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)

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News		Conclusion
WTI comment	'하루 100만배럴' 증산에도 급등…WTI 4.6%↑	
Headline	[주간가격] 에틸렌, 플랫한 모습 보이며 CFR SEA $1,260/mt로 마감	유가가 하락세를 보이는 가운데 TA시즌이 끝나면 가격 하방 열릴 것
News 1.	[주간가격] MEG, WoW $42/mt 하락해 CFR China $880/mt로 마감	아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음
News 2.	[주간가격] BD, WoW $60/mt 하락해 FOB Korea $1,620/mt로 마감	중국 SBR 공장들의 가동률이 올라올 때 까지 시황 약세 지속될 전망
News 3.	[주간가격] SBR, WoW $100/mt 하락해 CFR SEA $1,800/mt로 마감	BD 약세가 지속되고 있지만 SBR 공장 TA 진입으로 낙폭 크지 않을 것
News 4.	[주간가격] PX, WoW $40/mt 하락해 FOB Korea $931.67/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	68.6	4.6	5.4	(4.5)	4.1	59.5
Dubai	$/bbl	71.8	0.7	(3.4)	(6.4)	9.9	62.5
Gasoline	$/bbl	80.6	1.1	(5.2)	(11.2)	0.2	38.5
Diesel	$/bbl	84.7	0.5	(3.9)	(7.4)	5.6	52.6
Complex margin	$/bbl	5.9	0.0	(0.6)	(2.0)	(2.3)	(2.0)
1M lagging	$/bbl	0.4	(0.3)	(5.1)	(13.8)	(11.1)	0.6
Petrochemical			%	%	%	%	%
Naphtha	$/t	624	0.6	(4.6)	(11.3)	5.3	56.3
Butadiene	$/t	1,620	(1.2)	(3.6)	(4.7)	13.3	85.1
HDPE	$/t	1,355	0.0	(0.4)	(1.1)	2.7	24.9
MEG	$/t	880	(0.2)	(4.6)	(6.9)	(3.0)	13.8
PX	$/t	932	0.4	(4.1)	(6.9)	(0.5)	25.3
SM	$/t	1,349	0.5	(5.0)	(2.6)	7.4	24.6
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.95	(1.0)	(2.5)	(0.6)	7.0	2.4
Natural rubber	$/t	1,330	0.8	(1.5)	(7.0)	0.8	(2.9)
Cotton	C/lbs	85.4	2.7	(5.8)	(4.2)	4.4	17.6

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	06/18	$/t	1,260	3.7	11.0	0.8	47.4
Propylene	06/18	$/t	1,015	0.2	(0.7)	3.6	37.6
Benzene	06/18	$/t	833	(2.6)	(4.3)	(4.0)	6.4
Toluene	06/18	$/t	815	0.0	(1.2)	13.2	26.4
Xylene	06/18	$/t	828	(1.5)	(0.3)	8.5	33.5
PP	06/18	$/t	1,293	0.8	0.4	(0.4)	22.2
PVC	06/18	$/t	925	0.5	0.5	(4.6)	5.1
ABS	06/18	$/t	2,060	0.0	(0.5)	2.0	20.5
SBR	06/18	$/t	1,900	0.0	3.3	8.6	31.0
SM	06/18	$/t	1,493	(2.1)	4.2	11.6	28.1
BPA	06/18	$/t	1,788	(4.8)	(4.2)	(4.7)	28.1
Caustic	06/18	$/t	539	(2.0)	(9.9)	(10.3)	23.2
2-EH	06/18	$/t	1,120	1.8	(5.9)	(0.9)	21.1
Caprolactam	06/18	$/t	2,150	1.4	2.9	(1.4)	34.4
Solar				%	%	%	%
Polysilicon	06/20	$/kg	11.9	(5.9)	(21.6)	(20.4)	(14.5)
Module	06/20	$/W	0.28	(2.1)	(5.8)	(8.3)	(16.3)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	81.4	2.1	0.9	(0.3)	10.7	0.4
Shell	EUR	2,609	3.4	3.5	(4.8)	18.4	26.3
Petrochina	CNY	7.30	0.4	(5.8)	(14.7)	(9.3)	(5.1)
Gazprom	RUB	136.8	1.8	(0.7)	(6.6)	(2.0)	14.4
Petrobras	BRL	15.1	0.1	0.9	(38.9)	(30.4)	25.5
Refinery							
Phillips66	USD	112.0	0.5	(2.0)	(5.7)	18.3	42.0
Valero	USD	112.2	0.9	(2.6)	(6.6)	20.6	73.2
JX	JPY	740.3	(0.5)	(3.1)	(2.1)	13.9	55.7
Neste Oil	EUR	65.5	0.0	(1.5)	(6.8)	14.8	88.3

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	83.3	(0.0)	(5.7)	(7.0)	1.1	(2.6)
DowDuPont	USD	67.0	2.6	(1.1)	(0.7)	2.1	5.0
SABIC	SAR	126.0	0.0	(0.5)	4.5	11.7	23.1
Formosa Pla.	TWD	109.5	0.9	3.3	0.0	5.3	20.3
Shin-Etsu	JPY	9,983	(0.5)	(4.3)	(13.7)	(10.8)	(0.8)
Renewable							
Wacker	EUR	113.4	(0.7)	(2.4)	(27.1)	(14.9)	20.2
First Solar	USD	52.65	0.6	3.1	(24.8)	(27.0)	37.0
GCL-Poly	HKD	0.76	4.1	0.0	(22.4)	(25.5)	4.1
Tesla Motors	USD	333.6	(4.0)	(6.9)	21.3	7.9	(12.8)

