SK Energy Daily

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SK 증권

1. News Summary (3 page)

2018년 2월 27일

News		Conclusion
WTI comment	수급 개선 기대에 강세…WTI 0.6%↑	
Headline	SK루브리컨츠, 코스피 상장예비심사 신청	SK이노의 현금 조달이 향후 CAPEX 집행으로 이어질지 주목해야 함
News 1.	포스코, 후판 3만원 인상 '즉시반영'…현대제철도 인상	강재가 추가 인상으로 조선사 영업이익 훼손 폭이 더욱 커질 전망
News 2.	-	-
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	63.9	0.6	3.6	(3.4)	10.0	18.2
Dubai	$/bbl	63.9	1.8	3.4	(5.2)	3.9	15.8
Gasoline	$/bbl	77.5	1.8	2.5	(3.6)	1.9	12.4
Diesel	$/bbl	78.7	1.8	3.2	(5.3)	5.8	16.5
Complex margin	$/bbl	8.0	0.1	(0.1)	0.4	(0.0)	0.6
1M lagging	$/bbl	5.0	0.9	1.4	(7.6)	(8.3)	(4.1)
Petrochemical			%	%	%	%	%
Naphtha	$/t	573	1.7	2.2	(4.3)	(4.1)	12.9
Butadiene	$/t	1,390	0.0	2.6	3.0	39.0	(53.7)
HDPE	$/t	1,360	0.7	0.7	3.0	6.3	15.3
MEG	$/t	1,053	2.7	3.7	4.8	15.3	21.0
PX	$/t	972	1.3	2.6	1.1	9.1	9.1
SM	$/t	1,433	1.3	1.2	1.8	10.8	3.6
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.69	1.1	3.4	(8.6)	(6.3)	(2.4)
Natural rubber	$/t	1,470	2.1	3.5	(2.0)	5.8	(29.7)
Cotton	C/lbs	81.7	0.3	7.9	4.3	13.2	9.0

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	02/19	$/t	1,173	(3.1)	(9.5)	0.6	(1.1)
Propylene	02/19	$/t	1,015	(1.0)	2.0	25.3	(1.5)
Benzene	02/19	$/t	895	(1.6)	(5.5)	4.1	(15.2)
Toluene	02/19	$/t	750	(1.3)	(0.7)	4.9	(2.0)
Xylene	02/19	$/t	758	(0.3)	2.4	13.1	4.5
PP	02/19	$/t	1,275	(0.2)	5.6	11.1	15.1
PVC	02/19	$/t	980	1.0	5.9	15.3	4.3
ABS	02/19	$/t	2,060	0.0	2.0	6.7	6.2
SBR	02/19	$/t	1,755	0.0	6.4	10.4	(43.4)
SM	02/19	$/t	1,438	1.1	4.0	12.3	(3.8)
BPA	02/19	$/t	1,908	0.8	(2.8)	7.0	22.5
Caustic	02/19	$/t	549	0.0	(8.7)	(21.6)	28.4
2-EH	02/19	$/t	1,080	(1.8)	(1.4)	9.1	9.1
Caprolactam	02/19	$/t	2,060	(0.5)	2.0	1.0	(9.5)
Solar				%	%	%	%
Polysilicon	02/21	$/kg	16.2	(0.7)	(8.4)	(2.7)	(0.1)
Module	02/21	$/W	0.31	(0.3)	(0.6)	(1.9)	(12.0)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	78.8	1.7	3.0	(11.4)	(3.2)	(2.8)
Shell	EUR	2,279	0.9	0.8	(9.2)	(2.5)	9.9
Petrochina	CNY	8.26	0.9	3.0	(11.3)	(1.7)	0.0
Gazprom	RUB	147.0	0.7	6.3	(0.1)	10.1	7.5
Petrobras	BRL	21.5	1.9	7.3	8.0	33.7	41.8
Refinery							
Phillips66	USD	92.5	0.8	0.6	(13.2)	(1.2)	18.6
Valero	USD	93.3	0.9	0.0	(5.5)	13.4	39.9
JX	JPY	674.3	(0.1)	0.9	(8.5)	6.5	26.8
Neste Oil	EUR	60.7	(1.7)	4.3	9.1	19.8	78.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	89.3	1.1	2.8	(6.6)	(5.8)	2.2
DowDuPont	USD	74.1	1.1	2.9	(3.8)	4.1	16.5
SABIC	SAR	105.2	(0.0)	0.1	(3.4)	4.9	7.5
Formosa Pla.	TWD	103.5	(0.5)	2.5	0.0	11.9	11.8
Shin-Etsu	JPY	11,460	1.1	(0.4)	(8.4)	(10.1)	17.5
Renewable							
Wacker	EUR	139.1	0.1	(0.1)	(20.1)	(0.6)	36.1
First Solar	USD	65.10	5.4	(1.1)	(7.7)	7.4	71.8
GCL-Poly	HKD	1.26	(3.1)	3.3	(1.6)	(11.3)	17.8
Tesla Motors	USD	357.4	1.5	6.5	4.2	13.3	39.1

4. Coverage Summary

	02/26	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,458	0.3	0.6	(4.5)	(2.2)	3.3	17.4				* 추정치는 12M fwd 기준임	
KOSPI화학	6,182	0.8	2.4	(2.8)	1.4	7.3	19.9				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	394,000	1.3	2.7	(9.5)	(6.3)	6.9	40.2	매수	450,000	14.2	13.15	1.86
롯데케미칼	468,000	1.5	4.1	15.1	31.8	20.3	29.1	매수	410,000	(12.4)	12.78	1.40
한화케미칼	33,800	0.0	0.7	(5.3)	13.6	(5.3)	32.0	매수	39,000	15.4	12.90	0.88
금호석유화학	92,800	4.7	(2.3)	(10.3)	7.3	20.5	20.2	매수	150,000	61.6	11.32	1.49
KCC	367,500	1.0	0.5	(8.5)	(4.0)	(6.7)	6.7	매수	450,000	22.4	13.61	0.54
OCI	166,000	3.4	3.8	5.4	35.0	73.3	81.2	매수	180,000	8.4	15.60	1.16
SKC	38,700	1.3	2.2	(12.9)	(8.7)	3.2	18.2	매수	55,000	42.1	9.73	0.95
SK이노베이션	209,000	4.8	6.4	5.6	1.2	15.8	36.6	매수	230,000	10.0	11.07	1.05
S-Oil	123,500	3.8	2.9	6.9	3.3	5.6	46.7	매수	140,000	13.4	14.12	2.24
GS	67,100	3.9	4.8	(2.3)	10.9	(1.5)	24.3	매수	80,000	19.2	6.56	0.87
SK가스	92,500	(0.8)	0.5	(9.3)	(4.8)	(15.9)	(12.3)	매수	130,000	40.5	8.01	0.62
포스코대우	21,300	0.2	(0.5)	(11.4)	16.1	(1.6)	(15.8)	매수	25,000	17.4	9.71	0.86
LG상사	28,000	0.7	0.5	(8.8)	3.3	(2.6)	(12.5)	매수	38,000	35.7	9.43	0.80
한국전력	33,800	0.3	2.1	(6.2)	(11.7)	(23.6)	(22.4)	매수	50,000	47.9	7.26	0.27
한국가스공사	47,300	(0.3)	0.5	(8.0)	7.5	2.9	(3.8)	매수	60,000	26.8	8.93	0.70

