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

1. News Summary (3 page)

2017년 11월 13일

News		Conclusion
WTI comment	원유채굴 장비 증가에 하락…WTI 0.8%↓	
Headline	[주간가격] 에틸렌, WoW 20$/mt 상승해 CFR SEA 1,160$/mt로 마감	재고 축적 수요와 SM 공장 가동으로인한 수요가 증가하며 상승함
News 1.	[주간가격] MEG, WoW 10$/mt 상승해 CFR China 910$/mt로 마감	재고 감소와 수요 증가로 상승했으나 에틸렌 강세로 마진은 악화됨
News 2.	[주간가격] BD, 플랫한 모습 보이며 FOB Korea 945$/mt로 마감	아시아 역내 BD 수요 감소와 공급 증가로 센티먼트 악화될 전망
News 3.	[주간가격] SBR, WoW 100$/mt 상승해 CFR SEA 1,670$/mt로 마감	재고 수요와 라니냐 효과로 천연고무 수급 악화되며 SBR 강세 전망
News 4.	[주간가격] PX, WoW 15.7$/mt 상승해 FOB Korea 880$/mt로 마감	다운스트림 수요 호조로 일시적 강세였지만 공급 과잉으로 하락 전망

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	56.7	(0.8)	2.0	10.3	16.2	30.7
Dubai	$/bbl	62.1	0.7	5.3	12.0	24.5	42.0
Gasoline	$/bbl	77.3	0.7	4.8	10.7	15.4	33.7
Diesel	$/bbl	73.3	1.0	4.5	7.0	16.5	31.0
Complex margin	$/bbl	7.6	0.2	(0.1)	(0.5)	(1.2)	(0.5)
1M lagging	$/bbl	15.6	0.3	3.4	4.3	2.2	13.8
Petrochemical			%	%	%	%	%
Naphtha	$/t	604	1.9	4.2	17.2	27.9	42.1
Butadiene	$/t	945	0.0	0.0	(22.9)	3.8	(31.8)
HDPE	$/t	1,250	0.0	0.8	6.8	11.6	6.8
MEG	$/t	910	(0.3)	1.1	6.4	4.8	22.1
PX	$/t	880	(0.1)	1.8	6.3	7.1	13.2
SM	$/t	1,252	(0.3)	7.2	9.2	8.4	7.9
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	3.21	0.4	7.7	1.7	0.2	1.8
Natural rubber	$/t	1,400	(1.4)	1.4	(3.4)	(5.4)	(14.6)
Cotton	C/lbs	69.1	1.1	0.5	0.6	(0.3)	0.9

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	11/06	$/t	1,130	(3.8)	(10.0)	15.9	13.6
Propylene	11/06	$/t	808	1.6	(3.3)	5.9	17.5
Benzene	11/06	$/t	810	0.9	0.6	9.1	23.7
Toluene	11/06	$/t	690	(0.7)	(1.4)	8.7	4.5
Xylene	11/06	$/t	655	0.4	(0.4)	5.2	0.8
PP	11/06	$/t	1,148	(1.7)	(1.7)	7.0	11.4
PVC	11/06	$/t	890	(2.2)	(6.1)	3.5	(4.3)
ABS	11/06	$/t	1,920	(1.5)	(6.8)	5.5	31.5
SBR	11/06	$/t	1,700	(2.9)	(6.6)	14.1	(10.5)
SM	11/06	$/t	1,210	(0.6)	(10.4)	3.2	14.4
BPA	11/06	$/t	1,685	0.0	8.0	9.4	14.2
Caustic	11/06	$/t	598	8.7	23.6	29.3	63.8
2-EH	11/06	$/t	1,000	0.0	1.0	3.1	26.6
Caprolactam	11/06	$/t	2,170	4.8	18.6	25.4	52.3
Solar				%	%	%	%
Polysilicon	11/08	$/kg	16.7	(0.1)	(0.2)	7.1	15.1
Module	11/08	$/W	0.32	(0.3)	(1.3)	(3.4)	(20.6)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.9	(1.2)	(0.3)	0.8	5.0	(4.7)
Shell	EUR	2,418	(1.5)	(0.7)	5.3	11.8	18.6
Petrochina	CNY	8.39	(1.5)	0.8	4.9	3.7	14.3
Gazprom	RUB	132.5	0.8	5.2	6.5	12.2	(10.1)
Petrobras	BRL	16.7	0.0	(1.3)	3.3	26.8	7.9
Refinery							
Phillips66	USD	93.7	(0.8)	0.1	0.2	12.0	12.7
Valero	USD	81.4	0.1	0.6	5.2	22.9	29.2
JX	JPY	638.0	3.7	5.0	13.0	23.5	58.5
Neste Oil	EUR	48.0	(1.0)	(1.6)	22.6	37.2	31.7

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	94.1	(0.9)	(2.7)	4.6	18.5	16.0
DowDuPont	USD	70.0	(0.4)	(1.7)	(2.2)	10.9	29.2
SABIC	SAR	99.7	0.0	0.3	(1.1)	1.5	15.0
Formosa Pla.	TWD	92.1	0.0	(0.4)	0.1	(0.5)	6.6
Shin-Etsu	JPY	12,450	0.9	2.8	23.0	30.5	49.8
Renewable							
Wacker	EUR	135.0	0.1	(4.2)	15.7	33.2	67.2
First Solar	USD	61.59	1.7	2.9	29.2	31.7	92.8
GCL-Poly	HKD	1.44	4.3	7.5	28.6	63.6	41.2
Tesla Motors	USD	303.0	0.0	(1.0)	(14.8)	(14.7)	63.5