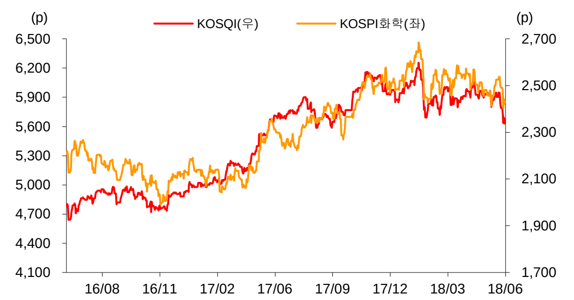
4. Coverage Summary

	06/22	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,357	0.8	(1.9)	(4.6)	(2.5)	(3.0)	(0.0)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,853	0.4	(2.4)	(1.2)	(1.2)	(2.0)	8.3				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	343,000	(1.9)	(8.2)	(0.1)	(12.8)	(12.3)	22.5	매수	450,000	31.2	11.87	1.58
롯데케미칼	348,000	0.7	(4.8)	(7.8)	(19.1)	(4.5)	3.4	매수	480,000	37.9	10.05	0.98
한화케미칼	22,200	1.4	(9.0)	(19.1)	(24.6)	(26.4)	(26.1)	매수	39,000	75.7	7.90	0.57
금호석유화학	112,000	0.9	7.2	6.2	16.9	15.2	53.6	매수	150,000	33.9	10.90	1.68
KCC	329,500	1.1	(3.7)	(7.8)	(3.7)	(12.1)	(20.2)	매수	450,000	36.6	12.07	0.51
OCI	110,500	2.8	0.9	(28.0)	(30.3)	(15.0)	16.9	매수	180,000	62.9	8.24	0.74
SKC	45,550	0.2	10.7	17.2	23.3	5.7	37.4	매수	50,000	9.8	12.50	1.13
SK이노베이션	202,000	(1.0)	(5.8)	(1.5)	(3.6)	(0.2)	28.7	매수	230,000	13.9	12.33	1.02
S-Oil	110,000	(0.9)	(1.3)	(2.2)	(6.0)	(11.3)	16.9	매수	140,000	27.3	13.33	1.73
GS	54,700	0.4	(5.7)	(10.5)	(11.6)	(11.5)	(18.7)	매수	80,000	46.3	5.14	0.69
SK가스	90,200	(1.5)	(6.0)	(13.7)	(2.5)	(2.9)	(31.9)	매수	130,000	44.1	7.92	0.60
포스코대우	20,550	1.0	(11.2)	(16.6)	(7.8)	14.8	(8.3)	매수	25,000	21.7	10.92	0.87
LG상사	24,000	1.1	(9.3)	(12.7)	(8.7)	(10.8)	(21.7)	매수	38,000	58.3	7.83	0.71
한국전력	34,900	6.1	(0.3)	(3.1)	11.3	(9.8)	(16.4)	매수	45,000	28.9	7.68	0.27
한국가스공사	61,700	2.2	(3.6)	0.3	31.4	43.7	18.9	매수	60,000	(2.8)	10.75	0.82

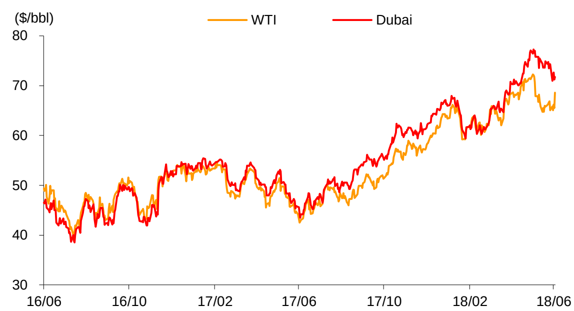
에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com
SK증권

Key Chart

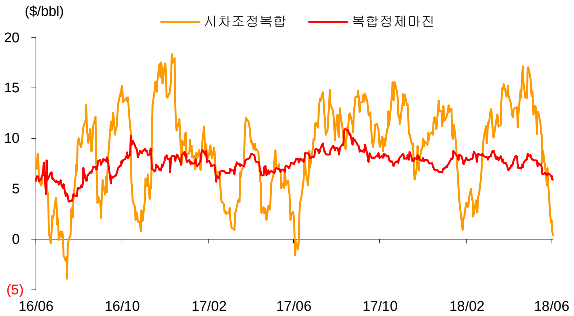
KOSPI/KOSPI화학



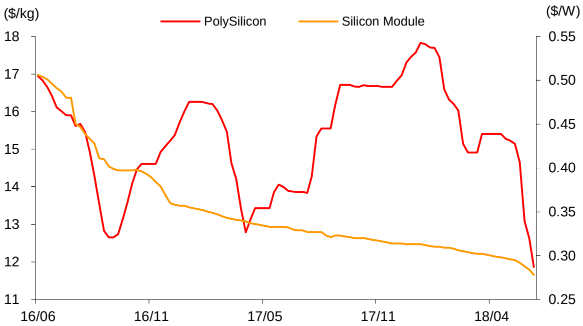
WTI/Dubai



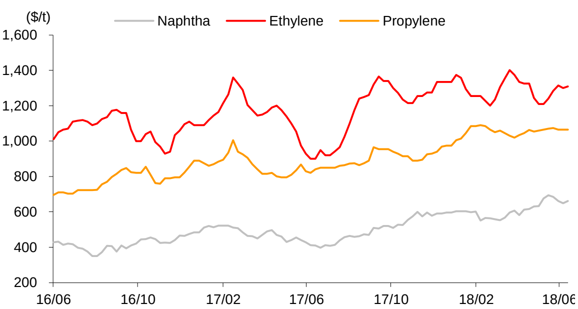
Complex & 1M lagging margin



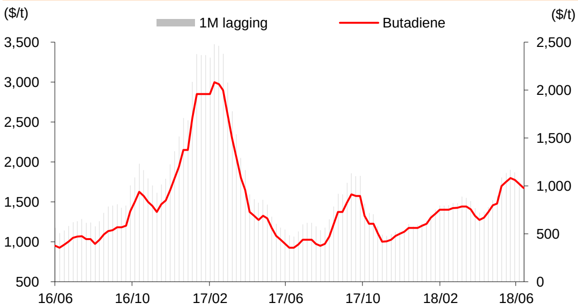
Polysilicon & Module prices



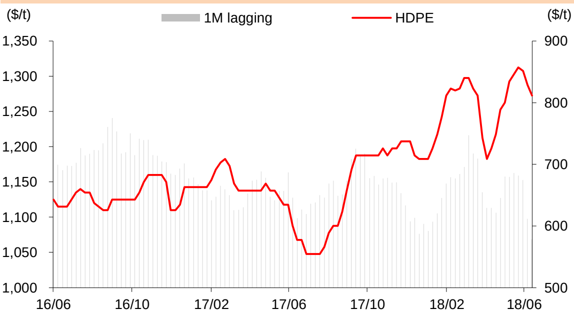
Naphtha/Ethylene/Propylene prices



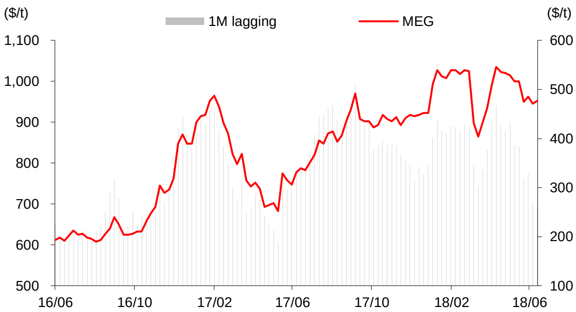
Butadiene price & 1M lagging naphtha spread