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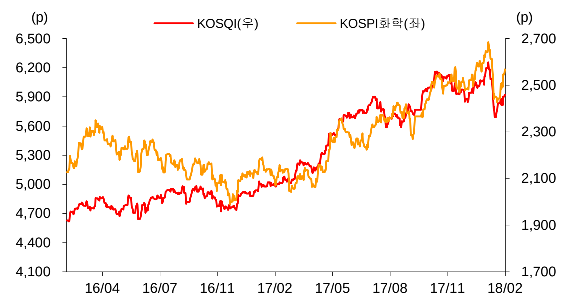
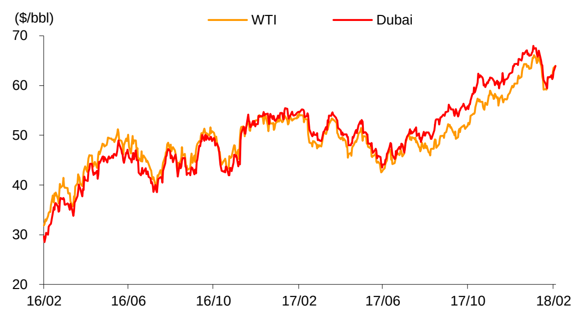
Key Chart

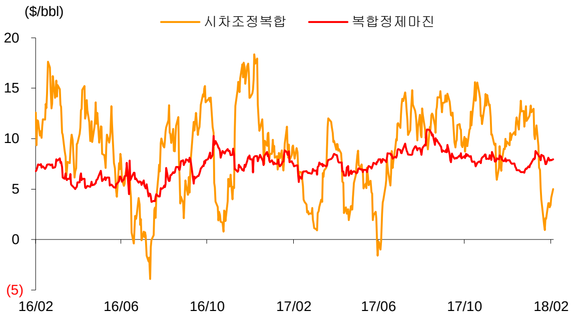
KOSPI/KOSPI화학



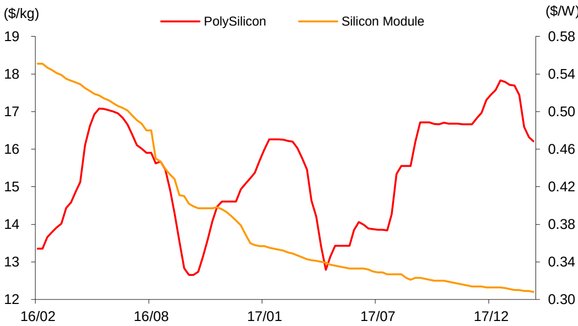
WTI/Dubai



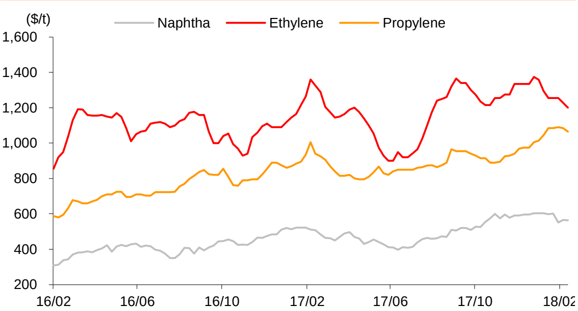
Complex & 1M lagging margin



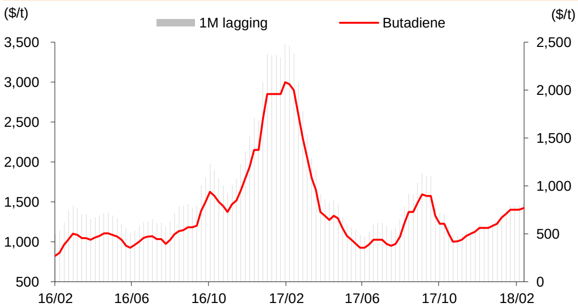
Polysilicon & Module prices



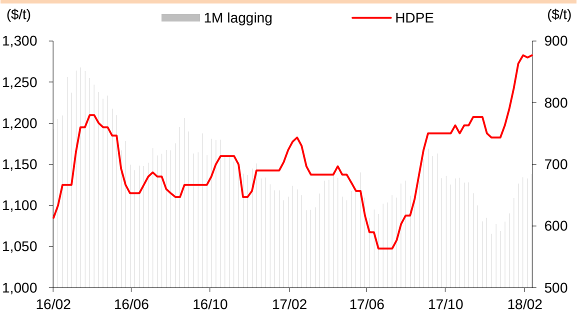
Naphtha/Ethylene/Propylene prices



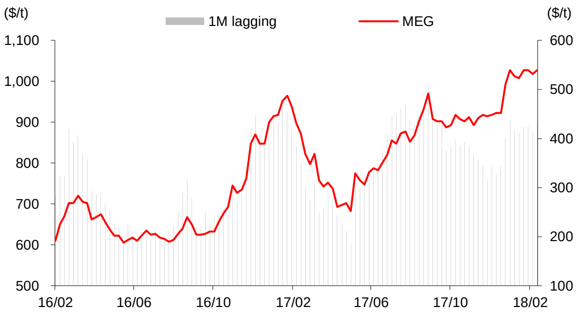
Butadiene price & 1M lagging naphtha spread



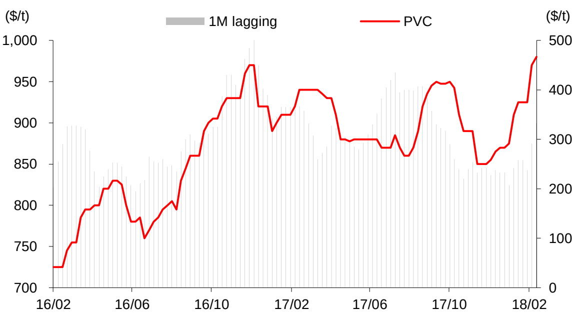
HDPE price & 1M lagging naphtha spread



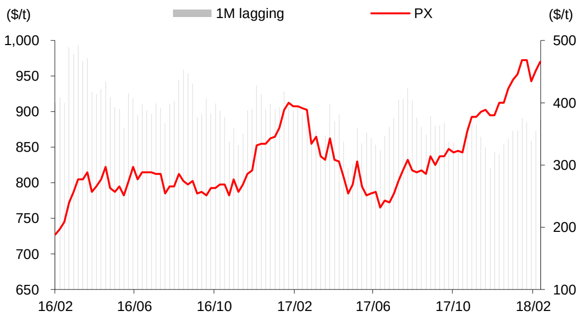
MEG price & 1M lagging naphtha spread



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	SK루브리컨츠, 코스피 상장예비심사 신청
결론	SK이노의 현금 조달이 향후 CAPEX 집행으로 이어질지 주목해야 함
세부	
1)	SK루브리컨츠의 지분은 100% SK이노베이션이 보유하고 있음
2)	'17년에는 3Q까지 누적 매출액 21,255억원, 당기순이익 2,821억원 기록
3)	SK루브리컨츠는 '대형 우량기업 상장심사 간소화 절차'가 적용됨
4)	상장 예비심사는 다음 달 27일(신청일로부터 20영업일) 이내에 마무리
5)	SK이노의 현금 조달이 향후 CAPEX 집행으로 이어질지 주목해야 함

