SK Energy Daily

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SK 증권

1. News Summary (3 page)

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News		Conclusion
WTI comment	미중 무역전쟁속 혼조...WTI 1.2%↑	
Headline	[주간가격] 에틸렌, WoW $10/mt 상승해 CFR SEA $1,270/mt로 마감	다운스트림이 역마진인데다가 중동 물량도 유입되며 하방 열릴 전망
News 1.	[주간가격] MEG, WoW $12/mt 하락해 CFR China $893/mt로 마감	아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음
News 2.	[주간가격] BD, WoW $10/mt 상승해 FOB Korea $1,610/mt로 마감	저렴한 중국 물량이 대한민국과 일본 내 수요 충족시킬 전망
News 3.	[주간가격] SBR, WoW $10/mt 하락해 CFR SEA $1,770/mt로 마감	무역전쟁에 따른 중국 자동차, 타이어 업황 방향성을 지켜봐야 함
News 4.	[주간가격] PX, WoW $14.83/mt 상승해 FOB Korea $988.5/mt로 마감	미국 포함 산유국의 증산기조는 유가를 꺾어 PX 가격도 하방이 열릴 것

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	73.8	1.2	(0.5)	14.0	18.9	66.9
Dubai	$/bbl	74.2	(1.0)	(2.2)	0.6	13.5	61.1
Gasoline	$/bbl	83.4	(0.1)	(0.6)	(2.3)	5.8	38.3
Diesel	$/bbl	86.8	0.2	(0.8)	(0.9)	8.4	46.4
Complex margin	$/bbl	6.4	0.8	1.2	(0.7)	(1.5)	(2.2)
1M lagging	$/bbl	6.9	0.9	1.6	(3.4)	(4.2)	0.3
Petrochemical			%	%	%	%	%
Naphtha	$/t	665	(0.1)	0.9	1.5	14.1	60.0
Butadiene	$/t	1,610	0.0	0.6	(7.5)	16.7	65.1
HDPE	$/t	1,340	0.0	(0.7)	(1.5)	2.3	24.1
MEG	$/t	893	(0.2)	(1.3)	(0.8)	(9.3)	10.1
PX	$/t	989	0.4	1.5	2.1	6.4	28.8
SM	$/t	1,349	0.2	2.9	(3.2)	2.3	22.1
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.86	0.7	(2.3)	(1.2)	1.2	1.3
Natural rubber	$/t	1,300	0.8	(3.0)	(7.1)	(2.3)	(11.0)
Cotton	C/lbs	86.4	3.2	1.2	(9.0)	4.7	14.7

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	07/02	$/t	1,260	0.0	2.9	(0.4)	44.0
Propylene	07/02	$/t	980	(2.5)	(3.4)	3.7	32.0
Benzene	07/02	$/t	808	0.3	(5.3)	(3.0)	6.3
Toluene	07/02	$/t	785	(1.3)	(3.7)	8.3	24.6
Xylene	07/02	$/t	800	(3.0)	(5.9)	4.9	31.1
PP	07/02	$/t	1,283	(0.8)	0.4	4.5	23.6
PVC	07/02	$/t	935	0.0	1.6	(3.1)	7.5
ABS	07/02	$/t	2,000	(2.0)	(3.8)	2.0	11.7
SBR	07/02	$/t	1,780	(1.1)	(6.3)	6.6	22.8
SM	07/02	$/t	1,363	(0.9)	(9.8)	3.2	18.2
BPA	07/02	$/t	1,765	(1.3)	1.6	2.5	18.9
Caustic	07/02	$/t	475	(3.3)	(13.6)	(25.7)	6.1
2-EH	07/02	$/t	1,100	(0.9)	(6.0)	(7.6)	19.6
Caprolactam	07/02	$/t	2,130	0.0	1.2	(3.2)	32.3
Solar				%	%	%	%
Polysilicon	07/04	$/kg	11.2	(1.2)	(14.7)	(27.6)	(19.5)
Module	07/04	$/W	0.27	(1.5)	(7.6)	(11.9)	(19.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	82.3	0.0	(0.5)	0.3	10.0	2.8
Shell	EUR	2,618	0.0	(0.4)	1.4	12.7	27.6
Petrochina	CNY	7.45	0.3	(3.4)	(6.6)	(0.1)	(4.9)
Gazprom	RUB	145.0	(0.4)	2.8	(1.3)	2.4	18.2
Petrobras	BRL	17.9	0.4	4.4	9.9	(15.7)	47.4
Refinery							
Phillips66	USD	111.2	0.9	(1.0)	(4.7)	14.7	35.8
Valero	USD	107.8	0.3	(2.7)	(11.0)	13.3	62.2
JX	JPY	770.1	(0.7)	(0.0)	6.8	17.3	54.8
Neste Oil	EUR	65.7	0.6	(2.2)	(6.4)	20.3	89.1

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.2	(0.2)	0.6	(4.2)	(1.5)	1.3
DowDuPont	USD	65.9	(0.2)	0.0	(5.9)	3.5	3.7
SABIC	SAR	123.6	0.0	(2.1)	(3.0)	5.5	22.0
Formosa Pla.	TWD	109.5	(3.5)	(2.7)	0.0	7.4	16.6
Shin-Etsu	JPY	10,070	1.1	2.0	(10.4)	(4.5)	1.9
Renewable							
Wacker	EUR	114.2	(1.9)	1.8	(11.5)	(18.9)	19.8
First Solar	USD	54.53	2.3	3.6	(1.8)	(21.8)	41.0
GCL-Poly	HKD	0.67	(1.5)	(9.5)	(11.8)	(30.2)	(23.0)
Tesla Motors	USD	308.9	(0.1)	(9.9)	(3.3)	3.2	0.0

4. Coverage Summary

	07/06	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,273	0.7	(2.3)	(7.4)	(6.5)	(7.8)	(4.8)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,575	1.1	(3.8)	(7.4)	(9.3)	(7.2)	2.8				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	322,000	0.5	(3.4)	(11.4)	(15.0)	(18.6)	10.7	매수	400,000	24.2	12.72	1.44
롯데케미칼	330,000	0.3	(5.2)	(11.4)	(25.4)	(5.4)	(5.7)	매수	400,000	21.2	10.25	0.93
한화케미칼	20,950	1.0	(4.1)	(17.2)	(29.1)	(35.5)	(32.4)	매수	30,000	43.2	9.41	0.51
금호석유화학	111,000	(1.3)	(4.7)	6.7	21.4	6.2	50.4	매수	150,000	35.1	10.35	1.43
KCC	320,500	0.8	(2.3)	(9.7)	(8.8)	(15.7)	(23.9)	매수	400,000	24.8	27.79	0.49
OCI	95,900	(1.8)	(6.9)	(20.4)	(41.7)	(38.3)	8.0	매수	140,000	46.0	7.29	0.69
SKC	43,150	2.7	0.0	5.5	17.7	(10.1)	27.5	매수	50,000	15.9	11.77	1.02
SK이노베이션	193,000	1.8	(4.5)	(6.3)	(9.2)	(2.8)	20.6	매수	230,000	19.2	11.35	0.97
S-Oil	105,500	2.9	(3.7)	(3.7)	(11.3)	(7.0)	9.4	매수	140,000	32.7	12.04	1.76
GS	51,400	0.6	(5.5)	(11.7)	(15.5)	(17.1)	(24.9)	매수	80,000	55.6	4.76	0.58
SK가스	90,000	(1.4)	(4.2)	(7.9)	(8.7)	(2.8)	(26.5)	매수	130,000	44.4	8.50	0.61
포스코대우	20,800	0.7	(2.8)	(13.0)	(9.4)	4.0	(5.0)	매수	25,000	20.2	10.91	0.81
LG상사	22,750	2.0	(5.8)	(17.1)	(13.5)	(22.1)	(25.8)	매수	38,000	67.0	8.42	0.64
한국전력	31,500	(0.5)	(1.6)	(4.3)	(7.5)	(15.3)	(25.0)	매수	45,000	42.9	7.62	0.25
한국가스공사	59,800	4.9	(6.9)	(2.9)	20.4	35.6	16.3	매수	75,000	25.4	9.28	0.78