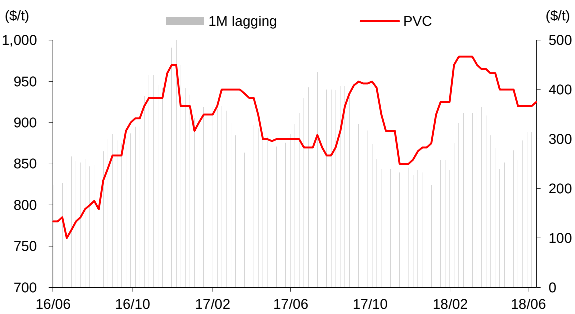
HDPE price & 1M lagging naphtha spread



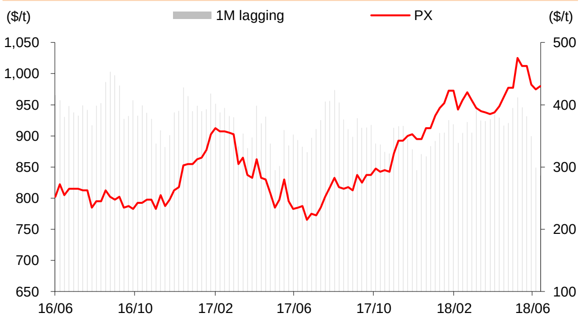
MEG price & 1M lagging naphtha spread



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
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News Comment

Headline	(출처: Platts)
제목	[주간가격] 에틸렌, 플랫한 모습 보이며 CFR SEA $1,260/mt로 마감
결론	유가가 하락세를 보이는 가운데 TA시즌이 끝나면 가격 하방 열릴 것
세부	
	1) 에틸렌 스팟 수요는 유가 선물 가격의 급락세로 약세를 보였음
	2) 특히 유가 하락은 SM을 비롯한 에틸렌 파생품들 가격 하락에 영향 줌
	3) 중미 무역전쟁이 강화되는 가운데 트레이더들은 관망세를 보였음
	4) 정기보수 시즌으로 스팟 공급이 제한되며 에틸렌 시황은 플랫했음
	5) 유가가 하락세를 보이는 가운데 TA시즌이 끝나면 가격 하방 열릴 것

WTI Comment	(출처: 연합뉴스)
제목	'하루 100만배럴' 증산에도 급등…WTI 4.6%↑
상승 요인	이란, 베네수엘라 공급 제한으로 60~70만b/d 증산에 그칠 것이라는 전망
하락 요인	'OPEC+'는 100만b/d 증산에 합의

Issue 1	(출처: Platts)
제목	[주간가격] MEG, WoW $42/mt 하락해 CFR China $880/mt로 마감
결론	아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음
세부	
	1) 계절적 비수기에 접어듦에 따라 센티먼트는 약세를 보였음
	2) 높은 폴리에스터 가동률에도 불구하고 공급은 재고 감소보다 많았음
	3) 이번 주 20만톤의 수입물량이 동중국항으로 유입될 예정이었음
	4) 관계자, "폴리에스터 가동률이 높지만 다운스트림 수요는 약한 편임"
	5) 아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음

Issue 2	(출처: Platts)
제목	[주간가격] BD, WoW $60/mt 하락해 FOB Korea $1,620/mt로 마감
결론	중국 SBR 공장들의 가동률이 올라올 때 까지 시황 약세 지속될 전망
세부	
	1) SBR 마진 약세와 ABS 시황 약세로 이번주 BD 수요는 잠잠했음
	2) 관계자, "현재 중국 내에 CFR China보다 싼 카고가 많아 센티가 약함"
	3) 중국 내수 가격은 Yuan 500/mt 하락해 Yuan 10,300/mt 수준 기록했음
	4) 7월 공급량은 Formosa Petchem의 크래커 가동 재개로 늘어날 전망
	5) 중국 SBR 공장들의 가동률이 올라올 때 까지 시황 약세 지속될 전망

Issue 3	(출처: Platts)
제목	[주간가격] SBR, WoW $100/mt 하락해 CFR SEA $1,800/mt로 마감
결론	BD 약세가 지속되고 있지만 SBR 공장 TA 진입으로 낙폭 크지 않을 것
세부	
	1) 원재료인 BD 가격의 하락과 중국 내수 가격의 약세로 SBR도 하락함
	2) BD는 CFR China $1,650/mt까지, SM은 CFR China $1,387/mt까지 하락
	3) 관계자, "중미간 무역전쟁 가능성으로 센티먼트가 혼란을 겪기도 함"
	4) 공급자들이 오퍼 가격을 내리고 buying 센티먼트가 안좋아 가격 급락함
	5) BD 약세가 지속되고 있지만 SBR 공장 TA 진입으로 낙폭 크지 않을 것

Issue 4	(출처: Platts)
제목	[주간가격] PX, WoW $40/mt 하락해 FOB Korea $931.67/mt로 마감
결론	미국 포함 산유국의 증산기조는 유가를 꺾어 PX 가격도 하방이 열릴 것
세부	
	1) 유가 하락으로 PX-납사 스프레드가 이번 월 최저치에 접근함
	2) PX 자체 가격은 2개월래 최저치 수준으로 하락했음
	3) 트레이더, "대부분의 메이저 바이어들이 거래량을 줄인 상황임"
	4) Sinopec은 6월 PC CP를 $974.4/mt로 조정함
	5) 미국 포함 산유국의 증산기조는 유가를 꺾어 PX 가격도 하방이 열릴 것

Issue 5	(출처: Platts)
제목	[주간가격] PTA, WoW $12/mt 하락해 CFR China $830/mt로 마감
결론	유가 방향성에 따라 PX 가격 하방이 열려 PTA도 우상향을 어려워 보임
세부	
	1) 내수 가격과 원재료인 PX 가격 하락으로 PTA도 하락세를 보였음
	2) Tongkun의 220만톤 규모 PTA 공장이 정기보수를 마치고 재가동됨
	3) 한화GC의 70만톤 규모 대산 PTA 공장도 다음주 재가동 예정임
	4) 다운스트림인 PET 수요는 TA 시즌에 돌입해 약세를 보였음
	5) 유가 방향성에 따라 PX 가격 하방이 열려 PTA도 우상향을 어려워 보임

Issue 6	(출처: PVinsights)
제목	[주간가격] 태양광 제품, 공급망 전반적으로 신저가 기록
결론	지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것
세부	
	1) 폴리실리콘 가격은 Wafer 섹터 매도 압력으로 급락세를 보였음
	2) Wafer는 과도한 capa 대비 뷘한 수요에 대한 우려로 조정을 받음
	3) Cell은 재고 부담과 최근 중국 수요에 대한 우려 확산으로 하락함
	4) 패널도 중국 모듈 메이커들의 가격 경쟁이 심화되며 하락세 시현함
	5) 지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것