WTI Comment	(출처: 연합뉴스)
제목	수급 개선 기대에 강세…WTI 0.6%↑
상승 요인	주요 산유국인 리비아의 유전 가동이 차질을 빚고 있다는 소식 지난주 미국의 원유 재고가 감소
하락 요인	

Issue 1	(출처: 글로벌이코노믹)
제목	포스코, 후판 3만원 인상 '즉시반영'…현대제철도 인상
결론	강재가 추가 인상으로 조선사 영업이익 훼손 폭이 더욱 커질 전망
세부	
1)	현대제철도 인상에 동참하며 후판 메이커 3사의 공급 가격이 모두 상승
2)	유통업계는 시장 반영이 어려울 것으로 예상, 부담감을 드러냄
3)	포스코는 21일 후판 가격을 3만원/t 인상한다고 고객사에 통보
4)	인상은 발표 직후 주문부터 적용되며 현재 3월 주문투입분이 진행중
5)	강재가 추가 인상으로 조선사 영업이익 훼손 폭이 더욱 커질 전망

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	0.812	0.813	0.806	0.805	0.838	0.839	0.947	0.833	0.904	0.887	0.815
	Change, %		(0.2)	0.7	0.9	(3.1)	(3.2)	(14.2)	(2.5)	(10.2)	(8.4)	(0.4)
	USD/JPY	106.9	106.9	106.6	108.6	111.5	109.4	112.1	112.6	108.8	112.1	109.6
	Change, %		0.0	0.3	(1.5)	(4.1)	(2.2)	(4.6)	(5.1)	(1.7)	(4.6)	(2.4)
	USD/KRW	1,073.4	1,078.9	1,067.6	1,064.0	1,085.2	1,128.4	1,131.1	1,066.7	1,160.5	1,130.9	1,072.1
	Change, %		(0.5)	0.5	0.9	(1.1)	(4.9)	(5.1)	0.6	(7.5)	(5.1)	0.1
Agriculture	Corn	368.5	366.3	367.5	356.5	342.3	338.8	364.0	350.8	358.5	359.4	358.0
	Change, %		0.6	0.3	3.4	7.7	8.8	1.2	5.1	2.8	2.5	2.9
	Soybean	1,034.3	1,036.3	1,021.5	985.5	993.3	939.0	1,013.5	951.8	987.5	975.9	986.0
	Change, %		(0.2)	1.2	4.9	4.1	10.1	2.0	8.7	4.7	6.0	4.9
	Wheat	459.5	452.3	457.8	441.0	415.8	409.5	431.3	427.0	436.4	436.0	441.0
	Change, %		1.6	0.4	4.2	10.5	12.2	6.6	7.6	5.3	5.4	4.2
	Rice	11.9	12.0	12.0	12.3	12.4	12.4	9.4	11.7	10.3	11.1	12.1
	Change, %		(0.6)	(1.0)	(3.6)	(4.3)	(4.1)	26.2	1.8	15.0	7.5	(1.4)
	Oats	262.5	260.0	267.8	266.0	249.3	241.3	251.8	241.0	196.3	252.3	260.6
	Change, %		1.0	(2.0)	(1.3)	5.3	8.8	4.3	8.9	33.7	4.1	0.7
MYR/mt	Palm Oil	2,555.0	2,536.0	2,530.0	2,482.0	2,545.0	2,733.0	2,977.0	2,444.0	2,653.8	2,787.3	2,503.0
	Change, %		0.7	1.0	2.9	0.4	(6.5)	(14.2)	4.5	(3.7)	(8.3)	2.1
	Cocoa	2,224.0	2,204.0	2,138.0	1,986.0	2,109.0	1,962.0	2,028.0	1,892.0	2,854.0	2,005.2	2,007.9
	Change, %		0.9	4.0	12.0	5.5	13.4	9.7	17.5	(22.1)	10.9	10.8
	Cotton	81.7	81.5	75.7	80.5	72.2	68.6	75.4	78.6	65.6	73.5	79.1
	Change, %		0.3	7.9	1.5	13.1	19.1	8.3	3.9	24.6	11.1	3.3
	Sugar	13.7	13.7	13.4	13.4	15.5	14.0	19.8	15.2	18.2	15.8	13.8
	Change, %		(0.1)	2.1	2.2	(11.6)	(2.6)	(31.0)	(9.9)	(24.7)	(13.6)	(1.2)
	Coffee	120.5	119.5	118.0	125.2	124.8	130.2	144.4	126.2	136.1	133.0	122.4
	Change, %		0.9	2.2	(3.7)	(3.4)	(7.5)	(16.6)	(4.5)	(11.4)	(9.4)	(1.6)
Energy	WTI	63.9	63.6	61.7	66.1	59.0	47.9	54.0	60.4	43.4	51.0	63.0
	Change, %		0.6	3.6	(3.4)	8.4	33.5	18.4	5.8	47.3	25.4	1.5
	Brent	67.5	67.3	65.7	70.5	63.9	52.4	56.0	66.9	45.1	54.9	67.5
	Change, %		0.3	2.8	(4.2)	5.7	28.8	20.6	1.0	49.8	23.1	0.0
	Natural Gas	2.6	2.6	2.6	3.5	2.8	2.9	2.6	3.0	2.6	3.0	2.9
	Change, %		0.5	3.2	(24.7)	(6.2)	(8.7)	0.5	(10.6)	3.4	(12.7)	(9.9)
	Ethanol	1.5	1.5	1.5	1.4	1.4	1.5	1.5	1.3	1.5	1.5	1.4
	Change, %		0.3	(0.5)	8.4	7.7	(1.6)	(1.9)	11.8	(2.6)	(1.4)	6.0
	RBOB Gasoline	182.7	180.9	175.1	193.8	178.8	166.7	151.5	179.9	140.0	162.9	181.9
	Change, %		1.0	4.3	(5.7)	2.2	9.6	20.6	1.5	30.5	12.1	0.4
	Coal	104.6	105.1	105.3	106.5	96.6	98.6	80.0	100.8	65.5	88.2	105.0
	Change, %		(0.5)	(0.7)	(1.8)	8.3	6.1	30.8	3.8	59.8	18.6	(0.4)
Metal	Gold	1,333.5	1,328.8	1,346.6	1,349.7	1,288.8	1,291.4	1,257.2	1,302.6	1,248.5	1,258.6	1,332.1
	Change, %		0.4	(1.0)	(1.2)	3.5	3.3	6.1	2.4	6.8	5.9	0.1
	Silver	16.7	16.5	16.7	17.4	17.1	17.1	18.4	16.9	17.1	17.1	16.9
	Change, %		0.8	(0.1)	(4.3)	(2.4)	(2.4)	(9.3)	(1.7)	(2.6)	(2.4)	(1.5)
	Copper	7,110.0	7,095.0	7,118.0	7,085.0	7,002.0	6,666.0	5,928.0	7,247.0	4,872.0	6,199.4	7,079.7
	Change, %		0.2	(0.1)	0.4	1.5	6.7	19.9	(1.9)	45.9	14.7	0.4
	Nickel	899.0	889.9	875.3	868.2	773.9	729.3	723.7	809.1	646.4	680.2	843.9
	Change, %		1.0	2.7	3.5	16.2	23.3	24.2	11.1	39.1	32.2	6.5
	Zinc	3,531.0	3,503.0	3,555.0	3,478.0	3,235.5	3,063.5	2,829.0	3,319.0	2,097.5	2,888.5	3,448.1
	Change, %		0.8	(0.7)	1.5	9.1	15.3	24.8	6.4	68.3	22.2	2.4
	Lead	2,581.0	2,533.0	2,584.0	2,602.5	2,479.3	2,306.3	2,257.5	2,482.8	1,868.3	2,315.7	2,583.9
	Change, %		1.9	(0.1)	(0.8)	4.1	11.9	14.3	4.0	38.1	11.5	(0.1)
	Aluminum	14,200.0	14,210.0	14,215.0	14,610.0	14,920.0	16,465.0	13,640.0	15,020.0	12,373.5	14,556.6	14,509.6
	Change, %		(0.1)	(0.1)	(2.8)	(4.8)	(13.8)	4.1	(5.5)	14.8	(2.4)	(2.1)
	Cobalt	81,390.0	80,725.0	81,000.0	79,623.0	63,250.0	60,750.0	47,750.0	75,205.0	25,480.1	55,906.9	78,864.6
	Change, %		0.8	0.5	2.2	28.7	34.0	70.5	8.2	219.4	45.6	3.2
	HR Coil	746.0	745.0	751.0	679.0	611.0	621.0	620.0	662.0	519.3	620.1	703.8
	Change, %		0.1	(0.7)	9.9	22.1	20.1	20.3	12.7	43.7	20.3	6.0
	Scrap	385.0	385.0	380.0	375.0	359.0	372.0	350.0	367.0	275.7	344.7	377.0
	Change, %		0.0	1.3	2.7	7.2	3.5	10.0	4.9	39.7	11.7	2.1

