0	476.0	422.5	422.5	296.8	316.6	486.3
	Change, %			(11.2)	(11.3)	29.4	30.5	47.0	47.0	109.3	96.2	27.7
	PX	CFR SE Asia	895.0	895.0	892.5	825.0	815.0	852.5	855.0	842.9	790.4	842.4
	Change, %			0.0	0.3	8.5	9.8	5.0	4.7	6.2	13.2	6.3
	PO	CFR China	1,872.5	1,765.0	1,782.5	1,655.0	2,022.5	1,577.5	1,562.5	1,683.4	1,396.8	1,589.4
	Change, %			6.1	5.0	13.1	(7.4)	18.7	19.8	11.2	34.1	17.8
	Caprolactam	CFR SE Asia	2,060.0	2,050.0	2,040.0	1,780.0	1,800.0	1,850.0	1,850.0	1,581.5	1,344.9	1,928.5
	Change, %			0.5	1.0	15.7	14.4	11.4	11.4	30.3	53.2	6.8
	PTA	CFR SE Asia	727.5	725.0	707.5	672.5	652.5	642.5	642.5	648.0	613.7	666.2
	Change, %			0.3	2.8	8.2	11.5	13.2	13.2	12.3	18.5	9.2
Spread	HDPE		597.0	617.0	623.0	681.0	625.5	642.5	658.0	737.1	735.1	650.2
	Change, %			(3.2)	(4.2)	(12.3)	(4.6)	(7.1)	(9.3)	(19.0)	(18.8)	(8.2)
	MEG		327.0	324.5	318.0	401.0	405.5	395.0	363.0	287.8	261.3	359.0
	Change, %			0.8	2.8	(18.5)	(19.4)	(17.2)	(9.9)	13.6	25.2	(8.9)
	PVC		269.5	264.5	275.5	443.5	428.0	445.0	435.5	327.8	423.9	409.7
	Change, %			1.9	(2.2)	(39.2)	(37.0)	(39.4)	(38.1)	(17.8)	(36.4)	(34.2)
	PP		567.0	567.0	573.0	661.0	645.5	542.5	548.0	616.8	578.9	606.4
	Change, %			0.0	(1.0)	(14.2)	(12.2)	4.5	3.5	(8.1)	(2.1)	(6.5)
	2-EH		444.5	429.5	415.5	483.5	498.0	390.0	380.5	437.0	372.9	476.0
	Change, %			3.5	7.0	(8.1)	(10.7)	14.0	16.8	1.7	19.2	(6.6)
	ABS		1,479.5	1,439.5	1,355.5	1,563.5	1,408.0	1,160.0	1,150.5	938.1	947.6	1,347.5
	Change, %			2.8	9.1	(5.4)	5.1	27.5	28.6	57.7	56.1	9.8
	SBR	BD spread	525.0	575.0	625.0	285.0	365.0	110.0	(100.0)	454.7	366.2	497.5
	Change, %			(8.7)	(16.0)	84.2	43.8	377.3	(625.0)	15.5	43.4	5.5
	SM		742.0	762.0	705.5	851.0	730.5	770.0	720.5	607.7	665.1	760.2
	Change, %			(2.6)	5.2	(12.8)	1.6	(3.6)	3.0	22.1	11.6	(2.4)
	Caustic											
	Change, %											
	PX		304.5	304.5	318.0	318.5	353.0	377.5	370.5	349.9	390.9	351.9
	Change, %			0.0	(4.2)	(4.4)	(13.7)	(19.3)	(17.8)	(13.0)	(22.1)	(13.5)
	PO	propylene sprea	982.5	915.0	972.5	795.0	1,247.5	807.5	747.5	913.4	691.1	706.8
