SK Energy Daily

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SK증권

1. News Summary (3 page)

2018년 1월 25일

News		Conclusion
WTI comment	미 원유재고 감소에 강세...WTI, 65달러 돌파	
Headline	중국 '탈석탄 정책' 파장... 천연가스 가격 급등	러시아發 PNG가 유입되며 중국의 가스 수요를 충당할 전망
News 1.	포스코, "조선업 회복세...1분기 후판 가격 인상 추진"	후판 가격 추가 인상은 현재의 저선가 국면에서 적자폭을 키울 것
News 2.	-	-
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	65.6	1.8	2.6	9.4	25.7	24.4
Dubai	$/bbl	66.9	0.6	0.9	6.8	19.0	25.0
Gasoline	$/bbl	79.9	0.7	2.1	5.8	12.5	15.8
Diesel	$/bbl	82.0	1.1	1.4	6.8	17.9	26.9
Complex margin	$/bbl	7.4	0.2	0.5	(0.4)	(1.1)	(0.0)
1M lagging	$/bbl	12.7	0.4	0.9	3.3	2.6	4.0
Petrochemical			%	%	%	%	%
Naphtha	$/t	602	0.8	(0.7)	(0.4)	12.5	15.3
Butadiene	$/t	1,270	0.0	6.7	15.5	9.0	(57.7)
HDPE	$/t	1,320	0.4	0.8	3.1	7.8	15.3
MEG	$/t	1,007	(0.8)	(1.3)	9.5	11.9	5.7
PX	$/t	969	0.3	3.6	8.7	16.1	9.2
SM	$/t	1,376	(0.6)	2.6	11.0	15.8	3.4
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	3.51	1.9	8.6	28.4	9.5	(3.8)
Natural rubber	$/t	1,500	0.0	(0.7)	3.4	5.6	(31.2)
Cotton	C/lbs	82.3	0.0	0.2	4.2	18.7	11.4

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	01/22	$/t	1,295	(2.1)	1.8	10.2	25.1
Propylene	01/22	$/t	995	4.5	10.9	25.2	4.2
Benzene	01/22	$/t	948	4.4	6.5	18.1	(3.3)
Toluene	01/22	$/t	755	1.3	2.7	8.6	4.1
Xylene	01/22	$/t	740	0.0	3.9	13.4	3.5
PP	01/22	$/t	1,208	0.8	4.3	3.4	15.8
PVC	01/22	$/t	925	1.6	6.3	1.6	1.6
ABS	01/22	$/t	2,020	1.0	(1.5)	3.6	13.5
SBR	01/22	$/t	1,650	0.0	0.0	(5.7)	(45.0)
SM	01/22	$/t	1,383	1.5	7.2	13.6	3.8
BPA	01/22	$/t	1,963	1.6	(1.6)	16.5	18.0
Caustic	01/22	$/t	601	(1.3)	(2.9)	9.3	44.0
2-EH	01/22	$/t	1,095	4.3	7.4	9.5	21.7
Caprolactam	01/22	$/t	2,020	0.0	(1.9)	(2.4)	(1.5)
Solar				%	%	%	%
Polysilicon	01/24	$/kg	17.7	(0.1)	0.7	6.1	8.8
Module	01/24	$/W	0.31	(0.3)	(1.0)	(2.5)	(12.7)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	88.5	0.3	0.6	5.4	6.1	4.0
Shell	EUR	2,504	(1.2)	(0.8)	2.1	6.9	13.8
Petrochina	CNY	9.33	1.5	5.8	15.3	14.2	6.5
Gazprom	RUB	149.7	0.6	0.7	13.0	18.8	(0.3)
Petrobras	BRL	19.3	5.7	5.3	22.8	17.1	20.6
Refinery							
Phillips66	USD	104.6	(2.1)	(1.4)	3.7	13.9	24.3
Valero	USD	97.7	(1.0)	0.1	7.2	25.7	43.9
JX	JPY	766.0	0.7	1.0	6.5	32.2	47.4
Neste Oil	EUR	56.6	(2.5)	0.4	5.7	33.0	65.6

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	96.1	(1.0)	2.6	2.8	6.7	7.7
DowDuPont	USD	76.0	(0.2)	0.3	5.4	5.8	27.4
SABIC	SAR	106.7	(0.2)	(0.5)	4.9	9.3	12.8
Formosa Pla.	TWD	99.2	(0.8)	(2.7)	4.0	7.8	10.0
Shin-Etsu	JPY	12,600	(0.3)	3.2	9.0	11.3	30.8
Renewable							
Wacker	EUR	171.8	(1.0)	2.0	5.9	40.3	54.9
First Solar	USD	68.98	0.7	(4.2)	0.2	41.9	112.1
GCL-Poly	HKD	1.33	(4.3)	(3.6)	(3.6)	9.0	34.3
Tesla Motors	USD	345.9	(2.0)	(0.4)	6.4	2.5	35.9

4. Coverage Summary

	01/24	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,538	0.1	0.9	4.0	2.3	4.0	22.8				* 추정치는 12M fwd 기준임	
KOSPI화학	6,313	(0.3)	1.6	5.5	4.8	12.5	23.0				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	438,000	3.5	4.2	11.3	11.0	33.1	65.0	매수	450,000	2.7	14.62	2.06
롯데케미칼	403,000	0.2	3.5	11.8	4.5	10.0	4.5	매수	410,000	1.7	11.00	1.21
한화케미칼	34,650	(2.9)	2.4	15.7	7.4	5.6	26.9	매수	39,000	12.6	13.23	0.90
금호석유화학	104,500	(0.9)	3.0	8.0	53.2	37.3	26.2	매수	150,000	43.5	12.75	1.67
KCC	404,000	(0.9)	0.7	6.6	2.7	(6.3)	19.2	매수	450,000	11.4	14.96	0.60
OCI	157,000	(12.3)	(8.2)	23.1	43.4	80.7	77.6	매수	180,000	14.6	14.75	1.10
SKC	45,250	3.0	3.3	2.7	10.9	23.6	44.6	매수	55,000	21.5	11.38	1.11
SK이노베이션	199,500	0.3	0.8	(2.2)	(2.0)	14.3	25.1	매수	230,000	15.3	10.56	1.01
S-Oil	118,000	(0.4)	4.0	(5.2)	(6.0)	7.3	43.0	매수	140,000	18.6	13.49	2.14
GS	66,500	0.3	1.2	7.1	0.6	(8.4)	28.1	매수	80,000	20.3	6.50	0.86
SK가스	103,000	1.5	7.2	11.4	9.9	(8.4)	(5.9)	매수	130,000	26.2	8.92	0.69
포스코대우	21,350	4.1	6.0	19.6	9.5	(8.4)	(22.1)	매수	25,000	17.1	9.74	0.86
LG상사	30,100	1.0	3.1	11.7	5.2	0.3	(8.0)	매수	38,000	26.2	10.14	0.86
한국전력	35,400	1.0	(2.5)	(8.6)	(9.6)	(21.9)	(17.5)	매수	50,000	41.2	7.60	0.28
한국가스공사	51,100	4.1	6.2	20.7	21.4	2.5	10.6	매수	60,000	17.4	9.65	0.76

