SK Energy Daily

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SK 증권

1. News Summary (3 page)

2018년 1월 24일

News		Conclusion
WTI comment	성장률 전망 상향에 이틀째 강세…WTI 1.4%↑	
Headline	아람코, 2018년 하반기 IPO 준비 완료	하반기 IPO를 앞두고 단기적으로 상반기에 유가를 강세로 끌고갈 것
News 1.	호실적 S-Oil…최대주주 아람코 올해도 '배당잔치'?	아람코 IPO를 앞두고 단기 유가 슈팅 모멘텀으로 1Q18도 호실적 전망
News 2.	-	-
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	64.5	1.5	1.2	7.5	22.9	21.2
Dubai	$/bbl	66.5	0.6	(0.9)	6.2	20.3	23.2
Gasoline	$/bbl	79.4	0.3	0.5	5.1	14.4	13.5
Diesel	$/bbl	81.1	0.9	(0.2)	5.7	19.2	24.6
Complex margin	$/bbl	7.2	(0.1)	0.5	(0.7)	(0.9)	(0.5)
1M lagging	$/bbl	12.3	0.2	1.1	2.9	3.5	2.4
Petrochemical			%	%	%	%	%
Naphtha	$/t	597	(0.7)	(1.9)	(0.2)	10.7	15.8
Butadiene	$/t	1,270	0.0	6.7	15.5	9.0	(57.7)
HDPE	$/t	1,315	0.0	0.4	2.7	7.8	14.8
MEG	$/t	1,015	(0.4)	(1.0)	10.3	12.5	6.8
PX	$/t	966	1.1	2.8	8.5	15.6	9.6
SM	$/t	1,385	1.6	3.0	10.0	16.3	4.9
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	3.54	9.8	13.2	33.4	8.6	(1.7)
Natural rubber	$/t	1,500	(2.0)	(1.3)	4.2	7.1	(29.6)
Cotton	C/lbs	82.3	(1.4)	1.0	6.2	18.3	11.8

*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	01/17	$/kg	17.7	(0.4)	1.5	6.2	10.7
Module	01/17	$/W	0.31	(0.3)	(0.6)	(2.5)	(12.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	88.3	0.1	1.5	5.2	6.1	3.9
Shell	EUR	2,533	0.5	(0.4)	3.3	9.5	15.5
Petrochina	CNY	9.19	2.7	5.5	13.6	12.8	7.9
Gazprom	RUB	148.8	(1.0)	2.4	12.4	17.4	0.5
Petrobras	BRL	18.3	(1.0)	3.6	16.1	12.9	14.4
Refinery							
Phillips66	USD	106.9	0.2	3.3	6.0	17.2	30.0
Valero	USD	98.7	(0.3)	2.6	8.3	27.5	49.0
JX	JPY	760.5	(0.8)	(2.3)	5.7	32.2	45.6
Neste Oil	EUR	58.0	(1.5)	4.1	8.4	37.2	71.8

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	97.2	(0.1)	4.1	3.9	7.1	9.4
DowDuPont	USD	76.1	(0.1)	1.6	5.6	6.4	33.3
SABIC	SAR	106.9	0.2	0.7	5.0	9.4	13.6
Formosa Pla.	TWD	100.0	(1.5)	(2.0)	4.8	9.1	11.5
Shin-Etsu	JPY	12,640	1.1	3.0	9.3	11.6	31.6
Renewable							
Wacker	EUR	173.6	0.2	0.3	7.0	43.4	57.4
First Solar	USD	68.48	(0.7)	(3.8)	(0.5)	40.0	103.4
GCL-Poly	HKD	1.39	0.0	(1.4)	0.7	11.2	43.3
Tesla Motors	USD	352.8	0.3	3.7	8.5	4.7	41.7

4. Coverage Summary

	01/23	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,537	1.4	0.6	3.9	1.8	3.5	22.8				* 추정치는 12M fwd 기준임	
KOSPI화학	6,333	0.5	1.2	5.9	6.4	12.9	23.1				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	423,000	1.2	(2.0)	7.5	9.4	26.3	62.1	매수	450,000	6.4	14.12	1.99
롯데케미칼	402,000	0.0	1.8	11.5	2.6	10.4	6.8	매수	410,000	2.0	10.97	1.20
한화케미칼	35,700	2.9	3.9	19.2	7.0	7.9	30.8	매수	39,000	9.2	13.63	0.93
금호석유화학	105,500	(1.9)	4.5	9.0	54.0	41.4	28.2	매수	150,000	42.2	12.87	1.69
KCC	407,500	0.5	(0.7)	7.5	4.2	(5.2)	18.8	매수	450,000	10.4	15.09	0.60
OCI	179,000	5.6	5.0	40.4	59.8	105.5	96.9	매수	180,000	0.6	16.82	1.25
SKC	43,950	1.5	(2.2)	(0.2)	5.9	18.9	40.2	매수	55,000	25.1	11.05	1.08
SK이노베이션	199,000	2.1	0.8	(2.5)	(2.9)	15.7	22.8	매수	230,000	15.6	10.54	1.00
S-Oil	118,500	0.4	4.9	(4.8)	(8.1)	9.2	41.7	매수	140,000	18.1	13.55	2.15
GS	66,300	0.8	(0.7)	6.8	(1.5)	(9.2)	25.6	매수	80,000	20.7	6.48	0.86
SK가스	101,500	3.5	6.5	9.7	7.1	(7.3)	(9.8)	매수	130,000	28.1	8.79	0.68
포스코대우	20,500	0.0	(1.0)	14.8	2.8	(12.0)	(24.1)	매수	25,000	22.0	9.35	0.83
LG상사	29,800	0.5	(0.8)	10.6	6.4	(1.0)	(7.9)	매수	38,000	27.5	10.04	0.85
한국전력	35,050	1.2	(3.4)	(9.5)	(12.4)	(22.9)	(19.0)	매수	50,000	42.7	7.53	0.28
한국가스공사	49,100	0.3	1.6	15.9	13.1	(1.2)	3.3	매수	60,000	22.2	9.27	0.73

