SK Energy Daily

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SK 증권

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1. News Summary (3 page)

News		Conclusion
WTI comment	이란 제재·파월 발언에 상승 마감	
Headline	[주간가격] 에틸렌, WoW $10/mt 상승해 CFR SEA $1,270/mt로 마감	동남아시아 PE 역마진은 가동률을 낮춰 에틸렌 가격 하락 압력 받을 것
News 1.	[주간가격] MEG, WoW $31/mt 상승해 CFR China $939/mt로 마감	국경절 리스탁킹 모멘텀으로 추가적인 상승도 가능할 것으로 판단됨
News 2.	[주간가격] BD, WoW $35/mt 상승해 FOB Korea $1,750/mt로 마감	중동 9월 도착 물량이 있지만 국경절 리스탁킹 모멘텀이 강세로 이끌 것
News 3.	[주간가격] SBR, WoW 플랫한 모습 보이며 CFR SEA $1,875/mt로 마감	국경절 리스탁킹 모멘텀으로 BD 가격 상승시 SBR 가격도 상승할 것
News 4.	[주간가격] PX, WoW $47.7/mt 상승해 FOB Korea $1,226.7/mt로 마감	태풍 피해는 없었지만 자체 수급 이슈로 지속 강세 시현할 것으로 보임

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	68.7	1.3	4.3	(0.8)	1.2	43.6
Dubai	$/bbl	74.0	1.2	5.1	2.1	(2.3)	46.4
Gasoline	$/bbl	86.1	0.8	3.1	1.9	(4.1)	26.6
Diesel	$/bbl	90.0	1.4	4.6	5.0	(0.7)	40.5
Complex margin	$/bbl	8.0	(0.0)	(0.7)	0.4	0.1	(1.2)
1M lagging	$/bbl	10.4	0.7	1.7	2.1	(2.0)	(2.0)
Petrochemical			%	%	%	%	%
Naphtha	$/t	660	0.7	3.7	1.0	(5.2)	39.7
Butadiene	$/t	1,750	0.0	2.0	4.2	1.7	42.3
HDPE	$/t	1,290	0.0	(0.8)	(1.5)	(5.8)	13.2
MEG	$/t	939	0.3	3.4	4.4	2.1	6.7
PX	$/t	1,227	0.5	4.0	21.8	22.2	52.0
SM	$/t	1,396	(0.9)	(1.4)	2.3	1.0	14.6
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.92	(1.6)	(1.0)	4.9	(1.7)	1.1
Natural rubber	$/t	1,350	0.0	2.3	3.1	(5.6)	(11.2)
Cotton	C/lbs	81.8	0.1	0.1	(8.1)	(8.3)	19.2

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	08/20	$/t	1,275	0.0	0.8	12.3	9.4
Propylene	08/20	$/t	1,048	1.0	5.8	2.4	35.2
Benzene	08/20	$/t	890	1.4	7.2	2.3	14.8
Toluene	08/20	$/t	820	(1.2)	3.8	(0.6)	25.2
Xylene	08/20	$/t	845	0.6	2.7	1.8	33.1
PP	08/20	$/t	1,233	0.0	(0.8)	(4.3)	11.3
PVC	08/20	$/t	950	0.5	1.1	3.3	6.7
ABS	08/20	$/t	1,960	0.0	2.1	(5.3)	4.8
SBR	08/20	$/t	1,875	2.5	6.5	1.9	21.8
SM	08/20	$/t	1,470	(0.3)	5.4	2.6	23.3
BPA	08/20	$/t	1,870	3.0	3.2	0.3	(7.5)
Caustic	08/20	$/t	421	14.1	0.2	(29.6)	(11.6)
2-EH	08/20	$/t	1,130	0.9	2.7	(5.0)	17.7
Caprolactam	08/20	$/t	2,155	0.0	0.0	3.1	19.7
Solar				%	%	%	%
Polysilicon	08/22	$/kg	11.3	(0.7)	3.3	(25.4)	(27.4)
Module	08/22	$/W	0.25	(0.4)	(1.6)	(14.6)	(21.5)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	79.6	0.7	1.7	(4.1)	(0.8)	4.3
Shell	EUR	2,564	1.0	3.7	(4.0)	(1.3)	20.1
Petrochina	CNY	8.13	0.9	1.8	7.4	(1.5)	2.1
Gazprom	RUB	143.6	1.5	1.8	3.4	(1.1)	23.2
Petrobras	BRL	18.3	1.9	(0.9)	(6.9)	(8.9)	32.6
Refinery							
Phillips66	USD	119.3	0.7	3.3	7.2	0.4	42.2
Valero	USD	120.6	2.1	8.6	12.4	(1.1)	78.8
JX	JPY	777.6	(0.2)	3.5	(2.5)	7.4	44.0
Neste Oil	EUR	74.5	1.1	2.2	11.1	10.8	112.3

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	79.7	0.7	2.4	(5.2)	(8.6)	(3.5)
DowDuPont	USD	69.2	1.6	2.1	3.4	4.3	7.6
SABIC	SAR	123.0	0.0	0.0	(4.9)	1.7	24.6
Formosa Pla.	TWD	112.5	(0.9)	3.2	2.7	1.4	20.3
Shin-Etsu	JPY	10,590	0.3	0.6	1.8	(6.5)	10.2
Renewable							
Wacker	EUR	125.8	3.4	4.5	6.3	(16.0)	18.5
First Solar	USD	52.08	1.0	2.1	(1.8)	(23.8)	10.3
GCL-Poly	HKD	0.53	(1.9)	0.0	(23.2)	(43.6)	(41.8)
Tesla Motors	USD	322.8	0.8	5.7	8.5	16.2	(8.5)

4. Coverage Summary

	08/24	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,293	0.5	2.1	0.9	(6.8)	(5.0)	(3.1)					
KOSPI화학	5,608	1.1	0.3	0.4	(5.2)	(6.5)	(1.7)					
LG화학	366,000	2.7	0.1	1.2	3.8	(2.8)	0.0	매수	400,000	9.3	14.46	1.63
롯데케미칼	311,500	0.2	(7.3)	(7.0)	(15.1)	(29.6)	(20.4)	매수	400,000	28.4	9.67	0.88
한화케미칼	19,600	0.5	(3.9)	(2.7)	(26.0)	(39.5)	(44.2)	매수	30,000	53.1	8.81	0.48
금호석유화학	102,500	2.0	0.0	(6.8)	(0.5)	15.8	32.1	매수	150,000	46.3	9.56	1.32
KCC	333,500	(0.3)	0.2	3.7	(3.9)	(8.1)	(13.9)	매수	400,000	19.9	28.91	0.51
OCI	109,500	0.9	(0.5)	13.0	(23.2)	(30.9)	17.7	매수	140,000	27.9	8.33	0.79
SKC	45,750	1.6	2.5	6.9	17.6	22.2	21.2	매수	50,000	9.3	12.48	1.08
SK이노베이션	197,500	1.0	(1.7)	1.0	(2.2)	2.3	15.5	매수	230,000	16.5	11.61	0.99
S-Oil	123,000	3.4	(1.6)	7.4	12.8	6.0	6.0	매수	140,000	13.8	14.04	2.05
GS	53,600	0.8	(0.2)	2.1	(9.5)	(14.5)	(21.9)	매수	80,000	49.3	4.97	0.60
SK가스	84,100	(0.5)	(2.0)	1.2	(18.3)	(8.2)	(23.5)	매수	130,000	54.6	7.95	0.57
포스코대우	17,800	(0.8)	(1.7)	0.3	(22.9)	(15.6)	(18.5)	매수	25,000	40.4	9.33	0.70
LG상사	22,250	(1.1)	(3.3)	(0.4)	(15.6)	(19.4)	(21.5)	매수	38,000	70.8	8.24	0.63
한국전력	30,750	0.5	0.3	(7.1)	(10.1)	(7.5)	(30.1)	매수	45,000	46.3	7.44	0.24
한국가스공사	53,900	0.9	(1.5)	(7.9)	(7.5)	15.5	17.9	매수	75,000	39.1	8.36	0.70