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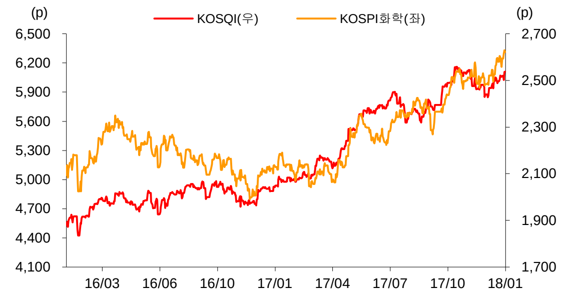
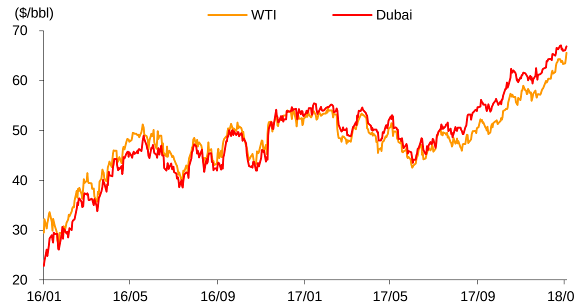
Key Chart

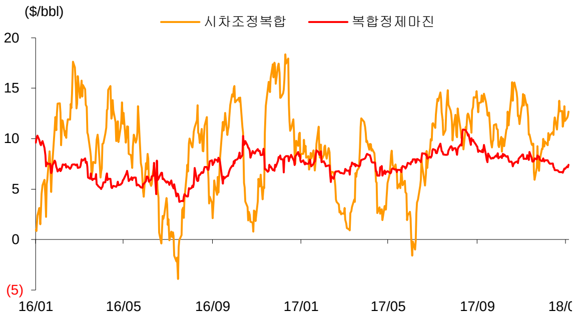
KOSPI/KOSPI화학



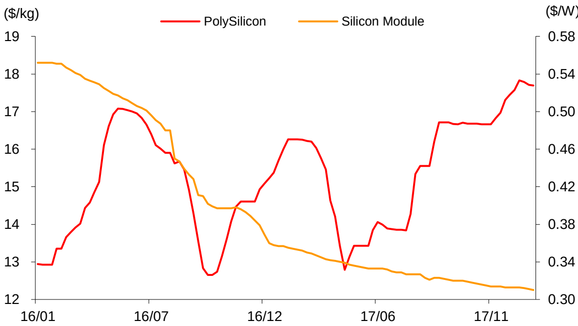
WTI/Dubai



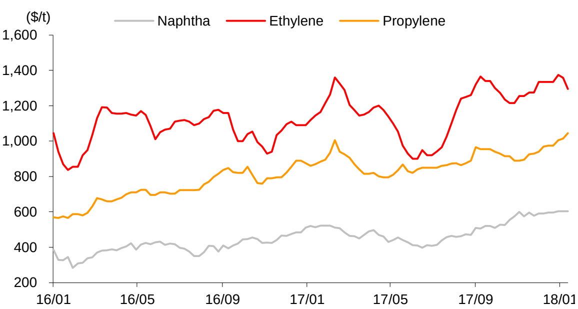
Complex & 1M lagging margin



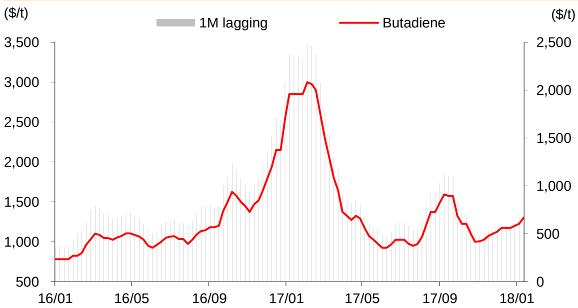
Polysilicon & Module prices



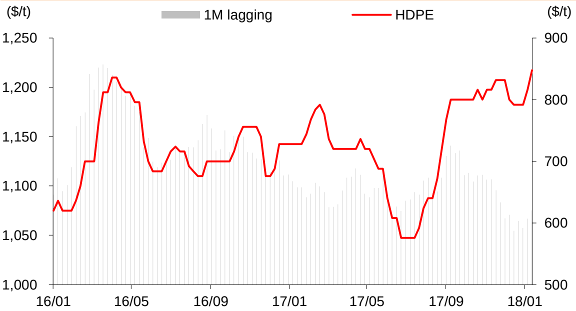
Naphtha/Ethylene/Propylene prices



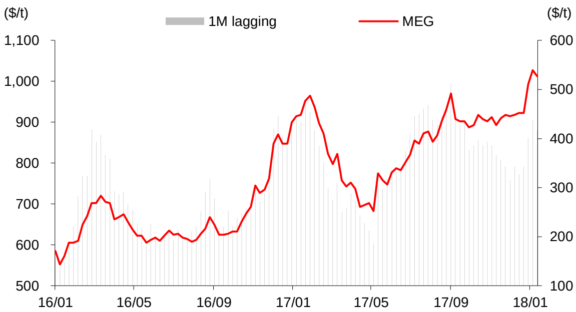
Butadiene price & 1M lagging naphtha spread



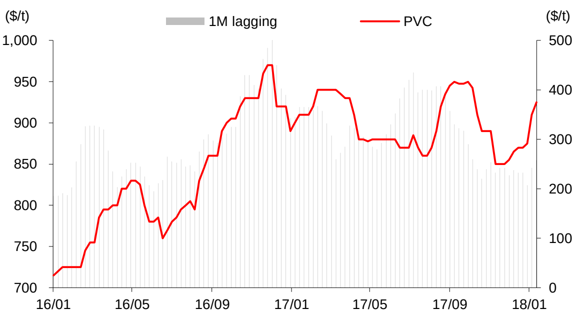
HDPE price & 1M lagging naphtha spread



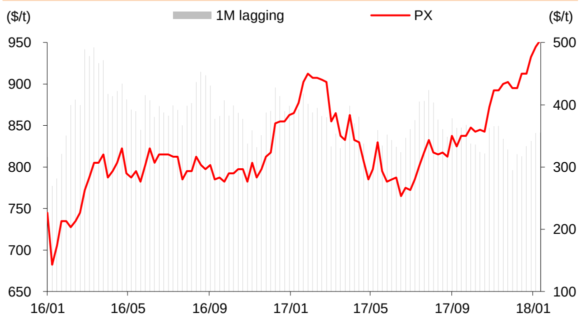
MEG price & 1M lagging naphtha spread



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: 한국경제)
제목	중국 '탈석탄 정책' 파장… 천연가스 가격 급등
결론	러시아發 PNG가 유입되며 중국의 가스 수요를 충당할 전망
세부	
1)	WSJ, "중국의 탈석탄 정책으로 세계 천연가스 가격이 급등하고 있음"
2)	S&P Global Platts, "15일 기준 LNG 아시아 인도분 가격은 11.7$/mmbtu"
3)	천연가스는 중국의 에너지 공급원 중 7% 수준이며 2020년 10%가 목표
4)	지난해 중국의 LNG 수입량은 YoY 50% 늘어 한국을 제치고 세계 2위임
5)	러시아發 PNG가 유입되며 중국의 가스 수요를 충당할 전망