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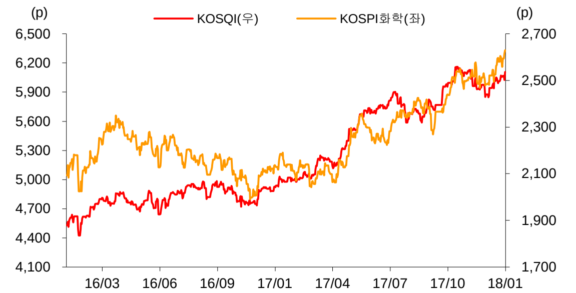
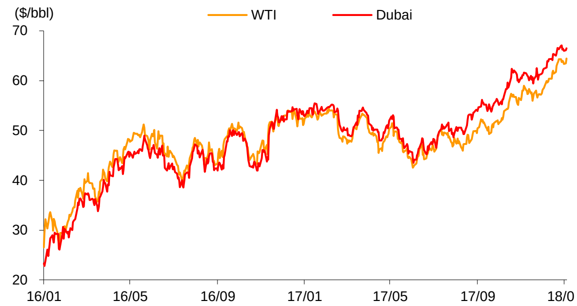
Key Chart

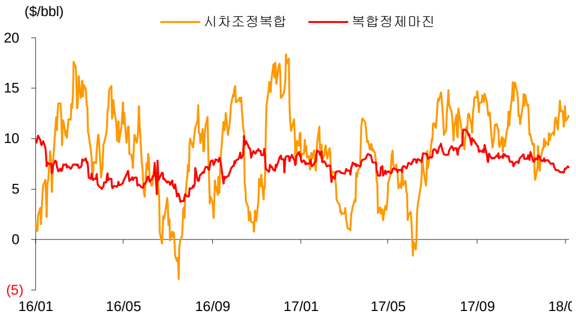
KOSPI/KOSPI화학



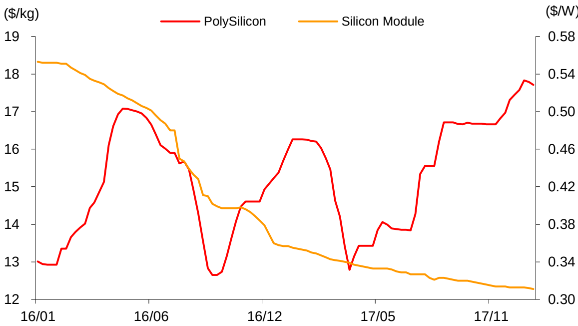
WTI/Dubai



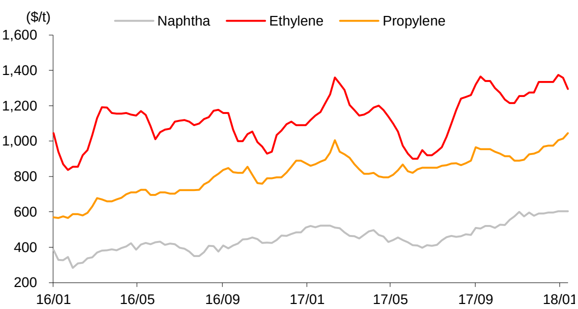
Complex & 1M lagging margin



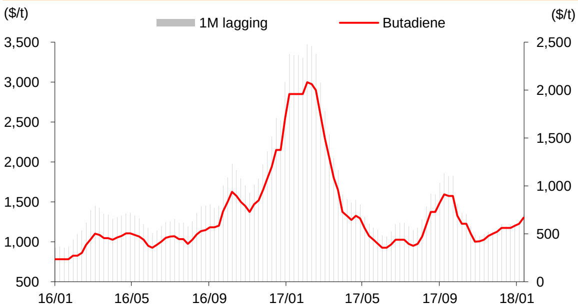
Polysilicon & Module prices



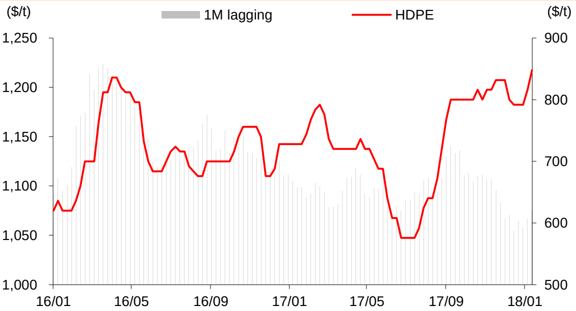
Naphtha/Ethylene/Propylene prices



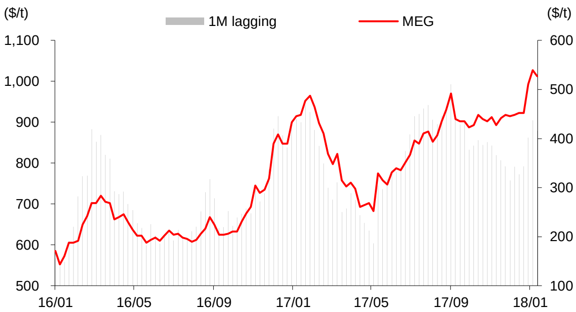
Butadiene price & 1M lagging naphtha spread



