SK Energy Daily

에너지/Commodity/정유화학, 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

SK증권

1. News Summary (3 page)

2017년 12월 18일

News		Conclusion
WTI comment	美 원유 생산 증가 우려 속 혼조…WTI 주간 0.1%↓	
Headline	[주간가격] 에틸렌, WoW 20$/mt 상승해 CFR SEA 1,200$/mt로 마감	PE 마진이 적자 구간이기 때문에 PE공장 가동률 하락세 지켜봐야 함
News 1.	[주간가격] MEG, WoW 1$/mt 상승해 CFR China 914$/mt로 마감	춘절 연휴 앞두고 리스탁킹 기조가 나타나며 카고 물량 급증할 것
News 2.	[주간가격] BD, WoW 10$/mt 상승해 FOB Korea 1,100$/mt로 마감	춘절 리스탁킹 수요와 CNOOC의 BD 유닛 가동 지연으로 강세 전망
News 3.	[주간가격] SBR, 플랫한 모습 보이며 CFR NEA 1,520$/mt로 마감	부타디엔 강세 전망과 SBR 공급 부족으로 SBR도 강세를 보일 것
News 4.	[주간가격] PX, WoW 3$/mt 하락해 FOB Korea 881$/mt로 마감	수요가 부진하지만 내년 상반기 유가 상승으로 동반 상승 가능함

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	57.3	0.5	(0.1)	3.6	14.9	10.4
Dubai	$/bbl	61.2	1.6	1.5	1.9	14.1	18.4
Gasoline	$/bbl	75.3	1.3	0.7	1.4	6.1	15.1
Diesel	$/bbl	74.7	0.7	1.0	3.8	9.4	20.7
Complex margin	$/bbl	7.9	(0.3)	(0.1)	0.4	(1.8)	0.8
1M lagging	$/bbl	7.9	1.1	2.0	(4.4)	(6.2)	(7.6)
Petrochemical			%	%	%	%	%
Naphtha	$/t	590	0.6	(0.1)	1.5	16.9	23.9
Butadiene	$/t	1,100	0.5	0.9	16.4	(29.0)	(37.1)
HDPE	$/t	1,290	0.0	0.0	2.4	8.4	10.7
MEG	$/t	914	1.0	0.1	2.7	1.2	4.7
PX	$/t	881	0.1	(0.3)	0.2	7.6	5.9
SM	$/t	1,293	(1.0)	(1.1)	5.0	(0.3)	4.9
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.61	(2.7)	(5.8)	(18.1)	(21.8)	(27.8)
Natural rubber	$/t	1,420	(0.7)	0.7	3.6	(10.7)	(31.4)
Cotton	C/lbs	75.9	0.8	3.0	8.8	8.3	6.9

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	12/11	$/t	1,213	1.0	2.8	(1.0)	20.6
Propylene	12/11	$/t	850	0.6	6.3	(2.3)	18.1
Benzene	12/11	$/t	905	1.4	4.6	10.0	3.1
Toluene	12/11	$/t	720	0.7	0.3	5.1	1.4
Xylene	12/11	$/t	695	0.0	3.3	9.4	5.3
PP	12/11	$/t	1,158	0.9	0.9	0.9	15.2
PVC	12/11	$/t	855	0.6	(3.9)	(9.5)	(11.9)
ABS	12/11	$/t	2,030	1.5	5.7	0.0	24.5
SBR	12/11	$/t	1,650	0.6	(1.2)	(7.8)	(15.4)
SM	12/11	$/t	1,353	1.9	7.1	(6.1)	9.5
BPA	12/11	$/t	1,765	1.9	(0.7)	(6.5)	15.2
Caustic	12/11	$/t	700	(0.8)	3.8	46.6	65.6
2-EH	12/11	$/t	1,020	(1.0)	4.1	3.0	20.0
Caprolactam	12/11	$/t	2,050	1.5	(1.9)	19.2	20.6
Solar				%	%	%	%
Polysilicon	12/13	$/kg	17.3	2.0	3.9	3.6	15.9
Module	12/13	$/W	0.31	(0.3)	(0.6)	(2.8)	(17.4)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	83.0	0.2	0.4	2.2	3.7	(8.6)
Shell	EUR	2,429	1.4	3.0	1.1	15.5	12.7
Petrochina	CNY	7.87	(0.9)	(2.4)	(3.4)	(1.4)	3.6
Gazprom	RUB	135.5	(0.3)	2.2	3.3	10.6	(14.4)
Petrobras	BRL	15.0	(0.4)	(2.6)	(2.6)	(0.6)	0.7
Refinery							
Phillips66	USD	99.9	0.4	0.4	7.9	14.0	15.4
Valero	USD	88.2	0.8	0.7	8.2	24.0	30.4
JX	JPY	685.5	(1.7)	4.4	12.0	25.0	36.6
Neste Oil	EUR	51.7	(0.5)	1.3	5.9	43.6	44.1

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	93.7	0.0	(0.3)	1.7	8.6	8.5
DowDuPont	USD	70.0	(0.5)	(1.0)	1.5	0.2	20.0
SABIC	SAR	100.9	0.0	(0.6)	1.4	(0.3)	6.9
Formosa Pla.	TWD	93.3	(0.6)	0.3	0.6	(2.2)	5.1
Shin-Etsu	JPY	11,395	(0.9)	(4.4)	(6.9)	14.2	26.9
Renewable							
Wacker	EUR	159.1	2.7	11.4	17.2	42.1	70.0
First Solar	USD	68.96	1.6	(1.5)	13.8	36.7	111.5
GCL-Poly	HKD	1.25	(1.6)	(0.8)	(14.4)	22.5	26.3
Tesla Motors	USD	343.5	1.6	9.0	10.3	(9.6)	73.8

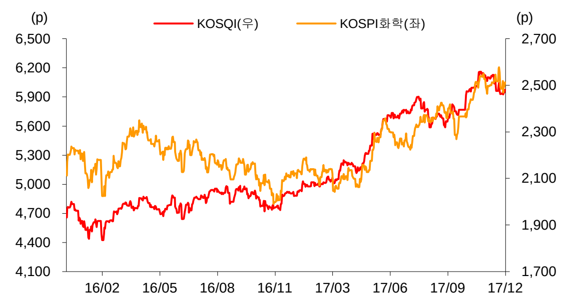
4. Coverage Summary

	12/15	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,482	0.5	0.7	(1.4)	4.0	5.1	21.9				* 추정치는 12M fwd 기준임	
KOSPI화학	6,052	0.8	1.1	2.0	5.5	12.0	19.8				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	394,000	1.0	(1.1)	(0.8)	(1.7)	42.5	59.5	매수	400,000	1.5	12.48	2.06
롯데케미칼	364,000	0.8	2.0	5.1	(6.1)	9.5	4.6	매수	410,000	12.6	5.72	1.25
한화케미칼	29,950	0.7	0.2	2.0	(19.8)	5.1	16.5	매수	39,000	30.2	5.05	0.83
금호석유화학	93,400	0.1	8.4	32.1	21.1	23.9	26.7	매수	100,000	7.1	15.83	1.74
KCC	382,000	19.4	0.0	(3.5)	0.5	(4.3)	2.4	매수	450,000	17.8	21.20	0.56
OCI	125,500	(2.0)	4.1	3.3	15.7	40.7	62.4	매수	120,000	(4.4)	15.94	0.96
SKC	44,850	5.2	10.6	4.8	8.7	33.7	43.8	매수	45,000	0.3	12.39	1.22
SK이노베이션	203,500	(1.2)	0.2	3.8	7.7	30.0	32.6	매수	210,000	3.2	8.21	1.09
S-Oil	123,500	2.1	3.8	5.1	6.0	31.1	51.9	매수	140,000	13.4	13.36	2.33
GS	61,700	3.2	2.5	3.4	(8.0)	(8.0)	12.8	매수	80,000	29.7	5.86	0.91
SK가스	94,000	0.9	(1.6)	(1.3)	(11.7)	(25.7)	(15.3)	매수	130,000	38.3	7.10	0.70
포스코대우	18,250	1.4	3.7	(2.4)	(13.1)	(19.8)	(33.8)	매수	25,000	37.0	10.22	0.79
LG상사	27,800	2.8	3.0	0.7	(7.8)	(10.8)	(11.2)	매수	38,000	36.7	10.12	0.90
한국전력	39,000	0.8	2.6	2.9	(5.3)	(9.7)	(15.9)	매수	55,000	41.0	7.48	0.31
한국가스공사	43,250	4.2	3.3	(1.6)	(1.0)	(13.8)	(10.6)	매수	60,000	38.7	8.83	0.56