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

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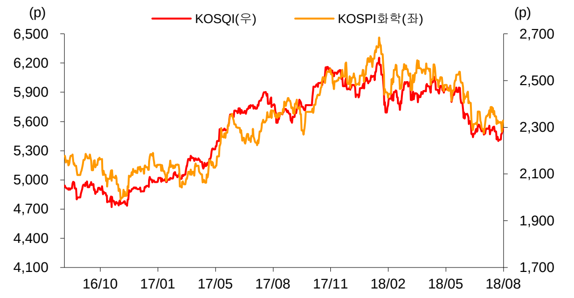
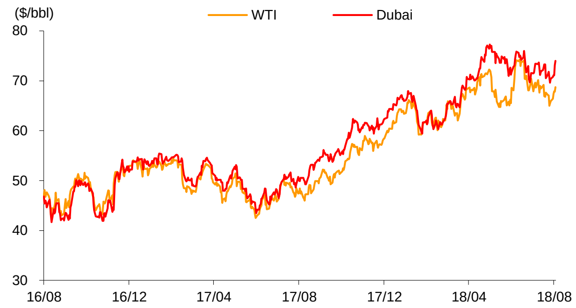
Key Chart

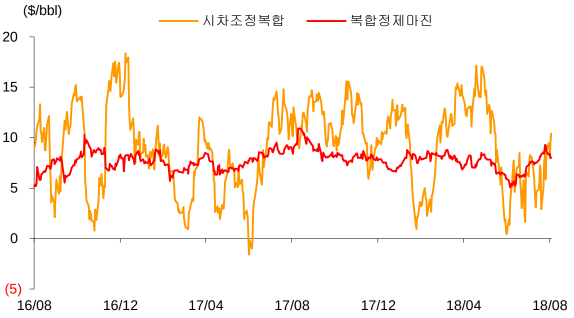
KOSPI/KOSPI화학



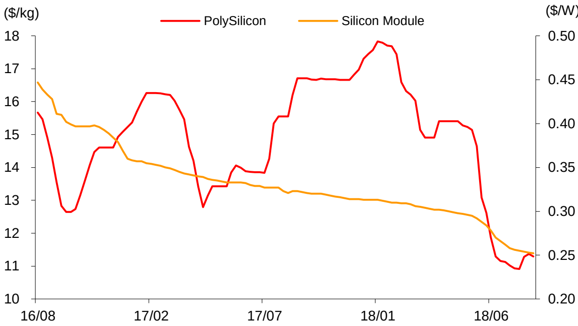
WTI/Dubai



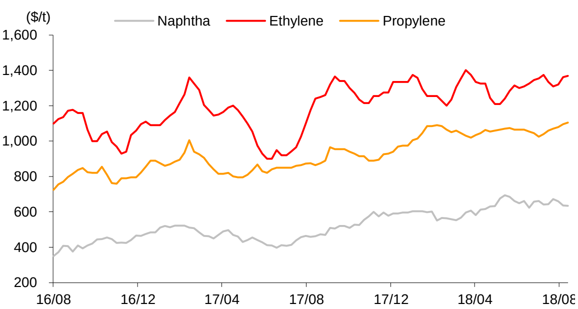
Complex & 1M lagging margin



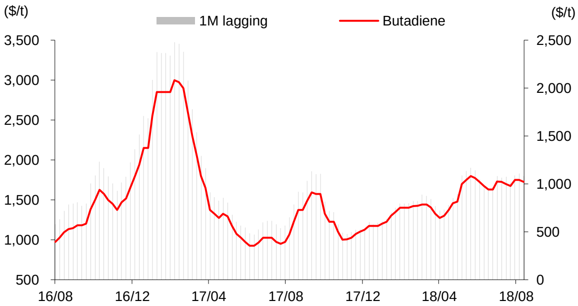
Polysilicon & Module prices



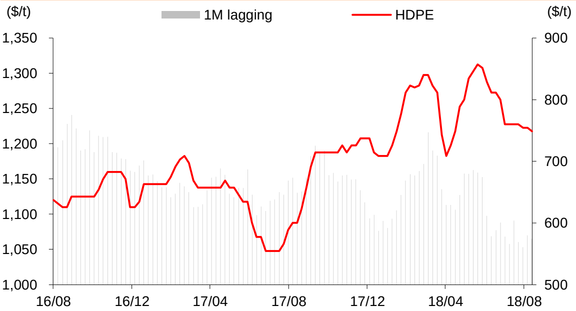
Naphtha/Ethylene/Propylene prices



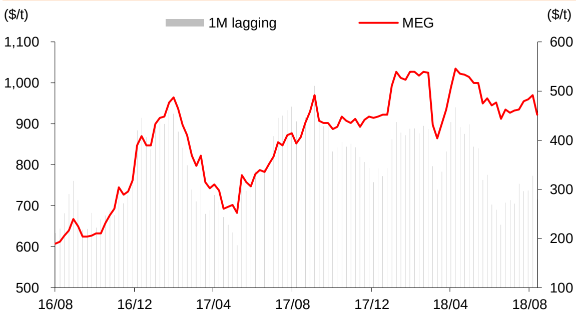
Butadiene price & 1M lagging naphtha spread



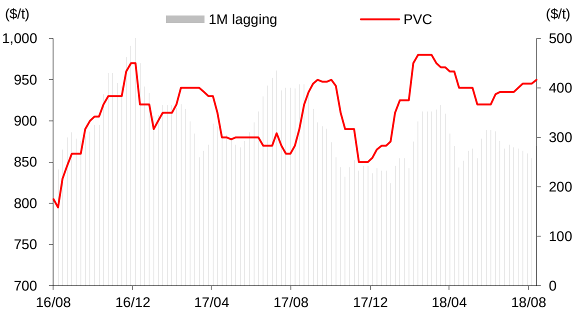
HDPE price & 1M lagging naphtha spread



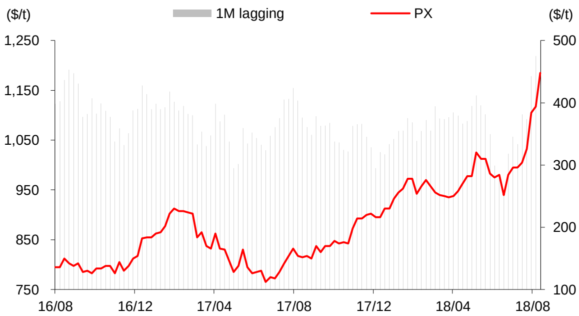
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



자료: Bloomberg, Cischem, Petronet, Platts, Pvinsights, SK증권
참고: 상기 데이터는 일괄적으로 과거 2년치 적용