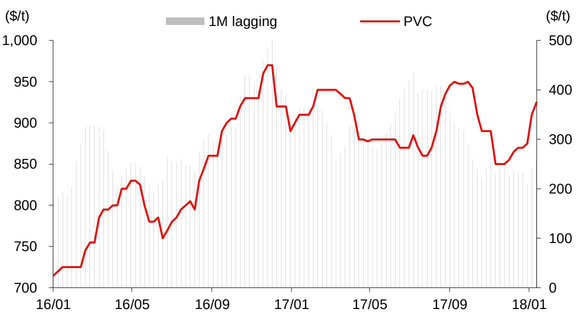
HDPE price & 1M lagging naphtha spread



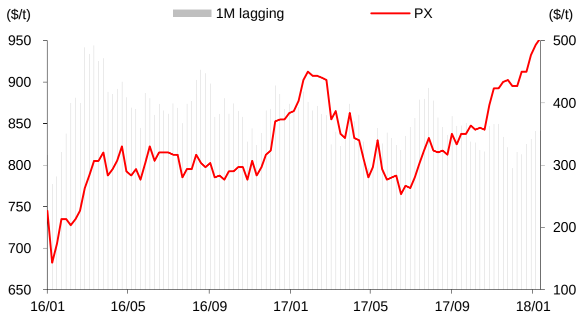
MEG price & 1M lagging naphtha spread



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: Platts)**

제목 아람코, 2018년 하반기 IPO 준비 완료

결론 하반기 IPO를 앞두고 단기적으로 상반기에 유가를 강세로 끌고갈 것

세부

1) 아람코가 2018년 하반기 IPO를 추진하나 정확한 시점은 미정이라 밝힘
2) 우선 자국 증시인 Tadawul에 상장할 가능성도 내비쳤음
3) 뉴욕, 런던, 도쿄 증시가 상장 예정 시장으로 지속 언급되고 있음
4) 무함마드 빈 살만이 자국이 지나친 석유 의존도를 줄이고자 함
5) 하반기 IPO를 앞두고 단기적으로 상반기에 유가를 강세로 끌고갈 것

WTI Comment **(출처: 연합뉴스)**

제목 성장률 전망 상향에 이틀째 강세…WTI 1.4%↑

상승 요인 IMF가 올해와 내년 세계 경제 성장률을 기존보다 0.2%p 상향함
사우디, "원유시장의 재조정이 내년까지 일어나지 않을 것"

하락 요인

Issue 1 **(출처: 아시아투데이)**

제목 호실적 S-Oil…최대주주 아람코 올해도 '배당잔치'?

결론 아람코 IPO를 앞두고 단기 유가 슈팅 모멘텀으로 1Q18도 호실적 전망

세부

1) S-Oil은 지난해 약 1조 2,100억원대의 호실적이 예상됨
2) S-Oil은 '16년 보통주 1주당 6,200원, 우선주 1주당 6,225원을 현금배당
3) 당시 지분율 63.4%의 최대주주 아람코는 배당으로만 약 4,447억원 수령
4) 지난 5년간 S-Oil의 배당성향은 40~50% 수준을 유지하고 있음
5) 아람코 IPO를 앞두고 단기 유가 슈팅 모멘텀으로 1Q18도 호실적 전망