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		02/26	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	63.9	63.6	61.7	66.1	58.1	46.6	54.1	53.7	43.4	50.9	63.0
	Change, %		*0.6*	*3.6*	*(3.4)*	*10.0*	*37.2*	*18.2*	*19.0*	*47.4*	*25.6*	*1.5*
	Dubai	63.9	62.8	61.8	67.4	61.5	50.6	55.2	53.8	41.3	53.1	64.6
	Change, %		*1.8*	*3.4*	*(5.2)*	*3.9*	*26.4*	*15.8*	*18.7*	*54.7*	*20.4*	*(1.0)*
Crude Oil Product	**Gasoline(휘발유)**	77.5	76.1	75.6	80.4	76.0	69.0	68.9	69.8	56.3	68.0	77.8
	Change, %		*1.8*	*2.5*	*(3.6)*	*1.9*	*12.4*	*12.4*	*10.9*	*37.7*	*13.9*	*(0.5)*
	Kerosene(등유)	83.9	81.5	78.6	83.2	75.1	63.7	67.0	66.4	52.9	65.2	80.4
	Change, %		*2.9*	*6.7*	*0.9*	*11.7*	*31.6*	*25.3*	*26.2*	*58.6*	*28.6*	*4.4*
	Diesel(경유)	78.7	77.3	76.3	83.2	74.4	64.1	67.6	65.5	52.1	65.6	79.2
	Change, %		*1.8*	*3.2*	*(5.3)*	*5.8*	*22.9*	*16.5*	*20.2*	*51.1*	*20.0*	*(0.5)*
	Bunker-C	57.8	57.1	56.9	59.9	56.8	47.4	50.8	52.1	35.5	49.7	58.0
	Change, %		*1.2*	*1.7*	*(3.4)*	*1.8*	*22.1*	*13.8*	*11.1*	*62.8*	*16.5*	*(0.3)*
	Naphtha	62.3	61.2	60.9	65.4	65.5	51.4	55.5	53.5	42.6	53.7	63.9
	Change, %		*1.8*	*2.3*	*(4.7)*	*(4.9)*	*21.3*	*12.3*	*16.6*	*46.3*	*16.0*	*(2.4)*
Dubai Spread	**Gasoline(휘발유)**	13.6	13.4	13.8	13.0	14.5	18.4	13.7	16.0	14.9	14.9	13.3
	Change		*0.2*	*(0.2)*	*0.6*	*(0.9)*	*(4.8)*	*(0.1)*	*(2.4)*	*(1.4)*	*(1.3)*	*0.3*
	Kerosene(등유)	20.0	18.7	16.8	15.8	13.6	13.2	11.8	12.6	11.6	12.1	15.8
	Change		*1.3*	*3.1*	*4.2*	*6.4*	*6.8*	*8.2*	*7.4*	*8.4*	*7.8*	*4.2*
	Diesel(경유)	14.8	14.5	14.5	15.8	12.9	13.5	12.4	11.7	10.8	12.5	14.6
	Change		*0.3*	*0.3*	*(0.9)*	*1.9*	*1.3*	*2.5*	*3.2*	*4.0*	*2.3*	*0.2*
	Bunker-C	(6.1)	(5.6)	(4.9)	(7.5)	(4.7)	(3.2)	(4.4)	(1.8)	(5.8)	(3.4)	(6.6)
	Change		*(0.4)*	*(1.2)*	*1.5*	*(1.4)*	*(2.9)*	*(1.7)*	*(4.3)*	*(0.3)*	*(2.6)*	*0.5*
	Naphtha	(1.6)	(1.6)	(0.9)	(2.0)	4.0	0.8	0.3	(0.4)	1.3	0.6	(0.7)
	Change		*(0.0)*	*(0.7)*	*0.4*	*(5.6)*	*(2.4)*	*(1.9)*	*(1.2)*	*(2.9)*	*(2.2)*	*(0.9)*
Refining Margin	**Simple(단순)**	2.7	2.7	3.0	1.7	2.7	4.1	2.4	3.8	1.9	3.2	2.0
	Change		*(0.0)*	*(0.3)*	*1.0*	*(0.0)*	*(1.4)*	*0.3*	*(1.1)*	*0.8*	*(0.4)*	*0.7*
	Complex(복합)	8.0	7.9	8.1	7.6	8.0	9.4	7.3	8.3	7.0	8.0	7.6
	Change		*0.1*	*(0.1)*	*0.4*	*(0.0)*	*(1.5)*	*0.6*	*(0.3)*	*1.0*	*(0.0)*	*0.4*
	Complex(lagging)	5.0	4.1	3.6	12.6	13.3	10.9	9.1	18.0	8.5	8.9	8.7
	Change		*0.9*	*1.4*	*(7.6)*	*(8.3)*	*(5.9)*	*(4.1)*	*(13.0)*	*(3.5)*	*(3.9)*	*(3.7)*

