SK Energy Daily

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SK 증권

1. News Summary (3 page)

2017년 11월 1일

News		Conclusion
WTI comment	감산연장 기대 상승지속…WTI 0.4%↑	
Headline	테슬라, 모델 3 생산량 못 맞춰 주주 집단 소송 위기	완성차 업체가 아니기에 GM Bolt 대비 양산에 난항을 겪는 것임
News 1.	브라스켐, 라이온델 바젤의 인수설 부인	미국 ECC 가동으로 화학의 peakout이 시작되면 인수 가능성 없지 않음
News 2.	3분기 미국 에틸렌 재고 증가, 생산 감소	ECC가 증설되며 가동률 램프업 과정에서 초반 재고를 쌓아가는 것
News 3.	삼성重 건조, 세계 최대 '에지나 FPSO' 31일 출항	지연된 프로젝트가 인도된 것으로 실적에 큰 영향을 주진 않을 전망
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	54.4	0.4	3.6	7.9	10.6	16.5
Dubai	$/bbl	58.3	(0.0)	5.5	7.1	13.9	28.4
Gasoline	$/bbl	72.7	(0.6)	4.8	6.9	8.4	14.8
Diesel	$/bbl	71.2	(0.1)	4.6	5.3	8.3	17.8
Complex margin	$/bbl	8.2	0.0	0.1	0.4	(0.9)	(2.1)
1M lagging	$/bbl	11.0	0.1	2.3	(2.0)	(3.0)	0.4
Petrochemical			%	%	%	%	%
Naphtha	$/t	565	1.3	5.5	7.0	20.8	27.4
Butadiene	$/t	950	0.0	(18.5)	(32.1)	4.4	(36.2)
HDPE	$/t	1,240	0.0	1.2	6.4	12.2	6.4
MEG	$/t	898	(0.7)	(0.2)	1.7	3.6	30.0
PX	$/t	841	0.2	0.8	1.4	4.1	7.4
SM	$/t	1,160	(0.5)	(2.4)	(6.2)	3.3	12.0
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.90	(2.4)	(7.6)	(6.1)	(6.4)	(11.1)
Natural rubber	$/t	1,350	(1.5)	(3.6)	(8.8)	(6.9)	(8.8)
Cotton	C/lbs	68.4	(0.4)	(1.7)	0.3	(3.9)	0.3

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	10/30	$/t	1,130	(3.8)	(10.0)	15.9	13.6
Propylene	10/30	$/t	808	1.6	(3.3)	5.9	17.5
Benzene	10/30	$/t	810	0.9	0.6	9.1	23.7
Toluene	10/30	$/t	690	(0.7)	(1.4)	8.7	4.5
Xylene	10/30	$/t	655	0.4	(0.4)	5.2	0.8
PP	10/30	$/t	1,148	(1.7)	(1.7)	7.0	11.4
PVC	10/30	$/t	890	(2.2)	(6.1)	3.5	(4.3)
ABS	10/30	$/t	1,920	(1.5)	(6.8)	5.5	31.5
SBR	10/30	$/t	0	(100.0)	(100.0)	(100.0)	(100.0)
SM	10/30	$/t	1,210	(0.6)	(10.4)	3.2	14.4
BPA	10/30	$/t	1,685	0.0	8.0	9.4	14.2
Caustic	10/30	$/t	598	8.7	23.6	29.3	63.8
2-EH	10/30	$/t	1,000	0.0	1.0	3.1	26.6
Caprolactam	10/30	$/t	2,170	4.8	18.6	25.4	52.3
Solar				%	%	%	%
Polysilicon	10/25	$/kg	16.7	0.0	0.1	16.9	22.6
Module	10/25	$/W	0.32	(0.3)	(0.6)	(2.8)	(19.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	83.4	(0.2)	(0.1)	1.7	4.1	0.0
Shell	EUR	2,366	0.8	1.0	5.2	10.9	16.0
Petrochina	CNY	8.27	(0.4)	1.2	3.5	1.7	12.7
Gazprom	RUB	125.9	(0.1)	(0.1)	3.0	8.4	(9.3)
Petrobras	BRL	16.8	(0.1)	1.6	9.6	26.2	(5.2)
Refinery							
Phillips66	USD	91.1	0.1	(0.8)	(0.6)	8.8	12.2
Valero	USD	78.9	0.6	1.5	2.5	14.4	33.2
JX	JPY	583.2	(2.1)	0.7	0.7	19.0	40.2
Neste Oil	EUR	47.8	(3.6)	12.5	29.4	30.6	21.6

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	94.1	0.6	4.4	4.8	16.7	17.1
DowDuPont	USD	72.3	0.9	0.6	4.4	12.6	34.4
SABIC	SAR	99.3	(0.4)	1.8	(2.3)	2.0	17.2
Formosa Pla.	TWD	91.9	0.3	(0.1)	0.1	1.4	7.6
Shin-Etsu	JPY	11,910	2.1	5.2	18.4	17.8	49.4
Renewable							
Wacker	EUR	134.0	0.0	9.4	10.4	27.7	65.1
First Solar	USD	54.82	(9.3)	12.8	19.5	11.2	35.4
GCL-Poly	HKD	1.34	1.5	9.8	25.2	61.4	27.6
Tesla Motors	USD	331.5	3.6	(1.7)	(2.8)	2.5	67.7

4. Coverage Summary

	10/31	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,523	0.9	1.3	5.4	3.9	14.4	25.0				* 추정치는 12M fwd 기준임	
KOSPI화학	5,995	(0.5)	0.8	5.2	4.9	16.9	18.6				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	403,500	(0.5)	3.9	2.9	21.0	47.3	67.1	매수	400,000	(0.9)	12.78	2.11
롯데케미칼	369,500	0.0	(5.0)	(2.2)	(3.5)	8.0	23.6	매수	410,000	11.0	5.81	1.27
한화케미칼	30,450	0.2	(9.5)	(6.2)	(8.8)	21.1	11.9	매수	39,000	28.1	5.14	0.85
금호석유화학	69,400	0.9	1.8	(3.7)	(10.3)	(8.8)	(2.8)	매수	100,000	44.1	11.76	1.29
KCC	390,000	1.0	(0.9)	4.1	(11.5)	14.5	(5.9)	매수	450,000	15.4	21.65	0.57
OCI	113,000	0.9	0.4	10.2	21.4	43.2	21.1	매수	120,000	6.2	14.35	0.87
SKC	39,750	0.4	(1.0)	(3.6)	6.4	38.7	43.5	매수	45,000	13.2	10.98	1.08
SK이노베이션	205,000	(1.9)	(0.7)	3.0	16.1	19.9	31.8	매수	210,000	2.4	8.27	1.10
S-Oil	128,500	(1.2)	(0.8)	0.8	9.8	28.9	60.6	매수	140,000	8.9	13.90	2.43
GS	66,200	(2.4)	(2.9)	0.9	(12.9)	11.6	27.6	매수	80,000	20.8	6.28	0.98
SK가스	93,600	(0.8)	(1.9)	(0.7)	(20.7)	(20.3)	(4.6)	매수	130,000	38.9	7.07	0.69
포스코대우	19,400	(0.8)	1.3	0.5	(20.0)	(19.2)	(22.6)	매수	25,000	28.9	10.87	0.84
LG상사	29,050	1.0	5.3	6.4	0.2	(10.6)	1.8	매수	38,000	30.8	10.58	0.94
한국전력	39,200	0.8	(2.6)	0.5	(11.3)	(13.6)	(20.9)	매수	55,000	40.3	7.52	0.32
한국가스공사	40,850	(0.8)	(2.9)	(3.0)	(19.3)	(12.3)	(10.2)	매수	60,000	46.9	8.34	0.53