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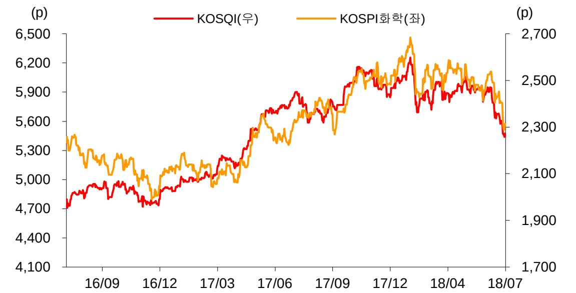
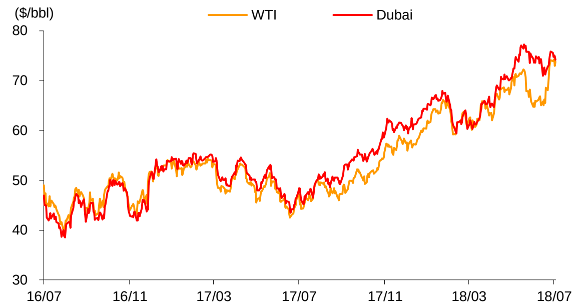
Key Chart

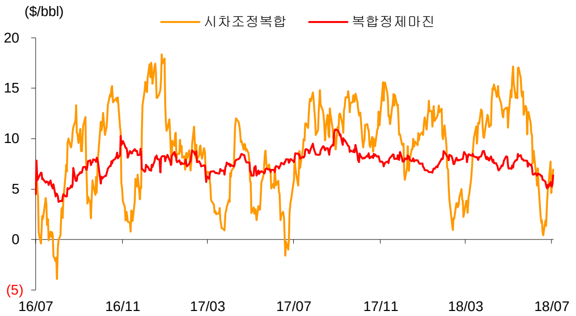
KOSPI/KOSPI화학



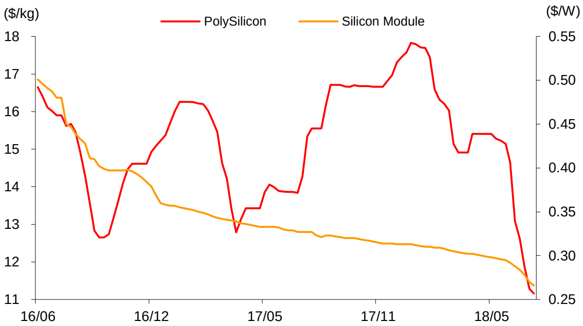
WTI/Dubai



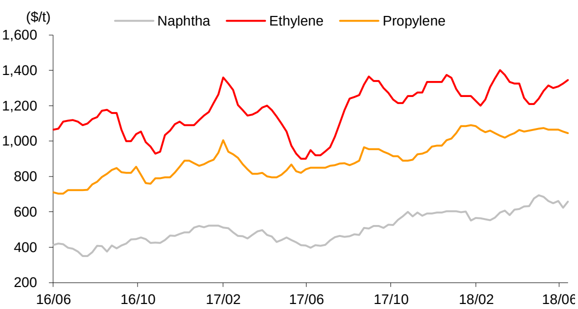
Complex & 1M lagging margin



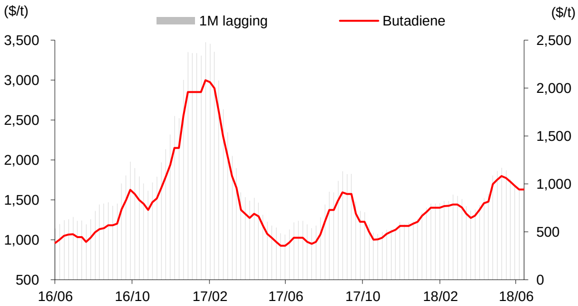
Polysilicon & Module prices



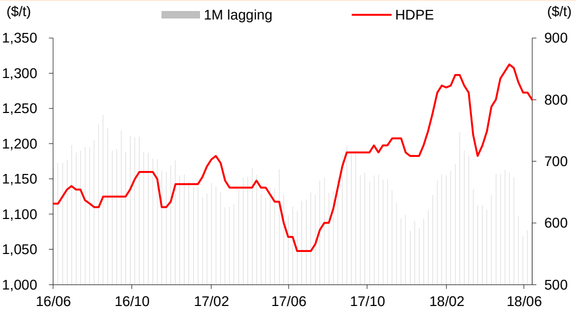
Naphtha/Ethylene/Propylene prices



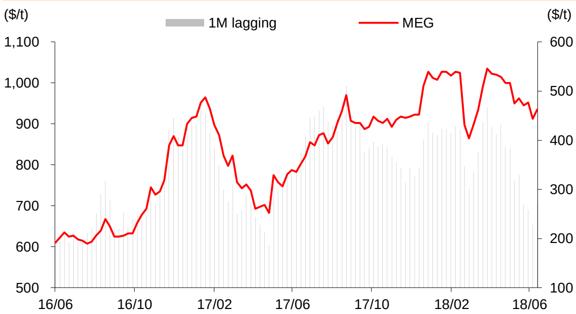
Butadiene price & 1M lagging naphtha spread



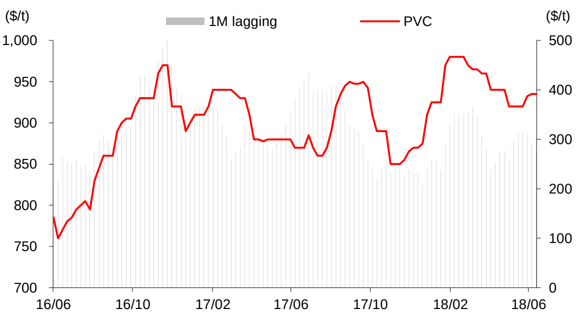
HDPE price & 1M lagging naphtha spread



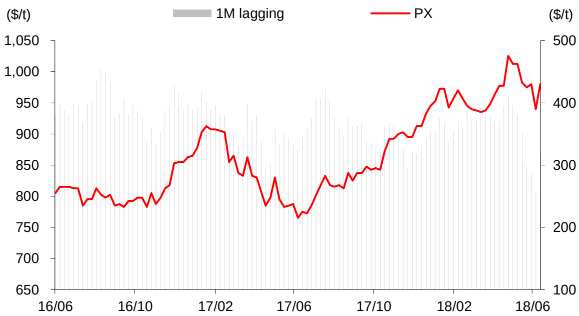
MEG price & 1M lagging naphtha spread



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: Platts)
제목	[주간가격] 에틸렌, WoW $10/mt 상승해 CFR SEA $1,270/mt로 마감
결론	다운스트림이 역마진인데다가 중동 물량도 유입되며 하방 열릴 전망
세부	
	1) 주중 CFR NEA 에틸렌은 6개월 최고치인 $1,395/mt까지 올랐었음
	2) 일본에서 예상보다 타이트한 스팟 공급과 중국 내 견조한 수요의 결과
	3) 일본 Maruzen PetChem과 JXTG가 아직 낮은 가동률을 보이고 있음
	4) 주 후반에는 PE와 MEG 마진이 안좋아 중국 스팟 수요가 주춤했음
	5) 다운스트림이 역마진인데다가 중동 물량도 유입되며 하방 열릴 전망

WTI Comment	(출처: 연합뉴스)
제목	미중 무역전쟁속 혼조…WTI 1.2%↑
상승 요인	미국은 11월 초까지 이란산 원유수입을 전면 중단할 것을 관련국에 요구
하락 요인	미중은 6일 340억 달러 규모의 상대방 제품에 대한 관세부과를 시작