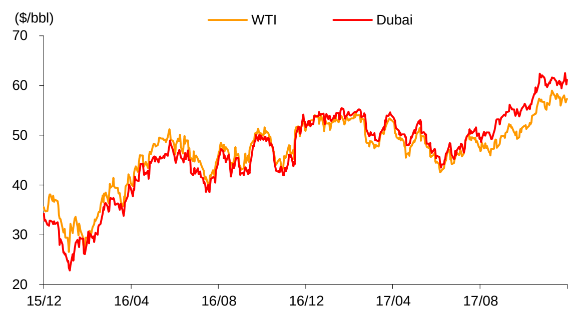
에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

Key Chart

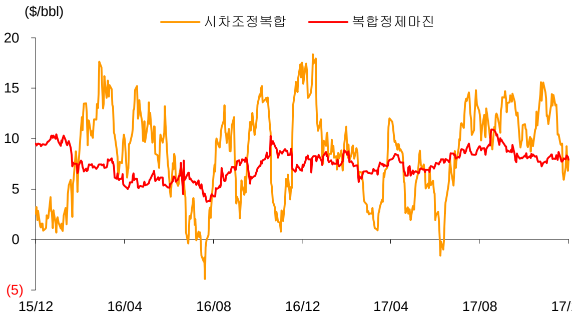
KOSPI/KOSPI화학



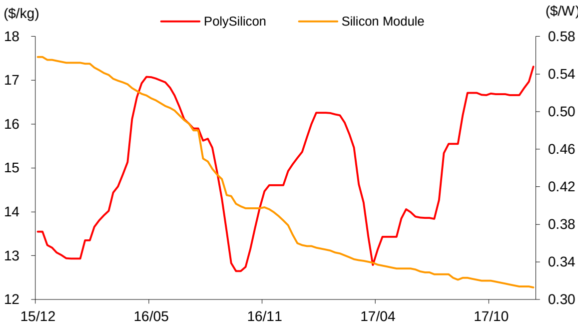
WTI/Dubai



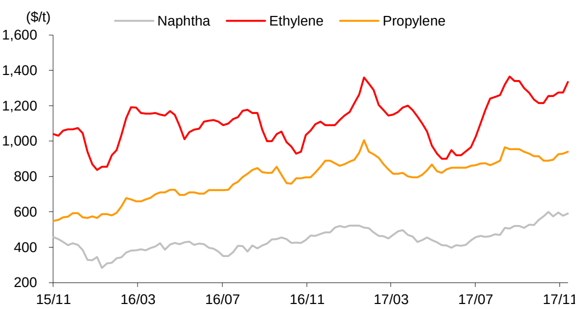
Complex & 1M lagging margin



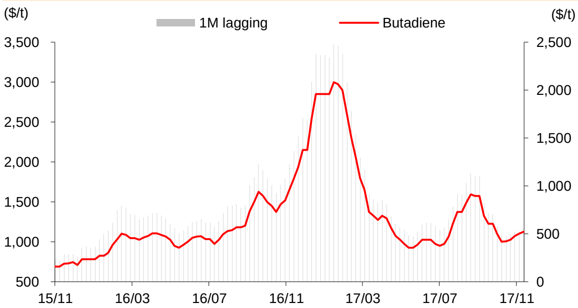
Polysilicon & Module prices



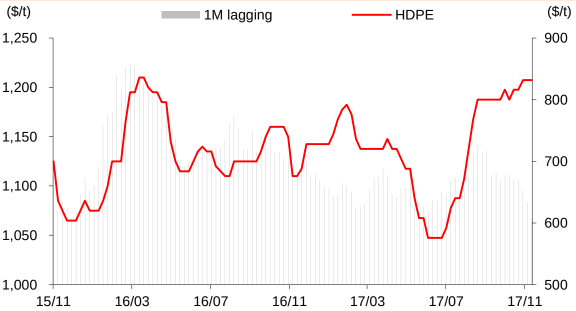
Naphtha/Ethylene/Propylene prices



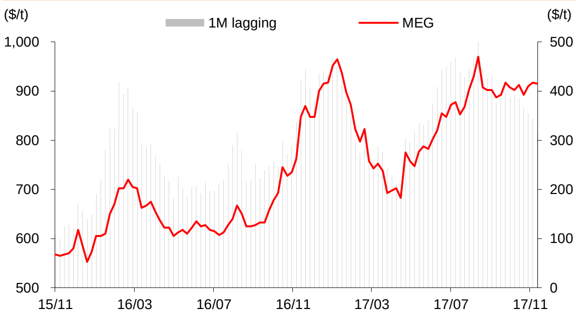
Butadiene price & 1M lagging naphtha spread



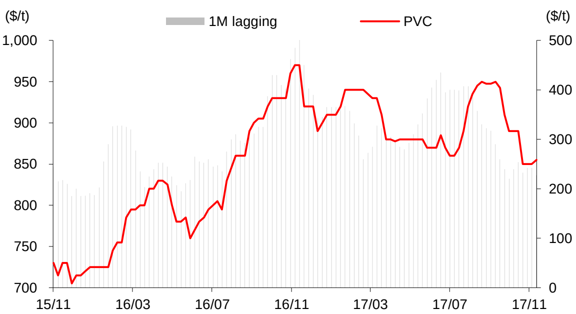
HDPE price & 1M lagging naphtha spread



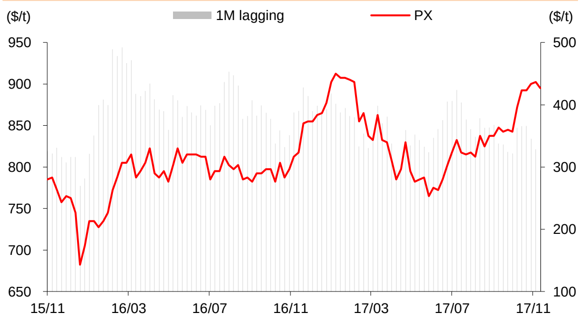
MEG price & 1M lagging naphtha spread



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

에너지/Commodity/정유화학. 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

News Comment

Headline	(출처: Platts)
제목	[주간가격] 에틸렌, WoW 20$/mt 상승해 CFR SEA 1,200$/mt로 마감
결론	PE 마진이 적자 구간이기 때문에 PE공장 가동률 하락세 지켜봐야 함
세부	
	1) 2018년 가격 협상이 지지부진한 가운데 스팟 수요가 강세를 보였음
	2) 관계자, "협상이 부진해 현재 트레이더들은 스팟 카고 물량이 부족함"
	3) 반면 엔드 유저들은 1월 물량 부족을 대비하기 위해 스팟 카고 물색중
	4) 그러나 deepsea 물량의 유입으로 가격 상승폭은 20$ 수준으로 제한됨
	5) PE 마진이 적자 구간이기 때문에 PE공장 가동률 하락세 지켜봐야 함

WTI Comment	(출처: 서울파이낸스)
제목	美 원유 생산 증가 우려 속 혼조…WTI 주간 0.1%↓
상승 요인	베이커 휴, "美 주간 rig count가 WoW 4개 감소한 747개 기록"
하락 요인	미국의 생산 증가 우려

Issue 1	(출처: Platts)
제목	[주간가격] MEG, WoW 1$/mt 상승해 CFR China 914$/mt로 마감
결론	춘절 연휴 앞두고 리스탁킹 기조가 나타나며 카고 물량 급증할 것
세부	
	1) 금요일 오후 갑작스럽게 가격이 오르는 모습을 보였음
	2) 주초 bearish한 센티를 보이다가 금요일 트레이더들 돌아오며 상승함
	3) 원재료인 CFR SEA 에틸렌 가격도 WoW 20$/mt 올라 상승 압력 받음
	4) 동중국항 재고는 WoW 3.8만톤 증가해 52.8만톤을 기록함
	5) 춘절 연휴 앞두고 리스탁킹 기조가 나타나며 카고 물량 급증할 것