WTI Comment	(출처: 연합뉴스)
제목	미 원유재고 감소에 강세…WTI, 65달러 돌파
상승 요인	EIA, "지난주 미국 원유재고가 110만b 감소함" 로이터, "미국 원유재고는 총 4억1,160만b이며 2015년 2월 이후 최저"
하락 요인	

Issue 1	(출처: 뉴시스)
제목	포스코, "조선업 회복세…1분기 후판 가격 인상 추진"
결론	후판 가격 추가 인상은 현재의 저선가 국면에서 적자폭을 키울 것
세부	
1)	포스코, "조선업종의 경우 올해 건조 스케줄을 앞당겨 강판 발주 증가"
2)	"이에 따라 후판 부문도 실적 개선이 예상되는 상황임"
3)	"자동차 업계와도 지난해처럼 미주, 동남아 등에서 인상 협의중"
4)	"기타 수요 제품에 들어가는 철강제품에 대한 가격 인상도 진행할 것"
5)	후판 가격 추가 인상은 현재의 저선가 국면에서 적자폭을 키울 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	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.806	0.813	0.821	0.843	0.850	0.859	0.932	0.833	0.904	0.887	0.823
	Change, %		(0.9)	(1.8)	(4.4)	(5.2)	(6.2)	(13.5)	(3.3)	(10.8)	(9.1)	(2.1)
	USD/JPY	109.2	110.3	111.3	113.3	113.9	111.1	113.8	112.6	108.8	112.1	111.5
	Change, %		(1.0)	(1.9)	(3.6)	(4.1)	(1.7)	(4.0)	(3.0)	0.4	(2.6)	(2.0)
	USD/KRW	1,070.2	1,070.3	1,069.1	1,079.7	1,127.5	1,114.1	1,165.9	1,066.7	1,160.5	1,130.9	1,066.3
	Change, %		(0.0)	0.1	(0.9)	(5.1)	(3.9)	(8.2)	0.3	(7.8)	(5.4)	0.4
Agriculture	**Corn**	356.5	351.3	353.0	352.0	352.8	377.3	363.3	350.8	358.5	359.4	350.7
	Change, %		1.5	1.0	1.3	1.1	(5.5)	(1.9)	1.6	(0.6)	(0.8)	1.7
	Soybean	992.3	986.3	968.8	949.5	975.5	997.5	1,058.5	951.8	987.5	975.9	963.4
	Change, %		0.6	2.4	4.5	1.7	(0.5)	(6.3)	4.3	0.5	1.7	3.0
	Wheat	433.0	421.5	421.5	424.8	438.0	488.8	426.8	427.0	436.4	436.0	427.1
	Change, %		2.7	2.7	1.9	(1.1)	(11.4)	1.5	1.4	(0.8)	(0.7)	1.4
	Rice	12.2	12.2	12.2	12.0	11.6	12.1	9.9	11.7	10.3	11.1	11.8
	Change, %		(0.3)	0.1	1.8	4.8	0.2	22.5	4.2	17.6	10.0	2.9
	Oats	275.5	270.0	254.3	242.5	277.0	288.8	256.8	241.0	196.3	252.3	253.7
	Change, %		2.0	8.4	13.6	(0.5)	(4.6)	7.3	14.3	40.4	9.2	8.6
MYR/mt	**Palm Oil**	2,512.0	2,488.0	2,478.0	2,407.0	2,752.0	2,589.0	3,278.0	2,444.0	2,653.8	2,787.3	2,503.3
	Change, %		1.0	1.4	4.4	(8.7)	(3.0)	(23.4)	2.8	(5.3)	(9.9)	0.3
	Cocoa	1,955.0	1,929.0	1,985.0	1,809.0	2,084.0	1,968.0	2,201.0	1,892.0	2,854.0	2,005.2	1,925.4
	Change, %		1.3	(1.5)	8.1	(6.2)	(0.7)	(11.2)	3.3	(31.5)	(2.5)	1.5
	Cotton	82.3	82.3	82.1	77.9	69.5	69.0	73.6	78.6	65.6	73.5	80.8
	Change, %		0.0	0.2	5.7	18.3	19.2	11.8	4.6	25.4	11.9	1.8
	Sugar	13.2	13.2	13.4	14.6	14.3	14.4	20.6	15.2	18.2	15.8	14.2
	Change, %		(0.2)	(1.9)	(9.9)	(7.8)	(8.6)	(36.1)	(13.2)	(27.5)	(16.8)	(7.0)
	Coffee	122.5	121.0	123.1	120.4	123.2	132.6	152.4	126.2	136.1	133.0	124.1
	Change, %		1.3	(0.5)	1.7	(0.6)	(7.6)	(19.6)	(2.9)	(10.0)	(7.9)	(1.3)
Energy	**WTI**	65.6	64.5	64.0	58.5	52.5	46.3	53.2	60.4	43.4	51.0	63.2
	Change, %		1.8	2.6	12.2	25.0	41.6	23.4	8.6	51.2	28.7	3.9
	Brent	70.8	70.0	69.4	65.3	58.3	48.6	55.4	66.9	45.1	54.9	68.9
	Change, %		1.1	2.0	8.4	21.3	45.6	27.6	5.8	56.9	29.0	2.8
	Natural Gas	3.5	3.4	3.2	2.7	3.0	2.9	3.3	3.0	2.6	3.0	3.1
	Change, %		1.9	8.6	31.6	18.0	21.0	7.0	18.8	37.5	16.1	13.0
	Ethanol	1.3	1.3	1.4	1.3	1.4	1.5	1.5	1.3	1.5	1.5	1.3
	Change, %		1.7	(0.7)	3.3	(5.0)	(11.1)	(7.7)	2.2	(10.9)	(9.9)	1.1
	RBOB Gasoline	191.6	190.9	185.8	176.2	171.6	155.7	157.6	179.9	140.0	162.9	184.0
	Change, %		0.4	3.1	8.7	11.7	23.1	21.6	6.5	36.9	17.7	4.1
	Coal	107.0	106.5	106.6	100.2	97.2	86.4	83.8	100.8	65.5	88.2	105.8
	Change, %		0.4	0.4	6.7	10.0	23.9	27.7	6.1	63.4	21.3	1.1
Metal	**Gold**	1,358.5	1,341.2	1,327.2	1,275.3	1,276.8	1,255.4	1,208.8	1,302.6	1,248.5	1,258.6	1,328.8
	Change, %		1.3	2.4	6.5	6.4	8.2	12.4	4.3	8.8	7.9	2.2
	Silver	17.6	17.1	17.0	16.4	16.9	16.5	17.1	16.9	17.1	17.1	17.1
	Change, %		2.9	3.3	7.1	4.0	6.5	2.6	3.6	2.6	2.8	2.4
	Copper	7,150.0	6,923.0	7,034.0	7,125.0	7,035.5	6,027.0	5,943.0	7,247.0	4,872.0	6,199.4	7,112.5