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

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.858	0.862	0.862	0.849	0.813	0.843	0.897	0.833	0.904	0.887	0.826
	Change, %		(0.4)	(0.4)	1.1	5.5	1.8	(4.3)	3.0	(5.1)	(3.2)	3.9
	USD/JPY	110.0	110.0	110.7	110.9	105.3	113.3	111.3	112.6	108.8	112.1	108.7
	Change, %		(0.0)	(0.6)	(0.8)	4.5	(2.9)	(1.2)	(2.4)	1.1	(1.9)	1.2
	USD/KRW	1,107.5	1,112.4	1,097.8	1,076.5	1,072.2	1,079.7	1,141.1	1,066.7	1,160.5	1,130.9	1,074.5
	Change, %		(0.4)	0.9	2.9	3.3	2.6	(2.9)	3.8	(4.6)	(2.1)	3.1
Agriculture	**Corn**	357.3	357.0	361.3	404.8	376.0	352.0	362.8	350.8	358.5	359.4	375.7
	Change, %		0.1	(1.1)	(11.7)	(5.0)	1.5	(1.5)	1.9	(0.4)	(0.6)	(4.9)
	Soybean	894.5	880.5	905.5	1,030.5	1,029.8	949.5	904.0	951.8	987.5	975.9	1,005.6
	Change, %		1.6	(1.2)	(13.2)	(13.1)	(5.8)	(1.1)	(6.0)	(9.4)	(8.3)	(11.1)
	Wheat	491.3	495.3	499.5	521.5	455.8	424.8	461.3	427.0	436.4	436.0	475.8
	Change, %		(0.8)	(1.7)	(5.8)	7.8	15.7	6.5	15.0	12.6	12.7	3.3
	Rice	12.6	12.7	12.4	12.3	12.3	12.0	11.1	11.7	10.3	11.1	12.2
	Change, %		(0.7)	1.9	2.2	2.2	5.4	13.5	7.9	21.8	13.9	2.9
	Oats	244.5	242.0	233.5	249.8	228.8	242.5	257.3	241.0	196.3	252.3	245.6
	Change, %		1.0	4.7	(2.1)	6.9	0.8	(5.0)	1.5	24.6	(3.1)	(0.4)
MYR/mt	**Palm Oil**	2,283.0	2,254.0	2,319.0	2,463.0	2,445.0	2,407.0	2,597.0	2,444.0	2,653.8	2,787.3	2,433.6
	Change, %		1.3	(1.6)	(7.3)	(6.6)	(5.2)	(12.1)	(6.6)	(14.0)	(18.1)	(6.2)
	Cocoa	2,484.0	2,509.0	2,552.0	2,589.0	2,535.0	1,809.0	1,793.0	1,892.0	2,854.0	2,005.2	2,391.2
	Change, %		(1.0)	(2.7)	(4.1)	(2.0)	37.3	38.5	31.3	(13.0)	23.9	3.9
	Cotton	85.4	83.2	90.7	87.4	82.2	77.9	71.1	78.6	65.6	73.5	83.5
	Change, %		2.7	(5.8)	(2.2)	4.0	9.7	20.1	8.6	30.2	16.2	2.3
	Sugar	12.1	11.9	12.0	12.2	12.8	14.6	12.8	15.2	18.2	15.8	12.7
	Change, %		1.5	0.2	(0.8)	(5.6)	(17.5)	(6.2)	(20.5)	(33.6)	(23.8)	(5.2)
	Coffee	113.9	112.6	115.2	120.9	119.0	120.4	113.5	126.2	136.1	133.0	119.3
	Change, %		1.1	(1.2)	(5.8)	(4.3)	(5.4)	0.4	(9.8)	(16.3)	(14.4)	(4.6)
Energy	**WTI**	68.6	65.5	65.1	72.1	64.3	58.5	42.7	60.4	43.4	51.0	65.2
	Change, %		4.6	5.4	(4.9)	6.7	17.3	60.5	13.5	58.1	34.6	5.2
	Brent	75.6	73.1	73.4	79.6	68.9	65.3	45.2	66.9	45.1	54.9	70.9
	Change, %		3.4	2.9	(5.1)	9.6	15.8	67.1	13.0	67.6	37.7	6.5
	Natural Gas	2.9	3.0	3.0	2.9	2.6	2.7	2.9	3.0	2.6	3.0	2.8
	Change, %		(1.0)	(2.5)	1.3	12.5	10.4	1.8	(0.3)	15.4	(2.6)	3.9
	Ethanol	1.4	1.4	1.4	1.5	1.5	1.3	1.5	1.3	1.5	1.5	1.4
	Change, %		(0.1)	0.1	(5.0)	(4.3)	8.6	(5.3)	7.4	(6.4)	(5.3)	(1.6)
	RBOB Gasoline	207.1	201.2	202.3	227.0	201.0	176.2	143.5	179.9	140.0	162.9	198.3
	Change, %		2.9	2.3	(8.8)	3.0	17.5	44.3	15.1	47.9	27.1	4.4
	Coal	114.1	114.0	115.0	105.2	96.7	100.2	80.6	100.8	65.5	88.2	102.9
	Change, %		0.0	(0.8)	8.4	17.9	13.8	41.5	13.1	74.2	29.3	10.8
Metal	**Gold**	1,269.4	1,267.2	1,279.6	1,291.1	1,329.0	1,275.3	1,250.5	1,302.6	1,248.5	1,258.6	1,320.3
	Change, %		0.2	(0.8)	(1.7)	(4.5)	(0.5)	1.5	(2.5)	1.7	0.9	(3.9)
	Silver	16.5	16.3	16.6	16.5	16.4	16.4	16.6	16.9	17.1	17.1	16.7
	Change, %		0.9	(0.7)	(0.5)	0.4	0.4	(0.6)	(2.9)	(3.8)	(3.6)	(1.3)
	Copper	6,789.0	6,786.0	7,020.0	6,979.0	6,695.0	7,125.0	5,742.0	7,247.0	4,872.0	6,199.4	6,953.5
	Change, %		0.0	(3.3)	(2.7)	1.4	(4.7)	18.2	(6.3)	39.3	9.5	(2.4)
	Nickel	1,038.8	1,018.2	1,030.2	1,005.5	856.2	770.0	582.8	809.1	646.4	680.2	909.9
	Change, %		2.0	0.8	3.3	21.3	34.9	78.2	28.4	60.7	52.7	14.2
	Zinc	2,917.0	2,918.0	3,080.0	3,056.0	3,203.0	3,265.5	2,700.0	3,319.0	2,097.5	2,888.5	3,258.3
	Change, %		(0.0)	(5.3)	(4.5)	(8.9)	(10.7)	8.0	(12.1)	39.1	1.0	(10.5)
	Lead	2,418.0	2,376.8	2,391.0	2,480.0	2,368.3	2,481.3	2,196.0	2,482.8	1,868.3	2,315.7	2,452.8
	Change, %		1.7	1.1	(2.5)	2.1	(2.5)	10.1	(2.6)	29.4	4.4	(1.4)
	Aluminum	14,140.0	14,125.0	14,350.0	14,640.0	13,855.0	14,540.0	13,805.0	15,020.0	12,373.5	14,556.6	14,393.5
	Change, %		0.1	(1.5)	(3.4)	2.1	(2.8)	2.4	(5.9)	14.3	(2.9)	(1.8)
	Cobalt	79,150.0	80,000.0	79,750.0	92,500.0	94,300.0	75,205.0	58,125.0	75,205.0	25,480.1	55,906.9	84,997.4
	Change, %		(1.1)	(0.8)	(14.4)	(16.1)	5.2	36.2	5.2	210.6	41.6	(6.9)
	HR Coil	902.0	900.0	904.0	882.0	825.0	636.0	589.0	662.0	519.3	620.1	812.1
	Change, %		0.2	(0.2)	2.3	9.3	41.8	53.1	36.3	73.7	45.5	11.1
	Scrap	400.0	400.0	403.0	395.0	410.0	367.0	350.0	367.0	275.7	344.7	388.5
	Change, %		0.0	(0.7)	1.3	(2.4)	9.0	14.3	9.0	45.1	16.0	3.0