Issue 2	(출처: Platts)
제목	[주간가격] BD, WoW 10$/mt 상승해 FOB Korea 1,100$/mt로 마감
결론	춘절 리스탁킹 수요와 CNOOC의 BD 유닛 가동 지연으로 강세 전망
세부	
	1) 아시아로 유입되는 deepsea 물량에 대한 우려로 상승폭이 제한됨
	2) 브라질, 유럽, 미국에서 아시아로 5개의 운반선이 BD를 실어 나름
	3) 이번 주에 Jotagas가 미국 걸프에서 극동 지역으로 3,900mt 실어 옴
	4) ANRPC, "전 세계 천연고무 공급량은 1,168만톤으로 YoY 4.7% 증가함
	5) 춘절 리스탁킹 수요와 CNOOC의 BD 유닛 가동 지연으로 강세 전망

Issue 3	(출처: Platts)
제목	[주간가격] SBR, 플랫한 모습 보이며 CFR NEA 1,520$/mt로 마감
결론	부타디엔 강세 전망과 SBR 공급 부족으로 SBR도 강세를 보일 것
세부	
	1) 거래량이 줄어들며 이번 주 가격 변동이 없었음
	2) 원재료가 상승으로 생산자들은 가격 올리려 했으나 수요가 부진했음
	3) SBR과 BD 가격 spread는 370$/mt로 BEP인 500$/mt 수준 하회중임
	4) 중국 내수 SBR 가격은 1,450$/mt 수준을 보였음
	5) 부타디엔 강세 전망과 SBR 공급 부족으로 SBR도 강세를 보일 것

Issue 4	(출처: Platts)
제목	[주간가격] PX, WoW 3$/mt 하락해 FOB Korea 881$/mt로 마감
결론	수요가 부진하지만 내년 상반기 유가 상승으로 동반 상승 가능함
세부	
	1) 2월 카고에 대한 지속적인 매도 압박으로 WoW 3$/mt 하락함
	2) 그러나 금요일에는 원재료인 납사 가격이 강세를 보이며 1$/mt 상승
	3) 관계자, "생산자와 엔드유저가 각각의 수급 상황에 예민한 상황임"
	4) 트레이더, "최근 PTA 공장 재가동에도 불구 1월 PX 수요는 불안정함"
	5) 수요가 부진하지만 내년 상반기 유가 상승으로 동반 상승 가능함

Issue 5	(출처: Platts)
제목	[주간가격] PTA, WoW 5$/mt 상승해 CFR China 720$/mt로 마감
결론	내년도 중국 PTA 수입 수요는 낮게 유지되며 타 아시아로 유입 전망
세부	
	1) 공급이 타이트해 이번 주 CFR China PTA 가격은 WoW 5$/mt 상승함
	2) 내수 PTA 카고가 저렴해 중국의 PTA 수입 수요가 부진했음
	3) 관계자, "내수 물량으로 수급이 메워져 수입 물량이 유턴하는 중임"
	4) 글로벌 PTA 판매자들은 중국의 자급자족에 따라 신시장을 개척중
	5) 내년도 중국 PTA 수입 수요는 낮게 유지되며 타 아시아로 유입 전망

Issue 6	(출처: PVinsights)
제목	[주간가격] 수요 감소로 태양광 제품 가격 하락세 시현
결론	태양광 제품들 수요가 약세인 가운데 폴리실리콘만 소폭의 강세 시현
세부	
	1) 폴리실리콘 가격은 multi-crystalline wafer 공급자들의 수요 증가로 강세
	2) Mono-crystalline wafer 생산자들의 capa 확장으로 폴리실리콘 강세
	3) 폴리실리콘 공급자인 Xinjiang의 공장 outage도 폴리실리콘 강세 지지
	4) 모듈의 글로벌 수요가 회복되지 않을 것이라는 전망에 모듈 가격 하락
	5) 태양광 제품들 수요가 약세인 가운데 폴리실리콘만 소폭의 강세 시현

에너지/Commodity/정유화학. 손지우 l 3773-8827, jwshon@sk.com
R.A. 유승우 l 3773-9180, yswbest@sk.com