	Change, %		3.3	1.6	0.4	1.6	18.6	20.3	(1.3)	46.8	15.3	0.5
	Nickel	857.5	816.3	790.2	770.0	781.4	625.9	667.0	809.1	646.4	680.2	807.9
	Change, %		5.0	8.5	11.4	9.7	37.0	28.6	6.0	32.7	26.1	6.1
	Zinc	3,440.0	3,412.0	3,367.5	3,265.5	3,177.0	2,788.0	2,827.0	3,319.0	2,097.5	2,888.5	3,381.6
	Change, %		0.8	2.2	5.3	8.3	23.4	21.7	3.6	64.0	19.1	1.7
	Lead	2,648.5	2,614.8	2,552.0	2,481.3	2,462.5	2,244.5	2,392.5	2,482.8	1,868.3	2,315.7	2,573.2
	Change, %		1.3	3.8	6.7	7.6	18.0	10.7	6.7	41.8	14.4	2.9
	Aluminum	14,555.0	14,575.0	14,545.0	14,540.0	16,205.0	14,330.0	13,670.0	15,020.0	12,373.5	14,556.6	14,817.4
	Change, %		(0.1)	0.1	0.1	(10.2)	1.6	6.5	(3.1)	17.6	(0.0)	(1.8)
	Cobalt	79,363.0	79,362.0	76,860.0	75,205.0	60,520.0	57,700.0	36,000.0	75,205.0	25,480.1	55,906.9	76,626.0
	Change, %		0.0	3.3	5.5	31.1	37.5	120.5	5.5	211.5	42.0	3.6
	HR Coil	679.0	677.0	675.0	636.0	595.0	617.0	620.0	662.0	519.3	620.1	669.1
	Change, %		0.3	0.6	6.8	14.1	10.0	9.5	2.6	30.8	9.5	1.5
	Scrap	375.0	375.0	385.0	367.0	330.0	355.0	292.0	367.0	275.7	344.7	377.0
	Change, %		0.0	(2.6)	2.2	13.6	5.6	28.4	2.2	36.0	8.8	(0.5)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		01/24	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	65.6	64.5	64.0	60.0	52.2	48.8	52.8	53.7	43.4	50.9	63.2
	Change, %		*1.8*	*2.6*	*9.4*	*25.7*	*34.6*	*24.4*	*22.1*	*51.3*	*28.9*	*3.8*
	Dubai	66.9	66.5	66.3	62.6	56.2	49.1	53.5	53.8	41.3	53.1	66.0
	Change, %		*0.6*	*0.9*	*6.8*	*19.0*	*36.3*	*25.0*	*24.2*	*61.9*	*25.9*	*1.4*
Crude Oil Product	**Gasoline(휘발유)**	79.9	79.4	78.3	75.5	71.0	63.3	69.1	69.8	56.3	68.0	78.1
	Change, %		*0.7*	*2.1*	*5.8*	*12.5*	*26.2*	*15.8*	*14.4*	*42.1*	*17.5*	*2.3*
	Kerosene(등유)	81.8	81.1	81.2	76.7	69.4	61.7	64.6	66.4	52.9	65.2	80.5
	Change, %		*0.9*	*0.7*	*6.6*	*17.8*	*32.6*	*26.6*	*23.1*	*54.7*	*25.4*	*1.7*
	Diesel(경유)	82.0	81.1	80.8	76.8	69.5	62.9	64.6	65.5	52.1	65.6	80.2
	Change, %		*1.1*	*1.4*	*6.8*	*17.9*	*30.3*	*26.9*	*25.2*	*57.3*	*25.0*	*2.3*
	Bunker-C	59.3	59.0	58.2	57.4	52.9	47.2	48.8	52.1	35.5	49.7	58.6
	Change, %		*0.5*	*1.9*	*3.3*	*12.2*	*25.7*	*21.5*	*13.9*	*66.9*	*19.4*	*1.1*
	Naphtha	65.8	65.3	66.1	65.9	59.4	47.2	56.2	53.5	42.6	53.7	66.5
	Change, %		*0.8*	*(0.5)*	*(0.2)*	*10.7*	*39.4*	*17.1*	*23.1*	*54.5*	*22.5*	*(1.0)*
Dubai Spread	**Gasoline(휘발유)**	13.1	12.9	12.0	12.9	14.8	14.3	15.6	16.0	14.9	14.9	12.1
	Change		*0.2*	*1.1*	*0.2*	*(1.7)*	*(1.2)*	*(2.5)*	*(2.9)*	*(1.9)*	*(1.8)*	*0.9*
	Kerosene(등유)	14.9	14.6	14.9	14.1	13.2	12.6	11.1	12.6	11.6	12.1	14.5
	Change		*0.4*	*(0.0)*	*0.8*	*1.7*	*2.3*	*3.8*	*2.3*	*3.4*	*2.8*	*0.4*
	Diesel(경유)	15.1	14.6	14.6	14.2	13.3	13.9	11.1	11.7	10.8	12.5	14.2
	Change		*0.5*	*0.6*	*1.0*	*1.8*	*1.3*	*4.0*	*3.4*	*4.3*	*2.6*	*0.9*
	Bunker-C	(7.6)	(7.5)	(8.1)	(5.2)	(3.4)	(1.9)	(4.7)	(1.8)	(5.8)	(3.4)	(7.3)
	Change		*(0.1)*	*0.5*	*(2.3)*	*(4.2)*	*(5.7)*	*(2.9)*	*(5.8)*	*(1.8)*	*(4.1)*	*(0.2)*
	Naphtha	(1.1)	(1.2)	(0.2)	3.3	3.2	(1.9)	2.7	(0.4)	1.3	0.6	0.5
	Change		*0.1*	*(0.9)*	*(4.4)*	*(4.3)*	*0.8*	*(3.8)*	*(0.7)*	*(2.3)*	*(1.7)*	*(1.6)*
Refining Margin	**Simple(단순)**	1.5	1.4	1.1	2.6	3.5	4.1	2.3	3.8	1.9	3.2	1.3
	Change		*0.1*	*0.5*	*(1.1)*	*(2.0)*	*(2.6)*	*(0.8)*	*(2.3)*	*(0.4)*	*(1.6)*	*0.2*
	Complex(복합)	7.4	7.2	6.9	7.9	8.5	8.5	7.5	8.3	7.0	8.0	7.0
	Change		*0.2*	*0.5*	*(0.4)*	*(1.1)*	*(1.1)*	*(0.0)*	*(0.8)*	*0.5*	*(0.6)*	*0.4*
	Complex(lagging)	12.7	12.3	11.8	9.3	10.0	13.4	8.7	18.0	8.5	8.9	12.0
	Change		*0.4*	*0.9*	*3.3*	*2.6*	*(0.8)*	*4.0*	*(5.3)*	*4.2*	*3.7*	*0.6*