Issue 2

제목

결론

세부

1)
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Issue 3

제목

결론

세부

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Issue 4

제목

결론

세부

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Issue 5

제목

결론

세부

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Issue 6

제목

결론

세부

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.813	0.816	0.816	0.843	0.851	0.857	0.929	0.833	0.904	0.887	0.824
	Change, %		(0.3)	(0.3)	(3.5)	(4.5)	(5.1)	(12.5)	(2.4)	(10.0)	(8.3)	(1.4)
	USD/JPY	110.3	110.9	110.5	113.3	113.4	111.1	112.7	112.6	108.8	112.1	111.6
	Change, %		(0.5)	(0.1)	(2.6)	(2.8)	(0.7)	(2.1)	(2.1)	1.4	(1.6)	(1.1)
	USD/KRW	1,070.3	1,070.1	1,062.7	1,079.7	1,130.3	1,118.4	1,165.6	1,066.7	1,160.5	1,130.9	1,066.2
	Change, %		0.0	0.7	(0.9)	(5.3)	(4.3)	(8.2)	0.3	(7.8)	(5.4)	0.4
Agriculture	**Corn**	351.3	352.0	348.3	352.0	351.3	379.8	369.5	350.8	358.5	359.4	350.2
	Change, %		(0.2)	0.9	(0.2)	0.0	(7.5)	(4.9)	0.1	(2.0)	(2.3)	0.3
	Soybean	986.3	984.3	968.0	949.5	980.8	1,009.0	1,057.8	951.8	987.5	975.9	961.9
	Change, %		0.2	1.9	3.9	0.6	(2.3)	(6.8)	3.6	(0.1)	1.1	2.5
	Wheat	421.5	425.8	416.5	424.8	436.8	499.3	433.3	427.0	436.4	436.0	426.4
	Change, %		(1.0)	1.2	(0.8)	(3.5)	(15.6)	(2.7)	(1.3)	(3.4)	(3.3)	(1.1)
	Rice	12.2	12.2	12.1	12.0	12.0	12.0	9.8	11.7	10.3	11.1	11.8
	Change, %		0.2	0.5	2.1	1.9	1.8	24.5	4.5	18.0	10.3	3.3
	Oats	270.0	265.0	250.0	242.5	273.5	295.8	260.0	241.0	196.3	252.3	252.5
	Change, %		1.9	8.0	11.3	(1.3)	(8.7)	3.8	12.0	37.6	7.0	6.9
MYR/mt	**Palm Oil**	2,488.0	2,465.0	2,504.0	2,407.0	2,767.0	2,612.0	3,231.0	2,444.0	2,653.8	2,787.3	2,502.0
	Change, %		0.9	(0.6)	3.4	(10.1)	(4.7)	(23.0)	1.8	(6.2)	(10.7)	(0.6)
	Cocoa	1,929.0	1,938.0	1,932.0	1,809.0	2,124.0	1,968.0	2,165.0	1,892.0	2,854.0	2,005.2	1,923.0
	Change, %		(0.5)	(0.2)	6.6	(9.2)	(2.0)	(10.9)	2.0	(32.4)	(3.8)	0.3
	Cotton	82.3	83.4	81.4	77.9	69.7	69.1	74.6	78.6	65.6	73.5	80.7
	Change, %		(1.4)	1.0	5.6	18.0	19.0	10.2	4.6	25.4	11.9	1.9
	Sugar	13.2	13.2	13.6	14.6	13.9	14.4	20.6	15.2	18.2	15.8	14.2
	Change, %		0.2	(2.9)	(9.7)	(5.0)	(8.4)	(36.1)	(13.0)	(27.3)	(16.6)	(7.1)
	Coffee	121.0	122.6	120.5	120.4	124.4	136.6	155.4	126.2	136.1	133.0	124.1
	Change, %		(1.3)	0.4	0.5	(2.7)	(11.4)	(22.2)	(4.2)	(11.1)	(9.0)	(2.6)
Energy	**WTI**	64.5	63.5	63.7	58.5	51.9	45.8	52.8	60.4	43.4	51.0	63.0
	Change, %		1.5	1.2	10.3	24.2	40.9	22.2	6.7	48.6	26.5	2.3
	Brent	69.8	69.0	69.2	65.3	57.4	48.1	55.2	66.9	45.1	54.9	68.7
	Change, %		1.1	1.0	7.0	21.7	45.3	26.4	4.4	54.9	27.3	1.6
	Natural Gas	3.5	3.2	3.1	2.7	3.0	3.0	3.2	3.0	2.6	3.0	3.1
	Change, %		9.8	13.2	32.8	18.4	19.2	9.2	19.9	38.7	17.2	14.5
	Ethanol	1.3	1.3	1.4	1.3	1.4	1.5	1.5	1.3	1.5	1.5	1.3
	Change, %		0.2	(2.6)	1.5	(6.6)	(12.7)	(11.1)	0.5	(12.5)	(11.4)	(0.5)
	RBOB Gasoline	190.8	188.0	183.8	176.2	167.8	156.3	156.7	179.9	140.0	162.9	183.7
	Change, %		1.5	3.8	8.2	13.7	22.0	21.8	6.0	36.3	17.1	3.8
	Coal	106.5	106.5	106.5	100.2	96.6	86.5	83.7	100.8	65.5	88.2	105.7
	Change, %		0.0	0.0	6.3	10.3	23.2	27.3	5.7	62.7	20.7	0.7
Metal	**Gold**	1,341.2	1,333.6	1,338.4	1,275.3	1,282.2	1,255.1	1,218.1	1,302.6	1,248.5	1,258.6	1,326.9
	Change, %		0.6	0.2	5.2	4.6	6.9	10.1	3.0	7.4	6.6	1.1
	Silver	17.1	17.0	17.2	16.4	17.1	16.5	17.2	16.9	17.1	17.1	17.1
	Change, %		0.3	(0.8)	4.1	(0.2)	3.2	(1.1)	0.6	(0.3)	(0.1)	(0.3)
	Copper	6,923.0	7,068.0	7,078.0	7,125.0	7,004.0	6,004.0	5,795.0	7,247.0	4,872.0	6,199.4	7,101.5
	Change, %		(2.1)	(2.2)	(2.8)	(1.2)	15.3	19.5	(4.5)	42.1	11.7	(2.5)
	Nickel	816.3	811.1	802.6	770.0	770.9	613.2	664.6	809.1	646.4	680.2	804.1
	Change, %		0.6	1.7	6.0	5.9	33.1	22.8	0.9	26.3	20.0	1.5
	Zinc	3,412.0	3,414.0	3,404.5	3,265.5	3,129.0	2,753.5	2,790.0	3,319.0	2,097.5	2,888.5	3,378.0
	Change, %		(0.1)	0.2	4.5	9.0	23.9	22.3	2.8	62.7	18.1	1.0
	Lead	2,614.8	2,629.5	2,553.0	2,481.3	2,493.3	2,223.8	2,355.3	2,482.8	1,868.3	2,315.7	2,568.6
	Change, %		(0.6)	2.4	5.4	4.9	17.6	11.0	5.3	40.0	12.9	1.8
	Aluminum	14,575.0	14,580.0	14,790.0	14,540.0	16,180.0	14,335.0	13,650.0	15,020.0	12,373.5	14,556.6	14,824.8
	Change, %		(0.0)	(1.5)	0.2	(9.9)	1.7	6.8	(3.0)	17.8	0.1	(1.7)
	Cobalt	79,362.0	79,358.0	76,860.0	75,205.0	60,024.0	58,010.0	35,750.0	75,205.0	25,480.1	55,906.9	76,511.9
	Change, %		0.0	3.3	5.5	32.2	36.8	122.0	5.5	211.5	42.0	3.7
	HR Coil	677.0	679.0	675.0	636.0	595.0	617.0	620.0	662.0	519.3	620.1	668.6
	Change, %		(0.3)	0.3	6.4	13.8	9.7	9.2	2.3	30.4	9.2	1.3
	Scrap	378.0	378.0	385.0	367.0	330.0	355.0	300.0	367.0	275.7	344.7	377.3
	Change, %		0.0	(1.8)	3.0	14.5	6.5	26.0	3.0	37.1	9.6	0.2