	Change, %			7.4	1.0	23.6	(21.2)	21.7	31.4	7.6	42.2	39.0
	Caprolactam	benzene spread	1,140.0	1,145.0	1,180.0	985.0	1,025.0	970.0	1,027.5	891.6	698.2	1,091.3
	Change, %			(0.4)	(3.4)	15.7	11.2	17.5	10.9	27.9	63.3	4.5
	PTA	px spread	101.0	98.5	82.8	95.0	82.0	45.8	44.0	58.0	60.4	76.5
	Change, %			2.5	22.1	6.3	23.2	120.8	129.5	74.1	67.1	32.0

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	12/19	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											17E	18E	17E	18E	17E	18E
Petrochemical																
DowDuPont	USD	71.4	0.0	0.9	1.0	2.0	9.5	21.5	24.8	167,122	22.0	17.7	1.6	1.8	12.0	10.2
Eastman	USD	92.3	0.6	(0.7)	2.9	6.5	7.4	21.2	22.8	13,271	13.1	11.3	2.7	2.5	9.4	8.6
BASF	EUR	94.4	(0.9)	0.3	2.8	8.2	8.3	8.1	6.9	102,525	15.3	15.1	2.6	2.4	8.2	8.0
Akzo Nobel	EUR	74.4	(0.1)	(0.8)	(4.1)	(5.3)	(4.6)	24.5	25.2	22,227	18.2	17.4	3.2	3.1	9.9	9.5
Arkema	EUR	103.5	(0.2)	0.9	(0.8)	3.8	7.4	10.6	11.4	9,287	14.6	13.5	1.9	1.8	6.7	6.4
Lanxess	EUR	64.8	(0.6)	(0.3)	0.2	(1.4)	(4.7)	4.3	3.9	7,016	16.8	15.0	2.2	2.1	7.3	9.1
Sumitomo Chemical	JPY	807	1.4	1.8	0.4	14.1	35.2	37.5	45.1	11,817	10.1	10.1	1.4	1.3	7.5	7.4
Mitsubishi Chemical	JPY	1,235	0.0	(0.2)	5.2	14.2	40.7	56.1	62.9	16,455	9.3	9.1	1.4	1.3	6.5	6.3
Shin-Etsu Chemical	JPY	11,795	(0.0)	(1.0)	(4.6)	16.1	17.2	28.6	30.1	45,084	22.2	19.2	2.2	2.0	9.9	8.5
Asahi Kasei	JPY	1,457	(1.1)	0.1	1.4	4.1	25.1	39.2	42.9	18,077	14.6	14.4	1.6	1.5	7.6	7.4
JSR	JPY	2,237	(1.1)	(2.4)	1.8	3.4	21.2	23.2	21.4	4,475	15.2	14.7	1.3	1.2	8.4	7.8
Nitto Denko	JPY	10,270	(1.3)	0.2	(6.6)	5.2	14.9	12.5	14.5	15,785	17.9	16.4	2.3	2.1	8.2	7.5
SABIC	SAR	101.8	0.1	0.6	2.0	0.6	(1.3)	11.3	11.3	81,470	15.2	14.4	1.8	1.8	7.6	7.4
Yansab	SAR	58.0	0.0	(1.2)	5.3	(1.4)	1.4	15.1	6.5	8,700	14.5	13.5	2.2	2.2	9.1	8.8
Formosa Plastics	TWD	94.8	0.1	1.6	2.9	0.0	4.5	7.2	6.3	20,126	13.2	14.1	1.8	1.8	18.5	18.6
Formosa Fiber	TWD	98.5	0.2	4.5	6.0	4.7	7.5	2.6	2.3	19,254	12.5	13.3	1.7	1.7	10.9	11.2