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

SK Energy Daily

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Petrochemical Price Data

Daily Price			01/24	01/23	01/22	01/19	01/18	01/17	01/16	01/15	01/12	01/11
Spot Price	**Naphtha**	CFR Japan	601.5	597.0	601.3	607.3	610.3	605.8	608.8	609.3	604.0	603.8
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,310.0
	Propylene	FOB Korea	1,011.0	1,005.0	1,001.0	995.0	991.0	987.0	985.0	985.0	985.0	985.0
	Butadiene	FOB Korea	1,270.0	1,270.0	1,270.0	1,270.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,180.0
	HDPE	CFR FE Asia	1,320.0	1,315.0	1,315.0	1,310.0	1,310.0	1,310.0	1,310.0	1,300.0	1,290.0	1,290.0
	LDPE	CFR FE Asia	1,230.0	1,230.0	1,230.0	1,230.0	1,230.0	1,230.0	1,230.0	1,220.0	1,210.0	1,210.0
	LLDPE	CFR FE Asia	1,200.0	1,185.0	1,185.0	1,190.0	1,190.0	1,190.0	1,190.0	1,185.0	1,180.0	1,180.0
	MEG	CFR China	1,007.0	1,015.0	1,019.0	1,008.0	1,010.0	1,020.0	1,025.0	1,035.0	1,025.0	1,005.0
	PP	CFR FE Asia	1,225.0	1,210.0	1,210.0	1,200.0	1,200.0	1,200.0	1,190.0	1,210.0	1,195.0	1,190.0
	PX	CFR China	968.7	965.7	955.2	946.2	940.7	935.2	939.3	942.0	936.3	940.3
	PTA	CFR China	735.0	725.0	730.0	730.0	730.0	733.0	735.0	735.0	735.0	735.0
	Benzene	FOB Korea	942.7	943.7	948.7	951.3	943.7	915.0	909.3	904.7	900.0	890.0
	Toluene	FOB Korea	751.5	746.5	743.5	743.5	743.5	736.5	741.0	739.0	732.0	730.0
	Xylene	FOB Korea	788.5	786.5	784.5	768.5	754.5	755.5	761.5	755.0	744.0	734.0
	SM	FOB Korea	1,376.0	1,385.0	1,363.5	1,356.5	1,337.5	1,341.0	1,345.0	1,358.0	1,364.0	1,358.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	603.0	603.5	597.0	526.5	520.5	512.5	484.5	399.5	493.5	603.5
	Change, %			*(0.1)*	*1.0*	*14.5*	*15.9*	*17.7*	*24.5*	*50.9*	*22.2*	*(0.1)*
	Ethylene	CFR SE Asia	1,295.0	1,322.5	1,272.5	1,175.0	1,255.0	1,035.0	990.0	1,040.9	1,090.9	1,315.8
	Change, %			*(2.1)*	*1.8*	*10.2*	*3.2*	*25.1*	*30.8*	*24.4*	*18.7*	*(1.6)*
	Propylene	CFR SE Asia	995.0	952.5	897.5	795.0	835.0	955.0	815.0	705.7	823.6	1,021.7
	Change, %			*4.5*	*10.9*	*25.2*	*19.2*	*4.2*	*22.1*	*41.0*	*20.8*	*(2.6)*
	Butadiene	CFR SE Asia	1,250.0	1,175.0	1,125.0	1,175.0	1,525.0	2,800.0	2,100.0	1,116.8	1,481.1	1,191.7
	Change, %			*6.4*	*11.1*	*6.4*	*(18.0)*	*(55.4)*	*(40.5)*	*11.9*	*(15.6)*	*4.9*
	Benzene	CFR SE Asia	947.5	907.5	890.0	802.5	805.0	980.0	822.5	646.7	838.8	917.5
	Change, %			*4.4*	*6.5*	*18.1*	*17.7*	*(3.3)*	*15.2*	*46.5*	*13.0*	*3.3*
	Toluene	CFR SE Asia	755.0	745.0	735.0	695.0	700.0	725.0	690.0	630.5	689.5	745.0
	Change, %			*1.3*	*2.7*	*8.6*	*7.9*	*4.1*	*9.4*	*19.7*	*9.5*	*1.3*
	Xylene	CFR SE Asia	740.0	740.0	712.5	652.5	657.5	715.0	675.0	627.7	668.8	736.7
	Change, %			*0.0*	*3.9*	*13.4*	*12.5*	*3.5*	*9.6*	*17.9*	*10.6*	*0.5*
Spread	**Ethylene**	-Naphtha	692.0	719.0	675.5	648.5	734.5	522.5	505.5	641.4	597.4	712.3
	Change, %			*(3.8)*	*2.4*	*6.7*	*(5.8)*	*32.4*	*36.9*	*7.9*	*15.8*	*(2.9)*
	Propylene	-Naphtha	392.0	349.0	300.5	268.5	314.5	442.5	330.5	306.2	330.1	418.2
	Change, %			*12.3*	*30.4*	*46.0*	*24.6*	*(11.4)*	*18.6*	*28.0*	*18.8*	*(6.3)*
	Butadiene	-Naphtha	647.0	571.5	528.0	648.5	1,004.5	2,287.5	1,615.5	717.3	987.6	588.2
	Change, %			*13.2*	*22.5*	*(0.2)*	*(35.6)*	*(71.7)*	*(60.0)*	*(9.8)*	*(34.5)*	*10.0*
	Benzene	-Naphtha	344.5	304.0	293.0	276.0	284.5	467.5	338.0	247.2	345.3	314.0
	Change, %			*13.3*	*17.6*	*24.8*	*21.1*	*(26.3)*	*1.9*	*39.4*	*(0.2)*	*9.7*
	Toluene	-Naphtha	152.0	141.5	138.0	168.5	179.5	212.5	205.5	231.0	196.0	141.5
	Change, %			*7.4*	*10.1*	*(9.8)*	*(15.3)*	*(28.5)*	*(26.0)*	*(34.2)*	*(22.4)*	*7.4*
	Xylene	-Naphtha	137.0	136.5	115.5	126.0	137.0	202.5	190.5	228.2	175.3	133.2
	Change, %			*0.4*	*18.6*	*8.7*	*0.0*	*(32.3)*	*(28.1)*	*(40.0)*	*(21.9)*	*2.9*