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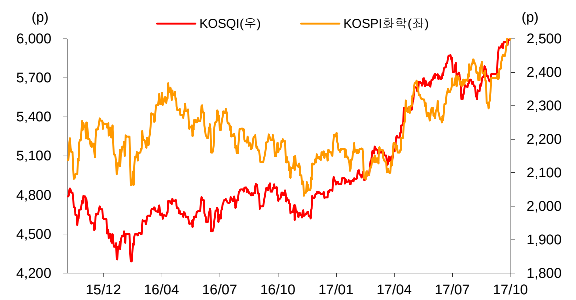
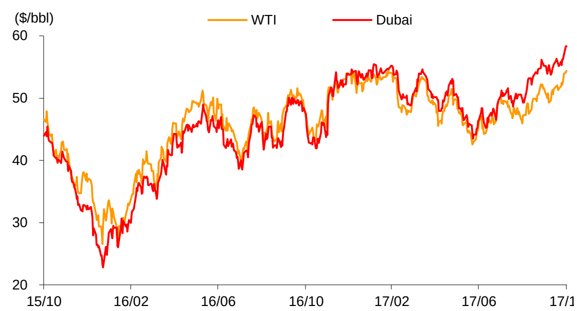
Key Chart

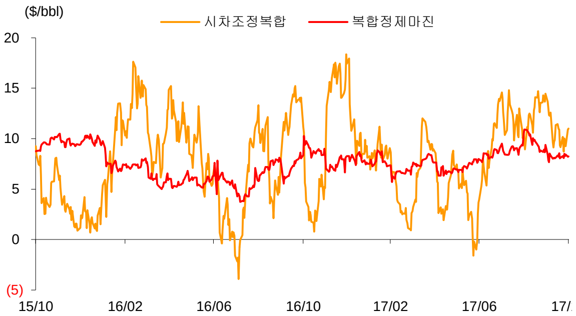
KOSPI/KOSPI화학



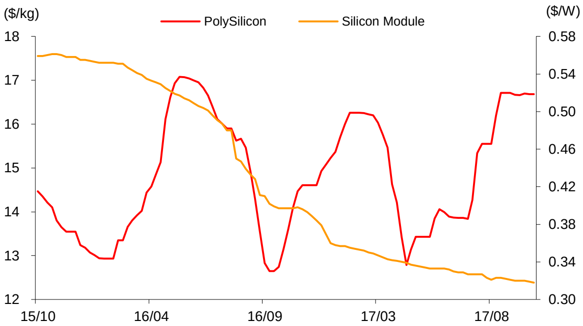
WTI/Dubai



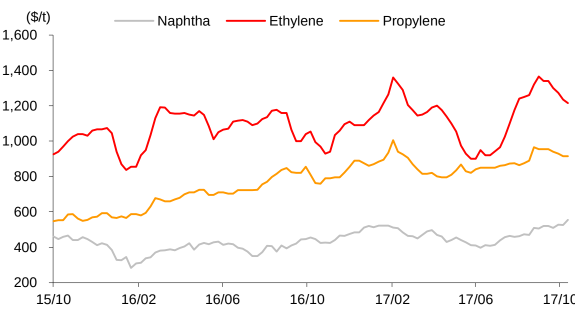
Complex & 1M lagging margin



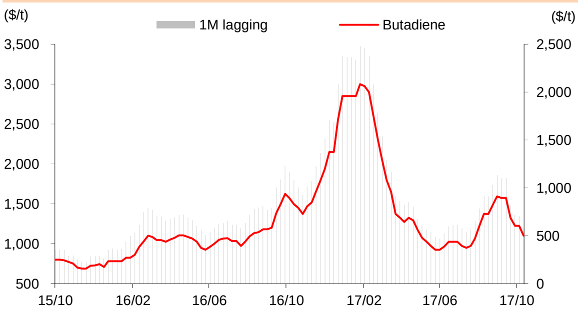
Polysilicon & Module prices



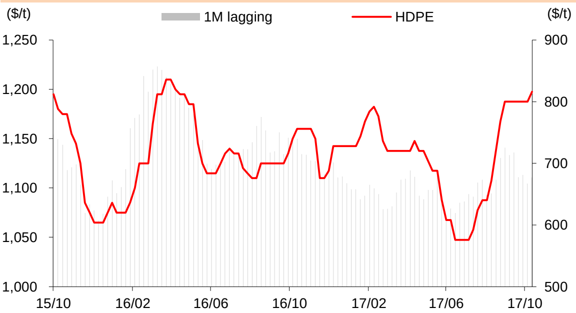
Naphtha/Ethylene/Propylene prices



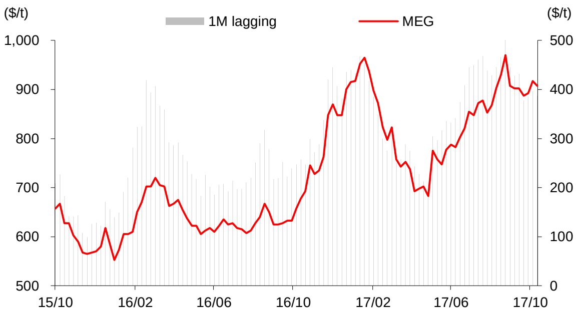
Butadiene price & 1M lagging naphtha spread



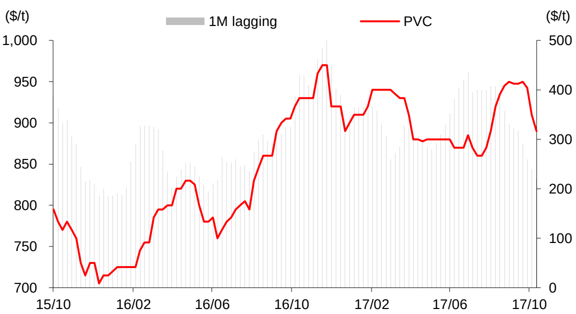
HDPE price & 1M lagging naphtha spread



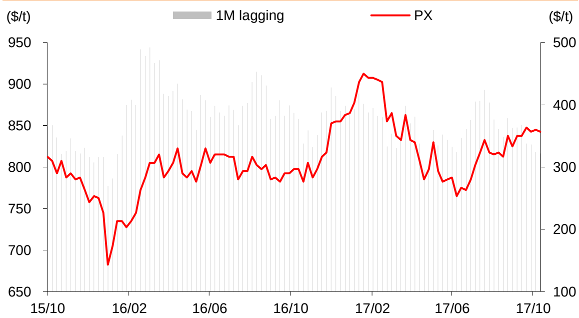
MEG price & 1M lagging naphtha spread



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	테슬라, 모델 3 생산량 못 맞춰 주주 집단 소송 위기
결론	완성차 업체가 아니기에 GM Bolt 대비 양산에 난항을 겪는 것임
세부	
	1) CNN, "모델 3가 공급이 지연되며 주주들로부터 집단 소송 위기"
	2) 테슬라는 지난 2일 일부 조립 라인이 기대보다 작동이 늦다고 밝힘
	3) 당초 3분기 출고키로 했던 1,500대 생산에 차질이 생겨 250대만 생산
	4) WSJ, "새 자동차의 주요 부분들이 수동으로 조립되고 있는 것이 문제"
	5) 완성차 업체가 아니기에 GM Bolt 대비 양산에 난항을 겪는 것임

WTI Comment	(출처: 연합뉴스)
제목	감산연장 기대 상승지속…WTI 0.4%↑
상승 요인	OPEC 등이 내년 3월로 예정된 감산 시한을 연장할 것이라는 기대감
하락 요인	

Issue 1	(출처: Platts)
제목	브라스켐, 라이온델 바젤의 인수설 부인
결론	미국 ECC 가동으로 화학의 peakout이 시작되면 인수 가능성 없지 않음
세부	
	1) 브라스켐, "라이온델 바젤로부터 인수에 관한 어떤 접근도 없었음"
	2) 월요일 WSJ, "라이온델 바젤이 브라스켐을 100억불에 인수 논의중"
	3) 관계자, "애초에 브라스켐의 가치가 100억불인 것이 말이 안됨"
	4) 작년부터 페트로브라스의 브라스켐 인수설이 나돌았음
	5) 미국 ECC 가동으로 화학의 peakout이 시작되면 인수 가능성 없지 않음