News Comment

Headline	(출처: Platts)
제목	[주간가격] 에틸렌, WoW $10/mt 상승해 CFR SEA $1,270/mt로 마감
결론	동남아시아 PE 역마진은 가동률을 낮춰 에틸렌 가격 하락 압력 받을 것
세부	
	1) 이번 주 10월 도착 deepsea cargo의 유입으로 스팟 수요가 잦아들었음
	2) 관계자, "대부분의 크래커 TA가 10월에 끝나서 9월물 가격이 peak일 것"
	3) 그러나 동시에 대한민국 YNCC 셧다운이 길어지며 공급도 타이트해짐
	4) 일본 NCC 가동률은 7월 93%로 6월 96.7%, 전년 동기 96.1%보다 낮아짐
	5) 동남아시아 PE 역마진은 가동률을 낮춰 에틸렌 가격 하락 압력 받을 것

WTI Comment	(출처: 뉴시스)
제목	이란 제재·파월 발언에 상승 마감
상승	파월 의장이 점진적인 금리 인상 기조를 유지하겠다는 입장을 밝힘
요인	미국이 11월 이란 석유 수출을 금지하면 공급이 위축될 것이라는 전망
하락	
요인	

Issue 1	(출처: Platts)
제목	[주간가격] MEG, WoW $31/mt 상승해 CFR China $939/mt로 마감
결론	국경절 리스탁킹 모멘텀으로 추가적인 상승도 가능할 것으로 판단됨
세부	
	1) 트레이더, "중국 원자재 시장은 지난 한 달 동안 상승해 왔음"
	2) 트레이더, "일부 관계자들은 MEG 가격이 꼭지에 다다랐다고 판단함"
	3) MEG 공급은 여전히 타이트한 상황으로 전체적 수급은 balance가 맞음
	4) 내수 가격은 Yuan 30/mt 상승해 Yuan 7,830/mt 수준을 기록함
	5) 국경절 리스탁킹 모멘텀으로 추가적인 상승도 가능할 것으로 판단됨

Issue 2	(출처: Platts)
제목	[주간가격] BD, WoW $35/mt 상승해 FOB Korea $1,750/mt로 마감
결론	중동 9월 도착 물량이 있지만 국경절 리스탁킹 모멘텀이 강세로 이끌 것
세부	
	1) 대한민국 BD는 YNCC 셧다운 지속으로 안정적인 모습을 보였음
	2) 대한민국 바이어는 비싼 BD를 사느니 가동률을 낮추겠다고 밝힘
	3) 재가동 시점이 불확실해 시장 참여자들은 점차 관망세를 보이는 중임
	4) SBR 생산자들은 BD 가격 상승 우려로 SBR 생산을 주저하고 있음
	5) 중동 9월 도착 물량이 있지만 국경절 리스탁킹 모멘텀이 강세로 이끌 것

Issue 3	(출처: Platts)
제목	[주간가격] SBR, WoW 플랫한 모습 보이며 CFR SEA $1,875/mt로 마감
결론	국경절 리스탁킹 모멘텀으로 BD 가격 상승시 SBR 가격도 상승할 것
세부	
	1) 바이어들의 재고가 줄어들며 매수 문의가 증가해 안정적 모습 보임
	2) YNCC의 셧다운으로 원재료인 BD 가격 상승에 대한 우려도 팽배했음
	3) 일부 SBR 판매자들은 BD 가격 상승분 반영 위해 현재 공급 줄이는 중
	4) 동남아시아 판매자들은 바이어가 가격 강세를 수용해야 한다고 밝힘
	5) 국경절 리스탁킹 모멘텀으로 BD 가격 상승시 SBR 가격도 상승할 것

Issue 4	(출처: Platts)
제목	[주간가격] PX, WoW $47.7/mt 상승해 FOB Korea $1,226.7/mt로 마감
결론	태풍 피해는 없었지만 자체 수급 이슈로 지속 강세 시현할 것으로 보임
세부	
	1) 아시아 PX 가격은 10월 수요 강세 속에 47개월 최고치를 기록함
	2) 10월물의 프리미엄은 $52/mt 수준으로 공급 부족을 보여주고 있음
	3) 대한민국과 일본은 태풍 Soulik과 Cimaron의 영향을 거의 안 받음
	4) 그러나 대산, 울산, 인천, 여수항은 태풍에 앞서 셧다운에 돌입했음
	5) 태풍 피해는 없었지만 자체 수급 이슈로 지속 강세 시현할 것으로 보임

Issue 5	(출처: Platts)
제목	[주간가격] PTA, WoW $30/mt 상승해 CFR China $990/mt로 마감
결론	정기보수 종료때까지 공급 부족, PX 강세가 겹쳐 가격 상승 압력 전망
세부	
	1) 원재료인 PX 강세, 다운스트림 수요 강세, 공급 부족으로 강세를 보임
	2) PET 마진이 줄어들고 일부 중국 폴리에스터 생산자들이 가동률을 낮춤
	3) 관계자, "PTA 가격은 심리적 저항선인 CFR China $1,000/mt에 근접"
	4) 관계자, "최근 핫머니가 PTA 시장에 유입되며 강세 시현할 것임"
	5) 정기보수 종료때까지 공급 부족, PX 강세가 겹쳐 가격 상승 압력 전망

Issue 6	(출처: PVinsights)
제목	[주간가격] 태양광 제품, 경쟁이 심해지며 모듈 가격 신저가 기록
결론	수요 부진 우려가 재차 부각되며 제품별로 하락세를 면치 못할 전망
세부	
	1) 폴리실리콘이 9월 생산 확대와 multi-crystalline wafer 약세로 소폭 하락
	2) Multi-crystalline wafer는 다운스트림인 cell이 하락하며 소폭 하락
	3) Multi-crystalline cell은 글로벌 시장 악화로 신저가를 기록함
	4) 모듈 가격은 세계 경제 성장 둔화 우려와 중국 업체간 경쟁 격화로 하락
	5) 수요 부진 우려가 재차 부각되며 제품별로 하락세를 면치 못할 전망