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			02/26	02/23	02/22	02/21	02/20	02/19	02/15	02/14	02/13	02/12
Spot Price	**Naphtha**	CFR Japan	573.3	563.8	552.5	550.8	558.3	560.9	562.8	538.5	539.3	543.3
	Ethylene	CFR SE Asia	1,180.0	1,180.0	1,195.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0
	Propylene	FOB Korea	1,035.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0
	Butadiene	FOB Korea	1,390.0	1,390.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0	1,355.0
	HDPE	CFR FE Asia	1,360.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0
	LDPE	CFR FE Asia	1,250.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0
	LLDPE	CFR FE Asia	1,210.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,210.0
	MEG	CFR China	1,053.0	1,025.0	1,025.0	1,015.0	1,015.0	1,015.0	1,015.0	1,015.0	1,015.0	1,015.0
	PP	CFR FE Asia	1,210.0	1,220.0	1,220.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0	1,210.0
	PX	CFR China	972.0	960.0	957.0	950.0	952.3	947.3	939.8	932.3	929.3	928.7
	PTA	CFR China	785.0	769.0	765.0	760.0	760.0	760.0	760.0	760.0	760.0	760.0
	Benzene	FOB Korea	911.0	909.0	908.0	908.0	916.7	908.7	894.0	873.0	872.0	874.7
	Toluene	FOB Korea	729.5	729.5	729.5	730.5	735.5	730.5	726.0	712.0	717.0	718.0
	Xylene	FOB Korea	795.5	790.5	780.5	780.5	781.5	781.5	777.0	773.0	774.0	770.0
	SM	FOB Korea	1,433.0	1,414.0	1,416.0	1,416.0	1,416.0	1,416.0	1,416.0	1,411.0	1,411.0	1,392.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	565.0	550.5	603.0	574.5	526.5	511.5	484.5	399.5	493.5	589.4
	Change, %			*2.6*	*(6.3)*	*(1.7)*	*7.3*	*10.5*	*16.6*	*41.4*	*14.5*	*(4.1)*
	Ethylene	CFR SE Asia	1,172.5	1,210.0	1,295.0	1,165.0	1,175.0	1,185.0	990.0	1,040.9	1,090.9	1,259.3
	Change, %			*(3.1)*	*(9.5)*	*0.6*	*(0.2)*	*(1.1)*	*18.4*	*12.6*	*7.5*	*(6.9)*
	Propylene	CFR SE Asia	1,015.0	1,025.0	995.0	810.0	795.0	1,030.0	815.0	705.7	823.6	1,058.6
	Change, %			*(1.0)*	*2.0*	*25.3*	*27.7*	*(1.5)*	*24.5*	*43.8*	*23.2*	*(4.1)*
	Butadiene	CFR SE Asia	1,350.0	1,350.0	1,250.0	965.0	1,175.0	2,925.0	2,100.0	1,116.8	1,481.1	1,275.0
	Change, %			*0.0*	*8.0*	*39.9*	*14.9*	*(53.8)*	*(35.7)*	*20.9*	*(8.8)*	*5.9*
	Benzene	CFR SE Asia	895.0	910.0	947.5	860.0	802.5	1,055.0	822.5	646.7	838.8	924.3
	Change, %			*(1.6)*	*(5.5)*	*4.1*	*11.5*	*(15.2)*	*8.8*	*38.4*	*6.7*	*(3.2)*
	Toluene	CFR SE Asia	750.0	760.0	755.0	715.0	695.0	765.0	690.0	630.5	689.5	753.6
	Change, %			*(1.3)*	*(0.7)*	*4.9*	*7.9*	*(2.0)*	*8.7*	*19.0*	*8.8*	*(0.5)*
	Xylene	CFR SE Asia	757.5	760.0	740.0	670.0	652.5	725.0	675.0	627.7	668.8	749.6
	Change, %			*(0.3)*	*2.4*	*13.1*	*16.1*	*4.5*	*12.2*	*20.7*	*13.3*	*1.0*
Spread	**Ethylene**	-Naphtha	607.5	659.5	692.0	590.5	648.5	673.5	505.5	641.4	597.4	669.9
	Change, %			*(7.9)*	*(12.2)*	*2.9*	*(6.3)*	*(9.8)*	*20.2*	*(5.3)*	*1.7*	*(9.3)*
	Propylene	-Naphtha	450.0	474.5	392.0	235.5	268.5	518.5	330.5	306.2	330.1	469.1
	Change, %			*(5.2)*	*14.8*	*91.1*	*67.6*	*(13.2)*	*36.2*	*47.0*	*36.3*	*(4.1)*
	Butadiene	-Naphtha	785.0	799.5	647.0	390.5	648.5	2,413.5	1,615.5	717.3	987.6	685.6
	Change, %			*(1.8)*	*21.3*	*101.0*	*21.0*	*(67.5)*	*(51.4)*	*9.4*	*(20.5)*	*14.5*
	Benzene	-Naphtha	330.0	359.5	344.5	285.5	276.0	543.5	338.0	247.2	345.3	334.9
	Change, %			*(8.2)*	*(4.2)*	*15.6*	*19.6*	*(39.3)*	*(2.4)*	*33.5*	*(4.4)*	*(1.5)*
	Toluene	-Naphtha	185.0	209.5	152.0	140.5	168.5	253.5	205.5	231.0	196.0	164.1
	Change, %			*(11.7)*	*21.7*	*31.7*	*9.8*	*(27.0)*	*(10.0)*	*(19.9)*	*(5.6)*	*12.7*
	Xylene	-Naphtha	192.5	209.5	137.0	95.5	126.0	213.5	190.5	228.2	175.3	160.2
	Change, %			*(8.1)*	*40.5*	*101.6*	*52.8*	*(9.8)*	*1.0*	*(15.7)*	*9.8*	*20.2*