Issue 2	(출처: Platts)
제목	3분기 미국 에틸렌 재고 증가, 생산 감소
결론	ECC가 증설되며 가동률 램프업 과정에서 초반 재고를 쌓아가는 것
세부	
	1) 3분기 미국 에틸렌 생산량은 142억lb로 QoQ 10% 감소함
	2) YTD 생산량은 448억lb로 2016년 전체 생산량인 434억lb를 상회함
	3) 3분기 생산량은 YoY 6,887만lb(0.5%) 증가한 수준을 기록한 것
	4) 에틸렌 재고는 1.75억lb가 증가하며 24.7억lb를 기록함
	5) ECC가 증설되며 가동률 램프업 과정에서 초반 재고를 쌓아가는 것

Issue 3	(출처: 세계일보)
제목	삼성重 건조, 세계 최대 '에지나 FPSO' 31일 출항
결론	지연된 프로젝트가 인도된 것으로 실적에 큰 영향을 주진 않을 전망
세부	
	1) Ichthys CPF, Prelude FLNG 포함 초대형 해양 프로젝트 3건 인도 완료
	2) 에지나 FPSO는 2013년에 나이지리아에서 수주한 프로젝트
	3) 나이지리아 연안에서 200km 떨어진 에지나 해상유전에 투입됨
	4) 계약 금액은 약 30억 달러로 FPSO 사상 최대 수주 금액으로 기록됨
	5) 지연된 프로젝트가 인도된 것으로 실적에 큰 영향을 주진 않을 전망

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

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

Issue 6	
제목	
결론	
세부	
	1)
	2)
	3)
	4)
	5)