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	1,217.5	1,197.5	1,182.5	1,187.5	1,187.5	1,142.5	1,142.5	1,134.6	1,142.5	1,199.2
	Change, %			*1.7*	*3.0*	*2.5*	*2.5*	*6.6*	*6.6*	*7.3*	*6.6*	*1.5*
	MEG	CFR SE Asia	1,012.5	1,027.5	922.5	917.5	902.5	917.5	847.5	660.8	850.6	1,010.8
	Change, %			*(1.5)*	*9.8*	*10.4*	*12.2*	*10.4*	*19.5*	*53.2*	*19.0*	*0.2*
	PVC	CFR SE Asia	925.0	910.0	870.0	910.0	947.5	910.0	920.0	823.4	899.9	903.3
	Change, %			*1.6*	*6.3*	*1.6*	*(2.4)*	*1.6*	*0.5*	*12.3*	*2.8*	*2.4*
	PP	CFR SE Asia	1,207.5	1,197.5	1,157.5	1,167.5	1,167.5	1,042.5	1,032.5	978.4	1,099.6	1,197.5
	Change, %			*0.8*	*4.3*	*3.4*	*3.4*	*15.8*	*16.9*	*23.4*	*9.8*	*0.8*
	2-EH	CFR Korea	1,095.0	1,050.0	1,020.0	1,000.0	990.0	900.0	865.0	772.4	970.0	1,060.0
	Change, %			*4.3*	*7.4*	*9.5*	*10.6*	*21.7*	*26.6*	*41.8*	*12.9*	*3.3*
	ABS	CFR SE Asia	2,020.0	2,000.0	2,050.0	1,950.0	2,060.0	1,780.0	1,635.0	1,347.1	1,844.7	2,023.3
	Change, %			*1.0*	*(1.5)*	*3.6*	*(1.9)*	*13.5*	*23.5*	*49.9*	*9.5*	*(0.2)*
	SBR	CFR SE Asia	1,650.0	1,650.0	1,650.0	1,750.0	1,830.0	3,000.0	2,000.0	1,483.0	1,980.5	1,650.0
	Change, %			*0.0*	*0.0*	*(5.7)*	*(9.8)*	*(45.0)*	*(17.5)*	*11.3*	*(16.7)*	*0.0*
	SM	CFR SE Asia	1,382.5	1,362.5	1,290.0	1,217.5	1,350.0	1,332.5	1,205.0	1,064.6	1,253.8	1,362.5
	Change, %			*1.5*	*7.2*	*13.6*	*2.4*	*3.8*	*14.7*	*29.9*	*10.3*	*1.5*
	Caustic	FOB NEA	601.0	609.0	619.0	550.0	484.0	417.5	422.5	316.6	491.2	608.3
	Change, %			*(1.3)*	*(2.9)*	*9.3*	*24.2*	*44.0*	*42.2*	*89.8*	*22.4*	*(1.2)*
	PX	CFR SE Asia	952.5	945.0	912.5	845.0	837.5	877.5	855.0	790.4	844.4	943.3
	Change, %			*0.8*	*4.4*	*12.7*	*13.7*	*8.5*	*11.4*	*20.5*	*12.8*	*1.0*
	PO	CFR China	1,962.5	1,932.5	1,995.0	1,685.0	1,560.0	1,662.5	1,562.5	1,396.8	1,601.2	2,007.5
	Change, %			*1.6*	*(1.6)*	*16.5*	*25.8*	*18.0*	*25.6*	*40.5*	*22.6*	*(2.2)*
	Caprolactam	CFR SE Asia	2,020.0	2,020.0	2,060.0	2,070.0	1,830.0	2,050.0	1,850.0	1,344.9	1,936.4	2,020.0
	Change, %			*0.0*	*(1.9)*	*(2.4)*	*10.4*	*(1.5)*	*9.2*	*50.2*	*4.3*	*0.0*
	PTA	CFR SE Asia	745.0	750.0	717.5	667.5	667.5	667.5	642.5	613.7	667.8	744.2
	Change, %			*(0.7)*	*3.8*	*11.6*	*11.6*	*11.6*	*16.0*	*21.4*	*11.6*	*0.1*
Spread	**HDPE**		614.5	594.0	585.5	661.0	667.0	630.0	658.0	735.1	649.0	595.7
	Change, %			*3.5*	*5.0*	*(7.0)*	*(7.9)*	*(2.5)*	*(6.6)*	*(16.4)*	*(5.3)*	*3.2*
	MEG		409.5	424.0	325.5	391.0	382.0	405.0	363.0	261.3	357.1	407.3
	Change, %			*(3.4)*	*25.8*	*4.7*	*7.2*	*1.1*	*12.8*	*56.7*	*14.7*	*0.5*
	PVC		322.0	306.5	273.0	383.5	427.0	397.5	435.5	423.9	406.4	299.8
	Change, %			*5.1*	*17.9*	*(16.0)*	*(24.6)*	*(19.0)*	*(26.1)*	*(24.0)*	*(20.8)*	*7.4*
	PP		604.5	594.0	560.5	641.0	647.0	530.0	548.0	578.9	606.1	594.0
	Change, %			*1.8*	*7.9*	*(5.7)*	*(6.6)*	*14.1*	*10.3*	*4.4*	*(0.3)*	*1.8*
	2-EH		492.0	446.5	423.0	473.5	469.5	387.5	380.5	372.9	476.5	456.5
	Change, %			*10.2*	*16.3*	*3.9*	*4.8*	*27.0*	*29.3*	*32.0*	*3.3*	*7.8*
	ABS		1,417.0	1,396.5	1,453.0	1,423.5	1,539.5	1,267.5	1,150.5	947.6	1,351.2	1,419.8
	Change, %			*1.5*	*(2.5)*	*(0.5)*	*(8.0)*	*11.8*	*23.2*	*49.5*	*4.9*	*(0.2)*
	SBR	BD spread	400.0	475.0	525.0	575.0	305.0	200.0	(100.0)	366.2	499.4	458.3
	Change, %			*(15.8)*	*(23.8)*	*(30.4)*	*31.1*	*100.0*	*(500.0)*	*9.2*	*(19.9)*	*(12.7)*
	SM		779.5	759.0	693.0	691.0	829.5	820.0	720.5	665.1	760.3	759.0
	Change, %			*2.7*	*12.5*	*12.8*	*(6.0)*	*(4.9)*	*8.2*	*17.2*	*2.5*	*2.7*
	Caustic											
	Change, %											
	PX		349.5	341.5	315.5	318.5	317.0	365.0	370.5	390.9	351.0	339.8
	Change, %			*2.3*	*10.8*	*9.7*	*10.3*	*(4.2)*	*(5.7)*	*(10.6)*	*(0.4)*	*2.8*
	PO	propylene sprea	967.5	980.0	1,097.5	890.0	725.0	707.5	747.5	691.1	777.6	985.8
	Change, %			*(1.3)*	*(11.8)*	*8.7*	*33.4*	*36.7*	*29.4*	*40.0*	*24.4*	*(1.9)*
	Caprolactam	benzene spreac	1,072.5	1,112.5	1,170.0	1,267.5	1,025.0	1,070.0	1,027.5	698.2	1,097.6	1,102.5
	Change, %			*(3.6)*	*(8.3)*	*(15.4)*	*4.6*	*0.2*	*4.4*	*53.6*	*(2.3)*	*(2.7)*
	PTA	px spread	78.3	88.5	78.8	76.0	81.3	53.3	44.0	60.4	76.7	83.8
	Change, %			*(11.6)*	*(0.6)*	*3.0*	*(3.7)*	*46.9*	*77.8*	*29.5*	*2.0*	*(6.7)*