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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SK 증권

Refining Price Data

Daily Price		01/23	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	64.5	63.5	63.7	60.0	52.5	47.9	53.2	53.7	43.4	50.9	63.1
	Change, %		*1.5*	*1.2*	*7.5*	*22.9*	*34.6*	*21.2*	*20.0*	*48.7*	*26.7*	*2.2*
	Dubai	66.5	66.1	67.1	62.6	55.3	47.3	54.0	53.8	41.3	53.1	65.9
	Change, %		*0.6*	*(0.9)*	*6.2*	*20.3*	*40.6*	*23.2*	*23.5*	*61.0*	*25.2*	*0.9*
Crude Oil Product	**Gasoline(휘발유)**	79.4	79.1	78.9	75.5	69.4	61.6	69.9	69.8	56.3	68.0	78.0
	Change, %		*0.3*	*0.5*	*5.1*	*14.4*	*28.8*	*13.5*	*13.6*	*41.1*	*16.7*	*1.8*
	Kerosene(등유)	81.1	80.5	81.8	76.7	68.0	59.6	65.1	66.4	52.9	65.2	80.4
	Change, %		*0.7*	*(0.9)*	*5.7*	*19.1*	*36.1*	*24.5*	*22.0*	*53.3*	*24.2*	*0.8*
	Diesel(경유)	81.1	80.4	81.3	76.8	68.0	60.9	65.1	65.5	52.1	65.6	80.1
	Change, %		*0.9*	*(0.2)*	*5.7*	*19.2*	*33.2*	*24.6*	*23.8*	*55.7*	*23.7*	*1.3*
	Bunker-C	59.0	59.2	58.8	57.4	52.1	45.9	49.9	52.1	35.5	49.7	58.6
	Change, %		*(0.3)*	*0.3*	*2.8*	*13.2*	*28.5*	*18.2*	*13.3*	*66.1*	*18.8*	*0.7*
	Naphtha	65.3	65.8	66.9	65.9	58.2	45.7	56.7	53.5	42.6	53.7	66.5
	Change, %		*(0.8)*	*(2.3)*	*(0.9)*	*12.2*	*43.0*	*15.2*	*22.2*	*53.3*	*21.5*	*(1.9)*
Dubai Spread	**Gasoline(휘발유)**	12.9	13.0	11.9	12.9	14.1	14.3	15.9	16.0	14.9	14.9	12.1
	Change		*(0.1)*	*1.0*	*(0.0)*	*(1.2)*	*(1.4)*	*(3.1)*	*(3.2)*	*(2.1)*	*(2.1)*	*0.8*
	Kerosene(등유)	14.6	14.4	14.7	14.1	12.8	12.3	11.1	12.6	11.6	12.1	14.5
	Change		*0.2*	*(0.2)*	*0.5*	*1.8*	*2.3*	*3.4*	*2.0*	*3.0*	*2.4*	*0.1*
	Diesel(경유)	14.6	14.3	14.2	14.2	12.8	13.6	11.1	11.7	10.8	12.5	14.2
	Change		*0.4*	*0.4*	*0.5*	*1.9*	*1.0*	*3.5*	*3.0*	*3.8*	*2.1*	*0.5*
	Bunker-C	(7.5)	(6.9)	(8.3)	(5.2)	(3.2)	(1.4)	(4.1)	(1.8)	(5.8)	(3.4)	(7.3)
	Change		*(0.6)*	*0.8*	*(2.3)*	*(4.3)*	*(6.1)*	*(3.4)*	*(5.7)*	*(1.7)*	*(4.0)*	*(0.2)*
	Naphtha	(1.2)	(0.3)	(0.2)	3.3	2.9	(1.6)	2.7	(0.4)	1.3	0.6	0.6
	Change		*(0.9)*	*(1.0)*	*(4.5)*	*(4.1)*	*0.5*	*(3.9)*	*(0.8)*	*(2.5)*	*(1.8)*	*(1.8)*
Refining Margin	**Simple(단순)**	1.4	1.6	0.8	2.6	3.4	4.3	2.6	3.8	1.9	3.2	1.3
	Change		*(0.2)*	*0.5*	*(1.2)*	*(2.0)*	*(3.0)*	*(1.3)*	*(2.5)*	*(0.6)*	*(1.8)*	*0.0*
	Complex(복합)	7.2	7.3	6.6	7.9	8.1	8.6	7.7	8.3	7.0	8.0	6.9
	Change		*(0.1)*	*0.5*	*(0.7)*	*(0.9)*	*(1.4)*	*(0.5)*	*(1.1)*	*0.2*	*(0.8)*	*0.2*
	Complex(lagging)	12.3	12.1	11.2	9.3	8.7	12.4	9.9	18.0	8.5	8.9	12.0
	Change		*0.2*	*1.1*	*2.9*	*3.5*	*(0.1)*	*2.4*	*(5.7)*	*3.8*	*3.3*	*0.3*