4. Coverage Summary

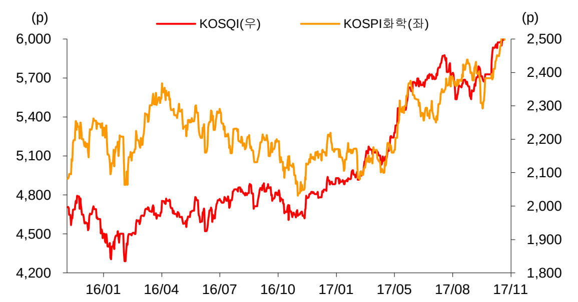
	11/10	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,543	(0.3)	(0.6)	3.4	9.6	10.7	29.8				* 추정치는 12M fwd 기준임	
KOSPI화학	6,084	(0.9)	(0.5)	6.9	7.9	10.1	21.9				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	406,500	(1.8)	(1.8)	5.6	19.7	42.4	68.0	매수	400,000	(1.6)	12.88	2.12
롯데케미칼	374,000	1.5	(0.9)	(0.8)	(1.1)	6.9	28.5	매수	410,000	9.6	5.88	1.29
한화케미칼	30,700	(1.4)	(4.8)	(5.8)	(8.9)	13.3	24.8	매수	39,000	27.0	5.18	0.85
금호석유화학	72,600	(1.9)	(4.5)	1.5	(0.5)	(4.1)	10.0	매수	100,000	37.7	12.31	1.35
KCC	405,000	(0.6)	3.4	9.2	2.0	14.9	3.4	매수	450,000	11.1	22.48	0.59
OCI	123,500	0.4	(0.4)	26.9	38.0	49.9	44.8	매수	120,000	(2.8)	15.68	0.95
SKC	42,000	4.6	4.1	3.2	13.1	42.1	54.1	매수	45,000	7.1	11.61	1.14
SK이노베이션	211,000	(3.0)	1.0	4.2	22.7	22.0	38.4	매수	210,000	(0.5)	8.51	1.13
S-Oil	126,000	(1.2)	(0.8)	(2.3)	9.1	17.8	52.5	매수	140,000	11.1	13.63	2.38
GS	66,300	(2.2)	1.1	0.8	(8.7)	10.9	23.2	매수	80,000	20.7	6.29	0.98
SK가스	97,100	(0.6)	3.1	(0.3)	(15.2)	(17.4)	0.9	매수	130,000	33.9	7.34	0.72
포스코대우	19,850	(2.5)	2.8	3.4	(13.3)	(16.9)	(16.9)	매수	25,000	25.9	11.12	0.86
LG상사	29,400	(5.2)	(0.7)	7.3	0.0	(10.6)	8.9	매수	38,000	29.3	10.70	0.95
한국전력	38,600	0.9	(1.4)	3.3	(12.0)	(10.3)	(16.1)	매수	55,000	42.5	7.40	0.31
한국가스공사	42,800	0.2	2.4	3.4	(12.2)	(8.4)	(6.1)	매수	60,000	40.2	8.74	0.55

SK Energy Daily

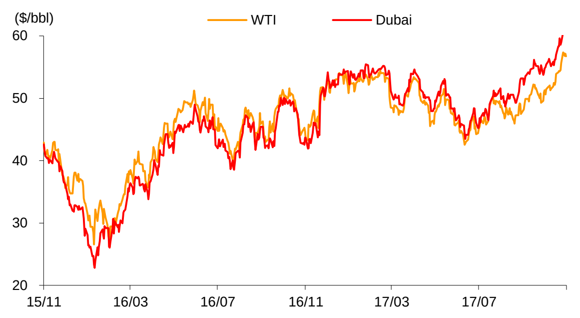
에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
R.A. 유송우 I 3773-9180, yswbest@sk.com

Key Chart

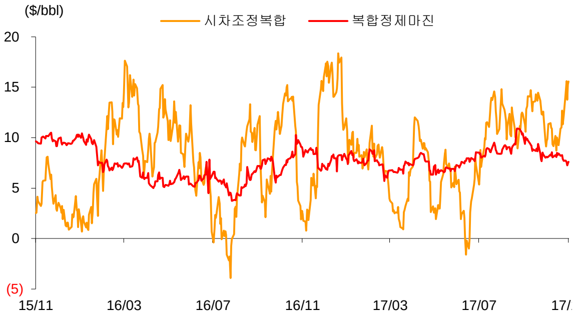
KOSPI/KOSPI화학



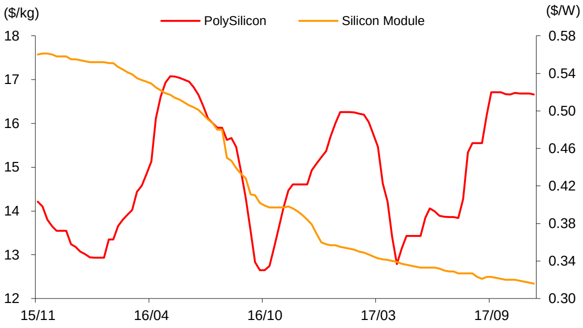
WTI/Dubai



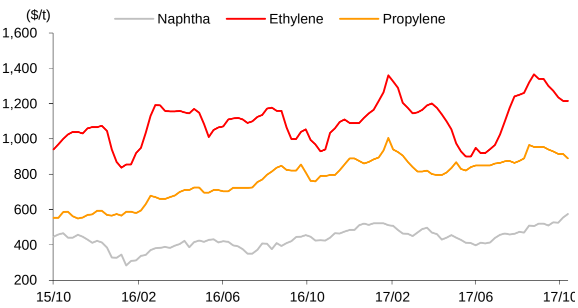
Complex & 1M lagging margin



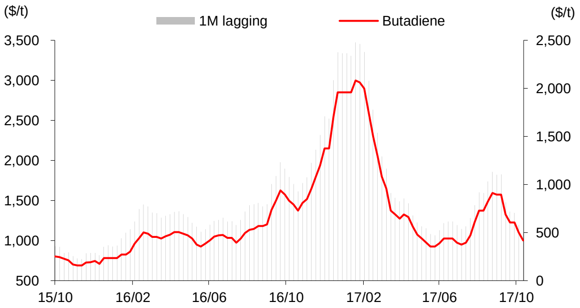
Polysilicon & Module prices



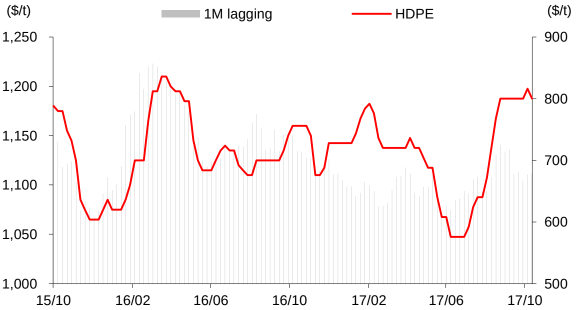
Naphtha/Ethylene/Propylene prices



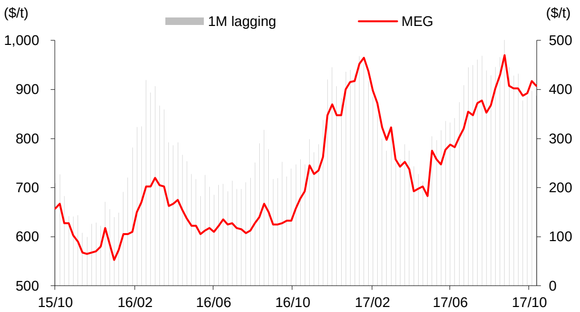
Butadiene price & 1M lagging naphtha spread



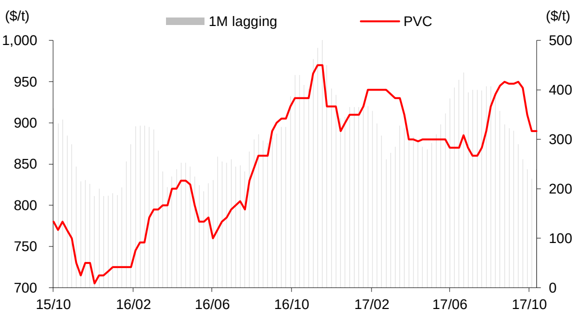
HDPE price & 1M lagging naphtha spread



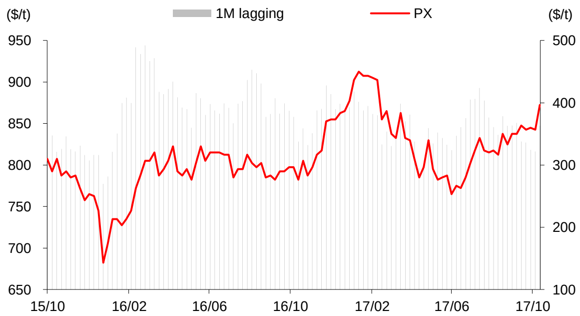
MEG price & 1M lagging naphtha spread



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 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com
SK 증권