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

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**HDPE**	CFR SE Asia	1,280.0	1,282.5	1,217.5	1,197.5	1,187.5	1,177.5	1,142.5	1,134.6	1,142.5	1,239.3
	Change, %			(0.2)	5.1	6.9	7.8	8.7	12.0	12.8	12.0	3.3
	MEG	CFR SE Asia	1,027.5	1,027.5	1,012.5	892.5	917.5	897.5	847.5	660.8	850.6	1,017.9
	Change, %			0.0	1.5	15.1	12.0	14.5	21.2	55.5	20.8	0.9
	PVC	CFR SE Asia	980.0	970.0	925.0	850.0	910.0	940.0	920.0	823.4	899.9	930.0
	Change, %			1.0	5.9	15.3	7.7	4.3	6.5	19.0	8.9	5.4
	PP	CFR SE Asia	1,275.0	1,277.5	1,207.5	1,147.5	1,167.5	1,107.5	1,032.5	978.4	1,099.6	1,234.3
	Change, %			(0.2)	5.6	11.1	9.2	15.1	23.5	30.3	16.0	3.3
	2-EH	CFR Korea	1,080.0	1,100.0	1,095.0	990.0	1,000.0	990.0	865.0	772.4	970.0	1,064.3
	Change, %			(1.8)	(1.4)	9.1	8.0	9.1	24.9	39.8	11.3	1.5
	ABS	CFR SE Asia	2,060.0	2,060.0	2,020.0	1,930.0	1,950.0	1,940.0	1,635.0	1,347.1	1,844.7	2,038.6
	Change, %			0.0	2.0	6.7	5.6	6.2	26.0	52.9	11.7	1.1
	SBR	CFR SE Asia	1,755.0	1,755.0	1,650.0	1,590.0	1,750.0	3,100.0	2,000.0	1,483.0	1,980.5	1,710.0
	Change, %			0.0	6.4	10.4	0.3	(43.4)	(12.3)	18.3	(11.4)	2.6
	SM	CFR SE Asia	1,437.5	1,422.5	1,382.5	1,280.0	1,217.5	1,495.0	1,205.0	1,064.6	1,253.8	1,402.1
	Change, %			1.1	4.0	12.3	18.1	(3.8)	19.3	35.0	14.7	2.5
	Caustic	FOB NEA	549.0	549.0	601.0	700.0	550.0	427.5	422.5	316.6	491.2	574.4
	Change, %			0.0	(8.7)	(21.6)	(0.2)	28.4	29.9	73.4	11.8	(4.4)
	PX	CFR SE Asia	957.5	942.5	952.5	892.5	845.0	907.5	855.0	790.4	844.4	953.6
	Change, %			1.6	0.5	7.3	13.3	5.5	12.0	21.1	13.4	0.4
	PO	CFR China	1,907.5	1,892.5	1,962.5	1,782.5	1,685.0	1,557.5	1,562.5	1,396.8	1,601.2	1,943.2
	Change, %			0.8	(2.8)	7.0	13.2	22.5	22.1	36.6	19.1	(1.8)
	Caprolactam	CFR SE Asia	2,060.0	2,070.0	2,020.0	2,040.0	2,070.0	2,275.0	1,850.0	1,344.9	1,936.4	2,041.4
	Change, %			(0.5)	2.0	1.0	(0.5)	(9.5)	11.4	53.2	6.4	0.9
	PTA	CFR SE Asia	782.5	782.5	745.0	707.5	667.5	702.5	642.5	613.7	667.8	760.7
	Change, %			0.0	5.0	10.6	17.2	11.4	21.8	27.5	17.2	2.9
Spread	**HDPE**		715.0	732.0	614.5	623.0	661.0	666.0	658.0	735.1	649.0	649.9
	Change, %			(2.3)	16.4	14.8	8.2	7.4	8.7	(2.7)	10.2	10.0
	MEG		462.5	477.0	409.5	318.0	391.0	386.0	363.0	261.3	357.1	428.4
	Change, %			(3.0)	12.9	45.4	18.3	19.8	27.4	77.0	29.5	8.0
	PVC		415.0	419.5	322.0	275.5	383.5	428.5	435.5	423.9	406.4	340.6
	Change, %			(1.1)	28.9	50.6	8.2	(3.2)	(4.7)	(2.1)	2.1	21.9
	PP		710.0	727.0	604.5	573.0	641.0	596.0	548.0	578.9	606.1	644.9
	Change, %			(2.3)	17.5	23.9	10.8	19.1	29.6	22.6	17.1	10.1
	2-EH		515.0	549.5	492.0	415.5	473.5	478.5	380.5	372.9	476.5	474.9
	Change, %			(6.3)	4.7	23.9	8.8	7.6	35.3	38.1	8.1	8.5
	ABS		1,495.0	1,509.5	1,417.0	1,355.5	1,423.5	1,428.5	1,150.5	947.6	1,351.2	1,449.1
	Change, %			(1.0)	5.5	10.3	5.0	4.7	29.9	57.8	10.6	3.2
	SBR	BD spread	405.0	405.0	400.0	625.0	575.0	175.0	(100.0)	366.2	499.4	435.0
	Change, %			0.0	1.3	(35.2)	(29.6)	131.4	(505.0)	10.6	(18.9)	(6.9)
	SM		872.5	872.0	779.5	705.5	691.0	983.5	720.5	665.1	760.3	812.7
	Change, %			0.1	11.9	23.7	26.3	(11.3)	21.1	31.2	14.8	7.4
	Caustic											
	Change, %											
	PX		392.5	392.0	349.5	318.0	318.5	396.0	370.5	390.9	351.0	364.1
	Change, %			0.1	12.3	23.4	23.2	(0.9)	5.9	0.4	11.8	7.8
	PO	propylene sprea	892.5	867.5	967.5	972.5	890.0	527.5	747.5	691.1	777.6	884.6
	Change, %			2.9	(7.8)	(8.2)	0.3	69.2	19.4	29.1	14.8	0.9
	Caprolactam	benzene spreac	1,165.0	1,160.0	1,072.5	1,180.0	1,267.5	1,220.0	1,027.5	698.2	1,097.6	1,117.1
	Change, %			0.4	8.6	(1.3)	(8.1)	(4.5)	13.4	66.9	6.1	4.3
	PTA	px spread	112.3	122.8	78.3	82.8	76.0	67.3	44.0	60.4	76.7	93.2
	Change, %			(8.6)	43.5	35.6	47.7	66.9	155.1	85.8	46.4	20.4

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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SK 증권