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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SK 증권

Petrochemical Price Data

Daily Price			01/23	01/22	01/19	01/18	01/17	01/16	01/15	01/12	01/11	01/08
Spot Price	**Naphtha**	CFR Japan	597.0	601.3	607.3	610.3	605.8	608.8	609.3	604.0	603.8	602.5
	Ethylene	CFR SE Asia	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	1,295.0
	Propylene	FOB Korea	1,005.0	1,001.0	995.0	991.0	987.0	985.0	985.0	985.0	985.0	975.0
	Butadiene	FOB Korea	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	1,180.0
	HDPE	CFR FE Asia	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	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	1,220.0	1,210.0	1,210.0	1,200.0
	LLDPE	CFR FE Asia	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	1,160.0
	MEG	CFR China	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	1,010.0
	PP	CFR FE Asia	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	1,185.0
	PX	CFR China	965.7	955.2	946.2	940.7	935.2	939.3	942.0	936.3	940.3	931.7
	PTA	CFR China	725.0	730.0	730.0	730.0	733.0	735.0	735.0	735.0	735.0	732.0
	Benzene	FOB Korea	943.7	948.7	951.3	943.7	915.0	909.3	904.7	900.0	890.0	877.0
	Toluene	FOB Korea	746.5	743.5	743.5	743.5	736.5	741.0	739.0	732.0	730.0	713.0
	Xylene	FOB Korea	754.5	755.5	768.5	754.5	755.5	761.5	755.0	744.0	734.0	738.0
	SM	FOB Korea	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	1,324.0

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	01/23	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	76.1	(0.1)	1.6	5.6	6.4	15.1	33.3	6.9	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	98.0	0.2	1.2	5.7	10.5	14.4	27.6	5.7	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	97.2	(0.1)	4.1	3.9	7.1	19.9	9.4	5.9	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	75.2	0.5	(0.3)	2.6	(3.0)	(1.1)	20.0	3.0	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	106.9	(0.3)	5.9	5.0	0.7	9.5	16.5	5.2	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	72.8	(1.7)	0.7	12.1	7.5	10.5	9.4	9.8	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	860	0.1	(0.2)	3.6	14.5	26.1	52.2	6.2	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,218	0.0	(5.6)	(2.7)	5.3	23.3	60.0	(1.5)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	12,640	1.1	3.0	9.3	11.6	22.3	31.6	10.4	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,484	0.0	(0.3)	1.1	9.2	14.1	40.7	2.1	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,287	0.7	2.0	3.2	6.6	18.3	12.0	3.1	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	10,140	1.4	(1.6)	(0.9)	2.2	2.3	15.3	1.3	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	106.9	0.2	0.7	5.0	9.4	7.0	13.6	5.4	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	64.3	0.8	0.3	10.4	17.3	16.9	14.4	9.0	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	100.0	(1.5)	(2.0)	4.8	9.1	9.3	11.5	1.3	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	109.0	0.0	0.5	11.8	18.3	20.0	12.6	5.8	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	80.9	0.1	(0.7)	6.2	8.7	8.2	10.1	3.9	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	6.73	1.2	(1.9)	5.5	8.5	(1.0)	(0.1)	6.3	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.89	0.0	(3.3)	4.3	(6.5)	(9.1)	(25.3)	8.2	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	983	1.2	6.5	6.8	4.6	24.1	93.6	8.1	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	111.0	0.9	1.3	12.2	18.3	10.6	(7.3)	14.4	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	99.8	3.4	6.7	17.0	25.5	42.5	47.8	17.4	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.0	0.4	(2.0)	5.7	7.1	15.2	12.6	4.3	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	423,000	1.2	(2.0)	7.5	7.0	28.6	59.3	4.4	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	402,000	0.0	1.8	11.5	0.9	10.9	4.3	9.2	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	35,700	2.9	3.9	19.2	7.7	6.7	30.8	13.0	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	105,500	(1.9)	4.5	9.0	56.3	41.2	27.4	6.0	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	43,950	1.5	(2.2)	(0.2)	8.3	21.7	40.4	(6.5)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	63,800	(0.8)	(2.9)	1.8	11.7	16.2	19.3	1.1	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	9,050	5.6	5.4	20.3	6.5	48.4	13.0	19.4	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.6**	**0.8**	**6.9**	**9.9**	**16.4**	**23.5**	**6.3**							
Refinery																
Valero	USD	98.7	(0.3)	2.6	8.3	27.5	45.6	49.0	7.4	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	60.5	(0.3)	2.8	9.0	20.3	41.8	21.1	10.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	122.5	1.7	2.1	8.4	17.2	16.7	15.6	6.1	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	118.6	(0.5)	(0.4)	5.7	12.1	22.3	47.5	3.7	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	73.1	(0.1)	3.3	10.2	29.8	32.1	50.1	10.8	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.5	(0.6)	2.9	7.1	28.5	39.3	(2.4)	7.5	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	51.7	(0.0)	(1.0)	2.2	42.6	89.3	76.5	1.0	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	106.9	0.2	3.3	6.0	17.2	29.0	30.0	5.7	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	34.7	0.1	1.8	11.4	35.6	36.8	10.9	11.8	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	760.5	(0.8)	(2.3)	5.7	32.2	54.3	45.6	4.6	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,355.0	(0.1)	(1.6)	(2.5)	39.8	57.8	28.5	(3.8)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	58.0	(1.5)	4.1	8.4	37.2	54.7	71.8	8.8	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	74.0	0.1	1.9	3.5	10.6	10.9	36.2	3.9	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.5	0.6	(1.6)	(2.3)	(12.8)	(11.1)	2.1	(1.6)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	199,000	2.1	0.8	(2.5)	(2.9)	16.0	24.8	(2.7)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	118,500	0.4	4.9	(4.8)	(8.8)	9.7	43.6	1.3	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	66,300	0.8	(0.7)	6.8	(2.5)	(9.3)	27.7	6.6	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.1**	**1.3**	**4.7**	**19.0**	**31.5**	**34.0**	**4.8**							