SK 증권

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
F/X	**USD/EUR**	0.851	0.849	0.849	0.848	0.837	0.897	0.960	0.951	0.901	0.904	0.888
	Change, %		*0.2*	*0.2*	*0.4*	*1.7*	*(5.1)*	*(11.4)*	*(10.5)*	*(5.6)*	*(5.8)*	*(4.2)*
	USD/JPY	112.6	112.4	113.5	112.9	110.8	110.9	118.2	117.0	121.1	108.8	112.1
	Change, %		*0.2*	*(0.8)*	*(0.2)*	*1.6*	*1.5*	*(4.7)*	*(3.7)*	*(7.0)*	*3.5*	*0.4*
	USD/KRW	1,089.3	1,088.8	1,092.5	1,112.5	1,131.8	1,124.2	1,178.3	1,205.8	1,131.2	1,160.5	1,133.1
	Change, %		*0.0*	*(0.3)*	*(2.1)*	*(3.8)*	*(3.1)*	*(7.6)*	*(9.7)*	*(3.7)*	*(6.1)*	*(3.9)*
Agriculture	**Corn**	347.5	336.3	340.0	338.3	354.8	379.5	356.5	352.0	376.8	358.5	359.7
	Change, %		*3.3*	*2.2*	*2.7*	*(2.0)*	*(8.4)*	*(2.5)*	*(1.3)*	*(7.8)*	*(3.1)*	*(3.4)*
	Soybean	967.3	967.8	989.8	976.3	968.8	934.8	1,029.0	996.5	945.4	987.5	976.8
	Change, %		*(0.1)*	*(2.3)*	*(0.9)*	*(0.2)*	*3.5*	*(6.0)*	*(2.9)*	*2.3*	*(2.1)*	*(1.0)*
	Wheat	418.3	395.0	392.0	420.0	449.0	453.8	409.3	408.0	508.1	436.4	436.5
	Change, %		*5.9*	*6.7*	*(0.4)*	*(6.8)*	*(7.8)*	*2.2*	*2.5*	*(17.7)*	*(4.2)*	*(4.2)*
	Rice	11.7	11.7	12.1	12.1	12.8	11.5	9.5	9.4	11.1	10.3	11.0
	Change, %		*(0.1)*	*(3.0)*	*(3.1)*	*(8.6)*	*2.0*	*23.7*	*25.1*	*5.9*	*13.2*	*6.1*
	Oats	254.3	238.8	226.3	269.3	236.0	261.3	225.3	228.5	250.2	196.3	252.6
	Change, %		*6.5*	*12.4*	*(5.6)*	*7.7*	*(2.7)*	*12.9*	*11.3*	*1.6*	*29.5*	*0.6*
MYR/mt	**Palm Oil**	2,346.0	2,340.0	2,379.0	2,695.0	2,885.0	2,650.0	3,189.0	3,218.0	2,190.3	2,653.8	2,801.3
	Change, %		*0.3*	*(1.4)*	*(12.9)*	*(18.7)*	*(11.5)*	*(26.4)*	*(27.1)*	*7.1*	*(11.6)*	*(16.3)*
	Cocoa	1,877.0	1,893.0	1,892.0	2,133.0	2,009.0	2,026.0	2,242.0	2,126.0	3,091.6	2,854.0	2,010.5
	Change, %		*(0.8)*	*(0.8)*	*(12.0)*	*(6.6)*	*(7.4)*	*(16.3)*	*(11.7)*	*(39.3)*	*(34.2)*	*(6.6)*
	Cotton	75.9	75.3	73.7	68.8	70.1	71.9	71.7	70.7	63.3	65.6	73.4
	Change, %		*0.8*	*3.0*	*10.3*	*8.3*	*5.6*	*5.9*	*7.5*	*20.0*	*15.8*	*3.5*
	Sugar	13.7	13.8	14.1	15.1	14.6	13.5	18.6	19.5	13.1	18.2	15.9
	Change, %		*(0.8)*	*(2.8)*	*(9.5)*	*(6.1)*	*1.4*	*(26.4)*	*(30.0)*	*4.0*	*(24.7)*	*(13.9)*
	Coffee	117.0	119.2	120.6	126.8	140.0	125.8	138.3	137.1	132.6	136.1	133.4
	Change, %		*(1.8)*	*(3.0)*	*(7.7)*	*(16.5)*	*(7.0)*	*(15.4)*	*(14.7)*	*(11.8)*	*(14.0)*	*(12.3)*
Energy	**WTI**	57.3	57.0	57.4	55.3	49.9	44.5	50.9	53.7	48.8	43.4	50.6
	Change, %		*0.5*	*(0.1)*	*3.6*	*14.9*	*28.9*	*12.6*	*6.7*	*17.3*	*32.1*	*13.1*
	Brent	63.2	63.3	63.4	61.9	55.6	46.9	54.0	56.8	53.7	45.1	54.4
	Change, %		*(0.1)*	*(0.3)*	*2.2*	*13.7*	*34.8*	*17.0*	*11.3*	*17.8*	*40.3*	*16.2*
	Natural Gas	2.6	2.7	2.8	3.1	3.0	3.1	3.4	3.7	2.6	2.6	3.0
	Change, %		*(2.7)*	*(5.8)*	*(15.2)*	*(13.6)*	*(14.5)*	*(23.9)*	*(29.9)*	*(0.6)*	*2.3*	*(13.9)*
	Ethanol	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.6	1.5	1.5	1.5
	Change, %		*(0.9)*	*(5.0)*	*(10.4)*	*(18.3)*	*(19.8)*	*(22.1)*	*(21.4)*	*(16.4)*	*(16.7)*	*(16.1)*
	RBOB Gasoline	165.5	167.1	171.7	173.9	166.2	143.6	154.2	166.5	163.6	140.0	162.4
	Change, %		*(1.0)*	*(3.6)*	*(4.8)*	*(0.4)*	*15.3*	*7.3*	*(0.6)*	*1.2*	*18.2*	*1.9*
	Coal	100.0	99.7	97.6	97.6	99.2	80.8	88.9	88.4	59.0	65.5	87.7
	Change, %		*0.3*	*2.5*	*2.5*	*0.8*	*23.8*	*12.5*	*13.1*	*69.6*	*52.8*	*14.0*
Metal	**Gold**	1,255.5	1,252.9	1,248.5	1,278.1	1,320.2	1,253.9	1,128.6	1,152.3	1,160.6	1,248.5	1,257.7
	Change, %		*0.2*	*0.6*	*(1.8)*	*(4.9)*	*0.1*	*11.2*	*9.0*	*8.2*	*0.6*	*(0.2)*
	Silver	16.1	15.9	15.9	17.0	17.6	16.8	16.0	15.9	15.7	17.1	17.1
	Change, %		*1.1*	*1.3*	*(5.5)*	*(8.6)*	*(4.1)*	*0.6*	*1.0*	*2.2*	*(6.1)*	*(6.0)*
	Copper	6,886.0	6,793.0	6,571.0	6,773.0	6,507.0	5,661.0	5,732.0	5,535.5	5,503.1	4,872.0	6,162.2
	Change, %		*1.4*	*4.8*	*1.7*	*5.8*	*21.6*	*20.1*	*24.4*	*25.1*	*41.3*	*11.7*
	Nickel	739.1	718.3	706.4	760.0	710.6	573.4	763.4	682.0	759.5	646.4	676.6
	Change, %		*2.9*	*4.6*	*(2.8)*	*4.0*	*28.9*	*(3.2)*	*8.4*	*(2.7)*	*14.3*	*9.2*
	Zinc	3,205.0	3,187.0	3,082.5	3,151.5	3,031.0	2,505.0	2,818.0	2,576.0	1,941.9	2,097.5	2,873.5
	Change, %		*0.6*	*4.0*	*1.7*	*5.7*	*27.9*	*13.7*	*24.4*	*65.0*	*52.8*	*11.5*
	Lead	2,545.5	2,491.0	2,448.8	2,433.0	2,332.3	2,073.5	2,335.0	2,003.5	1,791.2	1,868.3	2,308.1
	Change, %		*2.2*	*4.0*	*4.6*	*9.1*	*22.8*	*9.0*	*27.1*	*42.1*	*36.2*	*10.3*
	Aluminum	14,165.0	14,050.0	14,055.0	15,265.0	16,225.0	13,415.0	12,805.0	12,765.0	12,184.0	12,373.5	14,552.9
	Change, %		*0.8*	*0.8*	*(7.2)*	*(12.7)*	*5.6*	*10.6*	*11.0*	*16.3*	*14.5*	*(2.7)*
	Cobalt	72,205.0	72,205.0	74,500.0	61,000.0	61,850.0	56,600.0	31,962.0	32,734.0	28,444.4	25,480.1	55,150.0
	Change, %		*0.0*	*(3.1)*	*18.4*	*16.7*	*27.6*	*125.9*	*120.6*	*153.8*	*183.4*	*30.9*
	HR Coil	640.0	640.0	635.0	612.0	624.0	589.0	585.0	633.0	461.5	519.3	619.1
	Change, %		*0.0*	*0.8*	*4.6*	*2.6*	*8.7*	*9.4*	*1.1*	*38.7*	*23.2*	*3.4*
	Scrap	360.0	357.0	349.0	335.0	360.0	350.0	295.0	302.0	252.9	275.7	343.9
	Change, %		*0.8*	*3.2*	*7.5*	*0.0*	*2.9*	*22.0*	*19.2*	*42.3*	*30.6*	*4.7*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

에너지/Commodity/정유화학. 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

Refining Price Data

Daily Price		12/15	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	57.3	57.0	57.4	55.3	49.9	44.7	51.9	53.7	48.8	43.4	50.6
	Change, %		*0.5*	*(0.1)*	*3.6*	*14.9*	*28.1*	*10.4*	*6.7*	*17.5*	*32.1*	*13.3*
	Dubai	61.2	60.2	60.3	60.0	53.6	45.9	51.7	53.8	50.8	41.3	52.7
	Change, %		*1.6*	*1.5*	*1.9*	*14.1*	*33.3*	*18.4*	*13.7*	*20.5*	*48.1*	*16.0*
Crude Oil Product	**Gasoline(휘발유)**	75.3	74.4	74.8	74.3	71.0	58.2	65.5	69.8	69.5	56.3	67.7
	Change, %		*1.3*	*0.7*	*1.4*	*6.1*	*29.3*	*15.1*	*7.8*	*8.3*	*33.9*	*11.3*
	Kerosene(등유)	74.5	74.0	74.0	73.0	67.4	57.4	63.3	66.4	64.7	52.9	64.8
	Change, %		*0.6*	*0.7*	*2.0*	*10.5*	*29.9*	*17.7*	*12.1*	*15.1*	*40.9*	*15.0*
	Diesel(경유)	74.7	74.2	73.9	72.0	68.3	57.8	61.9	65.5	64.8	52.1	65.2
	Change, %		*0.7*	*1.0*	*3.8*	*9.4*	*29.3*	*20.7*	*14.0*	*15.3*	*43.3*	*14.6*
	Bunker-C	56.0	55.2	54.4	55.8	51.2	45.3	50.5	52.1	45.3	35.5	49.3
	Change, %		*1.4*	*2.9*	*0.3*	*9.4*	*23.7*	*10.9*	*7.5*	*23.7*	*57.6*	*13.5*
	Naphtha	64.7	64.2	64.8	63.7	54.3	44.9	51.2	53.5	52.6	42.6	53.3
	Change, %		*0.8*	*(0.0)*	*1.6*	*19.3*	*44.1*	*26.5*	*21.1*	*23.0*	*52.0*	*21.5*
Dubai Spread	**Gasoline(휘발유)**	14.1	14.1	14.5	14.3	17.4	12.4	13.8	16.0	18.7	14.9	15.0
	Change		*(0.0)*	*(0.4)*	*(0.1)*	*(3.2)*	*1.8*	*0.4*	*(1.9)*	*(4.6)*	*(0.8)*	*(0.8)*
	Kerosene(등유)	13.3	13.8	13.7	13.0	13.8	11.5	11.6	12.6	14.0	11.6	12.0
	Change		*(0.5)*	*(0.4)*	*0.3*	*(0.4)*	*1.8*	*1.7*	*0.7*	*(0.6)*	*1.7*	*1.3*
	Diesel(경유)	13.5	13.9	13.7	11.9	14.7	11.9	10.2	11.7	14.0	10.8	12.4
	Change		*(0.4)*	*(0.2)*	*1.6*	*(1.1)*	*1.6*	*3.3*	*1.8*	*(0.5)*	*2.7*	*1.1*
	Bunker-C	(5.2)	(5.0)	(5.9)	(4.2)	(2.5)	(0.6)	(1.2)	(1.8)	(5.5)	(5.8)	(3.4)
	Change		*(0.2)*	*0.7*	*(1.0)*	*(2.7)*	*(4.6)*	*(4.0)*	*(3.4)*	*0.3*	*0.6*	*(1.8)*
	Naphtha	3.5	4.0	4.5	3.6	0.6	(1.0)	(0.5)	(0.4)	1.8	1.3	0.5
	Change		*(0.4)*	*(1.0)*	*(0.1)*	*2.9*	*4.5*	*4.1*	*3.9*	*1.7*	*2.3*	*3.0*
Refining Margin	**Simple(단순)**	2.5	2.8	2.4	2.6	4.6	4.0	3.4	3.8	3.3	1.9	3.1
	Change		*(0.3)*	*0.1*	*(0.1)*	*(2.0)*	*(1.5)*	*(0.9)*	*(1.3)*	*(0.7)*	*0.6*	*(0.6)*
	Complex(복합)	7.9	8.2	8.0	7.6	9.7	7.6	7.2	8.3	9.3	7.0	8.0
	Change		*(0.3)*	*(0.1)*	*0.4*	*(1.8)*	*0.3*	*0.8*	*(0.3)*	*(1.3)*	*1.0*	*(0.0)*
	Complex(lagging)	7.9	6.8	5.9	12.2	14.1	2.4	15.4	18.0	7.3	8.5	8.8
	Change		*1.1*	*2.0*	*(4.4)*	*(6.2)*	*5.5*	*(7.6)*	*(10.1)*	*0.6*	*(0.6)*	*(0.9)*