SK Energy Daily

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SK 증권

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.861	0.866	0.874	0.856	0.853	0.813	0.848	0.833	0.904	0.887	0.835
	Change, %		(0.7)	(1.6)	0.5	0.8	5.8	1.5	3.3	(4.8)	(2.9)	3.1
	USD/JPY	111.2	111.3	110.5	111.2	109.3	106.9	109.6	112.6	108.8	112.1	109.3
	Change, %		(0.0)	0.7	0.0	1.8	4.1	1.5	(1.2)	2.3	(0.8)	1.8
	USD/KRW	1,118.9	1,121.4	1,124.9	1,135.2	1,079.6	1,078.9	1,127.8	1,066.7	1,160.5	1,130.9	1,087.3
	Change, %		(0.2)	(0.5)	(1.4)	3.6	3.7	(0.8)	4.9	(3.6)	(1.1)	2.9
Agriculture	Corn	348.5	346.8	364.3	352.0	404.3	366.3	342.0	350.8	358.5	359.4	370.1
	Change, %		0.5	(4.3)	(1.0)	(13.8)	(4.8)	1.9	(0.6)	(2.8)	(3.0)	(5.8)
	Soybean	842.0	842.0	881.5	858.0	1,035.8	1,036.3	941.3	951.8	987.5	975.9	967.1
	Change, %		0.0	(4.5)	(1.9)	(18.7)	(18.7)	(10.5)	(11.5)	(14.7)	(13.7)	(12.9)
	Wheat	514.8	522.0	560.5	510.3	530.3	452.3	409.0	427.0	436.4	436.0	487.7
	Change, %		(1.4)	(8.2)	0.9	(2.9)	13.8	25.9	20.6	18.0	18.1	5.5
	Rice	10.8	10.8	10.4	12.1	11.6	12.0	12.4	11.7	10.3	11.1	12.0
	Change, %		(0.1)	4.2	(10.5)	(6.7)	(9.9)	(12.8)	(7.7)	4.3	(2.5)	(10.4)
	Oats	259.5	263.3	258.8	230.5	244.0	260.0	239.3	241.0	196.3	252.3	246.5
	Change, %		(1.4)	0.3	12.6	6.4	(0.2)	8.5	7.7	32.2	2.9	5.3
MYR/mt	Palm Oil	2,178.0	2,183.0	2,204.0	2,095.0	2,474.0	2,536.0	2,750.0	2,444.0	2,653.8	2,787.3	2,370.7
	Change, %		(0.2)	(1.2)	4.0	(12.0)	(14.1)	(20.8)	(10.9)	(17.9)	(21.9)	(8.1)
	Cocoa	2,374.0	2,349.0	2,115.0	2,257.0	2,603.0	2,204.0	1,924.0	1,892.0	2,854.0	2,005.2	2,364.2
	Change, %		1.1	12.2	5.2	(8.8)	7.7	23.4	25.5	(16.8)	18.4	0.4
	Cotton	81.8	81.7	81.8	87.3	87.5	81.5	70.2	78.6	65.6	73.5	84.2
	Change, %		0.1	0.1	(6.3)	(6.5)	0.4	16.6	4.0	24.7	11.3	(2.9)
	Sugar	10.2	10.1	10.2	11.2	12.4	13.7	14.0	15.2	18.2	15.8	12.2
	Change, %		1.1	0.5	(8.6)	(17.4)	(25.2)	(27.0)	(32.5)	(43.6)	(35.3)	(16.5)
	Coffee	100.6	97.2	101.2	111.0	120.6	119.5	126.7	126.2	136.1	133.0	116.2
	Change, %		3.4	(0.6)	(9.4)	(16.6)	(15.8)	(20.6)	(20.3)	(26.1)	(24.4)	(13.5)
Energy	WTI	68.7	67.8	65.9	68.5	70.7	63.6	47.4	60.4	43.4	51.0	66.4
	Change, %		1.3	4.3	0.3	(2.8)	8.1	44.9	13.7	58.4	34.8	3.6
	Brent	75.8	74.7	71.8	73.4	78.8	67.3	52.0	66.9	45.1	54.9	71.9
	Change, %		1.5	5.6	3.2	(3.8)	12.6	45.7	13.4	68.2	38.2	5.5
	Natural Gas	2.9	3.0	2.9	2.7	2.9	2.6	2.9	3.0	2.6	3.0	2.8
	Change, %		(1.6)	(1.0)	6.8	(0.8)	11.1	(1.1)	(1.2)	14.3	(3.5)	2.6
	Ethanol	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.3	1.5	1.5	1.4
	Change, %		1.5	(3.5)	(7.7)	(12.3)	(10.7)	(13.0)	(0.5)	(13.3)	(12.3)	(8.2)
	RBOB Gasoline	207.8	205.9	198.1	209.6	223.4	180.9	166.4	179.9	140.0	162.9	200.8
	Change, %		0.9	4.9	(0.8)	(7.0)	14.9	24.9	15.5	48.4	27.6	3.5
	Coal	117.9	117.2	118.0	119.3	104.7	105.1	98.4	100.8	65.5	88.2	106.7
	Change, %		0.6	(0.1)	(1.2)	12.6	12.2	19.8	17.0	80.1	33.7	10.5
Metal	Gold	1,205.9	1,185.6	1,185.1	1,224.6	1,304.6	1,328.8	1,286.3	1,302.6	1,248.5	1,258.6	1,294.9
	Change, %		1.7	1.8	(1.5)	(7.6)	(9.2)	(6.2)	(7.4)	(3.4)	(4.2)	(6.9)
	Silver	14.8	14.5	14.8	15.5	16.7	16.5	17.0	16.9	17.1	17.1	16.4
	Change, %		2.1	0.1	(4.2)	(11.1)	(10.4)	(12.8)	(12.6)	(13.4)	(13.2)	(9.4)
	Copper	6,105.0	5,986.5	5,926.0	6,295.0	6,880.0	7,095.0	6,696.0	7,247.0	4,872.0	6,199.4	6,763.2
	Change, %		2.0	3.0	(3.0)	(11.3)	(14.0)	(8.8)	(15.8)	25.3	(1.5)	(9.7)
	Nickel	933.7	925.6	946.6	934.3	1,015.8	889.9	748.9	809.1	646.4	680.2	921.2
	Change, %		0.9	(1.4)	(0.1)	(8.1)	4.9	24.7	15.4	44.5	37.3	1.4
	Zinc	2,534.0	2,468.5	2,389.5	2,616.0	3,034.0	3,503.0	3,118.0	3,319.0	2,097.5	2,888.5	3,084.1
	Change, %		2.7	6.0	(3.1)	(16.5)	(27.7)	(18.7)	(23.7)	20.8	(12.3)	(17.8)
	Lead	2,079.0	2,053.5	1,980.0	2,148.3	2,497.5	2,533.0	2,338.8	2,482.8	1,868.3	2,315.7	2,378.2
	Change, %		1.2	5.0	(3.2)	(16.8)	(17.9)	(11.1)	(16.3)	11.3	(10.2)	(12.6)
	Aluminum	14,680.0	14,605.0	14,390.0	14,230.0	14,615.0	14,210.0	16,475.0	15,020.0	12,373.5	14,556.6	14,349.1
	Change, %		0.5	2.0	3.2	0.4	3.3	(10.9)	(2.3)	18.6	0.8	2.3
	Cobalt	63,806.0	63,806.0	63,847.0	69,750.0	90,750.0	80,725.0	60,000.0	75,205.0	25,480.1	55,906.9	80,590.5
	Change, %		0.0	(0.1)	(8.5)	(29.7)	(21.0)	6.3	(15.2)	150.4	14.1	(20.8)
	HR Coil	901.0	901.0	902.0	916.0	882.0	745.0	621.0	662.0	519.3	620.1	836.6
	Change, %		0.0	(0.1)	(1.6)	2.2	20.9	45.1	36.1	73.5	45.3	7.7
	Scrap	376.0	376.0	380.0	393.0	395.0	385.0	372.0	367.0	275.7	344.7	389.1
	Change, %		0.0	(1.1)	(4.3)	(4.8)	(2.3)	1.1	2.5	36.4	9.1	(3.4)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		08/24	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	68.7	67.8	65.9	69.3	67.9	63.6	47.9	53.7	43.4	50.9	66.3
	Change, %		*1.3*	*4.3*	*(0.8)*	*1.2*	*8.1*	*43.6*	*27.9*	*58.5*	*35.0*	*3.6*
	Dubai	74.0	73.1	70.4	72.5	75.8	62.8	50.6	53.8	41.3	53.1	69.1
	Change, %		*1.2*	*5.1*	*2.1*	*(2.3)*	*17.9*	*46.4*	*37.5*	*79.2*	*39.4*	*7.0*
Crude Oil Product	**Gasoline(휘발유)**	86.1	85.4	83.5	84.5	89.8	76.1	68.0	69.8	56.3	68.0	81.6
	Change, %		*0.8*	*3.1*	*1.9*	*(4.1)*	*13.1*	*26.6*	*23.3*	*53.0*	*26.6*	*5.4*
	Kerosene(등유)	88.8	87.7	85.6	87.3	91.1	81.5	63.7	66.4	52.9	65.2	84.5
	Change, %		*1.2*	*3.8*	*1.7*	*(2.5)*	*9.0*	*39.3*	*33.6*	*67.9*	*36.1*	*5.1*
	Diesel(경유)	90.0	88.7	86.1	85.7	90.7	77.3	64.1	65.5	52.1	65.6	83.6
	Change, %		*1.4*	*4.6*	*5.0*	*(0.7)*	*16.4*	*40.5*	*37.4*	*72.7*	*37.2*	*7.7*
	Bunker-C	69.4	69.0	67.5	70.2	69.4	57.1	47.4	52.1	35.5	49.7	63.8
	Change, %		*0.7*	*2.9*	*(1.1)*	*0.1*	*21.5*	*46.5*	*33.4*	*95.5*	*39.8*	*8.9*
	Naphtha	71.7	71.4	69.3	72.5	76.0	61.2	51.0	53.5	42.6	53.7	68.3
	Change, %		*0.4*	*3.5*	*(1.1)*	*(5.6)*	*17.1*	*40.5*	*34.1*	*68.3*	*33.4*	*5.1*
Dubai Spread	**Gasoline(휘발유)**	12.1	12.3	13.1	12.0	14.0	13.4	17.4	16.0	14.9	14.9	12.5
	Change		*(0.2)*	*(1.0)*	*0.1*	*(1.9)*	*(1.3)*	*(5.3)*	*(3.9)*	*(2.9)*	*(2.8)*	*(0.4)*
	Kerosene(등유)	14.8	14.6	15.2	14.8	15.3	18.7	13.2	12.6	11.6	12.1	15.4
	Change		*0.2*	*(0.4)*	*0.0*	*(0.5)*	*(3.9)*	*1.6*	*2.2*	*3.2*	*2.6*	*(0.6)*
	Diesel(경유)	16.0	15.6	15.7	13.2	14.9	14.5	13.5	11.7	10.8	12.5	14.4
	Change		*0.4*	*0.3*	*2.8*	*1.1*	*1.5*	*2.5*	*4.3*	*5.2*	*3.5*	*1.6*
	Bunker-C	(4.6)	(4.2)	(2.9)	(2.3)	(6.4)	(5.6)	(3.2)	(1.8)	(5.8)	(3.4)	(5.4)
	Change		*(0.4)*	*(1.7)*	*(2.3)*	*1.8*	*1.1*	*(1.4)*	*(2.8)*	*1.2*	*(1.1)*	*0.8*
	Naphtha	(2.3)	(1.7)	(1.1)	0.0	0.2	(1.6)	0.5	(0.4)	1.3	0.6	(0.9)
	Change		*(0.6)*	*(1.2)*	*(2.3)*	*(2.5)*	*(0.7)*	*(2.8)*	*(1.9)*	*(3.6)*	*(2.9)*	*(1.4)*
Refining Margin	**Simple(단순)**	2.7	2.9	3.7	3.2	2.0	2.7	4.0	3.8	1.9	3.2	2.3
	Change		*(0.1)*	*(1.0)*	*(0.5)*	*0.8*	*(0.0)*	*(1.2)*	*(1.1)*	*0.8*	*(0.4)*	*0.4*
	Complex(복합)	8.0	8.0	8.7	7.6	7.8	7.9	9.1	8.3	7.0	8.0	7.5
	Change		*(0.0)*	*(0.7)*	*0.4*	*0.1*	*0.1*	*(1.2)*	*(0.3)*	*1.0*	*(0.0)*	*0.5*
	Complex(lagging)	10.4	9.7	8.7	8.3	12.4	4.1	12.4	18.0	8.5	8.9	8.9
	Change		*0.7*	*1.7*	*2.1*	*(2.0)*	*6.3*	*(2.0)*	*(7.6)*	*1.9*	*1.5*	*1.5*