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

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Global peers

	Currency	01/23	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	88	0.1	1.5	5.2	6.1	10.2	3.9	5.6	374,136	19.6	19.5	2.0	2.0	8.9	9.1
BP	GBP	516	(0.0)	(0.5)	(0.3)	5.0	15.6	5.9	(1.3)	143,193	17.0	15.3	1.5	1.4	6.0	5.6
Shell	EUR	2,533	0.5	(0.4)	3.3	9.5	21.8	15.5	2.1	298,099	15.7	14.6	1.5	1.4	6.7	6.4
Chevron	USD	131	(1.2)	(0.7)	4.8	10.2	26.9	13.5	4.7	248,856	22.2	21.1	1.7	1.7	7.5	7.2
Total	EUR	47	(0.9)	(1.4)	2.1	2.9	11.1	(0.1)	3.1	147,774	12.9	12.2	1.3	1.2	5.6	5.3
Sinopec	CNY	7	1.9	(1.0)	16.7	20.3	13.7	19.9	14.8	126,409	13.7	12.9	1.1	1.1	4.7	4.6
Petrochina	CNY	9	2.7	5.5	13.6	12.8	14.4	7.9	13.6	248,255	33.9	29.8	1.4	1.3	6.5	6.4
CNOOC	CNY	13	3.8	2.1	22.2	15.5	15.1	0.6	20.8	71,044	11.1	10.6	1.1	1.0	4.1	4.0
Gazprom	RUB	149	(1.0)	2.4	12.4	17.4	25.1	0.5	14.0	62,384	4.3	4.5	0.3	0.3	3.8	3.7
Rosneft	RUB	335	0.6	5.5	14.0	5.8	5.5	(14.1)	14.9	62,876	8.4	7.3	0.8	0.8	4.8	4.4
Anadarko	USD	61	0.4	4.1	15.1	26.7	38.3	(12.8)	13.6	33,344	1,194.9	96.0	2.2	2.3	7.3	6.2
Petrobras	BRL	18	(1.0)	3.6	16.1	12.9	44.1	14.4	13.6	76,168	10.6	7.7	0.7	0.6	5.1	4.8
Lukoil	USD	3,842	(0.7)	(0.5)	14.8	28.2	35.2	20.9	15.2	57,532	7.0	6.7	0.8	0.7	N/A	N/A
Kinder	USD	19	(0.9)	0.3	7.8	7.3	(6.0)	(12.1)	7.6	47,497	24.1	21.7	1.2	1.3	11.0	10.6
Statoil	NOK	185	0.7	0.2	5.9	13.4	33.1	17.3	5.8	78,510	17.6	16.4	1.9	1.8	3.6	3.4
BHP	AUD	31	0.0	(2.7)	5.8	16.2	25.7	16.8	4.1	125,453	17.9	17.9	2.1	2.0	6.8	6.8
PTT E&P	THB	117	1.3	4.0	17.3	35.7	38.5	21.9	17.0	14,625	14.5	13.9	1.1	1.1	4.0	3.9
Petronas gas	MYR	18	0.9	(1.1)	6.2	(0.2)	(3.5)	(10.1)	3.9	9,154	18.9	18.4	2.7	2.7	10.6	10.4
Chesapeake	USD	4	2.5	(1.7)	5.7	12.7	(13.2)	(39.1)	2.8	3,698	5.0	4.6	#N/A N/A	6.9	6.4	6.1
Noble Energy	USD	33	0.6	4.6	15.1	21.4	16.7	(16.7)	13.7	16,121	81.2	40.1	1.7	1.6	7.8	6.5
Average		**0**	**0.5**	**1.2**	**10.2**	**14.0**	**18.4**	**2.7**	**9.5**							
PV																
WACKER	EUR	173.6	0.2	0.3	7.0	43.4	73.2	57.4	7.0	11,115	25.7	22.1	2.6	2.5	8.6	8.2
GCL-Poly	HKD	1.4	0.0	(1.4)	0.7	11.2	49.5	43.3	(0.7)	3,306	8.3	7.3	0.8	0.7	5.9	5.4
SunPower	USD	8.2	(6.4)	(5.3)	(9.7)	18.8	(24.8)	19.1	(3.2)	1,139	#N/A N/A	26.2	1.5	1.9	12.5	10.0
Canadian Solar	USD	15.6	(0.8)	(4.6)	(8.5)	(4.8)	(5.7)	23.8	(7.2)	907	8.5	9.0	0.9	0.8	9.1	9.2
JA Solar	USD	7.4	(0.3)	0.1	0.8	0.3	14.8	55.3	(0.3)	354	14.1	12.0	1.7	1.6	4.0	3.7