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

에너지/Commodity/정유화학, 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com
SK증권

Petrochemical Price Data

Daily Price			12/15	12/14	12/13	12/12	12/11	12/08	12/07	12/06	12/05	12/04
Spot Price	**Naphtha**	CFR Japan	590.0	586.5	594.5	605.0	596.3	590.8	581.8	585.6	579.5	591.0
	Ethylene	CFR SE Asia	1,200.0	1,200.0	1,200.0	1,180.0	1,180.0	1,180.0	1,180.0	1,180.0	1,180.0	1,180.0
	Propylene	FOB Korea	915.0	916.0	916.0	916.0	913.0	903.0	903.0	903.0	899.0	899.0
	Butadiene	FOB Korea	1,100.0	1,095.0	1,090.0	1,090.0	1,090.0	1,090.0	1,020.0	1,010.0	1,010.0	1,010.0
	HDPE	CFR FE Asia	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,305.0	1,305.0
	LDPE	CFR FE Asia	1,200.0	1,200.0	1,200.0	1,210.0	1,230.0	1,240.0	1,240.0	1,240.0	1,245.0	1,250.0
	LLDPE	CFR FE Asia	1,160.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,175.0	1,180.0
	MEG	CFR China	914.0	905.0	906.0	910.0	914.0	913.0	913.0	920.0	926.0	923.0
	PP	CFR FE Asia	1,130.0	1,130.0	1,130.0	1,125.0	1,125.0	1,130.0	1,130.0	1,140.0	1,140.0	1,120.0
	PX	CFR China	881.0	880.0	887.3	889.5	882.7	884.0	883.0	888.2	885.7	889.8
	PTA	CFR China	720.0	720.0	720.0	720.0	715.0	715.0	715.0	715.0	715.0	710.0
	Benzene	FOB Korea	904.0	902.0	909.0	909.0	899.0	902.0	910.0	908.0	885.0	875.0
	Toluene	FOB Korea	703.0	703.0	703.0	702.0	699.0	698.0	695.0	695.0	699.0	701.0
	Xylene	FOB Korea	706.0	704.0	706.0	704.0	702.0	703.0	703.0	707.0	707.0	713.0
	SM	FOB Korea	1,293.0	1,306.0	1,300.0	1,316.0	1,303.0	1,308.0	1,322.0	1,318.0	1,299.0	1,287.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	**Naphtha**	CFR Japan	590.5	579.0	600.0	510.0	459.0	464.0	484.5	493.0	399.5	488.5
	Change, %			*2.0*	*(1.6)*	*15.8*	*28.6*	*27.3*	*21.9*	*19.8*	*47.8*	*20.9*
	Ethylene	CFR SE Asia	1,212.5	1,200.0	1,180.0	1,225.0	1,125.0	1,005.0	990.0	1,103.7	1,040.9	1,081.6
	Change, %			*1.0*	*2.8*	*(1.0)*	*7.8*	*20.6*	*22.5*	*9.9*	*16.5*	*12.1*
	Propylene	CFR SE Asia	850.0	845.0	800.0	870.0	775.0	720.0	815.0	770.0	705.7	880.8
	Change, %			*0.6*	*6.3*	*(2.3)*	*9.7*	*18.1*	*4.3*	*10.4*	*20.5*	*(3.5)*
	Butadiene	CFR SE Asia	1,075.0	1,050.0	925.0	1,450.0	1,015.0	1,740.0	2,100.0	877.5	1,116.8	1,499.2
	Change, %			*2.4*	*16.2*	*(25.9)*	*5.9*	*(38.2)*	*(48.8)*	*22.5*	*(3.7)*	*(28.3)*
	Benzene	CFR SE Asia	905.0	892.5	865.0	822.5	772.5	877.5	822.5	690.0	646.7	835.6
	Change, %			*1.4*	*4.6*	*10.0*	*17.2*	*3.1*	*10.0*	*31.2*	*39.9*	*8.3*
	Toluene	CFR SE Asia	720.0	715.0	717.5	685.0	655.0	710.0	690.0	700.8	630.5	687.7
	Change, %			*0.7*	*0.3*	*5.1*	*9.9*	*1.4*	*4.3*	*2.7*	*14.2*	*4.7*
	Xylene	CFR SE Asia	695.0	695.0	672.5	635.0	635.0	660.0	675.0	699.3	627.7	666.1
	Change, %			*0.0*	*3.3*	*9.4*	*9.4*	*5.3*	*3.0*	*(0.6)*	*10.7*	*4.3*
Spread	**Ethylene**	-Naphtha	622.0	621.0	580.0	715.0	666.0	541.0	505.5	610.6	641.4	593.2
	Change, %			*0.2*	*7.2*	*(13.0)*	*(6.6)*	*15.0*	*23.0*	*1.9*	*(3.0)*	*4.9*
	Propylene	-Naphtha	259.5	266.0	200.0	360.0	316.0	256.0	330.5	277.0	306.2	392.4
	Change, %			*(2.4)*	*29.8*	*(27.9)*	*(17.9)*	*1.4*	*(21.5)*	*(6.3)*	*(15.2)*	*(33.9)*
	Butadiene	-Naphtha	484.5	471.0	325.0	940.0	556.0	1,276.0	1,615.5	384.5	717.3	1,010.8
	Change, %			*2.9*	*49.1*	*(48.5)*	*(12.9)*	*(62.0)*	*(70.0)*	*26.0*	*(32.5)*	*(52.1)*
	Benzene	-Naphtha	314.5	313.5	265.0	312.5	313.5	413.5	338.0	197.0	247.2	347.2
	Change, %			*0.3*	*18.7*	*0.6*	*0.3*	*(23.9)*	*(7.0)*	*59.7*	*27.2*	*(9.4)*
	Toluene	-Naphtha	129.5	136.0	117.5	175.0	196.0	246.0	205.5	207.8	231.0	199.2
	Change, %			*(4.8)*	*10.2*	*(26.0)*	*(33.9)*	*(47.4)*	*(37.0)*	*(37.7)*	*(43.9)*	*(35.0)*
	Xylene	-Naphtha	104.5	116.0	72.5	125.0	176.0	196.0	190.5	206.3	228.2	177.7
	Change, %			*(9.9)*	*44.1*	*(16.4)*	*(40.6)*	*(46.7)*	*(45.1)*	*(49.3)*	*(54.2)*	*(41.2)*