Nan Ya Plastics	TWD	75.3	0.1	1.5	0.8	(1.6)	4.1	3.9	5.8	19,917	14.4	14.5	1.7	1.7	15.2	15.5
Sinopec Shanghai	CNY	6.26	0.0	(1.3)	(3.4)	(1.3)	(3.7)	(2.6)	(2.8)	8,859	12.0	11.4	2.4	2.1	6.5	6.4
Sinopec Yizheng(Fibe	CNY	2.68	0.4	(3.6)	(12.1)	(16.3)	(22.8)	(34.2)	(34.6)	5,217	#N/A N/A	49.6	5.1	5.2	26.4	13.8
Reliance	INR	926	0.5	1.1	1.5	10.4	31.4	74.3	71.1	94,011	17.0	14.6	1.9	1.7	11.8	9.6
Industries Qatar	QAR	97.0	2.1	4.4	1.0	10.2	0.7	(16.3)	(17.4)	15,969	17.0	14.3	1.7	1.6	63.0	51.2
PTT Chemical	THB	83.0	(1.2)	0.3	5.4	4.7	19.0	32.3	31.7	11,420	10.5	10.7	1.5	1.4	5.6	5.5
Petronas	MYR	7.5	0.5	0.9	2.7	1.8	4.0	8.9	7.3	14,683	15.3	15.3	2.1	1.9	8.8	8.7
LG화학	KRW	398,500	0.3	2.2	(2.4)	0.4	42.8	53.6	52.7	25,896	14.8	14.0	1.9	1.7	6.6	6.1
롯데케미칼	KRW	361,000	(1.2)	1.1	1.5	(7.3)	9.4	3.7	(2.2)	11,390	5.4	5.3	1.1	0.9	3.7	3.3
한화케미칼	KRW	29,800	0.3	(3.6)	(1.7)	(21.6)	2.8	19.2	20.6	4,521	4.9	5.3	0.8	0.7	6.6	6.3
금호석유	KRW	96,100	2.8	8.8	32.4	23.0	29.5	20.9	17.2	2,695	16.3	14.6	1.7	1.6	10.9	9.5
SKC	KRW	42,600	(4.2)	1.2	1.4	(1.6)	27.5	32.3	29.1	1,472	11.3	10.1	1.0	1.0	9.8	8.4
국도화학	KRW	66,000	(3.1)	(3.9)	10.6	21.5	22.9	16.2	20.2	353	0.0	0.0	0.0	0.0	0.0	0.0
효성	KRW	7,690	(2.7)	(1.3)	5.9	10.8	30.1	25.0	13.1	4,445	8.2	8.2	1.2	1.1	7.3	6.4
Average			**(0.3)**	**0.4**	**2.0**	**3.6**	**12.9**	**18.7**	**18.3**							
Refinery																
Valero	USD	88.1	(1.0)	1.3	6.3	21.1	32.2	30.6	28.9	38,538	17.7	13.7	1.9	1.9	7.6	6.6
Conoco Phillips	USD	52.7	0.6	1.4	5.1	10.8	13.6	1.3	5.1	62,980	98.3	34.3	2.1	2.1	9.3	6.9
Formosa Petrochemic	TWD	116.0	0.9	5.9	9.4	10.5	7.4	5.9	3.6	36,853	15.9	18.8	3.4	3.3	10.1	12.0
Andeavor	USD	110.4	(1.4)	(0.0)	4.8	5.6	19.0	22.0	26.2	17,219	15.6	12.9	1.7	1.8	8.9	7.1
Marathon Petroleum	USD	64.8	(1.9)	0.4	4.0	19.5	19.3	31.0	28.6	31,625	16.6	15.3	2.6	2.5	8.4	7.6
Devon Energy	USD	38.7	1.7	0.8	0.1	14.6	23.6	(17.7)	(15.3)	20,337	21.6	16.8	2.8	2.4	9.1	8.0
Hollyfrontier	USD	47.6	(1.8)	0.7	7.2	41.3	78.0	52.6	45.3	8,436	19.9	16.5	1.7	1.6	8.9	7.7
Phillips 66	USD	99.1	(0.8)	0.1	7.0	11.3	22.0	13.7	14.7	50,238	21.7	15.8	2.3	2.2	10.8	8.9