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
F/X	**USD/EUR**	0.859	0.858	0.850	0.846	0.845	0.918	0.911	0.951	0.901	0.904	0.894
	Change, %		*0.1*	*1.0*	*1.5*	*1.7*	*(6.4)*	*(5.7)*	*(9.7)*	*(4.7)*	*(5.0)*	*(4.0)*
	USD/JPY	113.6	113.2	113.9	112.5	110.3	111.8	104.8	117.0	121.1	108.8	112.0
	Change, %		*0.4*	*(0.2)*	*1.0*	*3.1*	*1.6*	*8.4*	*(2.8)*	*(6.1)*	*4.5*	*1.5*
	USD/KRW	1,120.3	1,124.8	1,127.5	1,145.4	1,119.3	1,137.9	1,143.8	1,205.8	1,131.2	1,160.5	1,138.4
	Change, %		*(0.4)*	*(0.6)*	*(2.2)*	*0.1*	*(1.5)*	*(2.0)*	*(7.1)*	*(1.0)*	*(3.5)*	*(1.6)*
Agriculture	**Corn**	345.8	348.8	352.8	355.3	370.8	369.3	354.8	352.0	376.8	358.5	362.3
	Change, %		*(0.9)*	*(2.0)*	*(2.7)*	*(6.7)*	*(6.4)*	*(2.5)*	*(1.8)*	*(8.3)*	*(3.6)*	*(4.6)*
	Soybean	973.8	972.8	975.5	968.3	994.5	959.0	1,002.3	996.5	945.4	987.5	975.6
	Change, %		*0.1*	*(0.2)*	*0.6*	*(2.1)*	*1.5*	*(2.8)*	*(2.3)*	*3.0*	*(1.4)*	*(0.2)*
	Wheat	418.5	424.8	438.0	448.3	474.5	442.8	416.3	408.0	508.1	436.4	439.6
	Change, %		*(1.5)*	*(4.5)*	*(6.6)*	*(11.8)*	*(5.5)*	*0.5*	*2.6*	*(17.6)*	*(4.1)*	*(4.8)*
	Rice	11.3	11.5	11.6	12.0	12.3	9.4	9.9	9.4	11.1	10.3	10.9
	Change, %		*(1.4)*	*(2.7)*	*(5.9)*	*(7.9)*	*20.7*	*14.6*	*20.7*	*2.1*	*9.2*	*3.6*
	Oats	264.8	263.3	277.0	251.3	284.3	243.3	220.5	228.5	250.2	196.3	252.6
	Change, %		*0.6*	*(4.4)*	*5.4*	*(6.9)*	*8.8*	*20.1*	*15.9*	*5.8*	*34.9*	*4.8*
MYR/mt	**Palm Oil**	2,791.0	2,806.0	2,752.0	2,719.0	2,672.0	2,694.0	2,764.0	3,218.0	2,190.3	2,653.8	2,837.1
	Change, %		*(0.5)*	*1.4*	*2.6*	*4.5*	*3.6*	*1.0*	*(13.3)*	*27.4*	*5.2*	*(1.6)*
	Cocoa	2,094.0	2,118.0	2,084.0	2,043.0	2,060.0	1,812.0	2,735.0	2,126.0	3,091.6	2,854.0	2,004.3
	Change, %		*(1.1)*	*0.5*	*2.5*	*1.7*	*15.6*	*(23.4)*	*(1.5)*	*(32.3)*	*(26.6)*	*4.5*
	Cotton	68.4	68.6	69.5	69.1	70.5	80.5	68.9	70.7	63.3	65.6	73.6
	Change, %		*(0.4)*	*(1.7)*	*(1.0)*	*(3.0)*	*(15.0)*	*(0.7)*	*(3.2)*	*8.1*	*4.3*	*(7.1)*
	Sugar	14.7	14.7	14.3	13.5	14.9	16.2	21.6	19.5	13.1	18.2	16.0
	Change, %		*0.1*	*3.2*	*8.9*	*(1.1)*	*(8.9)*	*(31.7)*	*(24.4)*	*12.2*	*(18.8)*	*(8.1)*
	Coffee	125.1	125.9	123.2	128.1	139.3	133.6	164.2	137.1	132.6	136.1	134.8
	Change, %		*(0.6)*	*1.5*	*(2.3)*	*(10.2)*	*(6.4)*	*(23.8)*	*(8.7)*	*(5.7)*	*(8.1)*	*(7.2)*
Energy	**WTI**	54.4	54.2	52.5	51.7	50.2	48.8	46.9	53.7	48.8	43.4	49.7
	Change, %		*0.4*	*3.6*	*5.2*	*8.4*	*11.3*	*16.0*	*1.2*	*11.3*	*25.3*	*9.5*
	Brent	61.4	60.9	58.3	57.5	52.7	51.5	48.3	56.8	53.7	45.1	53.1
	Change, %		*0.8*	*5.2*	*6.7*	*16.6*	*19.1*	*27.1*	*8.0*	*14.3*	*36.1*	*15.5*
	Natural Gas	2.9	3.0	3.0	3.0	2.8	3.2	3.0	3.7	2.6	2.6	3.0
	Change, %		*(2.4)*	*(2.6)*	*(3.7)*	*3.7*	*(9.9)*	*(4.3)*	*(22.2)*	*10.2*	*13.5*	*(4.8)*
	Ethanol	1.4	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5
	Change, %		*0.4*	*0.7*	*(5.0)*	*(8.0)*	*(9.1)*	*(12.5)*	*(11.0)*	*(5.3)*	*(5.6)*	*(6.2)*
	RBOB Gasoline	178.0	176.4	171.6	160.7	170.6	152.7	145.0	166.5	163.6	140.0	160.5
	Change, %		*0.9*	*3.7*	*10.8*	*4.3*	*16.5*	*22.8*	*6.9*	*8.8*	*27.1*	*10.9*
	Coal	99.9	99.4	97.2	97.3	93.2	79.4	108.6	88.4	59.0	65.5	86.2
	Change, %		*0.5*	*2.8*	*2.7*	*7.2*	*25.8*	*(8.0)*	*13.0*	*69.5*	*52.6*	*15.9*
Metal	**Gold**	1,271.1	1,276.4	1,276.8	1,280.2	1,269.4	1,256.7	1,277.3	1,152.3	1,160.6	1,248.5	1,255.3
	Change, %		*(0.4)*	*(0.5)*	*(0.7)*	*0.1*	*1.1*	*(0.5)*	*10.3*	*9.5*	*1.8*	*1.3*
	Silver	16.7	16.9	16.9	16.7	16.8	16.9	17.9	15.9	15.7	17.1	17.2
	Change, %		*(0.8)*	*(1.0)*	*0.4*	*(0.6)*	*(0.8)*	*(6.6)*	*5.0*	*6.3*	*(2.3)*	*(2.6)*
	Copper	6,839.0	6,867.0	7,035.5	6,481.0	6,369.0	5,735.5	4,853.0	5,535.5	5,503.1	4,872.0	6,064.8
	Change, %		*(0.4)*	*(2.8)*	*5.5*	*7.4*	*19.2*	*40.9*	*23.5*	*24.3*	*40.4*	*12.8*
	Nickel	766.0	754.2	781.4	678.7	655.5	606.9	692.4	682.0	759.5	646.4	664.3
	Change, %		*1.6*	*(2.0)*	*12.9*	*16.9*	*26.2*	*10.6*	*12.3*	*0.9*	*18.5*	*15.3*
	Zinc	3,265.0	3,209.0	3,177.0	3,162.0	2,795.0	2,623.0	2,462.0	2,576.0	1,941.9	2,097.5	2,826.8
	Change, %		*1.7*	*2.8*	*3.3*	*16.8*	*24.5*	*32.6*	*26.7*	*68.1*	*55.7*	*15.5*
	Lead	2,409.5	2,405.8	2,462.5	2,494.0	2,315.5	2,250.5	2,055.0	2,003.5	1,791.2	1,868.3	2,281.5
	Change, %		*0.2*	*(2.2)*	*(3.4)*	*4.1*	*7.1*	*17.3*	*20.3*	*34.5*	*29.0*	*5.6*
	Aluminum	16,175.0	16,195.0	16,205.0	16,235.0	14,285.0	14,160.0	14,525.0	12,765.0	12,184.0	12,373.5	14,500.8
	Change, %		*(0.1)*	*(0.2)*	*(0.4)*	*13.2*	*14.2*	*11.4*	*26.7*	*32.8*	*30.7*	*11.5*
	Cobalt	60,500.0	61,160.0	60,520.0	59,094.0	56,940.0	55,000.0	28,537.0	32,734.0	28,444.4	25,480.1	53,603.3
	Change, %		*(1.1)*	*(0.0)*	*2.4*	*6.3*	*10.0*	*112.0*	*84.8*	*112.7*	*137.4*	*12.9*
	HR Coil	605.0	605.0	595.0	599.0	628.0	618.0	492.0	633.0	461.5	519.3	618.9
	Change, %		*0.0*	*1.7*	*1.0*	*(3.7)*	*(2.1)*	*23.0*	*(4.4)*	*31.1*	*16.5*	*(2.2)*
	Scrap	330.0	330.0	330.0	340.0	354.0	360.0	230.0	302.0	252.9	275.7	343.9
	Change, %		*0.0*	*0.0*	*(2.9)*	*(6.8)*	*(8.3)*	*43.5*	*9.3*	*30.5*	*19.7*	*(4.0)*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		10/31	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	54.4	54.2	52.5	50.4	49.2	47.7	46.7	53.7	48.8	43.4	49.6
	Change, %		*0.4*	*3.6*	*7.9*	*10.6*	*14.1*	*16.5*	*1.2*	*11.5*	*25.4*	*9.6*
	Dubai	58.3	58.3	55.3	54.5	51.2	50.2	45.4	53.8	50.8	41.3	51.5
	Change, %		*(0.0)*	*5.5*	*7.1*	*13.9*	*16.3*	*28.4*	*8.3*	*14.8*	*41.2*	*13.3*
Crude Oil Product	**Gasoline(휘발유)**	72.7	73.1	69.4	68.1	67.1	64.6	63.3	69.8	69.5	56.3	66.5
	Change, %		*(0.6)*	*4.8*	*6.9*	*8.4*	*12.6*	*14.8*	*4.1*	*4.6*	*29.3*	*9.4*
	Kerosene(등유)	71.3	71.5	68.0	67.4	64.6	61.0	59.3	66.4	64.7	52.9	63.3
	Change, %		*(0.2)*	*4.8*	*5.8*	*10.4*	*16.9*	*20.2*	*7.3*	*10.1*	*34.8*	*12.6*
	Diesel(경유)	71.2	71.2	68.0	67.6	65.7	62.4	60.4	65.5	64.8	52.1	63.9
	Change, %		*(0.1)*	*4.6*	*5.3*	*8.3*	*14.0*	*17.8*	*8.6*	*9.9*	*36.6*	*11.4*
	Bunker-C	55.3	54.7	52.1	50.8	48.4	46.7	43.0	52.1	45.3	35.5	48.3
	Change, %		*1.1*	*6.1*	*8.9*	*14.3*	*18.5*	*28.5*	*6.3*	*22.2*	*55.7*	*14.6*
	Naphtha	61.4	61.4	58.2	55.1	51.4	49.7	48.2	53.5	52.6	42.6	51.5
	Change, %		*0.0*	*5.5*	*11.5*	*19.6*	*23.5*	*27.3*	*14.9*	*16.8*	*44.2*	*19.2*
Dubai Spread	**Gasoline(휘발유)**	14.4	14.8	14.1	13.6	15.9	14.4	17.9	16.0	18.7	14.9	15.0
	Change		*(0.4)*	*0.3*	*0.8*	*(1.5)*	*(0.0)*	*(3.5)*	*(1.6)*	*(4.3)*	*(0.5)*	*(0.6)*
	Kerosene(등유)	13.0	13.1	12.8	13.0	13.4	10.9	13.9	12.6	14.0	11.6	11.8
	Change		*(0.1)*	*0.2*	*0.0*	*(0.4)*	*2.1*	*(0.9)*	*0.4*	*(1.0)*	*1.4*	*1.1*
	Diesel(경유)	12.8	12.9	12.8	13.2	14.5	12.2	15.0	11.7	14.0	10.8	12.4
	Change		*(0.1)*	*0.1*	*(0.3)*	*(1.6)*	*0.6*	*(2.1)*	*1.2*	*(1.1)*	*2.0*	*0.4*
	Bunker-C	(3.0)	(3.6)	(3.2)	(3.7)	(2.8)	(3.5)	(2.4)	(1.8)	(5.5)	(5.8)	(3.2)
	Change		*0.6*	*0.1*	*0.7*	*(0.2)*	*0.5*	*(0.6)*	*(1.2)*	*2.5*	*2.8*	*0.2*
	Naphtha	3.1	3.1	2.9	0.6	0.1	(0.4)	2.8	(0.4)	1.8	1.3	0.0
	Change		*0.0*	*0.2*	*2.5*	*3.0*	*3.5*	*0.3*	*3.5*	*1.3*	*1.8*	*3.1*
Refining Margin	**Simple(단순)**	3.4	3.2	3.4	3.1	4.2	2.9	5.1	3.8	3.3	1.9	3.2
	Change		*0.2*	*0.1*	*0.3*	*(0.7)*	*0.5*	*(1.6)*	*(0.4)*	*0.2*	*1.5*	*0.3*
	Complex(복합)	8.2	8.2	8.1	7.9	9.2	7.6	10.3	8.3	9.3	7.0	7.9
	Change		*0.0*	*0.1*	*0.4*	*(0.9)*	*0.6*	*(2.1)*	*(0.0)*	*(1.1)*	*1.3*	*0.3*
	Complex(lagging)	11.0	10.9	8.7	13.0	14.0	7.7	10.6	18.0	7.3	8.5	8.1
	Change		*0.1*	*2.3*	*(2.0)*	*(3.0)*	*3.3*	*0.4*	*(7.0)*	*3.7*	*2.5*	*2.9*

자료 : Petronet, SK증권
참고 1) Crude Oil 가격은 현물(spot) 기준으로 선물(future) 가격과 다를 수 있음
참고 2) Gasoline은 95RON, 경유는 L/P 0.5%, Bunker-C는 380cst/4.0% 기준임