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

SK Energy Daily

에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

SK 증권

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	**HDPE**	CFR SE Asia	1,207.5	1,207.5	1,197.5	1,167.5	1,087.5	1,110.0	1,142.5	1,230.1	1,134.6	1,139.7
	Change, %			0.0	0.8	3.4	11.0	8.8	5.7	(1.8)	6.4	5.9
	MEG	CFR SE Asia	915.0	917.5	912.5	970.0	852.5	847.5	847.5	780.8	660.8	848.1
	Change, %			(0.3)	0.3	(5.7)	7.3	8.0	8.0	17.2	38.5	7.9
	PVC	CFR SE Asia	855.0	850.0	890.0	945.0	870.0	970.0	920.0	820.8	823.4	901.0
	Change, %			0.6	(3.9)	(9.5)	(1.7)	(11.9)	(7.1)	4.2	3.8	(5.1)
	PP	CFR SE Asia	1,157.5	1,147.5	1,147.5	1,147.5	1,097.5	1,005.0	1,032.5	1,109.8	978.4	1,095.6
	Change, %			0.9	0.9	0.9	5.5	15.2	12.1	4.3	18.3	5.6
	2-EH	CFR Korea	1,020.0	1,030.0	980.0	990.0	960.0	850.0	865.0	930.1	772.4	965.1
	Change, %			(1.0)	4.1	3.0	6.3	20.0	17.9	9.7	32.1	5.7
	ABS	CFR SE Asia	2,030.0	2,000.0	1,920.0	2,030.0	1,850.0	1,630.0	1,635.0	1,431.1	1,347.1	1,833.3
	Change, %			1.5	5.7	0.0	9.7	24.5	24.2	41.9	50.7	10.7
	SBR	CFR SE Asia	1,650.0	1,640.0	1,670.0	1,790.0	1,510.0	1,950.0	2,000.0	1,332.1	1,483.0	1,996.1
	Change, %			0.6	(1.2)	(7.8)	9.3	(15.4)	(17.5)	23.9	11.3	(17.3)
	SM	CFR SE Asia	1,352.5	1,327.5	1,262.5	1,440.0	1,170.0	1,235.0	1,205.0	1,100.7	1,064.6	1,249.1
	Change, %			1.9	7.1	(6.1)	15.6	9.5	12.2	22.9	27.0	8.3
	Caustic	FOB NEA	699.5	705.0	674.0	477.0	472.5	422.5	422.5	296.8	316.6	483.7
	Change, %			(0.8)	3.8	46.6	48.0	65.6	65.6	135.7	121.0	44.6
	PX	CFR SE Asia	895.0	902.5	892.5	837.5	817.5	817.5	855.0	842.9	790.4	841.3
	Change, %			(0.8)	0.3	6.9	9.5	9.5	4.7	6.2	13.2	6.4
	PO	CFR China	1,765.0	1,732.5	1,777.5	1,887.5	1,587.5	1,532.5	1,562.5	1,683.4	1,396.8	1,583.7
	Change, %			1.9	(0.7)	(6.5)	11.2	15.2	13.0	4.9	26.4	11.4
	Caprolactam	CFR SE Asia	2,050.0	2,020.0	2,090.0	1,720.0	1,800.0	1,700.0	1,850.0	1,581.5	1,344.9	1,925.9
	Change, %			1.5	(1.9)	19.2	13.9	20.6	10.8	29.6	52.4	6.4
	PTA	CFR SE Asia	725.0	715.0	700.0	667.5	657.5	627.5	642.5	648.0	613.7	665.0
	Change, %			1.4	3.6	8.6	10.3	15.5	12.8	11.9	18.1	9.0
Spread	**HDPE**		617.0	628.5	597.5	657.5	628.5	646.0	658.0	737.1	735.1	651.3
	Change, %			(1.8)	3.3	(6.2)	(1.8)	(4.5)	(6.2)	(16.3)	(16.1)	(5.3)
	MEG		324.5	338.5	312.5	460.0	393.5	383.5	363.0	287.8	261.3	359.7
	Change, %			(4.1)	3.8	(29.5)	(17.5)	(15.4)	(10.6)	12.8	24.2	(9.8)
	PVC		264.5	271.0	290.0	435.0	411.0	506.0	435.5	327.8	423.9	412.6
	Change, %			(2.4)	(8.8)	(39.2)	(35.6)	(47.7)	(39.3)	(19.3)	(37.6)	(35.9)
	PP		567.0	568.5	547.5	637.5	638.5	541.0	548.0	616.8	578.9	607.2
	Change, %			(0.3)	3.6	(11.1)	(11.2)	4.8	3.5	(8.1)	(2.1)	(6.6)
	2-EH		429.5	451.0	380.0	480.0	501.0	386.0	380.5	437.0	372.9	476.6
	Change, %			(4.8)	13.0	(10.5)	(14.3)	11.3	12.9	(1.7)	15.2	(9.9)
	ABS		1,439.5	1,421.0	1,320.0	1,520.0	1,391.0	1,166.0	1,150.5	938.1	947.6	1,344.9
	Change, %			1.3	9.1	(5.3)	3.5	23.5	25.1	53.5	51.9	7.0
	SBR	BD spread	575.0	590.0	745.0	340.0	495.0	210.0	(100.0)	454.7	366.2	496.9
	Change, %			(2.5)	(22.8)	69.1	16.2	173.8	(675.0)	26.5	57.0	15.7
	SM		762.0	748.5	662.5	930.0	711.0	771.0	720.5	607.7	665.1	760.6
	Change, %			1.8	15.0	(18.1)	7.2	(1.2)	5.8	25.4	14.6	0.2
	Caustic											
	Change, %											
	PX		304.5	323.5	292.5	327.5	358.5	353.5	370.5	349.9	390.9	352.9
	Change, %			(5.9)	4.1	(7.0)	(15.1)	(13.9)	(17.8)	(13.0)	(22.1)	(13.7)
	PO	propylene sprea	915.0	887.5	977.5	1,017.5	812.5	812.5	747.5	913.4	691.1	702.9
	Change, %			3.1	(6.4)	(10.1)	12.6	12.6	22.4	0.2	32.4	30.2
	Caprolactam	benzene spreac	1,145.0	1,127.5	1,225.0	897.5	1,027.5	822.5	1,027.5	891.6	698.2	1,090.3
	Change, %			1.6	(6.5)	27.6	11.4	39.2	11.4	28.4	64.0	5.0
	PTA	px spread	98.5	83.3	75.3	81.3	85.3	55.3	44.0	58.0	60.4	76.0
	Change, %			18.3	30.9	21.2	15.5	78.3	123.9	69.8	63.0	29.5

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

에너지/Commodity/정유화학. 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com
SK증권