Issue 1	(출처: Platts)
제목	[주간가격] MEG, WoW $12/mt 하락해 CFR China $893/mt로 마감
결론	아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음
세부	
	1) 중국 내수 가격은 Yuan 7,170/mt로 보합세를 보였음
	2) 동중국항 MEG 재고는 77만톤으로 WoW 2.8만톤 감소했음
	3) 위안화 약세로 USD로 수입품 결제시 손해이기에 수요가 약세였음
	4) 폴리에스터 공장의 가동률은 여전히 90% 수준을 유지하고 있음
	5) 아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음

Issue 2	(출처: Platts)
제목	[주간가격] BD, WoW $10/mt 상승해 FOB Korea $1,610/mt로 마감
결론	저렴한 중국 물량이 대한민국과 일본 내 수요 충족시킬 전망
세부	
	1) 대한민국 엔드유저들이 정기보수를 앞두고 스팟 수요를 늘렸음
	2) 일본에서는 가동률이 기대치를 하회하는 가운데 숏 커버링 수요가 호조
	3) 일본 Maruzen PetChem과 JXTG가 아직 낮은 가동률을 보이고 있음
	4) 중국 내수 가격은 위안화 약세와 CFR China 수요 약세로 상승했음
	5) 저렴한 중국 물량이 대한민국과 일본 내 수요 충족시킬 전망

Issue 3	(출처: Platts)
제목	[주간가격] SBR, WoW $10/mt 하락해 CFR SEA $1,770/mt로 마감
결론	무역전쟁에 따른 중국 자동차, 타이어 업황 방향성을 지켜봐야 함
세부	
	1) 미국의 자동차 관세 부과 위협으로 바이어들이 경계감을 갖고 있음
	2) 미국이 $340억의 관세를 중국산 제품들에 부과했음
	3) 미중 무역전쟁의 향방에 따라 자동차, 타이어, 합성고무 시황 영향 받음
	4) 원재료인 BD는 CFR China $1,630/mt로 보합세를 보였음
	5) 무역전쟁에 따른 중국 자동차, 타이어 업황 방향성을 지켜봐야 함

Issue 4	(출처: Platts)
제목	[주간가격] PX, WoW $14.83/mt 상승해 FOB Korea $988.5/mt로 마감
결론	미국 포함 산유국의 증산기조는 유가를 꺾어 PX 가격도 하방이 열릴 것
세부	
	1) Hengli PetChem의 220만톤 대련 PTA 라인 TA가 8월 예정이었음
	2) 이것이 연기된다는 말이 있었으나 사측에서는 스케쥴 변동 없음 고시
	3) 태국 PTT의 8월 말 도착 카고 1만톤에 대한 결과는 다음 주 어나운스됨
	4) 저번 tender인 8월 17~20일 도착물 1만톤은 $9/mt 할인된 바 있음
	5) 미국 포함 산유국의 증산기조는 유가를 꺾어 PX 가격도 하방이 열릴 것

Issue 5	(출처: Platts)
제목	[주간가격] PTA, WoW $5/mt 상승해 CFR China $850/mt로 마감
결론	유가 하락 정도와 위안화 약세 정도에 따라 혼조세를 보일 전망
세부	
	1) 중국 내수 가격 상승과 원재료인 PX 가격 상승으로 PTA도 상승 마감
	2) 중국 내수 가격은 WoW Yuan 30/mt 상승해 Yuan 5,950/mt 기록함
	3) 트레이더들은 7월 TA 시즌과 위안화 약세를 PTA 강세 원인으로 지목
	4) Hengli PetChem의 220만톤 대련 PTA 라인 TA가 8월 1~15일간 진행됨
	5) 유가 하락 정도와 위안화 약세 정도에 따라 혼조세를 보일 전망