Murphy Oil	USD	29.1	0.8	1.7	4.0	13.4	14.5	(11.5)	(6.5)	5,022	#N/A N/A	196.6	1.1	1.1	5.3	4.6
JX Holdings	JPY	689.6	0.5	(0.1)	13.3	21.9	42.0	37.0	39.4	20,904	8.1	8.3	0.9	0.9	7.0	6.8
Idemitsu	JPY	4,225.0	(1.6)	(0.5)	20.0	47.0	32.2	33.5	36.1	7,774	7.9	7.4	1.1	1.0	6.9	6.6
Nesteoil	EUR	53.2	1.3	2.8	6.6	47.7	48.3	46.8	45.6	16,120	17.0	16.6	3.2	2.9	9.8	10.2
Ashland	USD	70.7	(0.5)	(0.4)	(0.1)	10.2	5.6	31.2	32.3	4,401	17.6	20.9	1.4	1.3	8.0	9.9
Fuchs Petrolub	EUR	44.9	1.3	2.2	(1.3)	(8.9)	(12.9)	13.6	12.7	7,079	23.7	22.3	4.7	4.2	13.9	13.1
SK이노베이션	KRW	202,500	0.0	2.8	(0.5)	6.9	25.8	35.9	38.2	17,237	8.0	7.7	1.0	0.9	4.9	4.4
S-Oil	KRW	124,000	0.0	4.2	2.5	2.9	29.4	49.4	46.4	12,851	12.3	9.4	2.1	1.9	9.4	6.8
GS	KRW	61,500	0.2	2.8	2.2	(6.0)	(7.7)	13.5	13.7	5,260	5.9	5.6	0.8	0.7	7.0	6.7
Average			**(0.1)**	**1.5**	**5.3**	**15.9**	**23.1**	**22.9**	**23.2**							

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

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Global peers

	Currency	12/19	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 17E	PER 18E	PBR 17E	PBR 18E	EV/EBITDA 17E	EV/EBITDA 18E
E&P/Shale																
Exxon Mobil	USD	82	(0.6)	(0.4)	2.7	2.8	(0.4)	(8.8)	(8.7)	349,307	22.7	19.9	1.9	1.9	9.8	8.7
BP	GBP	508	(0.4)	(0.6)	3.0	11.3	7.4	3.5	(0.4)	134,211	22.5	17.1	1.4	1.4	6.5	5.7
Shell	EUR	2,416	(0.3)	(0.4)	3.3	13.4	13.4	9.8	7.7	269,197	17.2	15.3	1.4	1.3	7.0	6.4
Chevron	USD	120	0.1	0.1	4.5	3.0	11.5	1.9	1.8	227,621	29.0	22.7	1.6	1.6	8.4	7.2
Total	EUR	46	(2.5)	(3.4)	(0.3)	2.1	2.2	(3.6)	(5.3)	138,050	13.1	12.5	1.3	1.2	6.1	5.3
Sinopec	CNY	6	0.3	(1.3)	(0.7)	0.2	0.2	8.0	10.2	104,483	13.6	12.5	1.0	0.9	4.4	4.3
Petrochina	CNY	8	0.1	(1.6)	(2.8)	(1.0)	3.1	2.5	(0.8)	208,153	49.6	29.3	1.2	1.2	6.5	5.9
CNOOC	CNY	10	0.7	(1.6)	(9.8)	(9.1)	(9.7)	(21.0)	(20.0)	62,256	13.2	11.0	1.0	1.0	4.2	3.9
Gazprom	RUB	134	(0.2)	(1.1)	3.3	10.0	14.2	(13.4)	(13.3)	53,946	4.3	4.0	0.3	0.2	4.0	3.6
Rosneft	RUB	294	(1.0)	(3.1)	(2.3)	(6.2)	(5.6)	(27.1)	(27.1)	52,940	10.7	7.4	0.8	0.7	5.4	4.6