Global peers

	Currency	12/15	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	70.0	(0.5)	(1.0)	1.5	0.2	9.2	20.0	22.3	163,799	21.6	17.3	1.6	1.7	11.8	10.0
Eastman	USD	90.2	(0.9)	(2.1)	0.8	6.2	9.6	17.4	20.0	12,969	12.8	11.1	2.6	2.4	9.2	8.5
BASF	EUR	93.7	0.0	(0.3)	1.7	8.6	10.4	8.5	6.1	101,275	15.2	15.0	2.5	2.4	8.2	8.0
Akzo Nobel	EUR	74.4	0.1	0.2	(3.9)	(4.6)	(3.8)	25.4	25.3	22,118	18.2	17.3	3.2	3.1	9.9	9.5
Arkema	EUR	104.0	0.0	2.5	0.4	7.3	9.5	10.1	11.8	9,277	14.6	13.6	1.9	1.8	6.7	6.4
Lanxess	EUR	64.7	0.2	2.7	(0.0)	1.0	(4.3)	4.6	3.7	6,965	16.8	15.0	2.2	2.0	7.3	9.0
Sumitomo Chemical	JPY	776	(1.0)	(1.1)	(2.6)	12.5	32.4	34.5	39.6	11,400	9.7	9.7	1.4	1.3	7.3	7.2
Mitsubishi Chemical	JPY	1,207	(0.8)	(2.8)	5.1	13.5	41.5	54.5	59.2	16,127	9.1	8.9	1.4	1.3	6.4	6.2
Shin-Etsu Chemical	JPY	11,395	(0.9)	(4.4)	(6.9)	14.2	14.5	26.9	25.7	43,694	21.6	18.7	2.1	1.9	9.5	8.1
Asahi Kasei	JPY	1,444	0.0	0.7	1.8	5.0	29.5	36.7	41.6	17,973	14.5	14.3	1.6	1.5	7.6	7.3
JSR	JPY	2,205	(1.1)	(2.3)	2.5	3.9	21.6	21.2	19.6	4,425	15.1	14.6	1.3	1.2	8.3	7.6
Nitto Denko	JPY	10,120	(0.1)	(2.8)	(8.3)	7.7	13.9	11.7	12.8	15,604	17.8	16.2	2.3	2.1	8.1	7.5
SABIC	SAR	100.9	0.0	(0.6)	1.4	(0.3)	2.0	6.9	10.3	80,722	15.0	14.2	1.8	1.7	7.5	7.3
Yansab	SAR	57.9	0.0	(2.6)	2.5	1.6	4.5	13.9	6.3	8,683	14.5	13.5	2.2	2.2	9.1	8.8
Formosa Plastics	TWD	93.3	(0.6)	0.3	0.6	(2.2)	3.6	5.1	4.6	19,827	12.7	14.0	1.8	1.8	18.2	18.3
Formosa Fiber	TWD	95.4	0.3	1.1	1.8	1.8	5.9	(2.3)	(0.9)	18,667	12.1	12.9	1.7	1.6	10.5	10.9
Nan Ya Plastics	TWD	74.7	(0.4)	0.3	0.0	(1.3)	3.3	6.9	4.9	19,777	14.3	14.6	1.7	1.7	15.0	15.4
Sinopec Shanghai	CNY	6.26	(0.9)	(3.4)	(2.3)	(0.8)	(3.5)	(3.7)	(2.8)	8,937	12.0	11.4	2.4	2.1	6.5	6.5
Sinopec Yizheng(Fibe	CNY	2.73	(1.4)	(4.2)	(9.9)	(14.7)	(21.3)	(33.3)	(33.4)	5,304	#N/A N/A	50.6	5.2	5.3	26.6	13.9
Reliance	INR	920	(0.2)	(0.1)	4.1	9.3	32.9	74.7	69.9	93,438	16.9	14.5	1.9	1.7	11.7	9.5
Industries Qatar	QAR	95.0	0.0	7.3	1.0	6.7	(3.9)	(15.6)	(19.1)	15,618	16.6	14.0	1.7	1.6	61.5	50.0
PTT Chemical	THB	83.5	0.0	1.5	5.4	7.1	19.7	33.6	32.5	11,581	10.3	10.6	1.5	1.4	5.5	5.4
Petronas	MYR	7.5	0.0	0.4	2.8	1.6	4.1	8.8	6.7	14,611	15.2	15.3	2.1	1.9	8.7	8.7
LG화학	KRW	394,000	1.0	(1.1)	(0.8)	(1.7)	42.5	55.7	51.0	25,541	14.6	13.8	1.9	1.7	6.5	6.1
롯데케미칼	KRW	364,000	0.8	2.0	5.1	(6.1)	9.5	2.7	(1.4)	11,457	5.4	5.4	1.1	0.9	3.7	3.3
한화케미칼	KRW	29,950	0.7	0.2	2.0	(19.8)	5.1	16.8	21.3	4,533	4.9	5.3	0.8	0.7	6.6	6.4
금호석유	KRW	93,400	0.1	8.4	32.1	21.1	23.9	16.6	13.9	2,613	16.0	14.6	1.7	1.5	10.8	9.5
SKC	KRW	44,850	5.2	10.6	4.8	8.7	33.7	38.9	35.9	1,546	11.9	10.7	1.1	1.0	10.1	8.6
국도화학	KRW	66,500	1.5	0.2	11.6	28.9	23.4	17.7	21.1	355	0.0	0.0	0.0	0.0	0.0	0.0
효성	KRW	8,000	(0.4)	4.6	11.1	13.5	34.0	33.8	17.6	4,450	8.2	8.3	1.2	1.1	7.3	6.5
Average			**0.0**	**0.5**	**2.2**	**4.3**	**13.4**	**18.3**	**17.5**							
Refinery																
Valero	USD	88.2	0.8	0.7	8.2	24.0	36.3	30.4	29.1	38,590	17.6	13.7	1.9	1.9	7.6	6.6
Conoco Phillips	USD	52.2	(0.3)	1.2	3.3	12.2	14.9	0.8	4.0	62,370	94.0	32.1	2.1	2.1	9.2	6.8
Formosa Petrochemic	TWD	112.0	(0.9)	3.7	5.2	5.7	5.7	2.3	0.0	35,617	15.4	18.2	3.3	3.3	9.8	11.6
Andeavor	USD	111.6	2.4	0.5	7.4	8.9	21.6	23.3	27.6	17,402	15.7	13.0	1.7	1.8	9.1	7.2
Marathon Petroleum	USD	65.8	1.7	1.5	6.9	24.2	24.1	34.5	30.6	32,113	16.9	15.6	2.6	2.6	8.5	7.7
Devon Energy	USD	37.7	(0.8)	(1.0)	(0.6)	12.0	19.7	(20.7)	(17.5)	19,801	21.0	16.4	2.7	2.4	8.9	7.9
Hollyfrontier	USD	47.9	0.1	4.7	11.6	47.8	88.1	50.7	46.1	8,484	20.0	16.5	1.7	1.6	8.9	7.7
Phillips 66	USD	99.9	0.4	0.4	7.9	14.0	26.4	15.4	15.6	50,634	21.8	15.9	2.3	2.2	10.8	8.9
Murphy Oil	USD	27.9	(1.7)	(1.8)	1.2	9.8	14.8	(13.8)	(10.3)	4,820	#N/A N/A	188.7	1.0	1.1	5.1	4.5
JX Holdings	JPY	685.5	(1.7)	4.4	12.0	25.0	41.2	36.6	38.6	20,846	8.1	8.3	0.9	0.9	7.0	6.8
Idemitsu	JPY	4,335.0	0.2	10.0	27.5	52.2	36.3	38.1	39.6	8,001	8.1	7.6	1.1	1.0	7.0	6.7
Nesteoil	EUR	51.7	(0.5)	1.3	5.9	43.6	48.4	44.1	41.5	15,581	16.5	16.2	3.1	2.8	9.5	9.9
Ashland	USD	70.5	0.7	0.6	5.0	10.2	7.0	27.9	31.9	4,389	17.5	20.9	1.4	1.3	8.0	9.9
Fuchs Petrolub	EUR	43.4	(1.2)	(1.0)	(5.1)	(10.7)	(13.1)	11.5	8.9	6,856	22.9	21.5	4.5	4.0	13.5	12.8
SK이노베이션	KRW	203,500	(1.2)	0.2	3.8	7.7	30.0	31.7	38.9	17,279	8.0	7.7	1.0	0.9	4.9	4.5
S-Oil	KRW	123,500	2.1	3.8	5.1	6.0	31.1	50.2	45.8	12,768	12.2	9.4	2.1	1.9	9.4	6.8
GS	KRW	61,700	3.2	2.5	3.4	(8.0)	(8.0)	12.6	14.0	5,264	5.9	5.6	0.8	0.7	7.0	6.7
Average			**0.2**	**1.9**	**6.4**	**16.7**	**25.0**	**22.1**	**22.6**							