News Comment

Headline	(출처: Platts)
제목	[주간가격] 에틸렌, WoW 20$/mt 상승해 CFR SEA 1,160$/mt로 마감
결론	재고 축적 수요와 SM 공장 가동으로인한 수요가 증가하며 상승함
세부	
	1) 아시아 에틸렌은 12월 도착 카고에 대한 중국 수요가 증가하며 상승함
	2) 2018년 term-contract 협상에 앞서 재고 축적 스팟 수요가 발생한 것
	3) 12월 중국에서 새 SM 공장이 가동되며 에틸렌 스팟 수요 자극함
	4) 주 후반 사우디로부터의 공급 증가 전망에 상승세가 제한됨
	5) 재고 축적 수요와 SM 공장 가동으로인한 수요가 증가하며 상승함

WTI Comment	(출처: 연합뉴스)
제목	원유채굴 장비 증가에 하락…WTI 0.8%↓
상승 요인	
하락 요인	미국의 원유 공급이 늘어날 수 있다는 전망 베이커 휴, "美 주간 원유채굴장비는 738개로, 전주보다 9개 증가"

Issue 1	(출처: Platts)
제목	[주간가격] MEG, WoW 10$/mt 상승해 CFR China 910$/mt로 마감
결론	재고 감소와 수요 증가로 상승했으나 에틸렌 강세로 마진은 악화됨
세부	
	1) 중국 내수 시장에서 다운스트림인 폴리에스터 수요가 증가하며 상승
	2) 동중국 재고가 54.3만톤으로 4만톤 하락한 것도 센티먼트 강화시킴
	3) 다운스트림인 PET 가격이 WoW 15$/mt 상승해 FOB NEA 1,015$/mt 기록
	4) 원재료인 에틸렌 가격이 상승해 아시아 MEG 마진이 -10$mt 기록함
	5) 재고 감소와 수요 증가로 상승했으나 에틸렌 강세로 마진은 악화됨

Issue 2	(출처: Platts)
제목	[주간가격] BD, 플랫한 모습 보이며 FOB Korea 945$/mt로 마감
결론	아시아 역내 BD 수요 감소와 공급 증가로 센티먼트 악화될 전망
세부	
	1) 거래량이 감소한 가운데 중국은 공급 과잉 우려로 수요가 약세를 보임
	2) 대한민국은 엔드유저들이 12월물을 이미 확보해 둔 탓에 수요 약했음
	3) 시노펙, "동중국 10만톤/년 규모 SBR 생산 라인 1Q18까지 셧다운 유지"
	4) 중국 National Bluestar가 연 5만톤 규모의 부타디엔 공장 가동함
	5) 아시아 역내 BD 수요 감소와 공급 증가로 센티먼트 악화될 전망

Issue 3	(출처: Platts)
제목	[주간가격] SBR, WoW 100$/mt 상승해 CFR SEA 1,670$/mt로 마감
결론	재고 수요와 라니냐 효과로 천연고무 수급 악화되며 SBR 강세 전망
세부	
	1) 타이어 생산자들의 리스탁킹 관련 수요가 증가해 강세를 보였음
	2) 관계자, "가격이 낮아 타이어 생산자들이 재고를 비축하고 있음"
	3) 중국10월 자동차 판매량은 5개월 연속 상승해 2.7백만대 기록함
	4) 베트남에서 최근 홍수로 천연고무 경작지가 피해를 입음
	5) 재고 수요와 라니냐 효과로 천연고무 수급 악화되며 SBR 강세 전망

Issue 4	(출처: Platts)
제목	[주간가격] PX, WoW 15.7$/mt 상승해 FOB Korea 880$/mt로 마감
결론	다운스트림 수요 호조로 일시적 강세였지만 공급 과잉으로 하락 전망
세부	
	1) 1월물 거래는 12월의 공격적인 매도세와 달랐음
	2) CFR Taiwan, China은 WoW 15.67$/mt 상승함
	3) 그러나 이는 CFR Japan 납사가 25.88$/mt 상승분보다 작은 폭이었음
	4) 원재료인 납사 가격 상승으로 스프레드가 300$/mt 이하로 하락함
	5) 다운스트림 수요 호조로 일시적 강세였지만 공급 과잉으로 하락 전망

Issue 5	(출처: Platts)
제목	[주간가격] PTA, WoW 25$/mt 상승해 CFR China 685$/mt로 마감
결론	진입 예정 capa가 많아 유럽, 중동으로의 수출이 늘어도 강세는 힘들 것
세부	
	1) 공장 가동률이 70-80% 수준을 보였고 buying interest가 소폭 상승함
	2) 매수자와 매도자간 제시 가격이 차이가 벌어져 있는 상황임
	3) 이에 따라 카고들이 창고 물량으로 묶여있음
	4) 브렌트유는 WoW 3.2$/b 상승해 63.94$/b로 마감함
	5) 진입 예정 capa가 많아 유럽, 중동으로의 수출이 늘어도 강세는 힘들 것

Issue 6	(출처: PVinsights)
제목	[주간가격] 중국 쪽에서의 조정으로 폴리실리콘 소폭 하락
결론	수요 견조에도 불구하고 가격을 선제적으로 내리는 buyer's market임
세부	
	1) 폴리실리콘 가격이 다운스트림 가격 압박으로 소폭의 하락세를 보임
	2) 일부 대한민국 폴리실리콘 공급자들이 선제적으로 가격을 내림
	3) 폴리실리콘 섹터 수요가 견조한데도 불구하고 가격을 내렸음
	4) 해외 폴리실리콘 공급자들은 바이어에 맞춰 가격을 내리는 것을 꺼림
	5) 수요 견조에도 불구하고 가격을 선제적으로 내리는 buyer's market임