Anadarko	USD	49	1.8	1.8	2.6	12.9	5.8	(30.8)	(29.2)	27,024	#N/A N/A	#N/A N/A	1.9	1.8	7.5	6.5
Petrobras	BRL	15	(0.5)	(2.3)	(5.5)	0.0	23.2	5.4	1.8	61,278	13.2	8.8	0.6	0.6	5.0	4.5
Lukoil	USD	3,402	0.2	(2.1)	3.0	12.5	22.4	1.5	(1.4)	49,333	6.8	6.3	0.7	0.7	N/A	N/A
Kinder	USD	18	(0.4)	1.0	5.3	(8.4)	(6.0)	(14.7)	(13.5)	47,497	28.1	25.6	1.1	1.1	11.1	10.7
Statoil	NOK	170	(0.4)	(2.6)	3.4	10.8	16.9	8.1	7.0	67,282	16.0	16.6	1.7	1.7	3.5	3.4
BHP	AUD	28	0.8	3.0	5.0	8.3	23.8	13.5	13.6	109,955	14.8	17.6	1.9	1.9	6.0	6.5
PTT E&P	THB	99	1.5	5.0	7.6	8.2	11.9	7.6	2.9	11,994	16.0	13.5	1.0	0.9	3.7	3.4
Petronas gas	MYR	16	(0.2)	2.1	(1.4)	(10.4)	(13.1)	(22.5)	(23.0)	7,952	18.3	17.2	2.6	2.5	10.4	9.7
Chesapeake	USD	4	(2.2)	(5.2)	(10.2)	(10.6)	(27.7)	(50.6)	(48.6)	3,280	5.0	4.7	#N/A N/A	#N/A N/A	7.4	6.3
Noble Energy	USD	27	3.6	1.4	4.9	3.1	(6.7)	(32.3)	(28.5)	13,250	#N/A N/A	241.0	1.4	1.4	7.9	7.1
Average		**0**	**0.0**	**(0.6)**	**0.8**	**2.6**	**4.3**	**(8.2)**	**(8.7)**							
PV																
WACKER	EUR	160.0	(1.1)	6.5	14.3	40.1	69.1	71.3	61.9	9,871	35.8	25.6	2.6	2.4	8.9	8.2
GCL-Poly	HKD	1.3	1.6	0.8	(10.6)	15.6	68.0	29.9	35.5	2,997	8.5	8.2	0.9	0.8	6.5	5.9
SunPower	USD	9.1	(3.4)	4.8	14.3	8.7	16.8	21.0	37.7	1,270	#N/A N/A	#N/A N/A	1.7	1.7	16.7	12.7
Canadian Solar	USD	17.4	(0.8)	(2.2)	(2.1)	4.2	33.6	37.0	42.9	1,010	12.4	9.4	1.0	0.9	9.5	9.7
JA Solar	USD	7.4	(0.8)	1.5	(0.3)	(9.5)	16.8	49.5	56.1	354	11.6	14.1	1.7	1.7	4.4	3.9
Yingli	USD	1.8	(4.8)	(5.3)	(20.3)	(27.8)	(13.7)	(41.2)	(31.9)	32	#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	69.2	(2.1)	0.3	14.9	41.5	90.2	97.7	115.5	7,222	27.3	46.0	1.2	1.3	14.7	14.2
한화큐셀	USD	7.4	1.0	4.1	(6.6)	(7.2)	13.3	(15.6)	(9.4)	615	92.4	33.6	#N/A N/A	#N/A N/A	8.7	8.1
OCI	KRW	131,000	0.4	3.1	5.6	18.0	41.6	73.1	66.5	2,876	14.8	16.3	0.9	0.9	7.9	6.7
웅진에너지	KRW	8,700	(2.0)	(6.5)	4.8	(5.4)	22.5	93.3	83.7	202	N/A	0.9	0.9	7.9	6.7	8.2
신성솔라에너지	KRW	1,955	(3.5)	(4.6)	4.5	(7.3)	(2.5)	(7.8)	(11.5)	311	N/A	0.9	7.9	6.7	8.2	8.2