Issue 6	(출처: PVinsights)
제목	[주간가격] 태양광 제품, 조정은 진행중
결론	지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것
세부	
	1) 가격 경쟁이 글로벌리 격화되면서 패널의 가격이 큰 폭으로 하락했음
	2) Multi-crystalline cell 가격은 중국 모듈 메이커들 수요로 완화되었음
	3) Multi-crystalline wafer 가격은 공급 과잉 우려에 센티먼트가 악화됨
	4) 폴리실리콘은 높은 재고 레벨과 수요 약세로 가격 하락을 면치 못함
	5) 지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.852	0.855	0.856	0.849	0.814	0.831	0.875	0.833	0.904	0.887	0.828
	Change, %		*(0.4)*	*(0.5)*	*0.3*	*4.6*	*2.4*	*(2.7)*	*2.2*	*(5.8)*	*(4.0)*	*2.9*
	USD/JPY	110.5	110.6	110.8	110.2	106.9	113.1	113.2	112.6	108.8	112.1	108.8
	Change, %		*(0.2)*	*(0.3)*	*0.3*	*3.3*	*(2.3)*	*(2.4)*	*(1.9)*	*1.6*	*(1.5)*	*1.5*
	USD/KRW	1,115.9	1,118.4	1,114.7	1,066.6	1,069.6	1,062.7	1,157.4	1,066.7	1,160.5	1,130.9	1,077.6
	Change, %		*(0.2)*	*0.1*	*4.6*	*4.3*	*5.0*	*(3.6)*	*4.6*	*(3.8)*	*(1.3)*	*3.5*
Agriculture	**Corn**	351.8	343.5	350.3	378.3	388.5	351.3	380.3	350.8	358.5	359.4	373.7
	Change, %		*2.4*	*0.4*	*(7.0)*	*(9.5)*	*0.1*	*(7.5)*	*0.3*	*(1.9)*	*(2.1)*	*(5.9)*
	Soybean	874.0	835.5	858.5	994.3	1,033.8	961.5	980.8	951.8	987.5	975.9	994.8
	Change, %		*4.6*	*1.8*	*(12.1)*	*(15.5)*	*(9.1)*	*(10.9)*	*(8.2)*	*(11.5)*	*(10.4)*	*(12.1)*
	Wheat	512.8	504.0	497.5	519.8	472.3	430.8	519.0	427.0	436.4	436.0	477.0
	Change, %		*1.7*	*3.1*	*(1.3)*	*8.6*	*19.0*	*(1.2)*	*20.1*	*17.5*	*17.6*	*7.5*
	Rice	12.1	12.2	11.6	11.6	12.5	11.6	11.6	11.7	10.3	11.1	12.2
	Change, %		*(1.0)*	*4.3*	*4.8*	*(3.0)*	*4.8*	*4.0*	*3.7*	*17.1*	*9.5*	*(0.9)*
	Oats	254.3	258.3	250.5	240.8	233.3	248.5	272.8	241.0	196.3	252.3	245.9
	Change, %		*(1.5)*	*1.5*	*5.6*	*9.0*	*2.3*	*(6.8)*	*5.5*	*29.5*	*0.8*	*3.4*
MYR/mt	**Palm Oil**	2,255.0	2,270.0	2,298.0	2,396.0	2,479.0	2,570.0	2,688.0	2,444.0	2,653.8	2,787.3	2,422.6
	Change, %		*(0.7)*	*(1.9)*	*(5.9)*	*(9.0)*	*(12.3)*	*(16.1)*	*(7.7)*	*(15.0)*	*(19.1)*	*(6.9)*
	Cocoa	2,459.0	2,446.0	2,476.0	2,296.0	2,453.0	1,895.0	1,890.0	1,892.0	2,854.0	2,005.2	2,394.9
	Change, %		*0.5*	*(0.7)*	*7.1*	*0.2*	*29.8*	*30.1*	*30.0*	*(13.8)*	*22.6*	*2.7*
	Cotton	86.4	83.7	85.4	91.0	82.5	78.0	75.0	78.6	65.6	73.5	83.6
	Change, %		*3.2*	*1.2*	*(5.0)*	*4.7*	*10.7*	*15.2*	*9.9*	*31.7*	*17.5*	*3.3*
	Sugar	11.5	11.5	11.9	12.2	12.3	15.1	13.9	15.2	18.2	15.8	12.6
	Change, %		*0.3*	*(3.0)*	*(5.7)*	*(6.7)*	*(23.7)*	*(17.3)*	*(24.1)*	*(36.6)*	*(27.2)*	*(8.9)*
	Coffee	111.3	106.3	111.5	118.3	117.5	128.5	126.8	126.2	136.1	133.0	118.7
	Change, %		*4.7*	*(0.2)*	*(5.9)*	*(5.3)*	*(13.4)*	*(12.2)*	*(11.8)*	*(18.2)*	*(16.3)*	*(6.3)*
Energy	**WTI**	73.8	72.9	74.2	64.7	62.1	61.4	45.5	60.4	43.4	51.0	65.8
	Change, %		*1.2*	*(0.5)*	*14.0*	*18.9*	*20.1*	*62.1*	*22.1*	*70.1*	*44.8*	*12.2*
	Brent	77.1	77.4	79.4	75.4	67.1	67.6	48.1	66.9	45.1	54.9	71.4
	Change, %		*(0.4)*	*(2.9)*	*2.3*	*14.9*	*14.0*	*60.3*	*15.3*	*71.1*	*40.6*	*8.0*
	Natural Gas	2.9	2.8	2.9	2.9	2.7	2.8	2.9	3.0	2.6	3.0	2.8
	Change, %		*0.7*	*(2.3)*	*(1.3)*	*5.8*	*2.3*	*(1.0)*	*(3.2)*	*12.0*	*(5.4)*	*0.6*
	Ethanol	1.4	1.4	1.4	1.4	1.4	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		*2.6*	*1.0*	*0.3*	*0.3*	*9.4*	*(4.8)*	*9.0*	*(5.0)*	*(3.9)*	*0.0*
	RBOB Gasoline	210.9	212.9	217.9	207.0	195.5	178.6	152.9	179.9	140.0	162.9	199.3
	Change, %		*(1.0)*	*(3.2)*	*1.9*	*7.9*	*18.1*	*37.9*	*17.2*	*50.6*	*29.4*	*5.8*
	Coal	116.1	116.6	114.4	112.8	93.9	105.3	83.2	100.8	65.5	88.2	103.8
	Change, %		*(0.4)*	*1.5*	*2.9*	*23.6*	*10.3*	*39.5*	*15.2*	*77.4*	*31.6*	*11.8*
Metal	**Gold**	1,255.2	1,257.9	1,253.2	1,296.4	1,333.7	1,319.4	1,225.3	1,302.6	1,248.5	1,258.6	1,315.4
	Change, %		*(0.2)*	*0.2*	*(3.2)*	*(5.9)*	*(4.9)*	*2.4*	*(3.6)*	*0.5*	*(0.3)*	*(4.6)*
	Silver	16.0	16.1	16.1	16.7	16.4	17.1	16.0	16.9	17.1	17.1	16.6
	Change, %		*(0.1)*	*(0.5)*	*(3.9)*	*(2.1)*	*(6.4)*	*0.0*	*(5.4)*	*(6.2)*	*(6.1)*	*(3.5)*
	Copper	6,282.0	6,345.0	6,626.0	7,220.0	6,769.0	7,121.0	5,851.0	7,247.0	4,872.0	6,199.4	6,921.3
	Change, %		*(1.0)*	*(5.2)*	*(13.0)*	*(7.2)*	*(11.8)*	*7.4*	*(13.3)*	*28.9*	*1.3*	*(9.2)*
	Nickel	958.9	977.0	1,022.5	1,043.4	860.9	794.3	589.4	809.1	646.4	680.2	916.2
	Change, %		*(1.9)*	*(6.2)*	*(8.1)*	*11.4*	*20.7*	*62.7*	*18.5*	*48.4*	*41.0*	*4.7*
	Zinc	2,735.0	2,700.0	2,854.0	3,192.5	3,232.0	3,354.0	2,785.0	3,319.0	2,097.5	2,888.5	3,224.6
	Change, %		*1.3*	*(4.2)*	*(14.3)*	*(15.4)*	*(18.5)*	*(1.8)*	*(17.6)*	*30.4*	*(5.3)*	*(15.2)*
	Lead	2,332.3	2,356.0	2,411.8	2,527.3	2,395.8	2,539.8	2,269.5	2,482.8	1,868.3	2,315.7	2,447.6
	Change, %		*(1.0)*	*(3.3)*	*(7.7)*	*(2.7)*	*(8.2)*	*2.8*	*(6.1)*	*24.8*	*0.7*	*(4.7)*
	Aluminum	13,940.0	13,880.0	14,065.0	14,680.0	13,990.0	14,965.0	14,060.0	15,020.0	12,373.5	14,556.6	14,364.9
	Change, %		*0.4*	*(0.9)*	*(5.0)*	*(0.4)*	*(6.8)*	*(0.9)*	*(7.2)*	*12.7*	*(4.2)*	*(3.0)*
	Cobalt	73,000.0	72,250.0	77,550.0	83,750.0	91,250.0	75,170.0	61,000.0	75,205.0	25,480.1	55,906.9	84,294.6
	Change, %		*1.0*	*(5.9)*	*(12.8)*	*(20.0)*	*(2.9)*	*19.7*	*(2.9)*	*186.5*	*30.6*	*(13.4)*
	HR Coil	912.0	912.0	910.0	910.0	849.0	662.0	625.0	662.0	519.3	620.1	819.4
	Change, %		*0.0*	*0.2*	*0.2*	*7.4*	*37.8*	*45.9*	*37.8*	*75.6*	*47.1*	*11.3*
	Scrap	388.0	388.0	400.0	400.0	385.0	367.0	358.0	367.0	275.7	344.7	389.0
	Change, %		*0.0*	*(3.0)*	*(3.0)*	*0.8*	*5.7*	*8.4*	*5.7*	*40.8*	*12.5*	*(0.3)*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		07/06	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	73.8	72.9	74.2	64.7	62.1	61.4	44.2	53.7	43.4	50.9	65.8
	Change, %		*1.2*	*(0.5)*	*14.0*	*18.9*	*20.1*	*66.9*	*37.4*	*70.2*	*45.0*	*12.2*
	Dubai	74.2	74.9	75.9	73.8	65.4	65.3	46.1	53.8	41.3	53.1	68.3
	Change, %		*(1.0)*	*(2.2)*	*0.6*	*13.5*	*13.5*	*61.1*	*37.8*	*79.6*	*39.7*	*8.5*
Crude Oil Product	**Gasoline(휘발유)**	83.4	83.5	84.0	85.4	78.9	76.6	60.3	69.8	56.3	68.0	81.1
	Change, %		*(0.1)*	*(0.6)*	*(2.3)*	*5.8*	*8.9*	*38.3*	*19.5*	*48.3*	*22.7*	*2.8*
	Kerosene(등유)	89.0	88.9	88.3	87.1	81.4	79.6	57.9	66.4	52.9	65.2	83.9
	Change, %		*0.2*	*0.8*	*2.2*	*9.4*	*11.9*	*53.7*	*34.0*	*68.3*	*36.5*	*6.1*
	Diesel(경유)	86.8	86.7	87.5	87.6	80.1	79.6	59.3	65.5	52.1	65.6	82.9
	Change, %		*0.2*	*(0.8)*	*(0.9)*	*8.4*	*9.1*	*46.4*	*32.5*	*66.6*	*32.3*	*4.7*
	Bunker-C	71.3	70.9	72.1	69.6	59.6	58.2	45.1	52.1	35.5	49.7	62.3
	Change, %		*0.6*	*(1.1)*	*2.4*	*19.7*	*22.5*	*58.0*	*37.0*	*100.7*	*43.6*	*14.5*
	Naphtha	72.6	73.1	72.3	71.4	64.2	66.6	43.9	53.5	42.6	53.7	67.4
	Change, %		*(0.7)*	*0.3*	*1.7*	*13.0*	*9.0*	*65.5*	*35.7*	*70.3*	*35.0*	*7.6*
Dubai Spread	**Gasoline(휘발유)**	9.3	8.6	8.1	11.7	13.5	11.3	14.3	16.0	14.9	14.9	12.8
	Change		*0.6*	*1.2*	*(2.4)*	*(4.3)*	*(2.0)*	*(5.0)*	*(6.8)*	*(5.7)*	*(5.7)*	*(3.5)*
	Kerosene(등유)	14.9	13.9	12.5	13.4	16.0	14.3	11.9	12.6	11.6	12.1	15.5
	Change		*0.9*	*2.4*	*1.5*	*(1.2)*	*0.6*	*3.0*	*2.2*	*3.3*	*2.7*	*(0.7)*
	Diesel(경유)	12.7	11.8	11.6	13.9	14.7	14.3	13.3	11.7	10.8	12.5	14.6
	Change		*0.9*	*1.0*	*(1.2)*	*(2.1)*	*(1.6)*	*(0.6)*	*1.0*	*1.8*	*0.1*	*(1.9)*
	Bunker-C	(2.9)	(4.0)	(3.8)	(4.1)	(5.8)	(7.1)	(0.9)	(1.8)	(5.8)	(3.4)	(6.1)
	Change		*1.2*	*0.9*	*1.3*	*2.9*	*4.3*	*(1.9)*	*(1.1)*	*2.9*	*0.6*	*3.2*
	Naphtha	(1.6)	(1.9)	(3.6)	(2.4)	(1.2)	1.2	(2.2)	(0.4)	1.3	0.6	(0.9)
	Change		*0.2*	*1.9*	*0.8*	*(0.5)*	*(2.9)*	*0.6*	*(1.3)*	*(2.9)*	*(2.3)*	*(0.7)*
Refining Margin	**Simple(단순)**	2.4	1.4	1.2	2.2	2.4	1.4	4.4	3.8	1.9	3.2	2.1
	Change		*1.0*	*1.2*	*0.2*	*(0.0)*	*1.0*	*(2.0)*	*(1.4)*	*0.5*	*(0.8)*	*0.3*
	Complex(복합)	6.4	5.5	5.2	7.1	7.8	6.9	8.5	8.3	7.0	8.0	7.5
	Change		*0.8*	*1.2*	*(0.7)*	*(1.5)*	*(0.5)*	*(2.2)*	*(1.9)*	*(0.6)*	*(1.6)*	*(1.1)*
	Complex(lagging)	6.9	6.0	5.3	10.4	11.1	12.1	6.7	18.0	8.5	8.9	9.6
	Change		*0.9*	*1.6*	*(3.4)*	*(4.2)*	*(5.2)*	*0.3*	*(11.0)*	*(1.6)*	*(2.0)*	*(2.7)*