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

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
F/X	**USD/EUR**	0.857	0.859	0.862	0.847	0.850	0.920	0.918	0.951	0.901	0.904	0.893
	Change, %		*(0.2)*	*(0.5)*	*1.2*	*0.9*	*(6.8)*	*(6.6)*	*(9.8)*	*(4.9)*	*(5.1)*	*(4.0)*
	USD/JPY	113.5	113.5	114.1	112.5	109.2	114.3	106.8	117.0	121.1	108.8	112.1
	Change, %		*0.1*	*(0.5)*	*1.0*	*4.0*	*(0.7)*	*6.3*	*(2.9)*	*(6.2)*	*4.4*	*1.3*
	USD/KRW	1,117.0	1,115.5	1,113.8	1,135.6	1,141.8	1,135.9	1,150.2	1,205.8	1,131.2	1,160.5	1,137.6
	Change, %		*0.1*	*0.3*	*(1.6)*	*(2.2)*	*(1.7)*	*(2.9)*	*(7.4)*	*(1.3)*	*(3.8)*	*(1.8)*
Agriculture	**Corn**	343.5	341.5	348.3	349.3	357.3	365.3	343.5	352.0	376.8	358.5	361.7
	Change, %		*0.6*	*(1.4)*	*(1.6)*	*(3.8)*	*(6.0)*	*0.0*	*(2.4)*	*(8.8)*	*(4.2)*	*(5.0)*
	Soybean	977.3	975.3	977.0	966.0	930.8	961.8	989.0	996.5	945.4	987.5	975.7
	Change, %		*0.2*	*0.0*	*1.2*	*5.0*	*1.6*	*(1.2)*	*(1.9)*	*3.4*	*(1.0)*	*0.2*
	Wheat	431.5	429.0	425.8	435.3	440.5	424.0	404.8	408.0	508.1	436.4	439.2
	Change, %		*0.6*	*1.4*	*(0.9)*	*(2.0)*	*1.8*	*6.6*	*5.8*	*(15.1)*	*(1.1)*	*(1.8)*
	Rice	11.2	11.2	11.3	12.0	12.3	10.1	9.6	9.4	11.1	10.3	10.9
	Change, %		*(0.1)*	*(1.1)*	*(7.1)*	*(8.9)*	*11.0*	*16.4*	*19.3*	*1.0*	*8.0*	*2.4*
	Oats	272.0	273.0	263.0	249.5	266.0	248.5	220.8	228.5	250.2	196.3	253.2
	Change, %		*(0.4)*	*3.4*	*9.0*	*2.3*	*9.5*	*23.2*	*19.0*	*8.7*	*38.6*	*7.4*
MYR/mt	**Palm Oil**	2,740.0	2,747.0	2,784.0	2,710.0	2,663.0	2,850.0	2,892.0	3,218.0	2,190.3	2,653.8	2,834.7
	Change, %		*(0.3)*	*(1.6)*	*1.1*	*2.9*	*(3.9)*	*(5.3)*	*(14.9)*	*25.1*	*3.2*	*(3.3)*
	Cocoa	2,223.0	2,198.0	2,061.0	2,045.0	1,967.0	1,984.0	2,450.0	2,126.0	3,091.6	2,854.0	2,009.3
	Change, %		*1.1*	*7.9*	*8.7*	*13.0*	*12.0*	*(9.3)*	*4.6*	*(28.1)*	*(22.1)*	*10.6*
	Cotton	69.1	68.3	68.7	69.0	69.3	76.5	69.2	70.7	63.3	65.6	73.4
	Change, %		*1.1*	*0.5*	*0.1*	*(0.3)*	*(9.7)*	*(0.2)*	*(2.3)*	*9.1*	*5.3*	*(6.0)*
	Sugar	15.0	14.9	14.4	14.2	13.2	15.8	21.7	19.5	13.1	18.2	16.0
	Change, %		*0.5*	*4.0*	*5.6*	*13.0*	*(5.6)*	*(30.9)*	*(23.3)*	*13.9*	*(17.6)*	*(6.4)*
	Coffee	127.6	126.4	124.0	131.0	138.5	134.3	161.9	137.1	132.6	136.1	134.5
	Change, %		*0.9*	*2.9*	*(2.6)*	*(7.9)*	*(5.0)*	*(21.2)*	*(6.9)*	*(3.8)*	*(6.3)*	*(5.1)*
Energy	**WTI**	56.7	57.2	55.6	50.9	48.6	47.3	44.7	53.7	48.8	43.4	49.9
	Change, %		*(0.8)*	*2.0*	*11.4*	*16.8*	*19.9*	*27.0*	*5.6*	*16.2*	*30.8*	*13.7*
	Brent	63.5	63.9	62.1	56.6	51.9	50.2	45.8	56.8	53.7	45.1	53.5
	Change, %		*(0.6)*	*2.3*	*12.2*	*22.4*	*26.5*	*38.6*	*11.8*	*18.3*	*40.9*	*18.8*
	Natural Gas	3.2	3.2	3.0	2.9	3.0	3.3	2.6	3.7	2.6	2.6	3.0
	Change, %		*0.4*	*7.7*	*11.1*	*7.6*	*(2.4)*	*22.1*	*(13.7)*	*22.2*	*25.9*	*5.5*
	Ethanol	1.5	1.4	1.4	1.4	1.6	1.5	1.5	1.6	1.5	1.5	1.5
	Change, %		*1.1*	*2.5*	*2.5*	*(6.1)*	*(0.3)*	*(3.6)*	*(9.3)*	*(3.6)*	*(3.9)*	*(4.3)*
	RBOB Gasoline	181.2	182.0	179.3	159.2	160.3	154.0	133.8	166.5	163.6	140.0	161.2
	Change, %		*(0.4)*	*1.1*	*13.9*	*13.1*	*17.7*	*35.5*	*8.8*	*10.8*	*29.5*	*12.4*
	Coal	97.7	97.7	99.0	95.4	95.9	74.1	111.4	88.4	59.0	65.5	86.7
	Change, %		*(0.1)*	*(1.4)*	*2.4*	*1.9*	*31.8*	*(12.3)*	*10.5*	*65.6*	*49.2*	*12.7*
Metal	**Gold**	1,275.5	1,285.1	1,269.7	1,288.0	1,286.3	1,219.2	1,258.9	1,152.3	1,160.6	1,248.5	1,256.0
	Change, %		*(0.8)*	*0.5*	*(1.0)*	*(0.8)*	*4.6*	*1.3*	*10.7*	*9.9*	*2.2*	*1.5*
	Silver	16.9	17.0	16.8	17.1	17.1	16.2	18.6	15.9	15.7	17.1	17.2
	Change, %		*(0.7)*	*0.2*	*(1.4)*	*(1.4)*	*4.2*	*(9.3)*	*6.0*	*7.4*	*(1.3)*	*(1.6)*
	Copper	6,786.0	6,808.0	6,895.0	6,760.0	6,423.0	5,500.5	5,601.0	5,535.5	5,503.1	4,872.0	6,092.7
	Change, %		*(0.3)*	*(1.6)*	*0.4*	*5.7*	*23.4*	*21.2*	*22.6*	*23.3*	*39.3*	*11.4*
	Nickel	789.5	799.2	820.1	719.0	697.2	591.0	766.9	682.0	759.5	646.4	669.6
	Change, %		*(1.2)*	*(3.7)*	*9.8*	*13.2*	*33.6*	*2.9*	*15.8*	*4.0*	*22.1*	*17.9*
	Zinc	3,219.0	3,176.0	3,219.0	3,279.0	2,938.0	2,600.0	2,525.0	2,576.0	1,941.9	2,097.5	2,840.2
	Change, %		*1.4*	*0.0*	*(1.8)*	*9.6*	*23.8*	*27.5*	*25.0*	*65.8*	*53.5*	*13.3*
	Lead	2,514.8	2,511.8	2,462.3	2,544.8	2,346.0	2,185.5	2,142.0	2,003.5	1,791.2	1,868.3	2,289.0
	Change, %		*0.1*	*2.1*	*(1.2)*	*7.2*	*15.1*	*17.4*	*25.5*	*40.4*	*34.6*	*9.9*
	Aluminum	15,340.0	15,370.0	16,045.0	16,460.0	15,970.0	13,715.0	14,790.0	12,765.0	12,184.0	12,373.5	14,543.9
	Change, %		*(0.2)*	*(4.4)*	*(6.8)*	*(3.9)*	*11.8*	*3.7*	*20.2*	*25.9*	*24.0*	*5.5*
	Cobalt	60,750.0	61,250.0	60,860.0	59,292.0	57,200.0	54,550.0	29,050.0	32,734.0	28,444.4	25,480.1	53,859.8
	Change, %		*(0.8)*	*(0.2)*	*2.5*	*6.2*	*11.4*	*109.1*	*85.6*	*113.6*	*138.4*	*12.8*
	HR Coil	609.0	610.0	612.0	600.0	621.0	610.0	492.0	633.0	461.5	519.3	618.6
	Change, %		*(0.2)*	*(0.5)*	*1.5*	*(1.9)*	*(0.2)*	*23.8*	*(3.8)*	*32.0*	*17.3*	*(1.6)*
	Scrap	328.9	325.0	330.0	333.1	373.8	356.1	229.9	302.0	252.9	275.7	343.4
	Change, %		*1.2*	*(0.3)*	*(1.3)*	*(12.0)*	*(7.6)*	*43.1*	*8.9*	*30.0*	*19.3*	*(4.2)*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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