SK Energy Daily

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Petrochemical Price Data

Daily Price			10/31	10/30	10/27	10/26	10/25	10/24	10/23	10/20	10/19	10/18
Spot Price	**Naphtha**	CFR Japan	564.5	557.5	554.0	548.5	546.5	534.9	539.4	529.4	529.5	533.5
	Ethylene	CFR SE Asia	1,140.0	1,140.0	1,140.0	1,150.0	1,155.0	1,155.0	1,160.0	1,160.0	1,160.0	1,160.0
	Propylene	FOB Korea	925.0	940.0	943.0	943.0	945.0	945.0	945.0	948.0	950.0	940.0
	Butadiene	FOB Korea	950.0	950.0	950.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0	1,180.0	1,180.0
	HDPE	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,225.0	1,220.0	1,220.0	1,215.0	1,210.0
	LDPE	CFR FE Asia	1,240.0	1,250.0	1,250.0	1,255.0	1,255.0	1,255.0	1,250.0	1,250.0	1,250.0	1,245.0
	LLDPE	CFR FE Asia	1,170.0	1,170.0	1,180.0	1,190.0	1,190.0	1,190.0	1,185.0	1,185.0	1,185.0	1,180.0
	MEG	CFR China	898.0	904.0	903.0	900.0	895.0	900.0	902.0	915.0	906.0	900.0
	PP	CFR FE Asia	1,115.0	1,115.0	1,125.0	1,130.0	1,130.0	1,120.0	1,120.0	1,130.0	1,120.0	1,110.0
	PX	CFR China	840.7	839.3	831.3	831.3	835.3	834.3	835.3	834.7	833.7	838.2
	PTA	CFR China	653.0	653.0	650.0	650.0	645.0	645.0	645.0	646.0	646.0	646.0
	Benzene	FOB Korea	794.0	795.0	791.0	794.0	798.0	800.5	803.5	788.5	786.5	783.5
	Toluene	FOB Korea	668.0	672.0	664.5	658.5	658.5	654.5	657.5	654.5	649.5	654.5
	Xylene	FOB Korea	664.0	661.0	660.0	654.0	658.0	658.0	659.0	657.0	658.0	659.0
	SM	FOB Korea	1,159.5	1,165.5	1,169.5	1,193.5	1,199.5	1,188.5	1,190.5	1,188.0	1,188.0	1,192.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	**Naphtha**	CFR Japan	554.5	526.5	520.5	456.5	411.5	446.5	484.5	493.0	399.5	475.2
	Change, %			*5.3*	*6.5*	*21.5*	*34.8*	*24.2*	*14.4*	*12.5*	*38.8*	*16.7*
	Ethylene	CFR SE Asia	1,130.0	1,175.0	1,255.0	975.0	875.0	995.0	990.0	1,103.7	1,040.9	1,068.1
	Change, %			*(3.8)*	*(10.0)*	*15.9*	*29.1*	*13.6*	*14.1*	*2.4*	*8.6*	*5.8*
	Propylene	CFR SE Asia	807.5	795.0	835.0	762.5	742.5	687.5	815.0	770.0	705.7	876.6
	Change, %			*1.6*	*(3.3)*	*5.9*	*8.8*	*17.5*	*(0.9)*	*4.9*	*14.4*	*(7.9)*
	Butadiene	CFR SE Asia	1,050.0	1,175.0	1,525.0	900.0	975.0	1,450.0	2,100.0	877.5	1,116.8	1,567.5
	Change, %			*(10.6)*	*(31.1)*	*16.7*	*7.7*	*(27.6)*	*(50.0)*	*19.7*	*(6.0)*	*(33.0)*
	Benzene	CFR SE Asia	810.0	802.5	805.0	742.5	760.0	655.0	822.5	690.0	646.7	831.0
	Change, %			*0.9*	*0.6*	*9.1*	*6.6*	*23.7*	*(1.5)*	*17.4*	*25.3*	*(2.5)*
	Toluene	CFR SE Asia	690.0	695.0	700.0	635.0	630.0	660.0	690.0	700.8	630.5	684.0
	Change, %			*(0.7)*	*(1.4)*	*8.7*	*9.5*	*4.5*	*0.0*	*(1.5)*	*9.4*	*0.9*
	Xylene	CFR SE Asia	655.0	652.5	657.5	622.5	610.0	650.0	675.0	699.3	627.7	664.0
	Change, %			*0.4*	*(0.4)*	*5.2*	*7.4*	*0.8*	*(3.0)*	*(6.3)*	*4.3*	*(1.4)*
Spread	**Ethylene**	-Naphtha	575.5	648.5	734.5	518.5	463.5	548.5	505.5	610.6	641.4	592.9
	Change, %			*(11.3)*	*(21.6)*	*11.0*	*24.2*	*4.9*	*13.8*	*(5.8)*	*(10.3)*	*(2.9)*
	Propylene	-Naphtha	253.0	268.5	314.5	306.0	331.0	241.0	330.5	277.0	306.2	401.4
	Change, %			*(5.8)*	*(19.6)*	*(17.3)*	*(23.6)*	*5.0*	*(23.4)*	*(8.7)*	*(17.4)*	*(37.0)*
	Butadiene	-Naphtha	495.5	648.5	1,004.5	443.5	563.5	1,003.5	1,615.5	384.5	717.3	1,092.3
	Change, %			*(23.6)*	*(50.7)*	*11.7*	*(12.1)*	*(50.6)*	*(69.3)*	*28.9*	*(30.9)*	*(54.6)*
	Benzene	-Naphtha	255.5	276.0	284.5	286.0	348.5	208.5	338.0	197.0	247.2	355.8
	Change, %			*(7.4)*	*(10.2)*	*(10.7)*	*(26.7)*	*22.5*	*(24.4)*	*29.7*	*3.4*	*(28.2)*
	Toluene	-Naphtha	135.5	168.5	179.5	178.5	218.5	213.5	205.5	207.8	231.0	208.8
	Change, %			*(19.6)*	*(24.5)*	*(24.1)*	*(38.0)*	*(36.5)*	*(34.1)*	*(34.8)*	*(41.3)*	*(35.1)*
	Xylene	-Naphtha	100.5	126.0	137.0	166.0	198.5	203.5	190.5	206.3	228.2	188.8
	Change, %			*(20.2)*	*(26.6)*	*(39.5)*	*(49.4)*	*(50.6)*	*(47.2)*	*(51.3)*	*(56.0)*	*(46.8)*