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

SK Energy Daily

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Petrochemical Price Data

Daily Price			07/06	07/05	07/04	07/03	07/02	06/29	06/28	06/27	06/26	06/25
Spot Price	**Naphtha**	CFR Japan	665.0	665.5	669.0	664.6	663.1	658.8	652.4	642.8	632.8	632.0
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,055.0	1,050.0	1,050.0	1,050.0	1,050.0
	Butadiene	FOB Korea	1,610.0	1,610.0	1,600.0	1,600.0	1,600.0	1,600.0	1,590.0	1,590.0	1,590.0	1,620.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,340.0	1,340.0	1,350.0	1,350.0	1,350.0	1,350.0	1,350.0	1,355.0
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,175.0	1,175.0	1,175.0	1,175.0	1,190.0
	LLDPE	CFR FE Asia	1,120.0	1,135.0	1,140.0	1,140.0	1,140.0	1,150.0	1,150.0	1,150.0	1,150.0	1,160.0
	MEG	CFR China	893.0	895.0	902.0	896.0	895.0	905.0	895.0	895.0	893.0	885.0
	PP	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,245.0	1,245.0
	PX	CFR China	988.5	984.8	987.8	987.8	982.7	973.7	965.7	964.7	942.7	936.2
	PTA	CFR China	850.0	850.0	850.0	845.0	845.0	845.0	845.0	835.0	830.0	830.0
	Benzene	FOB Korea	832.0	832.3	828.7	820.7	819.2	813.7	817.7	814.7	808.0	811.0
	Toluene	FOB Korea	747.0	740.0	744.0	745.0	745.0	746.0	744.0	736.0	728.0	725.0
	Xylene	FOB Korea	833.0	834.0	840.0	837.0	833.0	831.5	819.5	819.5	792.5	787.5
	SM	FOB Korea	1,349.0	1,346.0	1,323.0	1,315.0	1,298.0	1,311.0	1,316.5	1,332.0	1,347.0	1,362.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	658.5	623.5	662.0	607.0	558.0	411.5	484.5	399.5	493.5	613.7
	Change, %			*5.6*	*(0.5)*	*8.5*	*18.0*	*60.0*	*35.9*	*64.8*	*33.4*	*7.3*
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,225.0	1,265.0	1,187.5	875.0	990.0	1,040.9	1,090.9	1,233.5
	Change, %			*0.0*	*2.9*	*(0.4)*	*6.1*	*44.0*	*27.3*	*21.0*	*15.5*	*2.2*
	Propylene	CFR SE Asia	980.0	1,005.0	1,015.0	945.0	985.0	742.5	815.0	705.7	823.6	1,067.0
	Change, %			*(2.5)*	*(3.4)*	*3.7*	*(0.5)*	*32.0*	*20.2*	*38.9*	*19.0*	*(8.2)*
	Butadiene	CFR SE Asia	1,580.0	1,580.0	1,725.0	1,275.0	1,375.0	975.0	2,100.0	1,116.8	1,481.1	1,423.3
	Change, %			*0.0*	*(8.4)*	*23.9*	*14.9*	*62.1*	*(24.8)*	*41.5*	*6.7*	*11.0*
	Benzene	CFR SE Asia	807.5	805.0	852.5	832.5	905.0	760.0	822.5	646.7	838.8	871.3
	Change, %			*0.3*	*(5.3)*	*(3.0)*	*(10.8)*	*6.3*	*(1.8)*	*24.9*	*(3.7)*	*(7.3)*
	Toluene	CFR SE Asia	785.0	795.0	815.0	725.0	750.0	630.0	690.0	630.5	689.5	766.0
	Change, %			*(1.3)*	*(3.7)*	*8.3*	*4.7*	*24.6*	*13.8*	*24.5*	*13.9*	*2.5*
	Xylene	CFR SE Asia	800.0	825.0	850.0	762.5	762.5	610.0	675.0	627.7	668.8	779.2
	Change, %			*(3.0)*	*(5.9)*	*4.9*	*4.9*	*31.1*	*18.5*	*27.4*	*19.6*	*2.7*
Spread	**Ethylene**	-Naphtha	601.5	636.5	563.0	658.0	629.5	463.5	505.5	641.4	597.4	619.7
	Change, %			*(5.5)*	*6.8*	*(8.6)*	*(4.4)*	*29.8*	*19.0*	*(6.2)*	*0.7*	*(2.9)*
	Propylene	-Naphtha	321.5	381.5	353.0	338.0	427.0	331.0	330.5	306.2	330.1	453.3
	Change, %			*(15.7)*	*(8.9)*	*(4.9)*	*(24.7)*	*(2.9)*	*(2.7)*	*5.0*	*(2.6)*	*(29.1)*
	Butadiene	-Naphtha	921.5	956.5	1,063.0	668.0	817.0	563.5	1,615.5	717.3	987.6	809.5
	Change, %			*(3.7)*	*(13.3)*	*37.9*	*12.8*	*63.5*	*(43.0)*	*28.5*	*(6.7)*	*13.8*
	Benzene	-Naphtha	149.0	181.5	190.5	225.5	347.0	348.5	338.0	247.2	345.3	257.6
	Change, %			*(17.9)*	*(21.8)*	*(33.9)*	*(57.1)*	*(57.2)*	*(55.9)*	*(39.7)*	*(56.9)*	*(42.2)*
	Toluene	-Naphtha	126.5	171.5	153.0	118.0	192.0	218.5	205.5	231.0	196.0	152.2
	Change, %			*(26.2)*	*(17.3)*	*7.2*	*(34.1)*	*(42.1)*	*(38.4)*	*(45.2)*	*(35.5)*	*(16.9)*
	Xylene	-Naphtha	141.5	201.5	188.0	155.5	204.5	198.5	190.5	228.2	175.3	165.5
	Change, %			*(29.8)*	*(24.7)*	*(9.0)*	*(30.8)*	*(28.7)*	*(25.7)*	*(38.0)*	*(19.3)*	*(14.5)*