Refining Price Data

Daily Price		11/10	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	56.7	57.2	55.6	51.5	48.8	47.8	43.4	53.7	48.8	43.4	49.9
	Change, %		*(0.8)*	*2.0*	*10.3*	*16.2*	*18.6*	*30.7*	*5.6*	*16.3*	*30.9*	*13.8*
	Dubai	62.1	61.6	58.9	55.4	49.9	49.5	43.7	53.8	50.8	41.3	51.8
	Change, %		*0.7*	*5.3*	*12.0*	*24.5*	*25.5*	*42.0*	*15.3*	*22.2*	*50.2*	*19.8*
Crude Oil Product	**Gasoline(휘발유)**	77.3	76.8	73.8	69.9	67.0	63.1	57.9	69.8	69.5	56.3	66.8
	Change, %		*0.7*	*4.8*	*10.7*	*15.4*	*22.5*	*33.7*	*10.7*	*11.2*	*37.5*	*15.7*
	Kerosene(등유)	75.0	74.4	71.4	67.9	62.2	58.6	55.4	66.4	64.7	52.9	63.7
	Change, %		*0.8*	*5.0*	*10.5*	*20.5*	*27.9*	*35.4*	*12.9*	*15.8*	*41.8*	*17.7*
	Diesel(경유)	73.3	72.6	70.1	68.6	62.9	59.3	56.0	65.5	64.8	52.1	64.2
	Change, %		*1.0*	*4.5*	*7.0*	*16.5*	*23.7*	*31.0*	*11.9*	*13.2*	*40.7*	*14.2*
	Bunker-C	58.0	57.4	55.6	51.7	46.7	46.1	41.1	52.1	45.3	35.5	48.6
	Change, %		*1.0*	*4.4*	*12.3*	*24.2*	*25.9*	*41.1*	*11.4*	*28.2*	*63.3*	*19.5*
	Naphtha	65.6	64.8	63.0	57.1	49.1	47.3	46.4	53.5	52.6	42.6	52.0
	Change, %		*1.3*	*4.2*	*15.0*	*33.6*	*38.9*	*41.4*	*22.8*	*24.8*	*54.1*	*26.2*
Dubai Spread	**Gasoline(휘발유)**	15.3	15.2	14.9	14.5	17.2	13.7	14.2	16.0	18.7	14.9	15.0
	Change		*0.1*	*0.4*	*0.8*	*(1.9)*	*1.6*	*1.1*	*(0.7)*	*(3.5)*	*0.3*	*0.3*
	Kerosene(등유)	12.9	12.8	12.5	12.5	12.4	9.2	11.7	12.6	14.0	11.6	11.9
	Change		*0.1*	*0.5*	*0.5*	*0.6*	*3.8*	*1.2*	*0.3*	*(1.0)*	*1.4*	*1.1*
	Diesel(경유)	11.3	11.0	11.2	13.2	13.1	9.8	12.3	11.7	14.0	10.8	12.4
	Change		*0.2*	*0.1*	*(1.9)*	*(1.8)*	*1.4*	*(1.0)*	*(0.4)*	*(2.7)*	*0.5*	*(1.1)*
	Bunker-C	(4.1)	(4.2)	(3.4)	(3.8)	(3.2)	(3.4)	(2.6)	(1.8)	(5.5)	(5.8)	(3.3)
	Change		*0.1*	*(0.7)*	*(0.3)*	*(0.9)*	*(0.7)*	*(1.5)*	*(2.3)*	*1.5*	*1.7*	*(0.8)*
	Naphtha	3.6	3.2	4.1	1.7	(0.7)	(2.2)	2.7	(0.4)	1.8	1.3	0.2
	Change		*0.4*	*(0.5)*	*1.9*	*4.3*	*5.8*	*0.9*	*3.9*	*1.8*	*2.3*	*3.4*
Refining Margin	**Simple(단순)**	2.6	2.5	2.9	3.1	3.7	2.0	3.7	3.8	3.3	1.9	3.2
	Change		*0.1*	*(0.3)*	*(0.5)*	*(1.1)*	*0.6*	*(1.1)*	*(1.2)*	*(0.7)*	*0.7*	*(0.6)*
	Complex(복합)	7.6	7.4	7.7	8.1	8.8	6.3	8.1	8.3	9.3	7.0	8.0
	Change		*0.2*	*(0.1)*	*(0.5)*	*(1.2)*	*1.3*	*(0.5)*	*(0.6)*	*(1.7)*	*0.6*	*(0.4)*
	Complex(lagging)	15.6	15.3	12.2	11.3	13.4	1.9	1.8	18.0	7.3	8.5	8.6
	Change		*0.3*	*3.4*	*4.3*	*2.2*	*13.7*	*13.8*	*(2.4)*	*8.3*	*7.1*	*7.0*