Yingli	USD	1.8	(4.2)	(7.2)	6.5	(22.0)	(25.8)	(34.2)	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	68.5	(0.7)	(3.8)	(0.5)	40.0	51.7	103.4	1.4	7,152	45.0	20.9	1.3	1.2	13.3	7.9
한화큐셀	USD	7.2	(3.1)	0.8	(1.0)	(9.0)	(22.2)	(12.2)	2.1	597	32.6	23.1	#N/A N/A	#N/A N/A	8.0	7.3
OCI	KRW	179,000	5.6	5.0	40.4	63.5	104.6	102.5	31.6	3,968	19.6	19.3	1.3	1.2	9.9	8.3
웅진에너지	KRW	9,660	(1.6)	15.4	18.7	19.6	9.5	86.5	17.5	230	N/A	1.3	1.2	9.9	8.3	8.6
신성솔라에너지	KRW	1,980	(4.8)	(5.7)	1.3	11.9	(11.4)	(5.9)	3.4	318	N/A	1.2	9.9	8.3	8.6	8.1
Average			**(1.5)**	**(0.6)**	**5.0**	**15.7**	**19.4**	**39.9**	**5.3**							
Gas Company																
Towngas China	HKD	6.0	(0.8)	(1.3)	(0.2)	(2.6)	8.1	40.0	(4.1)	2,132	12.6	11.5	1.0	1.0	11.6	10.4
Kulun	HKD	7.7	0.5	(2.3)	(6.0)	4.9	0.0	25.2	(5.5)	7,940	10.5	9.3	1.2	1.1	5.6	5.3
Beijing Enterprise	HKD	48.0	(0.1)	3.1	4.4	0.0	17.0	24.5	3.3	7,741	8.4	7.6	0.9	0.8	14.7	13.9
ENN Energy	HKD	55.2	1.9	1.6	(3.4)	(6.6)	6.5	50.2	(1.0)	7,646	12.6	10.8	2.3	2.0	7.8	6.8
China Resources Gas	HKD	24.8	0.8	1.4	(11.9)	(15.1)	(16.7)	2.9	(12.7)	7,041	12.8	11.4	2.4	2.1	7.8	7.1
China Gas Holdings	HKD	22.3	1.8	1.1	0.7	(8.2)	19.4	101.5	3.0	14,141	15.3	12.9	3.7	3.1	12.2	10.5
Shenzen Gas	HKD	15.9	0.4	2.4	8.9	3.4	17.4	42.6	7.1	4,138	11.5	10.5	1.4	1.2	8.3	7.8
Shann Xi	CNY	8.1	0.6	(2.2)	(12.0)	(4.1)	(6.2)	(13.6)	(3.7)	1,412	15.4	18.1	1.5	1.4	#N/A N/A	#N/A N/A
Suntien	HKD	2.0	(3.0)	(6.6)	(1.5)	(18.6)	15.9	61.5	(4.8)	936	6.0	5.2	0.6	0.6	8.3	7.2
China Oil & Gas	HKD	0.8	0.0	(2.5)	16.2	41.1	43.6	31.7	(7.1)	589	11.0	9.6	1.2	1.0	6.5	5.9
Average			**0.2**	**(0.5)**	**(0.5)**	**(0.6)**	**10.5**	**36.7**	**(2.5)**							
EV																
LG화학	KRW	423,000	1.2	(2.0)	7.5	7.0	28.6	59.3	4.4	27,756	14.3	13.3	1.8	1.6	6.8	6.4
삼성SDI	KRW	201,000	(1.0)	(7.2)	(0.7)	(2.0)	11.0	88.7	(1.7)	12,848	12.9	10.8	1.1	1.0	13.3	10.7
Panasonic	JPY	1714.5	0.9	(0.1)	2.8	2.9	14.5	44.4	3.9	38,089	16.8	14.6	2.2	2.0	6.3	5.8
GS Yuasa	JPY	592.0	0.5	1.0	5.5	(1.5)	16.1	27.6	5.5	2,217	16.2	14.5	1.3	1.3	7.1	6.5
NEC	JPY	3140.0	(0.2)	0.8	2.6	1.1	5.4	(0.3)	3.3	7,407	18.6	15.6	0.9	0.9	6.3	6.1
BYD Auto	CNY	66.8	0.3	3.1	7.4	(0.1)	32.3	36.7	2.7	27,937	28.0	22.1	3.0	2.7	13.3	11.4
Tesla Motors	USD	352.8	0.3	3.7	8.5	4.7	7.4	41.7	13.3	59,575	#N/A N/A	83.3	12.4	10.5	37.1	17.8
Kandi Technologies	USD	6.4	(1.6)	(7.3)	(11.8)	(18.6)	53.9	32.3	(6.6)	305	#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			**0.1**	**(1.0)**	**2.7**	**(0.8)**	**21.2**	**41.3**	**3.1**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임