Global peers

	Currency	02/26	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	74.1	1.1	2.9	(3.8)	4.1	14.8	16.5	4.0	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	104.2	0.7	4.1	1.9	14.3	22.8	30.0	12.5	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	89.3	1.1	2.8	(6.6)	(5.8)	8.7	2.2	(2.6)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	80.2	1.1	1.6	6.7	2.9	2.5	27.8	9.8	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	108.0	1.5	7.8	1.5	3.4	15.9	18.5	6.4	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.8	0.9	2.2	(4.5)	8.9	5.6	7.6	3.7	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	668	0.1	(1.0)	(19.4)	(16.6)	1.5	4.0	(17.5)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,099	(0.8)	(0.5)	(9.1)	(7.0)	9.5	25.3	(11.2)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	11,460	1.1	(0.4)	(8.4)	(10.1)	19.3	17.5	0.1	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,381	0.1	1.4	(5.4)	(1.1)	9.2	24.8	(5.0)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,451	0.2	3.4	7.2	13.2	15.9	24.6	10.5	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,882	2.3	5.1	(11.6)	(19.3)	(7.9)	(6.8)	(11.3)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	105.2	(0.0)	0.1	(3.4)	4.9	6.6	7.5	3.7	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	67.9	0.3	3.0	6.3	19.2	21.8	20.9	15.2	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	103.5	(0.5)	2.5	0.0	11.9	10.2	11.8	4.9	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	109.0	0.0	3.3	(1.8)	16.2	16.2	12.1	5.8	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	80.3	1.5	5.4	(1.6)	6.4	6.6	7.6	3.1	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	6.00	1.4	3.6	(12.3)	(6.7)	(6.7)	(10.4)	(5.2)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.32	0.4	2.2	(20.8)	(22.7)	(27.5)	(41.3)	(13.1)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	939	0.5	1.3	(2.8)	(1.3)	19.7	58.7	3.2	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	108.4	(0.2)	0.5	(4.5)	17.5	17.1	(9.7)	11.7	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	97.5	2.9	3.4	1.0	23.4	31.8	33.1	14.7	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.1	(0.7)	(0.6)	0.9	9.5	12.1	8.6	4.5	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	394,000	1.3	2.7	(9.5)	(7.0)	6.9	40.2	(2.7)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	468,000	1.5	4.1	15.1	33.5	20.3	29.1	27.2	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	33,800	0.0	0.7	(5.3)	11.7	(5.3)	32.0	7.0	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	92,800	4.7	(2.3)	(10.3)	18.1	20.5	20.2	(6.7)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	38,700	1.3	2.2	(12.9)	(11.2)	3.2	18.2	(17.7)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	60,300	1.5	4.0	(4.3)	(11.1)	11.7	16.2	(4.4)	359	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
효성	KRW	9,840	2.0	7.5	(7.6)	27.1	36.7	21.5	29.8	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.9**	**2.4**	**(4.2)**	**4.2**	**10.7**	**15.6**	**2.7**							
Refinery																
Valero	USD	93.3	0.9	0.0	(5.5)	13.4	37.9	39.9	1.5	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	56.6	(0.8)	3.5	(6.3)	12.1	29.9	20.3	3.1	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	118.0	2.2	5.8	(4.8)	9.8	12.4	10.3	2.2	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	94.5	0.0	(1.7)	(17.2)	(9.1)	(1.0)	7.5	(17.3)	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	66.3	(0.8)	(2.4)	(7.6)	6.9	28.2	32.5	0.5	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	31.6	0.6	(7.3)	(27.9)	(16.9)	1.4	(26.2)	(23.6)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	45.1	0.1	(2.9)	(7.7)	2.3	52.4	55.7	(12.0)	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	92.5	0.8	0.6	(13.2)	(1.2)	10.9	18.6	(8.5)	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	26.4	0.3	(0.6)	(24.0)	(7.8)	14.2	(6.1)	(14.8)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	674.3	(0.1)	0.9	(8.5)	6.5	24.2	26.8	(7.2)	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,105.0	(0.1)	2.1	(1.9)	9.2	51.0	14.3	(9.3)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	60.7	(1.7)	4.3	9.1	19.8	69.7	78.4	13.9	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	71.5	0.1	(1.1)	(1.3)	0.9	16.3	19.8	0.4	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	46.9	(0.3)	3.5	8.2	3.8	(0.9)	7.8	6.0	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	209,000	4.8	6.4	5.6	2.0	15.8	36.6	2.2	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	123,500	3.8	2.9	6.9	2.9	5.6	46.7	5.6	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	67,100	3.9	4.8	(2.3)	10.9	(1.5)	24.3	7.9	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.8**	**1.1**	**(5.8)**	**3.9**	**21.6**	**24.0**	**(2.9)**							