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			08/24	08/23	08/22	08/21	08/20	08/17	08/16	08/15	08/14	08/13
Spot Price	**Naphtha**	CFR Japan	660.0	655.6	643.0	643.0	639.0	636.8	637.3	644.3	647.5	643.0
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,095.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,090.0	1,090.0	1,075.0
	Butadiene	FOB Korea	1,750.0	1,750.0	1,715.0	1,715.0	1,715.0	1,715.0	1,720.0	1,735.0	1,735.0	1,755.0
	HDPE	CFR FE Asia	1,290.0	1,290.0	1,290.0	1,290.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0
	LDPE	CFR FE Asia	1,120.0	1,130.0	1,130.0	1,130.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0
	LLDPE	CFR FE Asia	1,100.0	1,100.0	1,100.0	1,100.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0
	MEG	CFR China	939.0	936.0	933.0	933.0	925.0	908.0	900.0	903.0	914.0	914.0
	PP	CFR FE Asia	1,210.0	1,220.0	1,230.0	1,230.0	1,220.0	1,220.0	1,230.0	1,230.0	1,235.0	1,225.0
	PX	CFR China	1,226.7	1,220.0	1,204.7	1,204.7	1,198.7	1,179.0	1,165.3	1,139.3	1,132.8	1,116.7
	PTA	CFR China	990.0	985.0	985.0	985.0	970.0	960.0	940.0	930.0	917.0	913.0
	Benzene	FOB Korea	887.0	881.3	877.3	877.3	877.3	880.3	884.7	892.3	894.3	882.5
	Toluene	FOB Korea	793.5	788.5	787.0	787.0	783.0	777.0	782.0	785.0	788.0	793.0
	Xylene	FOB Korea	945.5	949.5	938.0	938.0	938.0	924.0	923.0	901.0	895.0	895.0
	SM	FOB Korea	1,396.0	1,408.0	1,410.0	1,410.0	1,413.0	1,415.5	1,409.0	1,420.0	1,438.0	1,446.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	634.5	635.5	643.0	694.0	616.5	462.0	484.5	399.5	493.5	621.4
	Change, %			(0.2)	(1.3)	(8.6)	2.9	37.3	31.0	58.8	28.6	2.1
	Ethylene	CFR SE Asia	1,275.0	1,275.0	1,265.0	1,135.0	1,270.0	1,165.0	990.0	1,040.9	1,090.9	1,240.6
	Change, %			0.0	0.8	12.3	0.4	9.4	28.8	22.5	16.9	2.8
	Propylene	CFR SE Asia	1,047.5	1,037.5	990.0	1,022.5	997.5	775.0	815.0	705.7	823.6	1,058.1
	Change, %			1.0	5.8	2.4	5.0	35.2	28.5	48.4	27.2	(1.0)
	Butadiene	CFR SE Asia	1,675.0	1,700.0	1,650.0	1,700.0	1,325.0	1,175.0	2,100.0	1,116.8	1,481.1	1,476.1
	Change, %			(1.5)	1.5	(1.5)	26.4	42.6	(20.2)	50.0	13.1	13.5
	Benzene	CFR SE Asia	890.0	877.5	830.0	870.0	835.0	775.0	822.5	646.7	838.8	867.3
	Change, %			1.4	7.2	2.3	6.6	14.8	8.2	37.6	6.1	2.6
	Toluene	CFR SE Asia	820.0	830.0	790.0	825.0	755.0	655.0	690.0	630.5	689.5	774.4
	Change, %			(1.2)	3.8	(0.6)	8.6	25.2	18.8	30.1	18.9	5.9
	Xylene	CFR SE Asia	845.0	840.0	822.5	830.0	762.5	635.0	675.0	627.7	668.8	789.5
	Change, %			0.6	2.7	1.8	10.8	33.1	25.2	34.6	26.3	7.0
Spread	**Ethylene**	-Naphtha	640.5	639.5	622.0	441.0	653.5	703.0	505.5	641.4	597.4	619.2
	Change, %			0.2	3.0	45.2	(2.0)	(8.9)	26.7	(0.1)	7.2	3.4
	Propylene	-Naphtha	413.0	402.0	347.0	328.5	381.0	313.0	330.5	306.2	330.1	436.7
	Change, %			2.7	19.0	25.7	8.4	31.9	25.0	34.9	25.1	(5.4)
	Butadiene	-Naphtha	1,040.5	1,064.5	1,007.0	1,006.0	708.5	713.0	1,615.5	717.3	987.6	854.7
	Change, %			(2.3)	3.3	3.4	46.9	45.9	(35.6)	45.1	5.4	21.7
	Benzene	-Naphtha	255.5	242.0	187.0	176.0	218.5	313.0	338.0	247.2	345.3	246.0
	Change, %			5.6	36.6	45.2	16.9	(18.4)	(24.4)	3.4	(26.0)	3.9
	Toluene	-Naphtha	185.5	194.5	147.0	131.0	138.5	193.0	205.5	231.0	196.0	153.0
	Change, %			(4.6)	26.2	41.6	33.9	(3.9)	(9.7)	(19.7)	(5.4)	21.2
	Xylene	-Naphtha	210.5	204.5	179.5	136.0	146.0	173.0	190.5	228.2	175.3	168.1
	Change, %			2.9	17.3	54.8	44.2	21.7	10.5	(7.8)	20.1	25.2