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

SK Energy Daily

에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**HDPE**	CFR SE Asia	1,262.5	1,272.5	1,307.5	1,212.5	1,297.5	1,047.5	1,142.5	1,134.6	1,142.5	1,259.3
	Change, %			*(0.8)*	*(3.4)*	*4.1*	*(2.7)*	*20.5*	*10.5*	*11.3*	*10.5*	*0.3*
	MEG	CFR SE Asia	935.0	912.5	962.5	935.0	1,025.0	802.5	847.5	660.8	850.6	980.9
	Change, %			*2.5*	*(2.9)*	*0.0*	*(8.8)*	*16.5*	*10.3*	*41.5*	*9.9*	*(4.7)*
	PVC	CFR SE Asia	935.0	935.0	920.0	965.0	980.0	870.0	920.0	823.4	899.9	942.8
	Change, %			*0.0*	*1.6*	*(3.1)*	*(4.6)*	*7.5*	*1.6*	*13.6*	*3.9*	*(0.8)*
	PP	CFR SE Asia	1,282.5	1,292.5	1,277.5	1,227.5	1,307.5	1,037.5	1,032.5	978.4	1,099.6	1,261.7
	Change, %			*(0.8)*	*0.4*	*4.5*	*(1.9)*	*23.6*	*24.2*	*31.1*	*16.6*	*1.7*
	2-EH	CFR Korea	1,100.0	1,110.0	1,170.0	1,190.0	1,125.0	920.0	865.0	772.4	970.0	1,118.8
	Change, %			*(0.9)*	*(6.0)*	*(7.6)*	*(2.2)*	*19.6*	*27.2*	*42.4*	*13.4*	*(1.7)*
	ABS	CFR SE Asia	2,000.0	2,040.0	2,080.0	1,960.0	2,120.0	1,790.0	1,635.0	1,347.1	1,844.7	2,033.5
	Change, %			*(2.0)*	*(3.8)*	*2.0*	*(5.7)*	*11.7*	*22.3*	*48.5*	*8.4*	*(1.6)*
	SBR	CFR SE Asia	1,780.0	1,800.0	1,900.0	1,670.0	1,750.0	1,450.0	2,000.0	1,483.0	1,980.5	1,753.1
	Change, %			*(1.1)*	*(6.3)*	*6.6*	*1.7*	*22.8*	*(11.0)*	*20.0*	*(10.1)*	*1.5*
	SM	CFR SE Asia	1,362.5	1,375.0	1,510.0	1,320.0	1,452.5	1,152.5	1,205.0	1,064.6	1,253.8	1,401.7
	Change, %			*(0.9)*	*(9.8)*	*3.2*	*(6.2)*	*18.2*	*13.1*	*28.0*	*8.7*	*(2.8)*
	Caustic	FOB NEA	475.0	491.0	550.0	639.0	590.0	447.5	422.5	316.6	491.2	578.1
	Change, %			*(3.3)*	*(13.6)*	*(25.7)*	*(19.5)*	*6.1*	*12.4*	*50.0*	*(3.3)*	*(17.8)*
	PX	CFR SE Asia	980.0	940.0	982.5	935.0	957.5	775.0	855.0	790.4	844.4	964.2
	Change, %			*4.3*	*(0.3)*	*4.8*	*2.3*	*26.5*	*14.6*	*24.0*	*16.1*	*1.6*
	PO	CFR China	1,765.0	1,787.5	1,737.5	1,722.5	1,962.5	1,485.0	1,562.5	1,396.8	1,601.2	1,883.1
	Change, %			*(1.3)*	*1.6*	*2.5*	*(10.1)*	*18.9*	*13.0*	*26.4*	*10.2*	*(6.3)*
	Caprolactam	CFR SE Asia	2,130.0	2,130.0	2,105.0	2,200.0	2,130.0	1,610.0	1,850.0	1,344.9	1,936.4	2,119.4
	Change, %			*0.0*	*1.2*	*(3.2)*	*0.0*	*32.3*	*15.1*	*58.4*	*10.0*	*0.5*
	PTA	CFR SE Asia	860.0	845.0	857.5	772.5	790.0	630.0	642.5	613.7	667.8	801.9
	Change, %			*1.8*	*0.3*	*11.3*	*8.9*	*36.5*	*33.9*	*40.1*	*28.8*	*7.2*
Spread	**HDPE**		604.0	649.0	645.5	605.5	739.5	636.0	658.0	735.1	649.0	645.6
	Change, %			*(6.9)*	*(6.4)*	*(0.2)*	*(18.3)*	*(5.0)*	*(8.2)*	*(17.8)*	*(6.9)*	*(6.4)*
	MEG		276.5	289.0	300.5	328.0	467.0	391.0	363.0	261.3	357.1	367.1
	Change, %			*(4.3)*	*(8.0)*	*(15.7)*	*(40.8)*	*(29.3)*	*(23.8)*	*5.8*	*(22.6)*	*(24.7)*
	PVC		276.5	311.5	258.0	358.0	422.0	458.5	435.5	423.9	406.4	329.1
	Change, %			*(11.2)*	*7.2*	*(22.8)*	*(34.5)*	*(39.7)*	*(36.5)*	*(34.8)*	*(32.0)*	*(16.0)*
	PP		624.0	669.0	615.5	620.5	749.5	626.0	548.0	578.9	606.1	647.9
	Change, %			*(6.7)*	*1.4*	*0.6*	*(16.7)*	*(0.3)*	*13.9*	*7.8*	*3.0*	*(3.7)*
	2-EH		441.5	486.5	508.0	583.0	567.0	508.5	380.5	372.9	476.5	505.1
	Change, %			*(9.2)*	*(13.1)*	*(24.3)*	*(22.1)*	*(13.2)*	*16.0*	*18.4*	*(7.3)*	*(12.6)*
	ABS		1,341.5	1,416.5	1,418.0	1,353.0	1,562.0	1,378.5	1,150.5	947.6	1,351.2	1,419.7
	Change, %			*(5.3)*	*(5.4)*	*(0.8)*	*(14.1)*	*(2.7)*	*16.6*	*41.6*	*(0.7)*	*(5.5)*
	SBR	BD spread	200.0	220.0	175.0	395.0	375.0	475.0	(100.0)	366.2	499.4	329.8
	Change, %			*(9.1)*	*14.3*	*(49.4)*	*(46.7)*	*(57.9)*	*(300.0)*	*(45.4)*	*(60.0)*	*(39.4)*
	SM		704.0	751.5	848.0	713.0	894.5	741.0	720.5	665.1	760.3	788.0
	Change, %			*(6.3)*	*(17.0)*	*(1.3)*	*(21.3)*	*(5.0)*	*(2.3)*	*5.8*	*(7.4)*	*(10.7)*
	Caustic											
	Change, %											
	PX		321.5	316.5	320.5	328.0	399.5	363.5	370.5	390.9	351.0	350.5
	Change, %			*1.6*	*0.3*	*(2.0)*	*(19.5)*	*(11.6)*	*(13.2)*	*(17.7)*	*(8.4)*	*(8.3)*
	PO	propylene sprea	785.0	782.5	722.5	777.5	977.5	742.5	747.5	691.1	777.6	816.1
	Change, %			*0.3*	*8.7*	*1.0*	*(19.7)*	*5.7*	*5.0*	*13.6*	*0.9*	*(3.8)*
	Caprolactam	benzene spreac	1,322.5	1,325.0	1,252.5	1,367.5	1,225.0	850.0	1,027.5	698.2	1,097.6	1,248.1
	Change, %			*(0.2)*	*5.6*	*(3.3)*	*8.0*	*55.6*	*28.7*	*89.4*	*20.5*	*6.0*
	PTA	px spread	174.0	187.0	169.8	118.0	119.8	87.5	44.0	60.4	76.7	127.0
	Change, %			*(7.0)*	*2.5*	*47.5*	*45.3*	*98.9*	*295.5*	*188.0*	*126.9*	*37.0*