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		06/22	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	68.6	65.5	65.1	71.8	65.9	58.5	43.0	53.7	43.4	50.9	65.2
	Change, %		*4.6*	*5.4*	*(4.5)*	*4.1*	*17.3*	*59.5*	*27.7*	*58.2*	*34.7*	*5.2*
	Dubai	71.8	71.3	74.3	76.7	65.3	62.4	44.2	53.8	41.3	53.1	67.8
	Change, %		*0.7*	*(3.4)*	*(6.4)*	*9.9*	*15.1*	*62.5*	*33.3*	*73.8*	*35.2*	*5.8*
Crude Oil Product	**Gasoline(휘발유)**	80.6	79.8	85.1	90.8	80.5	75.4	58.2	69.8	56.3	68.0	81.0
	Change, %		*1.1*	*(5.2)*	*(11.2)*	*0.2*	*6.9*	*38.5*	*15.4*	*43.3*	*18.6*	*(0.4)*
	Kerosene(등유)	84.9	84.5	87.9	92.0	80.8	76.3	55.1	66.4	52.9	65.2	83.6
	Change, %		*0.4*	*(3.5)*	*(7.7)*	*5.0*	*11.2*	*53.9*	*27.7*	*60.4*	*30.1*	*1.5*
	Diesel(경유)	84.7	84.4	88.2	91.5	80.3	76.4	55.5	65.5	52.1	65.6	82.7
	Change, %		*0.5*	*(3.9)*	*(7.4)*	*5.6*	*11.0*	*52.6*	*29.4*	*62.6*	*29.2*	*2.5*
	Bunker-C	67.7	67.2	68.8	70.7	58.6	57.4	44.0	52.1	35.5	49.7	61.6
	Change, %		*0.7*	*(1.6)*	*(4.2)*	*15.5*	*18.0*	*54.0*	*30.0*	*90.6*	*36.3*	*10.0*
	Naphtha	68.3	67.8	71.8	77.2	65.2	65.6	42.9	53.5	42.6	53.7	67.1
	Change, %		*0.7*	*(5.0)*	*(11.5)*	*4.7*	*4.1*	*59.2*	*27.7*	*60.3*	*27.0*	*1.8*
Dubai Spread	**Gasoline(휘발유)**	8.9	8.5	10.8	14.1	15.2	13.0	14.1	16.0	14.9	14.9	13.1
	Change		*0.3*	*(1.9)*	*(5.3)*	*(6.3)*	*(4.2)*	*(5.2)*	*(7.2)*	*(6.1)*	*(6.1)*	*(4.3)*
	Kerosene(등유)	13.1	13.3	13.6	15.3	15.5	13.9	11.0	12.6	11.6	12.1	15.7
	Change		*(0.2)*	*(0.5)*	*(2.2)*	*(2.4)*	*(0.8)*	*2.1*	*0.5*	*1.5*	*0.9*	*(2.7)*
	Diesel(경유)	13.0	13.1	13.9	14.8	14.9	14.0	11.4	11.7	10.8	12.5	14.8
	Change		*(0.1)*	*(0.9)*	*(1.8)*	*(2.0)*	*(1.0)*	*1.6*	*1.3*	*2.2*	*0.5*	*(1.8)*
	Bunker-C	(4.1)	(4.0)	(5.5)	(6.0)	(6.7)	(5.0)	(0.2)	(1.8)	(5.8)	(3.4)	(6.3)
	Change		*(0.0)*	*1.5*	*1.9*	*2.6*	*1.0*	*(3.9)*	*(2.3)*	*1.7*	*(0.6)*	*2.2*
	Naphtha	(3.5)	(3.5)	(2.5)	0.5	(0.1)	3.2	(1.3)	(0.4)	1.3	0.6	(0.8)
	Change		*(0.0)*	*(1.0)*	*(4.0)*	*(3.4)*	*(6.7)*	*(2.2)*	*(3.1)*	*(4.8)*	*(4.2)*	*(2.7)*
Refining Margin	**Simple(단순)**	1.7	1.7	1.5	2.2	2.2	2.6	4.3	3.8	1.9	3.2	2.1
	Change		*(0.0)*	*0.2*	*(0.5)*	*(0.6)*	*(1.0)*	*(2.6)*	*(2.2)*	*(0.3)*	*(1.5)*	*(0.4)*
	Complex(복합)	5.9	5.9	6.5	7.9	8.2	7.9	7.9	8.3	7.0	8.0	7.6
	Change		*0.0*	*(0.6)*	*(2.0)*	*(2.3)*	*(1.9)*	*(2.0)*	*(2.3)*	*(1.0)*	*(2.1)*	*(1.7)*
	Complex(lagging)	0.4	0.7	5.5	14.2	11.5	9.7	(0.2)	18.0	8.5	8.9	10.0
	Change		*(0.3)*	*(5.1)*	*(13.8)*	*(11.1)*	*(9.3)*	*0.6*	*(17.5)*	*(8.1)*	*(8.5)*	*(9.6)*

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 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