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

SK Energy Daily

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SK 증권

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,217.5	1,222.5	1,227.5	1,302.5	1,217.5	1,087.5	1,142.5	1,134.6	1,142.5	1,252.0
	Change, %			(0.4)	(0.8)	(6.5)	0.0	12.0	6.6	7.3	6.6	(2.8)
	MEG	CFR SE Asia	922.5	970.0	935.0	1,000.0	1,022.5	867.5	847.5	660.8	850.6	972.9
	Change, %			(4.9)	(1.3)	(7.8)	(9.8)	6.3	8.8	39.6	8.5	(5.2)
	PVC	CFR SE Asia	950.0	945.0	940.0	920.0	940.0	890.0	920.0	823.4	899.9	942.7
	Change, %			0.5	1.1	3.3	1.1	6.7	3.3	15.4	5.6	0.8
	PP	CFR SE Asia	1,232.5	1,232.5	1,242.5	1,287.5	1,247.5	1,107.5	1,032.5	978.4	1,099.6	1,257.0
	Change, %			0.0	(0.8)	(4.3)	(1.2)	11.3	19.4	26.0	12.1	(1.9)
	2-EH	CFR Korea	1,130.0	1,120.0	1,100.0	1,190.0	1,155.0	960.0	865.0	772.4	970.0	1,116.1
	Change, %			0.9	2.7	(5.0)	(2.2)	17.7	30.6	46.3	16.5	1.2
	ABS	CFR SE Asia	1,960.0	1,960.0	1,920.0	2,070.0	1,990.0	1,870.0	1,635.0	1,347.1	1,844.7	2,014.7
	Change, %			0.0	2.1	(5.3)	(1.5)	4.8	19.9	45.5	6.3	(2.7)
	SBR	CFR SE Asia	1,875.0	1,830.0	1,760.0	1,840.0	1,650.0	1,540.0	2,000.0	1,483.0	1,980.5	1,760.2
	Change, %			2.5	6.5	1.9	13.6	21.8	(6.3)	26.4	(5.3)	6.5
	SM	CFR SE Asia	1,470.0	1,475.0	1,395.0	1,432.5	1,362.5	1,192.5	1,205.0	1,064.6	1,253.8	1,406.5
	Change, %			(0.3)	5.4	2.6	7.9	23.3	22.0	38.1	17.2	4.5
	Caustic	FOB NEA	421.0	369.0	420.0	598.0	579.0	476.0	422.5	316.6	491.2	541.1
	Change, %			14.1	0.2	(29.6)	(27.3)	(11.6)	(0.4)	33.0	(14.3)	(22.2)
	PX	CFR SE Asia	1,185.0	1,117.5	1,005.0	1,012.5	962.5	815.0	855.0	790.4	844.4	985.0
	Change, %			6.0	17.9	17.0	23.1	45.4	38.6	49.9	40.3	20.3
	PO	CFR China	1,870.0	1,815.0	1,812.5	1,865.0	2,040.0	2,022.5	1,562.5	1,396.8	1,601.2	1,865.2
	Change, %			3.0	3.2	0.3	(8.3)	(7.5)	19.7	33.9	16.8	0.3
	Caprolactam	CFR SE Asia	2,155.0	2,155.0	2,155.0	2,090.0	2,190.0	1,800.0	1,850.0	1,344.9	1,936.4	2,126.2
	Change, %			0.0	0.0	3.1	(1.6)	19.7	16.5	60.2	11.3	1.4
	PTA	CFR SE Asia	972.5	920.0	855.0	842.5	802.5	652.5	642.5	613.7	667.8	820.1
	Change, %			5.7	13.7	15.4	21.2	49.0	51.4	58.5	45.6	18.6
Spread	HDPE		583.0	587.0	584.5	608.5	601.0	625.5	658.0	735.1	649.0	630.6
	Change, %			(0.7)	(0.3)	(4.2)	(3.0)	(6.8)	(11.4)	(20.7)	(10.2)	(7.5)
	MEG		288.0	334.5	292.0	306.0	406.0	405.5	363.0	261.3	357.1	351.5
	Change, %			(13.9)	(1.4)	(5.9)	(29.1)	(29.0)	(20.7)	10.2	(19.3)	(18.1)
	PVC		315.5	309.5	297.0	226.0	323.5	428.0	435.5	423.9	406.4	321.3
	Change, %			1.9	6.2	39.6	(2.5)	(26.3)	(27.6)	(25.6)	(22.4)	(1.8)
	PP		598.0	597.0	599.5	593.5	631.0	645.5	548.0	578.9	606.1	635.6
	Change, %			0.2	(0.3)	0.8	(5.2)	(7.4)	9.1	3.3	(1.3)	(5.9)
	2-EH		495.5	484.5	457.0	496.0	538.5	498.0	380.5	372.9	476.5	494.7
	Change, %			2.3	8.4	(0.1)	(8.0)	(0.5)	30.2	32.9	4.0	0.2
	ABS		1,325.5	1,324.5	1,277.0	1,376.0	1,373.5	1,408.0	1,150.5	947.6	1,351.2	1,393.3
	Change, %			0.1	3.8	(3.7)	(3.5)	(5.9)	15.2	39.9	(1.9)	(4.9)
	SBR	BD spread	200.0	130.0	110.0	140.0	325.0	365.0	(100.0)	366.2	499.4	284.1
	Change, %			53.8	81.8	42.9	(38.5)	(45.2)	(300.0)	(45.4)	(60.0)	(29.6)
	SM		835.5	839.5	752.0	738.5	746.0	730.5	720.5	665.1	760.3	785.1
	Change, %			(0.5)	11.1	13.1	12.0	14.4	16.0	25.6	9.9	6.4
	Caustic											
	Change, %											
	PX		550.5	482.0	362.0	318.5	346.0	353.0	370.5	390.9	351.0	363.6
	Change, %			14.2	52.1	72.8	59.1	55.9	48.6	40.8	56.9	51.4
	PO	propylene sprea	822.5	777.5	822.5	842.5	1,042.5	1,247.5	747.5	691.1	777.6	807.0
	Change, %			5.8	0.0	(2.4)	(21.1)	(34.1)	10.0	19.0	5.8	1.9
	Caprolactam	benzene spread	1,265.0	1,277.5	1,325.0	1,220.0	1,355.0	1,025.0	1,027.5	698.2	1,097.6	1,258.9
	Change, %			(1.0)	(4.5)	3.7	(6.6)	23.4	23.1	81.2	15.2	0.5
	PTA	px spread	143.0	137.8	151.5	133.8	128.8	82.0	44.0	60.4	76.7	130.6
	Change, %			3.8	(5.6)	6.9	11.1	74.4	225.0	136.7	86.4	9.5