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	07/06	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	65.9	(0.2)	0.0	(5.9)	3.5	(12.6)	3.7	(7.4)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.7	0.3	(0.2)	(9.3)	(3.0)	2.7	19.3	7.7	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	82.2	(0.2)	0.6	(4.2)	(1.5)	(13.2)	1.3	(10.4)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.4	0.5	1.5	(2.4)	(4.3)	(0.9)	(3.9)	1.9	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	101.9	1.2	0.4	(2.3)	(3.9)	(2.4)	6.7	0.3	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	66.8	0.3	0.0	(3.2)	8.1	(3.2)	(0.2)	0.8	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	616	1.7	(1.9)	(7.8)	2.2	(28.3)	(4.3)	(24.0)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	918	2.1	(1.0)	(7.4)	(7.7)	(29.3)	(3.6)	(25.7)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,070	1.1	2.0	(10.4)	(4.5)	(17.3)	1.9	(12.1)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,402	1.4	(0.5)	(6.9)	(0.1)	(8.7)	16.2	(3.6)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,870	1.6	(0.8)	(10.7)	(19.9)	(18.7)	(4.5)	(15.7)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,058	0.3	(3.9)	(9.5)	(0.2)	(23.4)	(15.1)	(19.5)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	123.6	0.0	(2.1)	(3.0)	5.5	21.9	22.0	21.9	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	75.3	0.0	1.1	3.6	1.9	25.8	40.1	27.6	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	109.5	(3.5)	(2.7)	0.0	7.4	11.3	16.6	10.9	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	113.0	(3.0)	(7.0)	(2.2)	5.1	8.7	24.4	9.7	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	87.1	(1.0)	(0.1)	0.8	7.1	11.7	15.2	11.8	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.41	(0.9)	(4.9)	(5.6)	(6.1)	(22.2)	(19.4)	(14.5)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.85	0.5	(3.6)	(10.6)	(8.0)	(36.9)	(44.1)	(30.7)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	978	1.4	0.5	2.4	7.3	5.9	35.5	7.5	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	112.5	0.0	5.1	2.5	3.1	15.3	19.7	16.0	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	74.0	2.8	1.4	(16.1)	(22.7)	(18.0)	6.9	(12.9)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.4	(0.2)	0.4	1.1	2.9	3.6	18.0	9.6	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	322,000	0.5	(3.4)	(11.4)	(15.0)	(20.5)	11.0	(20.5)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	330,000	0.3	(5.2)	(11.4)	(25.4)	(6.1)	(5.0)	(10.3)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	20,950	1.0	(4.1)	(17.2)	(29.1)	(37.8)	(33.5)	(33.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	111,000	(1.3)	(4.7)	6.7	21.4	2.3	51.2	11.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	43,150	2.7	0.0	5.5	17.7	(8.1)	23.8	(8.2)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	56,900	(0.5)	(7.5)	(16.3)	(8.2)	(10.0)	8.8	(9.8)	359	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
효성	KRW	6,120	3.2	(5.8)	(20.6)	(36.3)	(26.6)	7.0	(19.3)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.4**	**(1.5)**	**(5.7)**	**(3.4)**	**(7.8)**	**7.2**	**(4.7)**							
Refinery																
Valero	USD	107.8	0.3	(2.7)	(11.0)	13.3	14.7	62.2	17.3	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	69.7	1.0	0.0	2.6	17.5	22.5	60.8	26.9	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	116.0	(2.5)	(5.3)	(6.5)	0.0	(3.3)	11.0	0.4	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	133.0	0.8	1.4	(8.0)	24.4	14.4	41.3	16.3	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	70.2	0.9	0.1	(10.9)	(3.1)	1.2	32.8	6.4	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.5	1.2	1.3	7.2	41.5	3.2	47.5	7.5	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	68.6	2.0	0.2	(9.6)	31.3	33.9	161.9	33.9	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	111.2	0.9	(1.0)	(4.7)	14.7	8.8	35.8	9.9	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.1	(0.2)	(2.0)	0.3	24.5	0.1	33.4	6.5	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	770.1	(0.7)	(0.0)	6.8	17.3	1.9	54.8	5.9	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,765.0	(0.8)	(4.7)	0.1	(1.4)	(16.1)	33.0	(16.8)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	65.7	0.6	(2.2)	(6.4)	20.3	25.0	89.1	23.2	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	78.6	0.1	0.6	(1.7)	14.6	6.1	20.0	10.4	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	42.2	(0.1)	(0.0)	(8.0)	(1.7)	(8.0)	(12.8)	(4.6)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	193,000	1.8	(4.5)	(6.3)	(9.2)	(4.2)	21.8	(5.6)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	105,500	2.9	(3.7)	(3.7)	(11.3)	(6.6)	9.4	(9.8)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	51,400	0.6	(5.5)	(11.7)	(15.5)	(17.4)	(24.4)	(17.4)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.5**	**(1.7)**	**(4.2)**	**10.4**	**4.5**	**39.9**	**6.5**							