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	01/24	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	76.0	(0.2)	0.3	5.4	5.8	14.8	27.4	6.7	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	98.6	0.7	1.8	6.5	9.0	15.0	26.1	6.5	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	96.1	(1.0)	2.6	2.8	6.7	18.5	7.7	4.8	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.9	(0.4)	0.2	2.2	(3.5)	(0.5)	18.7	2.6	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	106.5	(0.4)	5.1	4.6	0.8	8.9	15.3	4.8	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	72.1	(1.0)	1.0	11.0	7.1	9.6	6.7	8.7	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	844	(1.9)	(1.2)	1.7	11.8	24.5	52.3	4.2	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,210	(0.6)	(6.0)	(3.3)	3.1	22.4	60.1	(2.1)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	12,600	(0.3)	3.2	9.0	11.3	21.4	30.8	10.0	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,475	(0.6)	(1.6)	0.4	7.2	14.3	42.3	1.4	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,289	0.1	1.4	3.3	6.6	18.2	12.8	3.2	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	10,055	(0.8)	(2.0)	(1.8)	0.5	1.9	13.1	0.4	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	106.7	(0.2)	(0.5)	4.9	9.3	6.5	12.8	5.2	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	64.4	0.1	(0.2)	9.5	17.1	16.9	9.9	9.1	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	99.2	(0.8)	(2.7)	4.0	7.8	7.8	10.0	0.5	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	107.5	(1.4)	(0.5)	10.3	16.2	17.4	11.1	4.4	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	80.3	(0.7)	(1.5)	5.4	7.1	6.9	9.3	3.1	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	6.94	3.1	1.3	8.8	10.9	0.9	1.5	9.6	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.94	1.7	(2.3)	6.1	(4.5)	(7.5)	(24.0)	10.1	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	966	(1.7)	4.5	5.0	3.4	19.7	88.1	6.2	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	111.7	0.6	1.4	12.8	18.8	11.4	(6.9)	15.1	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	98.3	(1.5)	4.0	15.2	21.3	40.4	44.0	15.6	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.0	(0.4)	(2.1)	5.3	7.0	14.3	11.7	3.9	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	438,000	3.5	4.2	11.3	12.7	30.7	66.5	8.1	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	403,000	0.2	3.5	11.8	3.6	10.7	5.1	9.5	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	34,650	(2.9)	2.4	15.7	3.0	4.7	26.2	9.7	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	104,500	(0.9)	3.0	8.0	53.2	40.1	26.7	5.0	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	45,250	3.0	3.3	2.7	12.7	22.5	43.4	(3.7)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	64,300	0.8	(1.8)	2.6	11.6	17.1	18.4	1.9	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	10,000	10.5	16.4	33.0	18.3	60.5	16.6	31.9	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.2**	**1.2**	**7.1**	**9.9**	**16.3**	**22.8**	**6.6**							
Refinery																
Valero	USD	97.7	(1.0)	0.1	7.2	25.7	44.3	43.9	6.3	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	60.5	0.0	1.1	9.0	18.6	42.0	20.3	10.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	121.5	(0.8)	1.3	7.5	15.7	16.3	14.1	5.2	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	116.6	(1.7)	(3.8)	3.9	9.2	20.5	42.2	2.0	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	71.6	(2.1)	(0.5)	7.9	25.6	28.9	42.9	8.5	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.5	0.0	2.5	7.1	27.8	40.3	(4.4)	7.5	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	49.3	(4.8)	(6.0)	(2.7)	35.3	78.7	61.0	(3.8)	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	104.6	(2.1)	(1.4)	3.7	13.9	26.6	24.3	3.4	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	34.8	0.2	(0.5)	11.6	36.8	39.3	8.8	12.0	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	766.0	0.7	1.0	6.5	32.2	57.0	47.4	5.4	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,290.0	(1.5)	0.6	(3.9)	37.3	58.9	26.5	(5.2)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	56.6	(2.5)	0.4	5.7	33.0	52.5	65.6	6.1	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	74.5	0.7	2.6	4.2	10.1	12.0	33.7	4.6	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.0	(1.2)	(2.5)	(3.5)	(8.3)	(11.9)	0.0	(2.8)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	199,500	0.3	0.8	(2.2)	(3.4)	16.0	23.5	(2.4)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	118,000	(0.4)	4.0	(5.2)	(8.9)	8.8	42.9	0.9	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	66,500	0.3	1.2	7.1	(2.5)	(8.9)	27.9	6.9	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**(0.9)**	**0.0**	**3.7**	**17.5**	**30.7**	**30.6**	**3.8**							