SK증권

Petrochemical Price Data

Daily Price			06/22	06/21	06/20	06/19	06/18	06/15	06/14	06/13	06/12	06/11
Spot Price	**Naphtha**	CFR Japan	623.5	619.5	634.0	632.0	625.5	653.5	653.5	645.0	650.5	647.0
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,235.0	1,235.0
	Propylene	FOB Korea	1,060.0	1,060.0	1,070.0	1,070.0	1,070.0	1,070.0	1,070.0	1,070.0	1,070.0	1,070.0
	Butadiene	FOB Korea	1,620.0	1,640.0	1,640.0	1,670.0	1,680.0	1,680.0	1,680.0	1,720.0	1,720.0	1,720.0
	HDPE	CFR FE Asia	1,355.0	1,355.0	1,355.0	1,355.0	1,360.0	1,360.0	1,360.0	1,360.0	1,360.0	1,360.0
	LDPE	CFR FE Asia	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,160.0	1,160.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0	1,165.0
	MEG	CFR China	880.0	882.0	880.0	885.0	922.0	922.0	922.0	913.0	915.0	900.0
	PP	CFR FE Asia	1,245.0	1,245.0	1,245.0	1,245.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0	1,250.0
	PX	CFR China	931.7	927.7	937.7	935.3	944.3	971.7	971.7	965.3	969.0	967.0
	PTA	CFR China	830.0	830.0	830.0	839.0	842.0	842.0	842.0	841.0	843.0	841.0
	Benzene	FOB Korea	800.0	800.7	807.7	806.7	812.7	835.0	835.0	839.0	842.0	841.0
	Toluene	FOB Korea	725.0	732.0	734.0	752.0	769.0	779.0	779.0	780.0	780.0	780.0
	Xylene	FOB Korea	783.5	778.5	783.5	785.5	793.5	814.0	814.0	810.0	812.0	814.0
	SM	FOB Korea	1,349.0	1,342.0	1,339.0	1,342.0	1,394.0	1,420.0	1,420.0	1,431.0	1,447.0	1,413.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	661.5	649.5	694.0	568.0	565.0	409.5	484.5	399.5	493.5	611.5
	Change, %			*1.8*	*(4.7)*	*16.5*	*17.1*	*61.5*	*36.5*	*65.6*	*34.0*	*8.2*
	Ethylene	CFR SE Asia	1,260.0	1,215.0	1,135.0	1,250.0	1,172.5	855.0	990.0	1,040.9	1,090.9	1,231.3
	Change, %			*3.7*	*11.0*	*0.8*	*7.5*	*47.4*	*27.3*	*21.0*	*15.5*	*2.3*
	Propylene	CFR SE Asia	1,015.0	1,012.5	1,022.5	980.0	1,015.0	737.5	815.0	705.7	823.6	1,055.9
	Change, %			*0.2*	*(0.7)*	*3.6*	*0.0*	*37.6*	*24.5*	*43.8*	*23.2*	*(3.9)*
	Butadiene	CFR SE Asia	1,625.0	1,675.0	1,700.0	1,390.0	1,350.0	875.0	2,100.0	1,116.8	1,481.1	1,410.2
	Change, %			*(3.0)*	*(4.4)*	*16.9*	*20.4*	*85.7*	*(22.6)*	*45.5*	*9.7*	*15.2*
	Benzene	CFR SE Asia	832.5	855.0	870.0	867.5	895.0	782.5	822.5	646.7	838.8	876.8
	Change, %			*(2.6)*	*(4.3)*	*(4.0)*	*(7.0)*	*6.4*	*1.2*	*28.7*	*(0.8)*	*(5.0)*
	Toluene	CFR SE Asia	815.0	815.0	825.0	720.0	750.0	645.0	690.0	630.5	689.5	764.0
	Change, %			*0.0*	*(1.2)*	*13.2*	*8.7*	*26.4*	*18.1*	*29.3*	*18.2*	*6.7*
	Xylene	CFR SE Asia	827.5	840.0	830.0	762.5	757.5	620.0	675.0	627.7	668.8	776.5
	Change, %			*(1.5)*	*(0.3)*	*8.5*	*9.2*	*33.5*	*22.6*	*31.8*	*23.7*	*6.6*
Spread	**Ethylene**	-Naphtha	598.5	565.5	441.0	682.0	607.5	445.5	505.5	641.4	597.4	619.8
	Change, %			*5.8*	*35.7*	*(12.2)*	*(1.5)*	*34.3*	*18.4*	*(6.7)*	*0.2*	*(3.4)*
	Propylene	-Naphtha	353.5	363.0	328.5	412.0	450.0	328.0	330.5	306.2	330.1	444.5
	Change, %			*(2.6)*	*7.6*	*(14.2)*	*(21.4)*	*7.8*	*7.0*	*15.5*	*7.1*	*(20.5)*
	Butadiene	-Naphtha	963.5	1,025.5	1,006.0	822.0	785.0	465.5	1,615.5	717.3	987.6	798.8
	Change, %			*(6.0)*	*(4.2)*	*17.2*	*22.7*	*107.0*	*(40.4)*	*34.3*	*(2.4)*	*20.6*
	Benzene	-Naphtha	171.0	205.5	176.0	299.5	330.0	373.0	338.0	247.2	345.3	265.3
	Change, %			*(16.8)*	*(2.8)*	*(42.9)*	*(48.2)*	*(54.2)*	*(49.4)*	*(30.8)*	*(50.5)*	*(35.5)*
	Toluene	-Naphtha	153.5	165.5	131.0	152.0	185.0	235.5	205.5	231.0	196.0	152.5
	Change, %			*(7.3)*	*17.2*	*1.0*	*(17.0)*	*(34.8)*	*(25.3)*	*(33.5)*	*(21.7)*	*0.7*
	Xylene	-Naphtha	166.0	190.5	136.0	194.5	192.5	210.5	190.5	228.2	175.3	165.0
	Change, %			*(12.9)*	*22.1*	*(14.7)*	*(13.8)*	*(21.1)*	*(12.9)*	*(27.3)*	*(5.3)*	*0.6*