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

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Global peers

	Currency	07/06	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 18E	PER 19E	PBR 18E	PBR 19E	EV/EBITDA 18E	EV/EBITDA 19E
E&P/Shale																
Exxon Mobil	USD	82	0.0	(0.5)	0.3	10.0	(5.1)	2.8	(1.6)	348,572	16.7	15.4	1.8	1.7	7.6	7.1
BP	GBP	579	(0.6)	0.1	0.4	16.2	9.3	29.9	10.8	153,486	14.3	13.3	1.5	1.4	5.4	5.2
Shell	EUR	2,618	0.0	(0.4)	1.4	12.7	3.5	27.6	5.6	293,698	12.3	11.1	1.4	1.4	5.8	5.5
Chevron	USD	124	0.1	(1.8)	0.6	8.2	(2.9)	19.6	(0.8)	237,227	15.6	14.9	1.6	1.5	6.4	6.1
Total	EUR	53	(0.8)	2.1	1.1	10.0	11.5	23.7	15.8	166,834	11.9	11.1	1.3	1.3	5.5	5.3
Sinopec	CNY	6	(0.6)	(3.4)	(3.8)	(2.5)	(11.2)	3.5	2.3	112,558	10.0	9.6	1.0	1.0	3.7	3.7
Petrochina	CNY	7	0.3	(3.4)	(6.6)	(0.1)	(13.3)	(4.9)	(7.9)	196,811	24.3	20.6	1.1	1.1	5.4	5.3
CNOOC	CNY	9	(0.1)	(5.1)	(15.0)	(20.2)	(23.9)	(18.5)	(14.3)	71,562	8.9	9.0	1.2	1.1	3.8	3.8
Gazprom	RUB	145	(0.4)	2.8	(1.3)	2.4	5.7	18.2	11.1	54,487	3.2	3.2	0.3	0.3	2.6	2.6
Rosneft	RUB	403	(0.7)	1.8	5.9	26.2	29.3	24.3	38.4	67,881	7.6	6.5	0.9	0.9	4.5	4.4
Anadarko	USD	74	1.5	0.6	6.1	25.1	33.9	68.9	37.3	37,941	25.3	21.7	3.7	3.2	7.0	6.2
Petrobras	BRL	18	0.4	4.4	9.9	(15.7)	6.6	47.4	11.4	64,334	6.9	6.1	0.7	0.7	4.3	4.1
Lukoil	USD	4,416	(1.0)	1.5	3.5	12.1	23.7	47.9	32.4	58,774	5.6	5.8	0.8	0.7	N/A	N/A
Kinder	USD	18	2.0	1.5	7.2	18.2	(5.4)	(6.3)	(0.8)	47,497	20.7	18.6	1.2	1.2	10.7	10.5
Equinor ASA	NOK	217	(1.5)	0.1	1.0	13.5	18.9	57.5	23.7	90,106	14.2	13.2	2.0	1.9	3.5	3.4
BHP	AUD	33	0.9	(2.2)	(0.7)	15.7	8.4	36.4	12.1	125,674	15.0	16.7	2.1	2.0	6.2	6.5
PTT E&P	THB	130	(1.9)	(7.5)	(8.1)	14.5	21.5	54.3	30.0	15,570	12.9	12.1	1.3	1.2	3.9	3.6
Petronas gas	MYR	17	(3.3)	(2.2)	(8.1)	(5.9)	(7.8)	(9.0)	(3.2)	8,290	17.7	17.5	2.6	2.5	9.7	9.6
Chesapeake	USD	5	0.4	1.0	21.1	77.5	32.6	13.5	33.6	4,824	6.4	7.3	#N/A N/A	6.9	6.6	6.3
Noble Energy	USD	35	1.0	(0.2)	2.2	20.3	11.8	29.6	20.8	17,057	30.9	22.5	1.5	1.5	7.7	6.5
Average		**0**	**(0.2)**	**(0.5)**	**0.8**	**11.9**	**7.4**	**23.3**	**12.8**							
PV																
WACKER	EUR	114.2	(1.9)	1.8	(11.5)	(18.9)	(33.2)	19.8	(29.6)	6,993	16.6	14.7	1.7	1.7	5.8	5.5
GCL-Poly	HKD	0.7	(1.5)	(9.5)	(11.8)	(30.2)	(52.1)	(23.0)	(52.1)	1,587	6.0	5.3	0.4	0.4	6.3	5.8
SunPower	USD	7.9	(0.3)	2.6	7.5	(2.8)	(9.0)	(7.0)	(6.6)	1,109	#N/A N/A	#N/A N/A	1.4	1.4	20.6	12.0
Canadian Solar	USD	12.8	2.8	4.2	2.6	(20.9)	(25.0)	(16.3)	(24.3)	748	8.5	8.5	0.7	0.7	7.7	8.4
JA Solar	USD	6.9	1.8	1.0	(2.4)	(2.5)	(7.3)	9.2	(7.8)	327	#N/A N/A	#N/A N/A	1.6	1.8	4.8	6.8
Yingli	USD	0.2	(15.3)	(84.8)	(86.1)	(86.9)	(89.7)	(90.3)	(87.1)	4	#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	54.5	2.3	3.6	(1.8)	(21.8)	(21.2)	41.0	(19.2)	5,713	32.1	17.8	1.0	1.0	9.8	5.3
한화큐셀	USD	5.7	4.8	(11.9)	(17.1)	(26.6)	(24.1)	(12.7)	(18.9)	474	10.2	21.1	#N/A N/A	#N/A N/A	7.8	8.0
OCI	KRW	95,900	(1.8)	(6.9)	(20.4)	(41.7)	(40.6)	8.7	(29.5)	2,050	0.0	9.4	0.0	0.6	0.0	4.4
웅진에너지	KRW	3,490	3.7	(1.4)	(33.5)	(47.4)	(60.2)	(51.2)	(57.5)	93	N/A	0.0	0.6	0.0	4.4	0.0
신성솔라에너지	KRW	1,320	0.4	(8.3)	(22.6)	(17.5)	(34.7)	(38.3)	(31.1)	205	N/A	0.6	0.0	4.4	0.0	6.8
Average			**(0.5)**	**(10.0)**	**(17.9)**	**(28.8)**	**(36.1)**	**(14.5)**	**(33.1)**							
Gas Company																
Towngas China	HKD	7.5	0.3	(0.9)	1.1	6.6	21.4	48.4	20.1	2,660	14.8	13.2	1.2	1.2	12.3	11.2
Kulun	HKD	6.8	(0.9)	(1.3)	(6.2)	1.2	(14.5)	(0.1)	(16.7)	6,973	9.7	8.3	1.1	1.0	5.6	5.1
Beijing Enterprise	HKD	38.1	1.9	(0.3)	(13.0)	(8.2)	(18.2)	0.3	(17.9)	6,126	6.7	6.0	0.7	0.6	11.8	11.2
ENN Energy	HKD	78.5	0.1	1.7	(3.0)	7.6	48.1	64.2	40.8	10,854	17.5	14.7	3.5	3.0	10.3	9.0
China Resources Gas	HKD	33.0	0.0	(2.9)	11.7	16.0	22.0	20.0	16.4	9,351	17.3	15.5	3.0	2.5	9.5	8.6
China Gas Holdings	HKD	32.3	4.4	2.4	(10.8)	11.8	46.2	91.1	49.5	20,447	21.0	17.6	4.9	4.1	15.8	13.4
Shenzen Gas	HKD	14.6	0.7	(10.0)	(16.6)	(13.7)	(6.6)	5.9	(1.7)	3,928	8.9	7.7	1.2	1.1	5.7	4.9
Shann Xi	CNY	6.8	1.8	(2.6)	(17.6)	(2.6)	(19.4)	(23.4)	(19.2)	1,142	15.7	13.7	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.1	1.4	(5.3)	(20.4)	(8.9)	3.4	52.9	3.4	1,013	5.6	4.9	0.7	0.6	8.2	7.1
China Oil & Gas	HKD	0.6	1.7	(3.3)	(9.2)	(3.3)	(20.3)	11.3	(30.6)	439	#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			**1.1**	**(2.2)**	**(8.4)**	**0.7**	**6.2**	**27.1**	**4.4**							
EV																
LG화학	KRW	322,000	0.5	(3.4)	(11.4)	(15.0)	(20.5)	11.0	(20.5)	20,378	12.1	10.9	1.4	1.2	5.7	5.1
삼성SDI	KRW	231,000	7.4	7.9	7.4	20.9	4.8	30.5	13.0	14,240	21.7	15.7	1.3	1.2	15.1	11.7
Panasonic	JPY	1410.0	0.2	(5.6)	(8.3)	(7.7)	(18.0)	(6.3)	(14.5)	31,310	12.8	11.3	1.8	1.6	4.7	4.3
GS Yuasa	JPY	492.0	0.8	(2.6)	(6.8)	(13.8)	(15.0)	0.6	(12.3)	1,842	14.2	13.1	1.1	1.0	6.6	6.2
NEC	JPY	2999.0	0.9	(1.3)	(2.5)	3.4	(3.6)	1.3	(1.3)	7,071	22.8	12.8	0.9	0.8	7.1	5.5
BYD Auto	CNY	46.0	1.0	(3.5)	(10.0)	(16.0)	(28.5)	(9.5)	(29.2)	18,124	27.0	20.2	2.2	2.0	12.1	10.4
Tesla Motors	USD	308.9	(0.1)	(9.9)	(3.3)	3.2	(2.4)	0.0	(0.8)	52,449	#N/A N/A	132.9	10.3	9.5	61.1	19.7
Kandi Technologies	USD	4.3	0.0	1.2	0.0	(8.5)	(45.2)	(1.1)	(36.8)	219	#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			**1.4**	**(2.2)**	**(4.4)**	**(4.2)**	**(16.1)**	**3.3**	**(12.8)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임