Average			**(1.4)**	**0.2**	**1.7**	**6.5**	**32.4**	**37.1**	**40.6**							
Gas Company																
Towngas China	HKD	6.2	(2.7)	0.2	(1.6)	16.3	27.1	53.8	50.7	2,178	13.9	12.6	1.1	1.1	12.7	11.7
Kulun	HKD	8.1	3.9	13.5	21.8	8.3	25.2	36.8	39.0	8,323	12.7	11.6	1.4	1.3	6.1	5.9
Beijing Enterprise	HKD	45.1	3.2	3.2	1.0	5.1	20.1	29.8	23.1	7,281	8.6	8.0	0.9	0.8	15.8	13.7
ENN Energy	HKD	54.5	1.6	(1.2)	(5.1)	2.7	29.3	72.7	70.8	7,550	14.6	12.7	2.8	2.4	8.8	7.9
China Resources Gas	HKD	28.0	1.8	(2.6)	0.9	3.5	15.5	27.0	28.4	7,966	16.0	14.2	3.0	2.7	9.4	8.6
China Gas Holdings	HKD	22.3	0.0	(1.5)	0.5	1.4	72.2	117.7	111.5	14,142	18.3	15.2	4.4	3.6	14.4	12.1
Shenzen Gas	HKD	14.2	2.9	3.6	(3.5)	(3.1)	3.0	27.2	25.7	3,685	11.3	11.0	1.3	1.2	8.8	8.2
Shann Xi	CNY	8.4	(0.9)	3.6	6.3	(1.1)	(5.2)	(11.3)	(12.0)	1,422	17.8	16.0	1.7	1.6	#N/A N/A	#N/A N/A
Suntien	HKD	2.0	1.6	3.7	(1.5)	2.6	35.4	87.5	95.0	927	7.2	6.2	0.7	0.6	9.8	8.4
China Oil & Gas	HKD	0.7	4.8	13.8	22.2	24.5	22.2	13.8	8.2	492	10.8	9.2	1.1	1.0	6.7	6.0
Average			**1.6**	**3.6**	**4.1**	**6.0**	**24.5**	**45.5**	**44.0**							
EV																
LG화학	KRW	398,500	0.3	2.2	(2.4)	0.4	42.8	53.6	52.7	25,896	13.9	13.4	1.9	1.7	6.6	6.4
삼성SDI	KRW	209,000	0.5	(2.1)	(5.0)	(6.3)	34.8	94.4	91.7	13,230	21.0	13.2	1.3	1.2	23.2	14.9
Panasonic	JPY	1664.0	(0.6)	2.9	(1.7)	0.8	12.5	29.9	39.9	36,107	21.3	16.3	2.2	2.0	7.1	6.1
GS Yuasa	JPY	551.0	(0.4)	(2.3)	(4.7)	(5.3)	8.9	11.8	13.4	2,016	16.9	15.1	1.3	1.3	7.6	7.0
NEC	JPY	3110.0	(0.8)	1.6	6.8	4.0	7.2	(3.1)	0.3	7,166	15.8	18.3	0.9	0.9	7.5	7.0
BYD Auto	CNY	62.3	(0.4)	0.4	(2.0)	8.8	21.6	23.6	25.4	24,763	36.4	25.9	3.1	2.8	15.4	12.5
Tesla Motors	USD	331.1	(2.3)	(2.9)	5.1	(11.7)	(10.5)	63.3	54.9	55,647	#N/A N/A	#N/A N/A	11.7	11.6	135.4	33.4
Kandi Technologies	USD	6.9	0.7	(0.7)	(11.0)	30.2	74.7	43.8	40.8	331	#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			**(0.4)**	**(0.1)**	**(1.9)**	**2.6**	**24.0**	**39.6**	**39.9**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임