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

SK Energy Daily

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Global peers

	Currency	08/24	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	69.2	1.6	2.1	3.4	4.3	(5.5)	7.6	(2.8)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.0	1.3	1.3	(1.2)	(7.7)	(4.3)	16.7	6.9	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	79.7	0.7	2.4	(5.2)	(8.6)	(9.8)	(3.5)	(13.1)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	79.6	0.0	0.2	1.6	3.8	0.4	1.7	9.0	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	107.3	0.7	1.8	2.4	(0.7)	0.8	13.7	5.6	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.7	0.0	2.2	(0.9)	(0.3)	0.8	5.9	3.6	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	623	0.6	1.5	1.3	(3.9)	(6.6)	(4.6)	(23.1)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	974	(0.1)	1.8	2.1	(5.0)	(12.0)	(0.1)	(21.2)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,590	0.3	0.6	1.8	(6.5)	(6.5)	10.2	(7.5)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,589	0.3	2.2	9.4	7.8	15.1	25.8	9.3	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,144	0.4	1.1	11.1	0.4	(12.3)	4.1	(3.3)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,307	0.5	(0.6)	4.2	(2.0)	(4.3)	(13.5)	(17.0)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	123.0	0.0	0.0	(4.9)	1.7	17.6	24.6	21.3	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	72.4	0.0	0.0	(2.9)	(0.7)	8.3	29.7	22.7	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	112.5	(0.9)	3.2	2.7	1.4	8.2	20.3	14.0	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	121.5	(1.2)	3.0	4.7	3.8	11.5	29.5	18.0	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	84.4	(0.1)	1.3	0.0	(3.4)	6.7	11.1	8.3	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.27	0.2	1.9	(1.5)	(11.4)	(11.0)	(17.9)	(16.7)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.00	0.5	4.7	3.6	(10.3)	(13.4)	(37.5)	(25.1)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,278	0.6	6.1	15.0	39.5	36.7	62.9	40.4	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	119.5	0.0	0.0	(2.6)	12.2	10.0	29.2	23.2	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	80.5	(0.9)	(1.5)	(0.3)	(13.0)	(15.0)	8.4	(5.3)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	9.4	0.2	2.5	6.5	12.4	15.5	30.5	21.7	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	366,000	2.7	0.1	10.7	6.1	(5.9)	(2.4)	(9.6)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	311,500	0.2	(7.3)	(7.8)	(15.4)	(32.4)	(20.7)	(15.4)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	19,600	0.5	(3.9)	(2.5)	(27.8)	(42.0)	(44.3)	(38.0)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	102,500	2.0	0.0	(6.8)	(4.7)	15.7	33.1	3.0	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	45,750	1.6	2.5	8.9	17.9	19.8	23.0	(2.7)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	58,300	0.9	(0.7)	11.5	(10.0)	(1.9)	8.8	(7.6)	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	6,360	0.8	2.9	9.1	(5.1)	(34.1)	(9.9)	(16.1)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.4**	**1.1**	**2.4**	**(0.8)**	**(1.7)**	**8.1**	**(0.6)**							
Refinery																
Valero	USD	120.6	2.1	8.6	12.4	(1.1)	30.4	78.8	31.2	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	72.6	0.8	4.1	2.5	6.1	27.3	67.7	32.3	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	127.0	1.6	5.0	5.4	3.7	10.0	22.1	10.0	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	155.3	2.0	7.2	11.7	7.8	64.2	63.3	35.8	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	83.8	2.7	8.7	13.7	6.0	25.5	63.9	27.0	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	42.7	0.3	5.1	(4.3)	2.3	35.7	37.1	3.0	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	73.6	1.0	7.2	3.8	(2.6)	63.5	154.6	43.7	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	119.3	0.7	3.3	7.2	0.4	29.9	42.2	17.9	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	31.4	2.4	6.6	(2.7)	1.1	19.1	34.7	1.2	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	777.6	(0.2)	3.5	(2.5)	7.4	15.2	44.0	7.0	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	5,430.0	1.1	4.8	9.5	40.3	32.1	99.3	20.0	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	74.5	1.1	2.2	11.1	10.8	20.7	112.3	39.7	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	84.8	(0.9)	0.0	3.5	9.0	18.8	38.4	19.2	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	49.7	(0.2)	1.8	11.9	9.8	5.5	4.7	12.2	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	197,500	1.0	(1.7)	1.5	(3.2)	(1.0)	11.0	(3.4)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	123,000	3.4	(1.6)	8.8	12.3	3.4	4.7	5.1	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	53,600	0.8	(0.2)	2.7	(11.1)	(17.0)	(21.2)	(13.8)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**1.2**	**3.8**	**5.7**	**5.8**	**22.5**	**50.4**	**16.9**							