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

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

Petrochemical Price Data

Daily Price			11/10	11/09	11/08	11/07	11/06	11/03	11/02	11/01	10/31	10/30
Spot Price	**Naphtha**	CFR Japan	604.4	592.9	593.4	587.4	588.1	580.0	573.1	567.0	564.5	557.5
	Ethylene	CFR SE Asia	1,160.0	1,160.0	1,160.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0
	Propylene	FOB Korea	875.0	894.0	899.0	903.0	918.0	918.0	918.0	923.0	925.0	940.0
	Butadiene	FOB Korea	945.0	945.0	945.0	945.0	945.0	945.0	945.0	945.0	950.0	950.0
	HDPE	CFR FE Asia	1,250.0	1,250.0	1,250.0	1,250.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0
	LDPE	CFR FE Asia	1,250.0	1,250.0	1,250.0	1,250.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,250.0
	LLDPE	CFR FE Asia	1,190.0	1,190.0	1,190.0	1,180.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0
	MEG	CFR China	910.0	913.0	913.0	915.0	910.0	900.0	898.0	898.0	898.0	904.0
	PP	CFR FE Asia	1,115.0	1,120.0	1,120.0	1,120.0	1,120.0	1,130.0	1,130.0	1,120.0	1,115.0	1,115.0
	PX	CFR China	880.0	881.0	883.0	887.0	877.0	864.3	855.3	854.7	840.7	839.3
	PTA	CFR China	685.0	685.0	685.0	685.0	665.0	660.0	660.0	655.0	653.0	653.0
	Benzene	FOB Korea	835.0	836.0	872.0	856.0	828.0	815.0	811.0	812.0	794.0	795.0
	Toluene	FOB Korea	687.0	684.0	691.0	695.0	682.0	676.0	676.0	678.0	668.0	672.0
	Xylene	FOB Korea	697.0	697.0	705.0	708.0	689.0	677.0	677.0	671.0	664.0	661.0
	SM	FOB Korea	1,252.0	1,256.0	1,263.0	1,228.0	1,189.0	1,168.0	1,169.0	1,161.0	1,159.5	1,165.5

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

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	1,197.5	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	1,700.0	1,750.0	1,820.0	1,490.0	1,450.0	1,900.0	2,000.0	1,332.1	1,483.0	2,047.2
	Change, %			*(2.9)*	*(6.6)*	*14.1*	*17.2*	*(10.5)*	*(15.0)*	*27.6*	*14.6*	*(17.0)*
	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	650.0	575.0	295.0	590.0	475.0	450.0	(100.0)	454.7	366.2	479.7
	Change, %			*13.0*	*120.3*	*10.2*	*36.8*	*44.4*	*(750.0)*	*43.0*	*77.5*	*35.5*
	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 spread	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

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

Global peers

	Currency	11/10	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	(0.4)	(1.7)	(2.2)	10.9	13.4	29.2	22.3	163,729	20.6	17.1	1.6	1.8	11.4	9.9
Eastman	USD	90.8	0.9	(0.6)	2.2	9.0	15.2	19.8	20.7	13,044	12.9	11.2	2.6	2.4	9.3	8.5
BASF	EUR	94.1	(0.9)	(2.7)	4.6	18.5	4.2	16.0	6.6	100,783	15.4	15.3	2.5	2.4	8.2	8.1
Akzo Nobel	EUR	78.2	(0.5)	0.3	(0.3)	3.5	3.2	31.7	31.7	22,963	19.1	18.2	3.3	3.2	10.3	9.9
Arkema	EUR	106.4	(0.0)	(2.7)	2.6	13.3	7.7	22.1	14.5	9,408	15.3	14.0	2.0	1.9	6.9	6.5
Lanxess	EUR	67.1	(0.9)	(4.6)	1.4	4.0	(2.6)	14.1	7.6	7,158	17.7	15.4	2.3	2.1	7.6	8.6
Sumitomo Chemical	JPY	839	(0.9)	2.3	19.5	33.8	30.1	76.3	50.9	12,237	11.3	11.0	1.5	1.4	7.9	7.7
Mitsubishi Chemical	JPY	1,202	(1.0)	(0.2)	7.5	28.9	33.2	79.1	58.5	15,945	9.8	9.7	1.4	1.3	6.8	6.6
Shin-Etsu Chemical	JPY	12,450	0.9	2.8	23.0	30.5	26.1	49.8	37.3	47,398	24.3	21.4	2.3	2.1	10.9	9.5
Asahi Kasei	JPY	1,507	0.6	7.7	7.6	17.3	36.3	54.0	47.8	18,617	16.2	15.9	1.7	1.6	8.0	7.8
JSR	JPY	2,273	(0.2)	2.7	8.1	18.6	14.3	47.9	23.3	4,528	15.9	15.4	1.3	1.2	8.6	8.1