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

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SK증권

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	**HDPE**	CFR SE Asia	1,197.5	1,187.5	1,187.5	1,057.5	1,047.5	1,160.0	1,142.5	1,230.1	1,134.6	1,131.4
	Change, %			*0.8*	*0.8*	*13.2*	*14.3*	*3.2*	*4.8*	*(2.7)*	*5.5*	*5.8*
	MEG	CFR SE Asia	907.5	917.5	902.5	872.5	802.5	677.5	847.5	780.8	660.8	839.9
	Change, %			*(1.1)*	*0.6*	*4.0*	*13.1*	*33.9*	*7.1*	*16.2*	*37.3*	*8.1*
	PVC	CFR SE Asia	890.0	910.0	947.5	860.0	870.0	930.0	920.0	820.8	823.4	906.0
	Change, %			*(2.2)*	*(6.1)*	*3.5*	*2.3*	*(4.3)*	*(3.3)*	*8.4*	*8.1*	*(1.8)*
	PP	CFR SE Asia	1,147.5	1,167.5	1,167.5	1,072.5	1,037.5	1,030.0	1,032.5	1,109.8	978.4	1,088.8
	Change, %			*(1.7)*	*(1.7)*	*7.0*	*10.6*	*11.4*	*11.1*	*3.4*	*17.3*	*5.4*
	2-EH	CFR Korea	1,000.0	1,000.0	990.0	970.0	920.0	790.0	865.0	930.1	772.4	959.4
	Change, %			*0.0*	*1.0*	*3.1*	*8.7*	*26.6*	*15.6*	*7.5*	*29.5*	*4.2*
	ABS	CFR SE Asia	1,920.0	1,950.0	2,060.0	1,820.0	1,790.0	1,460.0	1,635.0	1,431.1	1,347.1	1,816.7
	Change, %			*(1.5)*	*(6.8)*	*5.5*	*7.3*	*31.5*	*17.4*	*34.2*	*42.5*	*5.7*
	SBR	CFR SE Asia	0.0	1,750.0	1,820.0	1,490.0	1,450.0	1,900.0	2,000.0	1,332.1	1,483.0	2,055.2
	Change, %			*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*	*(100.0)*
	SM	CFR SE Asia	1,210.0	1,217.5	1,350.0	1,172.5	1,152.5	1,057.5	1,205.0	1,100.7	1,064.6	1,243.9
	Change, %			*(0.6)*	*(10.4)*	*3.2*	*5.0*	*14.4*	*0.4*	*9.9*	*13.7*	*(2.7)*
	Caustic	FOB NEA	598.0	550.0	484.0	462.5	447.5	365.0	422.5	296.8	316.6	455.8
	Change, %			*8.7*	*23.6*	*29.3*	*33.6*	*63.8*	*41.5*	*101.5*	*88.9*	*31.2*
	PX	CFR SE Asia	842.5	845.0	837.5	817.5	775.0	797.5	855.0	842.9	790.4	834.3
	Change, %			*(0.3)*	*0.6*	*3.1*	*8.7*	*5.6*	*(1.5)*	*(0.0)*	*6.6*	*1.0*
	PO	CFR China	1,685.0	1,685.0	1,560.0	1,540.0	1,485.0	1,475.0	1,562.5	1,683.4	1,396.8	1,558.6
	Change, %			*0.0*	*8.0*	*9.4*	*13.5*	*14.2*	*7.8*	*0.1*	*20.6*	*8.1*
	Caprolactam	CFR SE Asia	2,170.0	2,070.0	1,830.0	1,730.0	1,610.0	1,425.0	1,850.0	1,581.5	1,344.9	1,906.9
	Change, %			*4.8*	*18.6*	*25.4*	*34.8*	*52.3*	*17.3*	*37.2*	*61.4*	*13.8*
	PTA	CFR SE Asia	667.5	667.5	667.5	667.5	630.0	617.5	642.5	648.0	613.7	659.5
	Change, %			*0.0*	*0.0*	*0.0*	*6.0*	*8.1*	*3.9*	*3.0*	*8.8*	*1.2*
Spread	**HDPE**		643.0	661.0	667.0	601.0	636.0	713.5	658.0	737.1	735.1	656.2
	Change, %			*(2.7)*	*(3.6)*	*7.0*	*1.1*	*(9.9)*	*(2.3)*	*(12.8)*	*(12.5)*	*(2.0)*
	MEG		353.0	391.0	382.0	416.0	391.0	231.0	363.0	287.8	261.3	364.7
	Change, %			*(9.7)*	*(7.6)*	*(15.1)*	*(9.7)*	*52.8*	*(2.8)*	*22.7*	*35.1*	*(3.2)*
	PVC		335.5	383.5	427.0	403.5	458.5	483.5	435.5	327.8	423.9	430.8
	Change, %			*(12.5)*	*(21.4)*	*(16.9)*	*(26.8)*	*(30.6)*	*(23.0)*	*2.3*	*(20.9)*	*(22.1)*
	PP		593.0	641.0	647.0	616.0	626.0	583.5	548.0	616.8	578.9	613.5
	Change, %			*(7.5)*	*(8.3)*	*(3.7)*	*(5.3)*	*1.6*	*8.2*	*(3.9)*	*2.4*	*(3.3)*
	2-EH		445.5	473.5	469.5	513.5	508.5	343.5	380.5	437.0	372.9	484.2
	Change, %			*(5.9)*	*(5.1)*	*(13.2)*	*(12.4)*	*29.7*	*17.1*	*1.9*	*19.5*	*(8.0)*
	ABS		1,365.5	1,423.5	1,539.5	1,363.5	1,378.5	1,013.5	1,150.5	938.1	947.6	1,341.5
	Change, %			*(4.1)*	*(11.3)*	*0.1*	*(0.9)*	*34.7*	*18.7*	*45.6*	*44.1*	*1.8*
	SBR	BD spread	(1,050.0)	575.0	295.0	590.0	475.0	450.0	(100.0)	454.7	366.2	487.7
	Change, %			*(282.6)*	*(455.9)*	*(278.0)*	*(321.1)*	*(333.3)*	*950.0*	*(330.9)*	*(386.7)*	*(315.3)*
	SM		655.5	691.0	829.5	716.0	741.0	611.0	720.5	607.7	665.1	768.7
	Change, %			*(5.1)*	*(21.0)*	*(8.4)*	*(11.5)*	*7.3*	*(9.0)*	*7.9*	*(1.4)*	*(14.7)*
	Caustic											
	Change, %											
	PX		288.0	318.5	317.0	361.0	363.5	351.0	370.5	349.9	390.9	359.1
	Change, %			*(9.6)*	*(9.1)*	*(20.2)*	*(20.8)*	*(17.9)*	*(22.3)*	*(17.7)*	*(26.3)*	*(19.8)*
	PO	propylene sprea	877.5	890.0	725.0	777.5	742.5	787.5	747.5	913.4	691.1	682.0
	Change, %			*(1.4)*	*21.0*	*12.9*	*18.2*	*11.4*	*17.4*	*(3.9)*	*27.0*	*28.7*
	Caprolactam	benzene sprea	1,360.0	1,267.5	1,025.0	987.5	850.0	770.0	1,027.5	891.6	698.2	1,076.0
	Change, %			*7.3*	*32.7*	*37.7*	*60.0*	*76.6*	*32.4*	*52.5*	*94.8*	*26.4*
	PTA	px spread	77.8	76.0	81.3	95.3	87.5	59.3	44.0	58.0	60.4	75.5
	Change, %			*2.3*	*(4.3)*	*(18.4)*	*(11.1)*	*31.2*	*76.7*	*34.0*	*28.7*	*3.0*