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

SK Energy Daily

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SK 증권

Global peers

	Currency	01/24	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	89	0.3	0.6	5.4	6.1	10.8	4.0	5.8	375,111	19.7	19.5	2.0	2.0	8.9	9.1
BP	GBP	516	(0.0)	(0.2)	(0.3)	3.9	17.2	5.3	(1.4)	145,349	17.3	15.5	1.5	1.4	6.0	5.6
Shell	EUR	2,504	(1.2)	(0.8)	2.1	6.9	21.6	13.8	0.9	299,132	15.8	14.6	1.5	1.4	6.7	6.4
Chevron	USD	131	0.3	(0.7)	5.1	10.2	27.3	12.9	5.0	249,559	22.1	20.9	1.7	1.7	7.5	7.3
Total	EUR	48	0.2	(0.7)	2.3	2.6	11.5	(0.2)	3.3	149,436	12.9	12.4	1.3	1.2	5.6	5.3
Sinopec	CNY	7	4.0	4.1	21.4	23.6	20.6	20.8	19.4	132,163	14.2	13.4	1.2	1.1	4.8	4.7
Petrochina	CNY	9	1.5	5.8	15.3	14.2	16.5	6.5	15.3	253,923	34.4	30.3	1.4	1.4	6.6	6.5
CNOOC	CNY	13	4.1	6.7	27.2	20.0	18.8	3.0	25.8	73,213	11.4	10.9	1.1	1.1	4.2	4.1
Gazprom	RUB	150	0.6	0.7	13.0	18.8	25.6	(0.3)	14.7	62,973	4.3	4.5	0.3	0.3	3.8	3.7
Rosneft	RUB	345	2.8	5.5	17.3	8.7	10.0	(11.2)	18.2	64,877	8.6	7.5	0.9	0.8	4.9	4.5
Anadarko	USD	61	0.8	4.2	16.1	27.8	39.0	(13.7)	14.5	33,612	276.7	96.0	2.4	2.3	7.2	6.3
Petrobras	BRL	19	5.7	5.3	22.8	17.1	50.2	20.6	20.1	82,347	11.2	8.2	0.7	0.7	5.3	5.0
Lukoil	USD	3,850	0.2	(0.0)	15.0	27.6	36.2	20.7	15.5	58,042	6.9	6.7	0.8	0.7	N/A	N/A
Kinder	USD	19	(1.6)	(2.2)	6.0	4.8	(5.9)	(15.4)	5.9	47,497	23.7	21.3	1.2	1.3	10.9	10.5
Statoil	NOK	187	1.1	1.8	7.0	13.6	33.8	17.8	6.9	80,119	17.9	16.6	2.0	1.9	3.7	3.5
BHP	AUD	31	(0.4)	(0.2)	5.4	15.6	25.7	13.6	3.8	126,187	17.9	18.0	2.1	2.0	6.9	6.8
PTT E&P	THB	118	0.4	3.5	17.8	37.0	39.5	23.7	17.5	14,788	14.6	14.0	1.1	1.1	4.0	4.0
Petronas gas	MYR	18	(2.5)	(1.3)	3.5	(2.2)	(5.9)	(12.4)	1.3	8,990	18.4	17.9	2.7	2.6	10.4	10.1
Chesapeake	USD	4	0.2	(0.2)	6.0	11.8	(12.4)	(41.0)	3.0	3,707	5.0	4.5	#N/A N/A	6.9	6.4	6.1
Noble Energy	USD	33	(0.1)	3.8	14.9	22.0	17.4	(17.3)	13.6	16,102	79.9	40.0	1.7	1.6	7.8	6.5
Average		**0**	**0.8**	**1.8**	**11.2**	**14.5**	**19.9**	**2.6**	**10.5**							
PV																
WACKER	EUR	171.8	(1.0)	2.0	5.9	40.3	70.3	54.9	5.9	11,100	25.4	21.8	2.6	2.5	8.5	8.0
GCL-Poly	HKD	1.3	(4.3)	(3.6)	(3.6)	9.0	41.5	34.3	(5.0)	3,163	7.8	6.9	0.8	0.7	5.9	5.4
SunPower	USD	7.8	(4.8)	(10.1)	(14.0)	12.3	(29.7)	15.8	(7.8)	1,084	#N/A N/A	25.0	1.5	1.8	12.3	9.8
Canadian Solar	USD	15.5	(0.6)	(4.8)	(9.1)	(6.8)	(7.1)	24.4	(7.8)	901	8.4	8.9	0.9	0.8	9.1	9.2
JA Solar	USD	7.4	(0.7)	(0.9)	0.1	(0.8)	15.8	54.9	(0.9)	352	14.0	11.9	1.6	1.6	4.0	3.6
Yingli	USD	1.8	0.0	(5.2)	6.5	(22.3)	(20.6)	(34.7)	7.1	33	#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	69.0	0.7	(4.2)	0.2	41.9	53.4	112.1	2.2	7,204	45.4	21.0	1.3	1.2	13.4	8.0
한화큐셀	USD	7.3	1.8	2.4	0.8	(8.1)	(20.3)	(11.2)	4.0	608	33.2	23.5	#N/A N/A	#N/A N/A	8.1	7.3
OCI	KRW	157,000	(12.3)	(8.2)	23.1	39.6	80.3	72.3	15.4	3,509	17.2	16.9	1.1	1.0	9.0	7.4
웅진에너지	KRW	9,160	(5.2)	1.8	12.5	14.4	2.1	80.3	11.4	220	N/A	1.1	1.0	9.0	7.4	8.5
신성솔라에너지	KRW	1,940	(2.0)	(13.8)	(0.8)	10.2	(14.7)	(4.2)	1.3	314	N/A	1.0	9.0	7.4	8.5	8.0
Average			**(2.6)**	**(4.1)**	**2.0**	**11.8**	**15.5**	**36.3**	**2.3**							
Gas Company																
Towngas China	HKD	6.2	2.8	2.1	2.7	1.3	10.9	42.6	(1.4)	2,192	12.9	11.9	1.1	1.0	11.8	10.6
Kulun	HKD	7.9	2.1	1.0	(4.0)	8.7	1.3	27.4	(3.6)	8,105	10.7	9.4	1.2	1.1	5.7	5.4
Beijing Enterprise	HKD	50.0	4.3	4.2	8.8	6.5	22.4	29.4	7.8	8,071	8.8	8.0	0.9	0.8	15.0	14.2
ENN Energy	HKD	57.4	4.0	7.3	0.4	(1.7)	10.3	52.3	3.0	7,950	13.0	11.2	2.4	2.1	8.0	7.0
China Resources Gas	HKD	25.7	3.6	4.7	(8.7)	(11.1)	(13.8)	6.0	(9.5)	7,297	13.3	11.8	2.5	2.2	8.1	7.4
China Gas Holdings	HKD	22.0	(1.1)	0.0	(0.5)	(7.9)	18.9	95.0	1.9	13,982	15.1	12.7	3.6	3.0	12.0	10.4
Shenzen Gas	HKD	16.1	0.9	5.1	9.8	5.9	20.0	43.6	8.1	4,174	11.6	10.5	1.4	1.2	8.3	7.9
Shann Xi	CNY	8.2	1.4	1.5	(10.8)	(1.4)	(5.9)	(12.3)	(2.4)	1,439	15.6	18.3	1.5	1.4	#N/A N/A	#N/A N/A
Suntien	HKD	2.0	2.5	(2.9)	1.0	(14.4)	21.0	65.6	(2.4)	960	6.2	5.3	0.6	0.6	8.3	7.3
China Oil & Gas	HKD	0.8	1.3	0.0	17.6	45.5	40.4	31.1	(5.9)	596	11.1	9.8	1.2	1.1	6.5	5.9
Average			**2.2**	**2.3**	**1.6**	**3.1**	**12.5**	**38.1**	**(0.5)**							
EV																
LG화학	KRW	438,000	3.5	4.2	11.3	12.7	30.7	66.5	8.1	28,973	14.8	13.8	1.9	1.7	7.0	6.6
삼성SDI	KRW	208,000	3.5	(3.0)	2.7	5.3	15.6	89.1	1.7	13,403	13.7	11.3	1.2	1.1	13.9	11.2
Panasonic	JPY	1716.0	0.1	1.3	2.9	2.0	14.7	45.7	4.0	38,544	16.8	14.6	2.2	2.0	6.3	5.8
GS Yuasa	JPY	593.0	0.2	1.9	5.7	(0.8)	16.3	28.6	5.7	2,246	16.3	14.5	1.3	1.3	7.1	6.5
NEC	JPY	3145.0	0.2	1.1	2.8	(0.9)	5.9	0.5	3.5	7,501	18.7	15.6	0.9	0.9	6.3	6.1
BYD Auto	CNY	66.5	(0.4)	4.3	6.9	2.2	33.3	36.7	2.2	27,756	27.9	22.2	3.0	2.7	13.2	11.4
Tesla Motors	USD	345.9	(2.0)	(0.4)	6.4	2.5	1.0	35.9	11.1	58,409	#N/A N/A	84.0	12.2	10.3	38.2	18.3
Kandi Technologies	USD	6.1	(4.7)	(11.7)	(16.0)	(22.4)	46.7	34.4	(11.0)	291	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**0.0**	**(0.3)**	**2.8**	**0.1**	**20.5**	**42.2**	**3.2**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임