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	2016avg.	2017avg.	2018acc.
Spot Price	**HDPE**	CFR SE Asia	1,272.5	1,287.5	1,302.5	1,282.5	1,280.0	1,067.5	1,142.5	1,134.6	1,142.5	1,258.6
	Change, %			(1.2)	(2.3)	(0.8)	(0.6)	19.2	11.4	12.2	11.4	1.1
	MEG	CFR SE Asia	952.5	945.0	1,000.0	865.0	1,017.5	787.5	847.5	660.8	850.6	985.6
	Change, %			0.8	(4.8)	10.1	(6.4)	21.0	12.4	44.1	12.0	(3.4)
	PVC	CFR SE Asia	925.0	920.0	920.0	970.0	980.0	880.0	920.0	823.4	899.9	943.1
	Change, %			0.5	0.5	(4.6)	(5.6)	5.1	0.5	12.3	2.8	(1.9)
	PP	CFR SE Asia	1,292.5	1,282.5	1,287.5	1,297.5	1,275.0	1,057.5	1,032.5	978.4	1,099.6	1,259.5
	Change, %			0.8	0.4	(0.4)	1.4	22.2	25.2	32.1	17.5	2.6
	2-EH	CFR Korea	1,120.0	1,100.0	1,190.0	1,130.0	1,080.0	925.0	865.0	772.4	970.0	1,120.0
	Change, %			1.8	(5.9)	(0.9)	3.7	21.1	29.5	45.0	15.5	0.0
	ABS	CFR SE Asia	2,060.0	2,060.0	2,070.0	2,020.0	2,060.0	1,710.0	1,635.0	1,347.1	1,844.7	2,034.6
	Change, %			0.0	(0.5)	2.0	0.0	20.5	26.0	52.9	11.7	1.2
	SBR	CFR SE Asia	1,900.0	1,900.0	1,840.0	1,750.0	1,755.0	1,450.0	2,000.0	1,483.0	1,980.5	1,750.0
	Change, %			0.0	3.3	8.6	8.3	31.0	(5.0)	28.1	(4.1)	8.6
	SM	CFR SE Asia	1,492.5	1,525.0	1,432.5	1,337.5	1,437.5	1,165.0	1,205.0	1,064.6	1,253.8	1,404.5
	Change, %			(2.1)	4.2	11.6	3.8	28.1	23.9	40.2	19.0	6.3
	Caustic	FOB NEA	539.0	550.0	598.0	601.0	549.0	437.5	422.5	316.6	491.2	586.0
	Change, %			(2.0)	(9.9)	(10.3)	(1.8)	23.2	27.6	70.3	9.7	(8.0)
	PX	CFR SE Asia	980.0	975.0	1,012.5	940.0	957.5	787.5	855.0	790.4	844.4	964.6
	Change, %			0.5	(3.2)	4.3	2.3	24.4	14.6	24.0	16.1	1.6
	PO	CFR China	1,787.5	1,877.5	1,865.0	1,875.0	1,907.5	1,395.0	1,562.5	1,396.8	1,601.2	1,892.0
	Change, %			(4.8)	(4.2)	(4.7)	(6.3)	28.1	14.4	28.0	11.6	(5.5)
	Caprolactam	CFR SE Asia	2,150.0	2,120.0	2,090.0	2,180.0	2,060.0	1,600.0	1,850.0	1,344.9	1,936.4	2,118.5
	Change, %			1.4	2.9	(1.4)	4.4	34.4	16.2	59.9	11.0	1.5
	PTA	CFR SE Asia	857.5	860.0	842.5	790.0	777.5	635.0	642.5	613.7	667.8	797.7
	Change, %			(0.3)	1.8	8.5	10.3	35.0	33.5	39.7	28.4	7.5
Spread	**HDPE**		611.0	638.0	608.5	714.5	715.0	658.0	658.0	735.1	649.0	647.2
	Change, %			(4.2)	0.4	(14.5)	(14.5)	(7.1)	(7.1)	(16.9)	(5.9)	(5.6)
	MEG		291.0	295.5	306.0	297.0	452.5	378.0	363.0	261.3	357.1	374.2
	Change, %			(1.5)	(4.9)	(2.0)	(35.7)	(23.0)	(19.8)	11.4	(18.5)	(22.2)
	PVC		263.5	270.5	226.0	402.0	415.0	470.5	435.5	423.9	406.4	331.7
	Change, %			(2.6)	16.6	(34.5)	(36.5)	(44.0)	(39.5)	(37.8)	(35.2)	(20.6)
	PP		631.0	633.0	593.5	729.5	710.0	648.0	548.0	578.9	606.1	648.1
	Change, %			(0.3)	6.3	(13.5)	(11.1)	(2.6)	15.1	9.0	4.1	(2.6)
	2-EH		458.5	450.5	496.0	562.0	515.0	515.5	380.5	372.9	476.5	508.5
	Change, %			1.8	(7.6)	(18.4)	(11.0)	(11.1)	20.5	23.0	(3.8)	(9.8)
	ABS		1,398.5	1,410.5	1,376.0	1,452.0	1,495.0	1,300.5	1,150.5	947.6	1,351.2	1,423.1
	Change, %			(0.9)	1.6	(3.7)	(6.5)	7.5	21.6	47.6	3.5	(1.7)
	SBR	BD spread	275.0	225.0	140.0	360.0	405.0	575.0	(100.0)	366.2	499.4	339.8
	Change, %			22.2	96.4	(23.6)	(32.1)	(52.2)	(375.0)	(24.9)	(44.9)	(19.1)
	SM		831.0	875.5	738.5	769.5	872.5	755.5	720.5	665.1	760.3	793.0
	Change, %			(5.1)	12.5	8.0	(4.8)	10.0	15.3	24.9	9.3	4.8
	Caustic											
	Change, %											
	PX		318.5	325.5	318.5	372.0	392.5	378.0	370.5	390.9	351.0	353.1
	Change, %			(2.2)	0.0	(14.4)	(18.9)	(15.7)	(14.0)	(18.5)	(9.2)	(9.8)
	PO	propylene sprea	772.5	865.0	842.5	895.0	892.5	657.5	747.5	691.1	777.6	836.0
	Change, %			(10.7)	(8.3)	(13.7)	(13.4)	17.5	3.3	11.8	(0.7)	(7.6)
	Caprolactam	benzene spreac	1,317.5	1,265.0	1,220.0	1,312.5	1,165.0	817.5	1,027.5	698.2	1,097.6	1,241.8
	Change, %			4.2	8.0	0.4	13.1	61.2	28.2	88.7	20.0	6.1
	PTA	px spread	171.5	177.5	133.8	132.0	107.3	83.8	44.0	60.4	76.7	122.5
	Change, %			(3.4)	28.2	29.9	59.9	104.8	289.8	183.8	123.6	40.0