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	10/31	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 17E	PER 18E	PBR 17E	PBR 18E	EV/EBITDA 17E	EV/EBITDA 18E
Petrochemical																
DowDuPont	USD	72.3	0.9	0.6	4.4	12.6	15.7	34.4	26.4	168,914	22.0	17.8	2.4	2.7	11.7	10.0
Eastman	USD	90.8	(1.1)	0.4	0.4	9.2	13.0	26.3	20.7	13,156	12.9	11.1	2.6	2.4	9.4	8.6
BASF	EUR	94.1	0.6	4.4	4.8	16.7	4.7	17.1	6.5	99,819	15.5	15.4	2.5	2.4	8.3	8.0
Akzo Nobel	EUR	77.7	(0.4)	0.1	(0.5)	1.7	(3.2)	32.0	30.9	22,810	18.9	18.0	3.2	3.1	10.1	9.8
Arkema	EUR	108.5	0.9	2.7	4.5	12.8	11.6	25.5	16.7	9,579	15.9	14.5	2.0	1.9	7.0	6.7
Lanxess	EUR	67.1	0.0	(0.3)	0.5	2.9	1.2	15.0	7.6	7,140	17.5	15.2	2.3	2.1	7.6	8.0
Sumitomo Chemical	JPY	794	(1.1)	5.2	12.9	22.5	25.4	59.4	42.8	11,562	11.1	10.7	1.4	1.3	7.9	7.6
Mitsubishi Chemical	JPY	1,178	(0.8)	0.3	9.8	26.7	33.5	70.4	55.3	15,602	9.7	9.7	1.4	1.3	6.5	6.4
Shin-Etsu Chemical	JPY	11,910	2.1	5.2	18.4	17.8	23.3	49.4	31.4	45,271	23.3	20.6	2.2	2.0	10.4	9.0
Asahi Kasei	JPY	1,369	(1.4)	(0.5)	(1.2)	8.3	28.1	44.4	34.3	16,891	15.1	14.7	1.5	1.4	7.6	7.3
JSR	JPY	2,188	(1.5)	1.9	2.3	12.3	8.3	36.9	18.7	4,352	15.5	15.0	1.3	1.2	8.4	7.9
Nitto Denko	JPY	10,505	3.6	5.0	12.0	6.6	18.2	43.4	17.1	16,057	20.1	18.4	2.4	2.2	8.9	8.3
SABIC	SAR	99.3	(0.4)	1.8	(2.3)	2.0	(0.3)	17.2	8.6	79,460	14.9	14.1	1.8	1.7	7.5	7.3
Yansab	SAR	55.9	0.8	1.7	(4.2)	1.6	1.1	22.5	2.6	8,383	14.1	13.1	2.3	2.3	8.9	8.6
Formosa Plastics	TWD	91.9	0.3	(0.1)	0.1	1.4	1.3	7.6	3.0	19,409	13.4	14.0	1.8	1.7	19.3	19.1
Formosa Fiber	TWD	91.6	(0.1)	(1.0)	(0.5)	0.7	(1.3)	(2.4)	(4.9)	17,812	12.0	12.5	1.6	1.6	10.2	10.6
Nan Ya Plastics	TWD	74.4	1.1	(0.8)	(0.8)	(2.1)	2.3	13.2	4.5	19,576	14.4	14.9	1.7	1.7	15.3	15.0
Sinopec Shanghai	CNY	6.34	0.5	1.3	0.5	(7.2)	(4.1)	7.6	(1.6)	9,084	12.0	11.7	2.4	2.1	6.6	6.6
Sinopec Yizheng(Fibe	CNY	3.00	(1.0)	(2.6)	(4.8)	(6.8)	(7.7)	(23.7)	(26.8)	5,811	#N/A N/A	36.1	5.7	5.8	34.8	15.7
Reliance	INR	941	(0.2)	0.7	20.5	16.5	34.9	79.0	73.8	94,634	17.8	14.5	2.0	1.7	12.0	10.0
Industries Qatar	QAR	95.5	0.6	1.6	2.8	(0.8)	(7.9)	(6.4)	(18.7)	15,046	16.2	13.9	1.7	1.6	54.6	51.2
PTT Chemical	THB	80.0	(0.6)	(1.2)	3.9	11.5	6.7	33.3	27.0	10,819	10.6	10.8	1.4	1.3	5.6	5.5
Petronas	MYR	7.4	(1.7)	(1.5)	1.1	6.0	1.0	5.3	5.6	13,927	16.0	16.0	2.0	1.9	8.8	8.7
LG화학	KRW	403,500	(0.5)	3.9	2.9	23.0	47.3	63.7	54.6	25,472	14.9	14.1	2.0	1.8	6.6	6.2
롯데케미칼	KRW	369,500	0.0	(5.0)	(2.2)	0.1	8.0	28.1	0.1	11,326	5.5	5.4	1.1	0.9	3.8	3.3
한화케미칼	KRW	30,450	0.2	(9.5)	(6.2)	(9.6)	21.1	12.6	23.3	4,488	4.9	5.4	0.8	0.7	6.8	6.7
금호석유	KRW	69,400	0.9	1.8	(3.7)	(8.2)	(8.8)	(1.0)	(15.4)	1,891	13.3	12.1	1.3	1.2	9.4	8.5
SKC	KRW	39,750	0.4	(1.0)	(3.6)	9.7	38.7	47.0	20.5	1,334	10.6	9.6	1.0	0.9	9.4	7.8
국도화학	KRW	58,900	0.7	2.3	6.7	3.0	22.7	8.7	7.3	306	0.0	0.0	0.0	0.0	0.0	0.0
효성	KRW	8,250	(0.7)	(2.4)	24.1	36.6	8.0	49.5	21.3	4,224	8.1	7.1	1.2	1.0	6.7	6.0
Average			**0.1**	**0.5**	**3.4**	**7.6**	**11.4**	**27.2**	**16.4**							
Refinery																
Valero	USD	78.9	0.6	1.5	2.5	14.4	22.6	33.2	15.5	34,843	16.3	12.9	1.7	1.7	7.0	6.2
Conoco Phillips	USD	51.2	(0.5)	0.3	2.2	12.7	7.7	17.7	2.0	61,151	132.9	35.4	2.1	2.1	9.0	7.1
Formosa Petrochemic	TWD	105.5	1.0	0.5	(0.5)	(0.5)	0.0	0.0	(5.8)	33,342	15.0	18.0	3.1	3.2	9.5	10.9
Andeavor	USD	106.2	1.3	(0.5)	3.0	6.7	34.7	25.0	21.5	16,669	15.5	13.3	1.6	1.6	8.9	7.1
Marathon Petroleum	USD	59.7	1.2	4.8	6.5	6.7	17.5	37.0	18.6	29,178	16.4	15.1	2.4	2.4	8.2	7.4
Devon Energy	USD	36.9	2.5	5.9	0.5	10.8	(6.1)	(2.6)	(19.2)	19,392	21.8	17.7	2.7	2.3	9.0	8.1
Hollyfrontier	USD	37.0	0.1	1.5	2.7	28.1	31.4	48.1	12.8	6,550	21.3	15.1	1.4	1.4	9.0	7.1
Phillips 66	USD	91.1	0.1	(0.8)	(0.6)	8.8	14.5	12.2	5.4	46,154	20.2	15.0	2.1	2.1	10.3	8.6
Murphy Oil	USD	26.8	2.3	5.2	0.7	0.6	2.5	3.4	(14.1)	4,616	#N/A N/A	118.4	1.0	1.0	5.0	4.6
JX Holdings	JPY	583.2	(2.1)	0.7	0.7	19.0	17.9	40.2	17.9	17,581	9.2	8.5	0.9	0.8	7.8	7.3
Idemitsu	JPY	3,295.0	(0.5)	5.4	3.8	23.1	(6.5)	36.1	6.1	6,029	7.4	7.4	0.9	0.8	8.7	8.4
Nesteoil	EUR	47.8	(3.6)	12.5	29.4	30.6	27.6	21.6	31.0	0	15.8	15.8	2.9	2.6	9.0	9.5
Ashland	USD	68.0	0.6	0.5	4.0	4.6	13.4	24.4	27.1	4,242	16.9	20.6	1.3	1.2	7.9	9.8
Fuchs Petrolub	EUR	48.2	0.0	2.8	(3.8)	(4.0)	1.8	18.3	20.9	7,305	24.9	23.4	5.0	4.4	14.2	13.5
SK이노베이션	KRW	205,000	(1.9)	(0.7)	3.0	16.1	19.9	35.3	39.9	16,951	8.2	7.9	1.0	0.9	5.0	4.5
S-Oil	KRW	128,500	(1.2)	(0.8)	0.8	10.3	28.9	63.7	51.7	12,937	12.6	9.6	2.2	2.0	9.7	7.0
GS	KRW	66,200	(2.4)	(2.9)	0.9	(12.2)	11.6	29.5	22.4	5,501	6.4	6.0	0.8	0.7	7.1	6.8
Average			**(0.1)**	**2.1**	**3.3**	**10.3**	**14.1**	**26.1**	**14.9**							