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

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SK 증권

Global peers

	Currency	08/24	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	80	0.7	1.7	(4.1)	(0.8)	2.7	4.3	(4.8)	337,096	17.0	14.5	1.7	1.7	7.7	6.8
BP	GBP	564	1.1	2.8	(0.8)	(0.5)	18.4	27.2	7.8	144,719	13.1	11.9	1.4	1.4	5.1	4.7
Shell	EUR	2,564	1.0	3.7	(4.0)	(1.3)	13.5	20.1	3.4	276,593	12.2	10.3	1.4	1.3	5.7	5.2
Chevron	USD	119	0.8	1.0	(3.9)	(6.0)	5.7	10.8	(4.9)	228,041	15.0	13.8	1.5	1.5	6.2	5.7
Total	EUR	55	1.3	4.7	3.8	5.9	16.6	26.3	19.2	170,041	11.9	10.8	1.4	1.3	5.8	5.3
Sinopec	CNY	7	0.9	4.7	1.7	(5.3)	0.8	11.2	8.2	117,277	10.2	9.8	1.0	1.0	3.9	3.8
Petrochina	CNY	8	0.9	1.8	7.4	(1.5)	(0.7)	2.1	0.5	208,489	24.9	20.6	1.2	1.2	5.5	5.4
CNOOC	CNY	11	2.2	4.7	13.0	(6.9)	(2.8)	(6.2)	0.4	75,873	9.2	8.7	1.3	1.2	3.6	3.6
Gazprom	RUB	144	1.5	1.8	3.4	(1.1)	(1.6)	23.2	10.0	50,582	3.1	3.1	0.2	0.2	2.5	2.5
Rosneft	RUB	428	(0.4)	0.5	8.4	13.3	26.9	42.2	46.9	67,509	8.0	6.6	1.0	0.9	4.7	4.3
Anadarko	USD	64	0.9	2.6	(12.0)	(7.8)	4.7	49.2	18.7	32,594	21.6	15.7	2.6	2.3	6.4	5.5
Petrobras	BRL	18	1.9	(0.9)	(6.9)	(8.9)	(13.4)	32.6	13.7	63,147	6.7	5.6	0.6	0.6	4.4	4.1
Lukoil	USD	4,501	1.1	2.9	4.1	6.4	17.3	55.5	35.0	56,562	5.5	5.6	0.8	0.7	N/A	N/A
Kinder	USD	18	(0.1)	0.1	1.8	13.2	5.6	(5.7)	(0.6)	47,497	22.8	18.2	1.2	1.2	10.6	10.5
Equinor ASA	NOK	215	(0.0)	1.5	0.7	1.9	19.0	47.3	22.9	86,208	13.2	12.1	2.0	1.8	3.4	3.2
BHP	AUD	33	0.7	(0.1)	(0.9)	(3.5)	6.6	23.0	10.6	122,052	13.6	15.1	2.3	2.2	6.1	6.4
PTT E&P	THB	140	(0.4)	3.7	6.1	(0.4)	20.8	62.7	39.5	16,973	13.4	12.3	1.4	1.3	4.3	4.0
Petronas gas	MYR	19	(1.6)	1.3	0.5	3.7	4.6	(2.5)	5.8	8,947	19.3	19.2	2.8	2.7	10.6	10.5
Chesapeake	USD	5	(2.4)	6.0	1.1	0.4	42.8	18.4	15.4	4,169	5.9	5.9	#N/A N/A	7.0	6.6	6.5
Noble Energy	USD	30	(0.1)	2.6	(16.3)	(19.3)	(3.7)	25.4	1.3	14,262	26.7	21.4	1.3	1.3	7.0	6.1
Average		**0**	**0.5**	**2.4**	**0.2**	**(0.9)**	**9.2**	**23.4**	**12.4**							
PV																
WACKER	EUR	125.8	3.4	4.5	6.3	(16.0)	(9.4)	18.5	(22.4)	7,626	17.9	16.1	1.9	1.9	6.7	6.4
GCL-Poly	HKD	0.5	(1.9)	0.0	(23.2)	(43.6)	(59.2)	(41.8)	(62.1)	1,240	4.9	4.2	0.3	0.3	6.4	5.8
SunPower	USD	6.8	1.2	2.3	(7.0)	(23.4)	(5.2)	(26.3)	(19.5)	957	#N/A N/A	#N/A N/A	6.7	7.3	16.6	10.1
Canadian Solar	USD	13.9	3.4	5.7	6.3	(17.1)	(10.3)	(11.0)	(17.8)	812	9.2	9.7	0.8	0.7	6.6	7.4
JA Solar	USD	7.5	0.0	0.0	0.0	3.9	1.4	18.9	0.4	356	#N/A N/A	#N/A N/A	1.8	2.0	4.9	7.1
Yingli	USD	0.3	(3.2)	0.0	(16.7)	(81.9)	(81.5)	(88.1)	(82.2)	5	#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	52.1	1.0	2.1	(1.8)	(23.8)	(15.7)	10.3	(22.9)	5,458	32.0	16.8	1.0	0.9	7.8	4.1
한화큐셀	USD	8.4	0.5	2.0	39.9	15.7	(2.5)	14.4	18.9	695	14.9	30.9	#N/A N/A	#N/A N/A	8.8	9.1
OCI	KRW	109,500	0.9	(0.5)	15.9	(25.3)	(31.8)	17.6	(19.5)	2,346	0.0	12.3	0.0	0.7	0.0	5.4
웅진에너지	KRW	2,970	(1.0)	(1.8)	(2.9)	(46.6)	(60.4)	(66.1)	(63.9)	79	N/A	0.0	0.7	0.0	5.4	0.0
신성솔라에너지	KRW	1,385	(1.1)	(2.1)	9.1	(21.3)	(26.3)	(34.5)	(27.7)	215	N/A	0.7	0.0	5.4	0.0	2.2
Average			**0.3**	**1.1**	**2.3**	**(25.4)**	**(27.4)**	**(17.1)**	**(29.0)**							
Gas Company																
Towngas China	HKD	7.1	(0.7)	0.1	(10.7)	(11.9)	7.6	35.8	12.4	2,527	13.7	12.2	1.2	1.1	12.5	11.3
Kulun	HKD	7.2	0.4	6.6	8.4	(5.1)	(0.8)	3.0	(11.2)	7,435	10.5	9.1	1.2	1.1	6.2	5.5
Beijing Enterprise	HKD	35.5	(1.5)	2.2	(10.0)	(17.8)	(19.1)	(13.5)	(23.6)	5,699	6.2	5.6	0.6	0.6	11.4	10.9
ENN Energy	HKD	73.9	2.8	2.3	(11.9)	(5.0)	20.5	48.4	32.5	10,587	16.3	14.0	3.5	3.0	10.5	9.1
China Resources Gas	HKD	35.7	0.6	5.8	(0.1)	16.3	32.8	33.0	25.7	10,100	17.5	15.6	3.1	2.7	9.7	8.7
China Gas Holdings	HKD	25.5	(0.4)	0.0	(23.9)	(19.8)	1.8	37.0	17.8	16,464	16.3	13.8	3.8	3.2	13.1	11.1
Shenzen Gas	HKD	14.2	(0.8)	5.7	(4.4)	(17.7)	(12.0)	(3.4)	(4.7)	3,810	8.8	7.3	1.1	1.0	7.3	6.6
Shann Xi	CNY	7.1	(1.7)	(1.2)	(6.8)	(12.1)	(3.0)	(16.6)	(15.6)	1,160	16.4	14.5	1.3	1.3	#N/A N/A	#N/A N/A
Suntien	HKD	2.2	(0.5)	5.3	(7.2)	(24.0)	12.9	25.9	5.8	1,036	5.7	5.1	0.7	0.7	8.1	7.0
China Oil & Gas	HKD	0.6	1.6	5.0	1.6	5.0	(12.5)	23.5	(25.9)	469	#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)**	**3.2**	**(6.5)**	**(9.2)**	**2.8**	**17.3**	**1.3**							
EV																
LG화학	KRW	366,000	2.7	0.1	10.7	6.1	(5.9)	(2.4)	(9.6)	23,208	14.0	12.6	1.6	1.4	6.8	6.1
삼성SDI	KRW	224,000	2.1	4.9	(1.8)	9.5	23.1	17.3	9.5	13,836	21.2	15.1	1.3	1.2	13.2	10.4
Panasonic	JPY	1346.0	0.1	(1.7)	(4.7)	(11.6)	(18.3)	(7.5)	(18.4)	29,690	12.2	10.8	1.7	1.5	4.9	4.5
GS Yuasa	JPY	507.0	0.8	0.8	0.0	(4.0)	(15.6)	(4.2)	(9.6)	1,885	15.3	14.1	1.1	1.1	6.9	6.4
NEC	JPY	2999.0	0.9	1.6	(0.7)	(0.5)	(6.7)	3.4	(1.3)	7,024	23.6	12.9	0.9	0.8	7.1	5.3
BYD Auto	CNY	43.5	(2.0)	2.4	(1.9)	(19.8)	(30.8)	(9.5)	(33.2)	17,069	27.6	20.6	2.0	1.9	12.9	11.1
Tesla Motors	USD	322.8	0.8	5.7	8.5	16.2	(8.3)	(8.5)	3.7	55,071	#N/A N/A	108.5	9.7	9.1	43.1	19.4
Kandi Technologies	USD	4.0	(1.2)	(1.2)	(4.2)	(31.6)	(29.8)	12.7	(41.2)	206	#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			**0.5**	**1.6**	**0.8**	**(4.5)**	**(11.5)**	**0.2**	**(12.5)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임