Nitto Denko	JPY	11,265	(1.5)	(0.3)	17.4	14.9	22.5	55.1	25.6	17,246	21.4	19.6	2.6	2.4	9.6	8.9
SABIC	SAR	99.7	0.0	0.3	(1.1)	1.5	3.0	15.0	9.0	79,773	14.8	14.0	1.8	1.7	7.5	7.2
Yansab	SAR	56.4	0.0	1.1	(1.0)	2.9	3.2	19.9	3.6	8,465	14.2	13.3	2.3	2.3	9.0	8.7
Formosa Plastics	TWD	92.1	0.0	(0.4)	0.1	(0.5)	4.4	6.6	3.3	19,420	13.5	14.1	1.8	1.7	19.4	19.1
Formosa Fiber	TWD	93.4	0.2	1.0	1.6	2.1	5.4	(2.9)	(3.0)	18,134	11.9	12.7	1.6	1.6	10.7	10.8
Nan Ya Plastics	TWD	74.6	(0.1)	(0.5)	1.6	(1.1)	6.4	13.0	4.8	19,598	14.3	14.7	1.7	1.7	15.0	15.4
Sinopec Shanghai	CNY	6.44	(1.1)	0.3	2.5	(7.1)	2.5	9.3	0.0	9,153	12.5	12.0	2.5	2.2	6.8	6.8
Sinopec Yizheng(Fibe	CNY	3.06	(0.3)	0.3	(3.5)	(4.4)	(2.9)	(22.3)	(25.4)	5,906	#N/A N/A	56.7	5.9	5.9	28.7	15.0
Reliance	INR	884	(1.8)	(6.5)	4.8	11.6	30.1	75.0	63.3	87,950	16.5	13.6	1.9	1.6	11.4	9.5
Industries Qatar	QAR	94.2	0.0	(1.6)	(2.1)	0.8	(8.6)	(8.6)	(19.8)	14,840	16.0	13.7	1.6	1.6	53.9	50.6
PTT Chemical	THB	79.0	(1.3)	0.3	(4.2)	9.7	7.5	33.9	25.4	10,712	10.4	10.5	1.4	1.3	5.5	5.3
Petronas	MYR	7.4	0.5	2.1	1.4	5.8	3.9	8.5	6.6	14,200	15.2	15.4	2.1	1.9	8.7	8.7
LG화학	KRW	406,500	(1.8)	(1.8)	3.4	20.4	46.2	68.7	55.7	25,608	15.1	14.3	2.0	1.8	6.7	6.3
롯데케미칼	KRW	374,000	1.5	(0.9)	(2.6)	(1.1)	8.2	23.0	1.4	11,440	5.6	5.5	1.1	0.9	3.8	3.4
한화케미칼	KRW	30,700	(1.4)	(4.8)	(7.0)	(8.5)	18.1	22.3	24.3	4,515	5.0	5.4	0.8	0.7	6.5	6.4
금호석유	KRW	72,600	(1.9)	(4.5)	1.7	(2.8)	(3.6)	6.8	(11.5)	1,974	12.6	11.8	1.3	1.2	9.5	8.4
SKC	KRW	42,000	4.6	4.1	3.2	10.7	45.6	46.6	27.3	1,407	11.0	9.9	1.0	0.9	9.6	8.2
국도화학	KRW	58,800	0.9	(3.1)	5.8	5.8	21.9	6.1	7.1	305	0.0	0.0	0.0	0.0	0.0	0.0
효성	KRW	7,690	1.1	(2.9)	17.4	24.8	10.2	43.5	13.1	4,058	7.7	7.3	1.1	1.0	7.0	6.2
Average			**(0.2)**	**(0.5)**	**3.8**	**9.1**	**13.5**	**28.6**	**17.7**							
Refinery																
Valero	USD	81.4	0.1	0.6	5.2	22.9	22.0	29.2	19.1	35,606	16.6	13.1	1.8	1.7	7.2	6.2
Conoco Phillips	USD	53.0	(1.0)	0.1	7.7	17.8	11.3	18.3	5.7	63,350	113.7	36.1	2.1	2.1	9.1	7.0
Formosa Petrochemic	TWD	106.0	1.0	(0.5)	(1.4)	2.4	3.9	0.5	(5.4)	33,448	14.7	18.0	3.1	3.1	9.7	11.4
Andeavor	USD	107.2	0.2	(2.7)	0.8	14.2	29.0	26.7	22.6	16,723	15.2	13.1	1.6	1.6	8.9	7.2
Marathon Petroleum	USD	61.7	0.1	(0.8)	9.7	18.2	17.9	40.8	22.6	30,145	16.7	15.2	2.5	2.4	8.3	7.5
Devon Energy	USD	40.4	(1.0)	2.9	12.3	27.2	4.9	(6.3)	(11.5)	21,235	22.8	18.4	3.0	2.6	9.5	8.5
Hollyfrontier	USD	42.1	(0.4)	4.8	16.2	47.9	49.0	61.4	28.4	7,454	20.1	16.2	1.5	1.5	8.6	7.4
Phillips 66	USD	93.7	(0.8)	0.1	0.2	12.0	17.4	12.7	8.4	47,461	20.7	15.1	2.1	2.1	10.5	8.7
Murphy Oil	USD	29.1	(2.2)	5.6	12.7	13.5	6.4	1.5	(6.4)	5,029	#N/A N/A	251.2	1.1	1.1	5.3	4.9
JX Holdings	JPY	638.0	3.7	5.0	13.0	23.5	24.5	58.5	29.0	19,263	9.9	9.3	0.9	0.9	8.0	7.4
Idemitsu	JPY	3,565.0	3.5	4.1	11.8	35.1	(9.1)	47.4	14.8	6,533	8.0	8.0	1.0	0.9	9.0	8.6
Nesteoil	EUR	48.0	(1.0)	(1.6)	22.6	37.2	26.9	31.7	31.6	14,355	15.5	15.5	2.9	2.6	9.0	9.5
Ashland	USD	66.0	1.4	(3.9)	(0.2)	8.1	8.8	24.7	23.4	4,119	16.4	19.9	1.3	1.2	7.6	9.5
Fuchs Petrolub	EUR	46.8	0.1	(3.8)	(6.0)	(0.6)	(4.0)	24.4	17.2	7,144	24.7	23.2	4.8	4.3	14.2	13.4
SK이노베이션	KRW	211,000	(3.0)	1.0	3.2	22.7	24.5	30.7	44.0	17,411	8.3	8.0	1.1	1.0	5.1	4.6
S-Oil	KRW	126,000	(1.2)	(0.8)	(2.3)	6.8	23.5	45.5	48.8	12,659	12.4	9.4	2.2	1.9	9.5	6.9
GS	KRW	66,300	(2.2)	1.1	(2.4)	(8.8)	12.9	21.7	22.6	5,497	6.4	6.1	0.8	0.7	7.2	6.9
Average			**(0.2)**	**0.7**	**6.1**	**17.7**	**15.9**	**27.6**	**18.5**							