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

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SK 증권

Global peers

	Currency	10/31	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	17E	18E	17E	18E	17E	18E
E&P/Shale																
Exxon Mobil	USD	83	(0.2)	(0.1)	1.7	4.1	1.6	0.0	(7.7)	353,163	23.6	20.9	2.0	2.0	10.1	9.1
BP	GBP	510	1.7	2.8	6.9	14.4	15.3	5.5	0.1	134,136	23.4	17.7	1.4	1.4	6.6	5.9
Shell	EUR	2,366	0.8	1.0	5.2	10.9	18.1	16.0	5.5	263,064	17.7	15.7	1.3	1.3	6.9	6.3
Chevron	USD	116	1.3	(2.8)	(1.4)	6.1	9.4	10.6	(1.5)	219,612	28.7	23.5	1.5	1.5	8.3	7.2
Total	EUR	48	0.2	3.3	5.3	11.4	1.5	9.5	(1.7)	140,866	13.6	13.1	1.3	1.2	6.4	5.7
Sinopec	CNY	6	(0.3)	0.8	1.2	(2.3)	3.3	19.2	10.4	104,801	13.6	13.0	1.0	0.9	4.4	4.4
Petrochina	CNY	8	(0.4)	1.2	3.5	1.7	6.0	12.7	4.0	215,780	51.0	32.6	1.3	1.2	6.4	6.3
CNOOC	CNY	11	0.9	3.0	0.4	0.2	(0.3)	(6.7)	(11.1)	60,777	13.5	11.9	1.0	1.0	4.2	4.0
Gazprom	RUB	126	(0.1)	(0.1)	3.0	8.4	(7.9)	(9.3)	(18.5)	51,104	4.5	4.0	0.2	0.2	3.8	3.4
Rosneft	RUB	319	(0.7)	0.6	(0.1)	2.4	0.5	(8.3)	(20.9)	57,913	10.0	7.3	0.9	0.8	5.2	4.4
Anadarko	USD	49	1.4	2.7	1.1	8.1	(12.9)	(16.9)	(29.2)	27,013	#N/A N/A	#N/A N/A	1.9	1.8	7.4	6.5
Petrobras	BRL	17	(0.1)	1.6	9.6	26.2	20.0	(5.2)	12.8	68,190	14.7	10.4	0.7	0.7	5.7	5.2
Lukoil	USD	3,096	1.2	2.6	1.0	10.7	9.9	(0.1)	(10.2)	45,165	6.6	6.1	0.7	0.6	N/A	N/A
Kinder	USD	18	0.1	(0.9)	(5.6)	(11.4)	(11.8)	(11.4)	(12.6)	47,497	28.1	25.9	1.1	1.1	11.2	10.8
Statoil	NOK	165	(1.5)	0.3	3.8	12.2	16.7	22.2	4.4	66,884	16.5	18.1	1.7	1.7	3.5	3.4
BHP	AUD	27	(0.3)	(0.0)	2.9	2.7	11.1	15.0	5.9	103,505	14.7	17.1	1.8	1.8	6.0	6.3
PTT E&P	THB	86	(0.6)	0.6	(3.6)	(2.0)	(11.3)	3.6	(10.4)	10,306	12.7	12.2	0.9	0.8	3.2	2.9
Petronas gas	MYR	18	(0.3)	(0.3)	0.8	(3.7)	(2.4)	(18.0)	(15.3)	8,432	20.2	18.9	2.9	2.7	11.5	10.6
Chesapeake	USD	4	1.6	6.8	(9.3)	(21.4)	(26.6)	(29.2)	(44.4)	3,543	5.8	5.1	#N/A N/A	20.2	7.4	6.4
Noble Energy	USD	28	(1.4)	2.7	(1.7)	(3.6)	(13.7)	(19.1)	(26.8)	13,562	#N/A N/A	#N/A N/A	1.4	1.4	8.7	7.6
Average		0	**0.2**	**1.3**	**1.2**	**3.8**	**1.3**	**(0.5)**	**(8.4)**							
PV																
WACKER	EUR	134.0	0.0	9.4	10.4	27.7	37.9	65.1	35.5	8,125	32.3	24.6	2.2	2.1	7.6	7.2
GCL-Poly	HKD	1.3	1.5	9.8	25.2	61.4	42.6	27.6	44.1	3,193	9.7	8.3	0.9	0.9	6.7	6.2
SunPower	USD	7.1	(0.6)	2.9	(2.3)	(36.1)	2.7	(1.7)	7.7	993	#N/A N/A	#N/A N/A	1.3	1.3	37.0	12.5
Canadian Solar	USD	17.6	1.1	5.6	4.6	4.0	34.5	22.0	44.6	1,021	10.0	6.9	1.0	1.0	9.7	8.4
JA Solar	USD	7.5	(1.8)	0.0	(2.2)	18.6	6.9	28.0	56.5	354	8.3	14.4	1.8	1.7	3.5	3.2
Yingli	USD	2.3	(0.4)	(3.4)	(0.9)	(5.9)	(16.4)	(41.7)	(13.5)	41	#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	54.8	(9.3)	12.8	19.5	11.2	85.5	35.4	70.8	5,725	22.3	46.3	0.9	1.1	9.5	10.1
한화큐셀	USD	7.9	0.0	(0.1)	(3.4)	(4.5)	16.4	(29.1)	(2.8)	660	88.1	44.1	#N/A N/A	#N/A N/A	7.3	7.7
OCI	KRW	113,000	0.9	0.4	10.2	22.6	43.2	24.9	43.6	2,410	15.3	19.7	0.8	0.8	7.8	6.8
웅진에너지	KRW	7,880	1.9	(1.6)	4.4	(2.1)	56.7	42.5	66.4	177	N/A	0.8	0.8	7.8	6.8	8.1
신성솔라에너지	KRW	1,765	(0.3)	0.3	(1.9)	(21.9)	(3.0)	(32.0)	(20.1)	273	N/A	0.8	7.8	6.8	8.1	7.1
Average			**(0.6)**	**3.3**	**5.8**	**6.8**	**27.9**	**12.8**	**30.3**							
Gas Company																
Towngas China	HKD	6.4	3.2	4.7	16.8	16.2	37.6	46.5	56.9	2,271	14.8	13.4	1.2	1.1	13.1	12.1
Kulun	HKD	7.2	(0.3)	0.1	(5.2)	(7.2)	2.8	23.2	24.7	7,481	11.5	10.4	1.3	1.2	5.8	5.6
Beijing Enterprise	HKD	46.4	0.3	(1.3)	10.4	11.7	22.0	19.5	26.5	7,498	8.9	8.2	0.9	0.9	16.0	14.8
ENN Energy	HKD	57.2	1.4	(2.1)	1.1	7.8	35.5	56.7	79.3	7,937	15.2	13.4	3.0	2.5	9.3	8.3
China Resources Gas	HKD	28.6	0.4	(1.0)	5.0	(3.5)	8.8	17.2	31.0	8,139	16.3	14.5	3.1	2.7	9.6	8.7
China Gas Holdings	HKD	23.7	1.3	(0.8)	1.3	25.4	94.3	100.5	125.3	15,094	20.4	17.2	4.7	3.9	16.0	13.7
Shenzen Gas	HKD	14.9	(1.1)	(1.8)	1.5	11.4	14.1	24.2	31.9	3,871	12.2	11.7	1.4	1.3	9.1	8.5
Shann Xi	CNY	8.4	0.8	0.1	1.1	(5.1)	(3.5)	(17.7)	(12.7)	1,404	17.7	15.9	1.7	1.6	#N/A N/A	#N/A N/A
Suntien	HKD	2.2	(0.5)	(6.4)	13.9	33.9	33.9	112.5	121.0	1,052	8.4	7.2	0.8	0.7	10.2	8.7
China Oil & Gas	HKD	0.5	(1.9)	(3.6)	0.0	(1.9)	(7.0)	(10.2)	(13.1)	396	9.1	7.9	0.9	0.8	6.2	5.6
Average			**0.4**	**(1.2)**	**4.6**	**8.9**	**23.9**	**37.2**	**47.1**							
EV																
LG화학	KRW	403,500	(0.5)	3.9	2.9	23.0	47.3	63.7	54.6	25,472	14.0	13.6	1.9	1.7	6.8	6.5
삼성SDI	KRW	206,000	1.7	4.3	3.8	22.3	49.8	118.5	89.0	12,668	21.0	13.4	1.3	1.2	23.2	14.5
Panasonic	JPY	1700.5	(0.5)	1.1	4.3	11.8	27.1	55.0	43.0	36,694	22.4	16.9	2.3	2.1	7.3	6.3
GS Yuasa	JPY	567.0	(6.1)	(5.2)	(4.1)	8.8	8.2	24.9	16.7	2,063	17.2	15.6	1.4	1.3	7.7	7.1
NEC	JPY	3100.0	(0.3)	(2.4)	1.6	3.3	9.5	10.3	0.0	7,103	18.6	17.2	0.9	0.9	7.2	6.7
BYD Auto	CNY	63.0	0.8	(3.2)	(7.8)	28.6	21.4	12.2	26.8	25,249	35.1	25.0	3.1	2.8	15.6	12.6
Tesla Motors	USD	331.5	3.6	(1.7)	(2.8)	2.5	2.7	67.7	55.1	55,328	#N/A N/A	#N/A N/A	11.1	10.3	75.2	26.6
Kandi Technologies	USD	7.3	9.0	(6.4)	27.0	82.5	80.2	46.0	49.0	351	#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			**0.9**	**(1.2)**	**3.1**	**22.9**	**30.8**	**49.8**	**41.8**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임