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

에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

SK 증권

Global peers

	Currency	12/15	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
E&P/Shale																
Exxon Mobil	USD	83	0.2	0.4	2.2	3.7	0.9	(8.6)	(8.0)	351,807	22.9	20.0	1.9	1.9	9.9	8.8
BP	GBP	505	0.2	2.5	2.1	12.7	9.6	5.4	(0.9)	133,058	22.3	16.8	1.4	1.4	6.5	5.8
Shell	EUR	2,429	1.4	3.0	1.1	15.5	16.6	12.7	8.3	269,376	17.2	15.2	1.4	1.4	6.9	6.3
Chevron	USD	120	0.2	(0.2)	2.8	4.4	12.6	2.3	1.7	227,412	29.2	22.5	1.6	1.6	8.3	7.1
Total	EUR	47	(1.5)	(1.1)	0.4	3.5	4.5	(2.1)	(4.5)	138,374	13.1	12.5	1.3	1.2	6.1	5.3
Sinopec	CNY	6	(0.5)	(1.7)	(0.3)	0.2	0.2	8.8	9.6	103,752	13.6	12.6	1.0	0.9	4.4	4.3
Petrochina	CNY	8	(0.9)	(2.4)	(3.4)	(1.4)	2.9	3.6	(1.0)	207,562	49.8	29.9	1.2	1.2	6.5	6.0
CNOOC	CNY	10	(2.0)	(3.1)	(11.0)	(9.7)	(10.9)	(22.5)	(20.8)	62,271	13.2	11.1	1.0	1.0	4.2	3.9
Gazprom	RUB	136	(0.3)	2.2	3.3	10.6	17.3	(14.4)	(12.3)	54,538	4.4	4.2	0.3	0.2	4.0	3.7
Rosneft	RUB	300	(0.3)	2.0	(0.8)	(6.3)	(0.6)	(25.2)	(25.6)	53,993	10.6	7.2	0.8	0.7	5.4	4.6
Anadarko	USD	48	(0.8)	(0.8)	(0.2)	9.1	3.1	(32.4)	(31.9)	26,001	#N/A N/A	#N/A N/A	1.9	1.7	7.5	6.5
Petrobras	BRL	15	(0.4)	(2.6)	(2.6)	(0.6)	18.5	0.7	0.5	60,294	13.2	8.6	0.6	0.6	5.0	4.5
Lukoil	USD	3,420	(1.0)	0.9	3.8	14.8	26.1	1.1	(0.8)	48,992	6.9	6.3	0.7	0.7	N/A	N/A
Kinder	USD	18	0.5	0.8	5.3	(7.4)	(4.7)	(14.7)	(13.4)	47,497	28.1	25.6	1.1	1.1	11.1	10.7
Statoil	NOK	169	(0.2)	1.6	3.1	10.8	17.9	9.7	6.9	67,104	15.9	16.3	1.7	1.7	3.5	3.4
BHP	AUD	28	0.0	2.0	1.3	5.5	20.4	9.4	10.6	108,011	14.4	17.2	1.9	1.8	5.9	6.4
PTT E&P	THB	95	0.5	1.1	2.7	6.5	7.7	2.7	(1.8)	11,541	15.3	12.9	0.9	0.9	3.5	3.3
Petronas gas	MYR	16	(0.4)	1.5	(3.8)	(12.6)	(14.4)	(23.5)	(23.8)	7,878	18.1	17.0	2.6	2.5	10.3	9.6
Chesapeake	USD	4	(3.6)	(4.6)	(8.8)	(12.3)	(29.8)	(50.1)	(50.0)	3,189	4.8	4.6	#N/A N/A	#N/A N/A	7.3	6.3
Noble Energy	USD	26	(3.0)	(4.8)	(1.3)	(1.5)	(13.7)	(37.3)	(32.6)	12,486	#N/A N/A	337.6	1.3	1.3	7.7	7.0
Average		**0**	**(0.6)**	**(0.2)**	**(0.2)**	**2.3**	**4.2**	**(8.7)**	**(9.5)**							
PV																
WACKER	EUR	159.1	2.7	11.4	17.2	42.1	73.6	70.0	61.0	9,762	35.3	25.5	2.6	2.4	8.8	8.1
GCL-Poly	HKD	1.3	(1.6)	(0.8)	(14.4)	22.5	71.2	26.3	34.4	2,973	8.4	7.9	0.9	0.8	6.5	5.9
SunPower	USD	9.4	4.2	12.4	12.5	11.7	23.5	31.8	41.8	1,308	#N/A N/A	#N/A N/A	1.8	1.8	17.0	12.9
Canadian Solar	USD	17.4	(1.9)	0.6	(0.6)	0.5	37.2	42.1	42.5	1,007	13.0	9.0	1.0	0.9	9.4	9.7
JA Solar	USD	7.4	1.2	0.1	6.9	(5.7)	19.8	50.3	56.3	354	9.2	14.0	1.7	1.7	4.1	3.9
Yingli	USD	1.9	(1.6)	(5.0)	(19.9)	(21.9)	(10.0)	(35.1)	(27.3)	34	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
First Solar	USD	69.0	1.6	(1.5)	13.8	36.7	93.0	111.5	114.9	7,202	27.2	45.5	1.2	1.3	14.7	14.1
한화큐셀	USD	7.3	(0.4)	0.5	(10.3)	(4.1)	11.9	(9.9)	(10.0)	611	91.8	33.4	#N/A N/A	#N/A N/A	8.7	8.1
OCI	KRW	125,500	(2.0)	4.1	3.3	15.7	40.7	57.7	59.5	2,749	14.2	15.6	0.9	0.8	7.7	6.5
웅진에너지	KRW	8,860	(4.1)	(0.9)	11.3	(3.9)	44.1	98.2	87.1	205	N/A	0.9	0.8	7.7	6.5	8.2
신성솔라에너지	KRW	2,095	1.7	5.0	14.2	(3.9)	11.1	2.4	(5.2)	333	N/A	0.8	7.7	6.5	8.2	8.3
Average			**(0.0)**	**2.4**	**3.1**	**8.2**	**37.8**	**40.5**	**41.4**							
Gas Company																
Towngas China	HKD	6.3	0.3	3.0	(1.7)	19.7	29.4	56.3	53.2	2,214	14.1	12.8	1.2	1.1	12.9	11.8
Kulun	HKD	7.2	0.7	(0.4)	6.4	(3.5)	11.0	21.9	23.8	7,416	11.4	10.5	1.3	1.2	5.7	5.6
Beijing Enterprise	HKD	42.8	(1.8)	(4.5)	(5.2)	0.1	15.1	22.1	16.8	6,912	8.2	7.6	0.9	0.8	15.4	13.4
ENN Energy	HKD	53.9	0.0	(3.9)	(6.3)	4.9	28.5	71.9	69.0	7,468	14.4	12.6	2.8	2.4	8.8	7.8
China Resources Gas	HKD	27.9	(2.6)	(3.8)	(3.3)	6.1	17.2	24.6	28.0	7,940	15.9	14.1	3.0	2.7	9.4	8.5
China Gas Holdings	HKD	21.7	(2.0)	(9.8)	(6.1)	3.3	69.7	111.8	105.8	13,764	17.7	14.8	4.3	3.5	14.1	11.9
Shenzen Gas	HKD	13.6	(1.3)	(2.8)	(7.8)	(4.9)	(0.6)	19.2	20.7	3,540	10.9	10.6	1.3	1.2	8.6	8.0
Shann Xi	CNY	8.4	(1.6)	5.2	4.1	(1.4)	(4.3)	(11.9)	(12.1)	1,421	17.8	16.0	1.7	1.6	#N/A N/A	#N/A N/A
Suntien	HKD	2.0	0.0	5.9	1.6	2.1	43.1	94.1	96.0	932	7.2	6.2	0.7	0.6	9.8	8.4
China Oil & Gas	HKD	0.6	1.7	5.2	19.6	15.1	10.9	1.7	0.0	455	10.0	8.5	1.0	0.9	6.5	5.8
Average			**(0.7)**	**(0.6)**	**0.1**	**4.2**	**22.0**	**41.2**	**40.1**							
EV																
LG화학	KRW	394,000	1.0	(1.1)	(0.8)	(1.7)	42.5	55.7	51.0	25,541	13.7	13.2	1.9	1.7	6.5	6.3
삼성SDI	KRW	209,000	(0.7)	(0.2)	(3.9)	(2.6)	37.5	104.9	91.7	13,197	21.0	13.0	1.3	1.2	23.4	14.9
Panasonic	JPY	1668.5	(0.4)	4.5	(0.4)	3.5	14.9	28.1	40.3	36,320	21.3	16.4	2.3	2.0	7.1	6.1
GS Yuasa	JPY	546.0	(1.3)	(2.2)	(4.0)	(4.9)	9.2	10.1	12.3	2,004	16.7	15.0	1.3	1.2	7.5	6.9
NEC	JPY	3135.0	1.3	4.0	7.0	5.9	9.6	(2.0)	1.1	7,246	15.9	18.5	0.9	0.9	7.6	7.0
BYD Auto	CNY	62.8	(1.4)	5.0	(1.9)	17.5	21.4	26.8	26.3	24,832	36.7	26.1	3.1	2.8	15.4	12.5
Tesla Motors	USD	343.5	1.6	9.0	10.3	(9.6)	(8.5)	73.8	60.7	57,723	#N/A N/A	#N/A N/A	12.2	12.0	142.0	34.1
Kandi Technologies	USD	7.0	0.0	(4.8)	(12.0)	49.5	73.8	37.6	41.8	334	#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**	**1.8**	**(0.7)**	**7.2**	**25.0**	**41.9**	**40.7**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임