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

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

Global peers

	Currency	11/10	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	(1.2)	(0.3)	0.8	5.0	1.3	(4.7)	(8.1)	351,426	23.4	20.8	2.0	2.0	10.0	9.0
BP	GBP	507	(1.5)	(1.9)	3.5	10.7	10.1	12.9	(0.5)	132,486	23.1	17.5	1.4	1.4	6.5	5.9
Shell	EUR	2,418	(1.5)	(0.7)	5.3	11.8	14.5	18.6	7.8	266,446	17.5	15.9	1.4	1.3	6.9	6.4
Chevron	USD	117	(0.1)	1.9	(1.4)	6.4	10.0	8.7	(0.4)	222,569	29.5	23.5	1.5	1.5	8.3	7.2
Total	EUR	48	(1.1)	(0.9)	5.5	10.4	(0.2)	10.2	(1.4)	141,529	13.7	13.1	1.3	1.2	6.4	5.7
Sinopec	CNY	6	(2.2)	(1.0)	4.1	0.3	6.7	22.0	12.6	106,498	14.0	13.0	1.0	1.0	4.5	4.4
Petrochina	CNY	8	(1.5)	0.8	4.9	3.7	12.8	14.3	5.5	219,480	53.1	31.9	1.3	1.2	6.8	6.3
CNOOC	CNY	12	(1.3)	2.3	2.9	4.5	10.0	(4.1)	(8.3)	63,512	13.8	12.0	1.1	1.0	4.3	4.1
Gazprom	RUB	133	0.8	5.2	6.5	12.2	(1.3)	(10.1)	(14.3)	53,002	4.7	4.2	0.3	0.2	3.9	3.5
Rosneft	RUB	329	(2.2)	3.6	3.1	8.0	4.5	(6.2)	(18.2)	58,980	10.3	7.3	0.9	0.8	5.2	4.4
Anadarko	USD	51	(0.6)	3.2	5.6	17.0	(1.9)	(17.4)	(26.7)	27,965	#N/A N/A	#N/A N/A	2.0	1.9	7.8	6.9
Petrobras	BRL	17	0.0	(1.3)	3.3	26.8	13.5	7.9	12.4	68,389	14.6	10.4	0.7	0.7	5.7	5.2
Lukoil	USD	3,345	(0.7)	5.6	10.1	15.3	14.7	6.3	(3.0)	48,227	7.2	6.6	0.7	0.7	N/A	N/A
Kinder	USD	18	(1.3)	(0.4)	(6.8)	(8.9)	(12.5)	(17.9)	(14.7)	47,497	27.4	25.3	1.1	1.1	11.1	10.7
Statoil	NOK	169	(0.4)	2.3	5.7	14.2	11.5	21.1	6.8	68,786	16.8	18.1	1.8	1.7	3.6	3.5
BHP	AUD	28	(2.0)	1.4	5.9	7.7	19.4	14.9	12.0	108,733	15.3	17.8	1.9	1.9	6.1	6.5
PTT E&P	THB	94	0.3	5.3	2.7	9.0	(0.5)	15.0	(2.6)	11,232	14.8	13.0	0.9	0.9	3.5	3.2
Petronas gas	MYR	18	0.6	0.6	(4.2)	(5.2)	(3.8)	(18.5)	(16.4)	8,403	19.9	18.6	2.8	2.7	11.3	10.5
Chesapeake	USD	4	0.7	10.7	5.9	0.0	(28.0)	(27.4)	(41.0)	3,762	5.9	5.7	#N/A N/A	#N/A N/A	7.6	6.6
Noble Energy	USD	28	(1.2)	(0.7)	2.1	12.8	(10.7)	(24.7)	(26.1)	13,679	#N/A N/A	969.3	1.4	1.5	8.2	7.6
Average		**0**	**(0.8)**	**1.8**	**3.3**	**8.1**	**3.5**	**1.1**	**(6.2)**							
PV																
WACKER	EUR	135.0	0.1	(4.2)	15.7	33.2	35.2	67.2	36.5	8,206	25.7	22.7	2.2	2.1	7.6	7.1
GCL-Poly	HKD	1.4	4.3	7.5	28.6	63.6	51.6	41.2	54.8	3,430	10.5	10.1	1.0	0.9	6.9	6.3
SunPower	USD	8.7	1.6	0.7	26.1	(2.9)	18.9	37.7	31.6	1,214	#N/A N/A	#N/A N/A	1.6	1.5	18.8	12.4
Canadian Solar	USD	17.8	5.6	(5.3)	11.6	7.5	29.9	54.5	46.0	1,032	12.9	7.5	1.0	1.0	9.9	9.1
JA Solar	USD	7.9	(0.3)	3.8	11.4	30.2	6.9	43.9	66.6	377	7.7	15.0	1.9	1.8	3.4	3.3
Yingli	USD	2.3	1.3	0.0	(6.3)	(2.6)	(4.7)	(37.2)	(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	61.6	1.7	2.9	29.2	31.7	68.4	92.8	91.9	6,432	24.8	52.6	1.0	1.2	11.6	12.7
한화큐셀	USD	8.4	(7.6)	2.0	3.9	5.7	22.0	(16.3)	2.5	696	92.9	38.0	#N/A N/A	#N/A N/A	7.7	7.5
OCI	KRW	123,500	0.4	(0.4)	27.2	36.5	52.5	47.6	56.9	2,628	14.1	15.3	0.9	0.8	7.7	6.4
웅진에너지	KRW	7,820	(1.3)	(0.4)	8.8	(3.6)	50.4	59.8	65.2	175	N/A	0.9	0.8	7.7	6.4	7.7
신성솔라에너지	KRW	1,770	1.4	0.3	3.8	(19.5)	(4.3)	(26.1)	(19.9)	273	N/A	0.8	7.7	6.4	7.7	7.3
Average			**0.7**	**0.6**	**14.5**	**16.3**	**29.7**	**33.2**	**38.1**							
Gas Company																
Towngas China	HKD	6.4	(1.5)	(2.0)	16.2	18.1	30.3	55.3	56.9	2,271	14.8	13.4	1.2	1.1	13.1	12.1
Kulun	HKD	7.1	(1.8)	(0.6)	(3.4)	(6.4)	2.4	23.8	22.8	7,366	11.3	10.3	1.3	1.2	5.7	5.6
Beijing Enterprise	HKD	45.9	(1.3)	0.3	3.6	14.5	23.6	28.4	25.2	7,424	8.8	8.1	0.9	0.8	15.9	14.7
ENN Energy	HKD	57.5	(1.4)	(0.6)	0.5	8.9	35.1	60.8	80.3	7,978	15.3	13.5	3.0	2.5	9.3	8.4
China Resources Gas	HKD	28.9	0.3	2.8	6.6	1.2	11.8	18.4	32.6	8,237	16.5	14.7	3.1	2.7	9.7	8.8
China Gas Holdings	HKD	24.3	(1.8)	4.1	(0.8)	27.6	94.1	114.7	131.0	15,473	20.9	17.7	4.8	4.0	16.4	14.0
Shenzen Gas	HKD	14.6	(0.4)	(1.9)	(7.6)	5.2	11.1	22.4	29.6	3,805	12.0	11.5	1.4	1.3	9.0	8.4
Shann Xi	CNY	8.2	(1.1)	0.7	(2.7)	(4.8)	(1.2)	(17.9)	(14.1)	1,379	17.4	15.6	1.7	1.5	#N/A N/A	#N/A N/A
Suntien	HKD	2.0	(5.6)	(8.2)	(2.9)	21.8	27.2	86.1	101.0	957	7.5	6.5	0.7	0.7	9.9	8.5
China Oil & Gas	HKD	0.5	(1.9)	(1.9)	(1.9)	(1.9)	(7.0)	(7.0)	(13.1)	396	9.1	7.9	0.9	0.8	6.2	5.6
Average			**(1.6)**	**(0.7)**	**0.8**	**8.4**	**22.7**	**38.5**	**45.2**							
EV																
LG화학	KRW	406,500	(1.8)	(1.8)	3.4	20.4	46.2	68.7	55.7	25,608	14.1	13.7	1.9	1.7	6.8	6.6
삼성SDI	KRW	221,000	(0.2)	0.5	3.5	29.2	56.2	135.9	102.8	13,562	22.5	13.9	1.4	1.2	24.2	15.3
Panasonic	JPY	1748.5	(0.7)	2.1	6.6	18.5	27.3	74.3	47.0	37,790	22.8	17.3	2.4	2.2	7.4	6.4
GS Yuasa	JPY	572.0	(0.7)	0.5	(2.6)	3.6	10.6	29.7	17.7	2,084	17.3	15.7	1.4	1.3	7.8	7.2
NEC	JPY	3065.0	0.2	1.2	(0.6)	2.5	7.2	6.4	(1.1)	7,034	17.3	17.0	0.9	0.9	7.2	6.7
BYD Auto	CNY	67.7	(0.5)	5.3	(4.2)	38.8	40.9	22.2	36.2	26,882	38.9	27.2	3.4	3.0	16.4	13.2
Tesla Motors	USD	303.0	0.0	(1.0)	(14.8)	(14.7)	(6.8)	63.5	41.8	50,923	#N/A N/A	#N/A N/A	10.5	10.1	135.7	30.9
Kandi Technologies	USD	7.1	2.9	2.9	(20.7)	91.9	71.1	77.5	44.9	341	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(0.1)**	**1.2**	**(3.7)**	**23.8**	**31.6**	**59.8**	**43.1**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임