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

Global peers

	Currency	02/26	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	79	1.7	3.0	(11.4)	(3.2)	2.8	(2.8)	(5.7)	334,053	16.6	17.1	1.8	1.7	7.8	8.0
BP	GBP	481	1.0	1.4	(6.9)	(4.1)	7.9	7.5	(8.0)	133,780	15.0	14.0	1.4	1.3	5.3	5.1
Shell	EUR	2,279	0.9	0.8	(9.2)	(2.5)	6.3	9.9	(8.1)	267,332	13.4	12.5	1.3	1.3	5.9	5.6
Chevron	USD	115	1.8	2.2	(12.6)	(1.6)	5.9	4.1	(8.5)	218,915	18.3	18.2	1.5	1.5	6.4	6.3
Total	EUR	47	0.6	3.2	(0.3)	0.0	9.3	(0.8)	2.9	147,867	12.4	12.0	1.3	1.2	5.3	5.0
Sinopec	CNY	7	0.8	5.1	(10.2)	7.3	10.0	14.1	8.2	121,744	12.6	11.9	1.0	1.0	4.5	4.4
Petrochina	CNY	8	0.9	3.0	(11.3)	(1.7)	2.4	0.0	2.1	226,937	28.2	15.6	1.2	1.1	5.9	5.2
CNOOC	CNY	11	2.1	5.9	(19.2)	0.7	(1.9)	(15.9)	5.4	66,657	9.3	9.2	1.0	0.9	3.8	3.6
Gazprom	RUB	147	0.7	6.3	(0.1)	10.1	24.7	7.5	12.6	62,342	4.0	4.1	0.3	0.2	3.6	3.6
Rosneft	RUB	342	1.3	5.5	(2.8)	12.5	13.4	(0.3)	17.3	64,894	8.0	7.1	0.9	0.8	4.8	4.4
Anadarko	USD	60	(0.7)	2.1	(2.3)	25.5	42.6	(6.7)	12.6	32,162	48.8	40.0	2.3	2.2	6.6	5.9
Petrobras	BRL	22	1.9	7.3	8.0	33.7	55.0	41.8	33.7	90,538	10.3	8.5	0.9	0.8	5.4	5.0
Lukoil	USD	3,840	0.1	3.4	0.5	13.1	31.7	20.6	15.1	57,974	6.6	6.6	0.8	0.7	N/A	N/A
Kinder	USD	17	(0.5)	(0.8)	(9.9)	(1.6)	(11.7)	(20.3)	(6.4)	47,497	21.1	19.1	1.1	1.1	10.3	10.0
Statoil	NOK	182	0.6	3.6	(1.8)	9.7	24.7	23.8	3.9	77,311	15.7	14.9	1.8	1.8	3.5	3.3
BHP	AUD	31	0.6	(1.8)	0.0	10.3	15.7	23.1	4.4	123,270	16.8	17.7	2.1	2.0	6.5	6.5
PTT E&P	THB	118	2.2	4.9	(1.3)	26.9	38.0	27.9	18.0	14,972	13.6	12.9	1.2	1.1	3.8	3.7
Petronas gas	MYR	18	(0.1)	(5.4)	(3.5)	5.4	(6.5)	(14.0)	1.0	8,940	18.5	17.9	2.7	2.6	10.4	10.1
Chesapeake	USD	3	0.3	17.6	(19.8)	(18.1)	(15.3)	(43.3)	(18.9)	2,919	4.0	3.9	#N/A N/A	4.7	6.1	5.9
Noble Energy	USD	31	2.5	19.6	(3.4)	20.9	32.9	(14.5)	7.9	15,303	42.4	27.7	1.4	1.4	7.4	6.3
Average		**0**	**0.9**	**4.3**	**(5.9)**	**7.2**	**14.4**	**3.1**	**4.5**							
PV																
WACKER	EUR	139.1	0.1	(0.1)	(20.1)	(0.6)	30.3	36.1	(14.3)	8,926	20.0	17.4	2.1	2.0	6.9	6.6
GCL-Poly	HKD	1.3	(3.1)	3.3	(1.6)	(11.3)	41.6	17.8	(10.0)	2,994	7.2	6.3	0.7	0.6	5.7	5.2
SunPower	USD	7.6	6.1	(0.5)	(6.6)	(5.7)	(17.2)	(14.5)	(9.8)	1,063	#N/A N/A	107.0	3.2	2.5	12.9	8.3
Canadian Solar	USD	15.8	2.1	0.4	(1.6)	(12.6)	2.1	6.7	(6.3)	916	8.2	9.0	0.9	0.8	8.7	9.3
JA Solar	USD	7.4	0.7	1.1	0.1	1.1	16.6	40.1	(0.3)	354	14.1	11.8	1.6	1.6	4.0	3.6
Yingli	USD	1.7	3.7	4.3	(6.7)	(21.5)	(33.6)	(38.0)	(0.6)	31	#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	65.1	5.4	(1.1)	(7.7)	7.4	37.3	71.8	(3.6)	6,801	40.1	19.6	1.2	1.2	11.2	6.6
한화큐셀	USD	8.7	1.3	7.4	20.6	11.4	16.8	(8.9)	23.5	722	39.4	28.0	#N/A N/A	#N/A N/A	8.7	7.9
OCI	KRW	166,000	3.4	3.8	5.4	25.3	73.3	81.2	22.1	3,697	0.0	16.0	0.0	1.1	0.0	7.5
웅진에너지	KRW	7,320	(2.4)	(4.3)	(19.0)	(23.8)	(15.9)	55.9	(10.9)	203	N/A	0.0	1.1	0.0	7.5	0.0
신성솔라에너지	KRW	1,865	(0.8)	(0.5)	(4.6)	(9.5)	(14.1)	(2.9)	(2.6)	301	N/A	1.1	0.0	7.5	0.0	8.3
Average			**1.5**	**1.2**	**(3.8)**	**(3.6)**	**12.5**	**22.3**	**(1.2)**							
Gas Company																
Towngas China	HKD	6.5	(0.9)	2.4	0.2	3.5	27.2	52.6	3.5	2,300	13.4	12.1	1.1	1.1	11.7	10.8
Kulun	HKD	7.3	0.4	4.0	(8.8)	10.4	2.7	8.6	(10.1)	7,553	9.9	8.7	1.1	1.0	5.4	5.1
Beijing Enterprise	HKD	44.1	0.6	1.0	(11.3)	(1.3)	7.8	7.6	(5.1)	7,106	7.7	6.9	0.8	0.7	13.9	13.0
ENN Energy	HKD	60.1	(2.0)	(5.7)	(3.9)	2.4	23.1	53.4	7.7	8,324	13.4	11.5	2.5	2.2	8.2	7.2
China Resources Gas	HKD	27.0	0.6	1.9	(1.3)	(5.4)	0.9	12.5	(4.8)	7,675	14.1	12.7	2.6	2.3	8.3	7.7
China Gas Holdings	HKD	24.6	(1.6)	1.4	(2.4)	4.9	33.1	106.4	13.9	15,623	16.8	14.3	4.1	3.4	13.2	11.4
Shenzen Gas	HKD	16.2	0.2	3.9	(1.2)	9.9	8.5	42.3	8.6	4,198	11.1	10.3	1.4	1.2	8.0	8.0
Shann Xi	CNY	7.4	0.8	3.8	(8.5)	(6.8)	(13.8)	(23.9)	(12.3)	1,303	12.9	16.4	1.4	1.3	#N/A N/A	#N/A N/A
Suntien	HKD	1.9	(1.0)	2.1	(5.0)	(6.3)	13.6	45.5	(7.2)	912	5.6	4.9	0.6	0.5	8.4	7.3
China Oil & Gas	HKD	0.7	(2.8)	(2.8)	(12.5)	27.3	32.1	11.1	(17.6)	521	10.8	9.3	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(0.6)**	**1.2**	**(5.5)**	**3.8**	**13.5**	**31.6**	**(2.3)**							
EV																
LG화학	KRW	394,000	1.3	2.7	(9.5)	(7.0)	6.9	40.2	(2.7)	25,973	13.7	12.8	1.7	1.5	6.4	6.0
삼성SDI	KRW	177,000	(2.7)	(3.0)	(14.5)	(23.9)	(7.3)	41.6	(13.4)	11,366	12.7	9.9	1.0	0.9	11.4	9.2
Panasonic	JPY	1670.5	1.5	1.3	0.7	(1.4)	14.9	32.7	1.3	38,294	16.0	13.9	2.1	1.9	6.1	5.7
GS Yuasa	JPY	599.0	(0.3)	1.0	0.5	2.9	13.7	16.3	6.8	2,315	17.1	15.5	1.4	1.3	7.2	6.7
NEC	JPY	3245.0	0.9	1.6	2.5	12.5	11.1	15.5	6.7	7,899	21.4	15.3	0.9	0.9	7.0	6.4
BYD Auto	CNY	64.9	3.4	7.3	(0.9)	(8.2)	33.3	29.3	(0.2)	27,378	27.6	21.9	2.9	2.6	12.8	11.0
Tesla Motors	USD	357.4	1.5	6.5	4.2	13.3	2.7	39.1	14.8	60,375	#N/A N/A	164.0	13.1	11.8	50.6	20.0
Kandi Technologies	USD	5.7	(0.9)	(1.7)	(11.7)	(24.7)	59.2	36.1	(16.9)	271	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**0.6**	**2.0**	**(3.6)**	**(4.5)**	**16.8**	**31.4**	**(0.5)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임