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

Global peers

	Currency	06/22	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
Petrochemical																
DowDuPont	USD	67.0	2.6	(1.1)	(0.7)	2.1	(7.1)	5.0	(5.9)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	102.1	1.1	(6.3)	(5.9)	(1.8)	10.2	23.2	10.2	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	83.3	(0.0)	(5.7)	(7.0)	1.1	(10.9)	(2.6)	(9.2)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.8	0.6	(2.0)	(3.3)	(3.7)	2.0	(3.6)	2.4	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	102.0	1.4	(1.5)	(8.0)	(5.2)	0.2	7.4	0.4	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.7	0.0	(3.6)	(2.6)	9.0	5.7	3.1	3.6	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	612	(0.2)	(5.0)	(8.4)	(0.3)	(26.3)	0.2	(24.4)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	897	(1.0)	(7.5)	(14.7)	(12.3)	(28.3)	0.7	(27.5)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	9,983	(0.5)	(4.3)	(13.7)	(10.8)	(13.6)	(0.8)	(12.8)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,394	(0.7)	(3.6)	(7.9)	(0.3)	(5.1)	16.8	(4.1)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,818	(1.7)	(5.4)	(17.9)	(24.4)	(18.0)	(1.9)	(18.0)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,284	0.5	(4.8)	(6.2)	2.3	(19.1)	(6.6)	(17.2)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	126.0	0.0	(0.5)	4.5	11.7	23.8	23.1	24.2	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	72.5	0.0	(0.7)	0.6	3.0	24.5	30.0	22.9	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	109.5	0.9	3.3	0.0	5.3	14.8	20.3	10.9	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	117.5	1.7	4.4	0.9	5.9	20.5	27.6	14.1	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	84.6	0.5	0.0	(2.4)	1.8	11.0	16.7	8.6	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.70	0.0	(2.2)	(7.0)	(6.4)	(10.7)	(12.7)	(10.0)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.86	(0.5)	(8.4)	(16.2)	(19.8)	(32.9)	(45.8)	(30.3)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,013	(1.9)	(0.2)	9.3	11.5	10.0	41.3	11.3	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	106.9	0.0	0.9	0.8	(1.4)	8.1	11.9	10.2	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	81.3	1.2	(2.7)	(14.7)	(17.1)	(4.7)	18.6	(4.4)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.4	0.0	0.7	(0.4)	2.3	10.5	17.5	9.1	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	343,000	(1.9)	(8.2)	1.3	(16.1)	(12.8)	19.5	(15.3)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	348,000	0.7	(4.8)	(11.1)	(20.8)	(3.5)	1.6	(5.4)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	22,200	1.4	(9.0)	(21.0)	(27.3)	(25.9)	(25.1)	(29.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	112,000	0.9	7.2	0.9	12.4	15.7	52.6	12.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	45,550	0.2	10.7	15.5	16.3	3.4	39.9	(3.1)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	63,200	1.8	(1.3)	(2.9)	1.6	0.8	17.3	0.2	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	6,740	(2.6)	(13.4)	(2.2)	(31.6)	(10.4)	15.4	(11.1)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.2**	**(2.5)**	**(4.7)**	**(3.8)**	**(2.3)**	**10.4**	**(2.9)**							
Refinery																
Valero	USD	112.2	0.9	(2.6)	(6.6)	20.6	23.2	73.2	22.1	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	67.8	4.1	3.7	(3.4)	20.0	22.1	51.3	23.5	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	120.0	0.4	(0.8)	(4.0)	3.0	6.2	9.1	3.9	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	135.1	(0.0)	(0.7)	(6.0)	33.8	20.4	48.3	18.1	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	72.6	0.2	(1.3)	(7.5)	(0.5)	9.4	41.9	10.1	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	43.3	5.2	7.5	3.5	34.0	4.1	44.2	4.5	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	71.2	(1.1)	(1.5)	(2.4)	47.8	40.6	167.3	39.0	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	112.0	0.5	(2.0)	(5.7)	18.3	11.0	42.0	10.7	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	34.2	0.1	4.4	8.0	33.2	9.8	39.5	10.1	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	740.3	(0.5)	(3.1)	(2.1)	13.9	2.9	55.7	1.8	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,575.0	1.1	(5.4)	(12.2)	(13.8)	(19.9)	14.2	(21.0)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	65.5	0.0	(1.5)	(6.8)	14.8	22.4	88.3	22.8	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	78.5	1.1	0.4	0.1	15.2	9.9	17.8	10.3	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.1	0.7	(5.5)	(5.8)	(5.1)	(3.3)	(14.4)	(2.6)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	202,000	(1.0)	(5.8)	(2.4)	(5.4)	(1.0)	29.1	(1.2)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	110,000	(0.9)	(1.3)	(1.8)	(7.9)	(11.6)	16.6	(6.0)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	54,700	0.4	(5.7)	(11.5)	(15.1)	(11.9)	(18.1)	(12.1)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.7**	**(1.3)**	**(3.9)**	**12.2**	**7.9**	**41.5**	**7.9**							

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

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

Global peers

	Currency	06/22	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	81	2.1	0.9	(0.3)	10.7	(3.1)	0.4	(2.7)	344,549	16.8	15.5	1.8	1.7	7.5	7.1
BP	GBP	577	3.1	2.1	(2.0)	24.5	11.5	26.2	10.3	152,704	14.5	13.7	1.5	1.5	5.5	5.3
Shell	EUR	2,609	3.4	3.5	(4.8)	18.4	6.4	26.3	5.2	293,353	12.5	11.4	1.4	1.4	6.0	5.8
Chevron	USD	125	2.0	0.9	(2.4)	10.0	0.1	19.8	(0.1)	239,061	15.9	15.3	1.6	1.5	6.4	6.1
Total	EUR	52	3.3	0.2	(3.0)	13.5	12.9	18.3	14.0	162,598	11.9	11.2	1.3	1.2	5.6	5.2
Sinopec	CNY	6	(2.2)	(3.4)	(13.8)	(8.3)	4.0	5.0	2.3	114,923	10.0	9.5	1.0	0.9	3.8	3.7
Petrochina	CNY	7	0.4	(5.8)	(14.7)	(9.3)	(9.8)	(5.1)	(9.8)	196,858	22.5	19.0	1.1	1.1	5.3	5.2
CNOOC	CNY	9	1.5	(8.7)	(22.5)	(20.7)	(11.9)	(17.5)	(12.9)	70,212	8.5	8.6	1.1	1.1	3.7	3.7
Gazprom	RUB	137	1.8	(0.7)	(6.6)	(2.0)	3.3	14.4	4.8	51,422	3.1	3.2	0.2	0.2	2.6	2.6
Rosneft	RUB	391	(0.5)	2.0	1.4	23.6	33.0	22.5	34.1	65,783	7.5	6.4	0.9	0.8	4.5	4.3
Anadarko	USD	74	6.7	8.2	5.1	22.2	40.0	64.4	38.2	38,173	25.8	22.0	2.7	2.4	7.0	6.2
Petrobras	BRL	15	0.1	0.9	(38.9)	(30.4)	(4.1)	25.5	(6.1)	57,617	5.8	5.2	0.6	0.5	4.1	3.8
Lukoil	USD	4,125	(0.2)	1.7	(5.4)	6.9	23.2	49.4	23.7	56,222	5.4	5.6	0.8	0.7	N/A	N/A
Kinder	USD	17	1.3	3.7	9.1	13.2	(3.7)	(6.4)	(3.8)	47,497	20.3	18.1	1.1	1.1	10.6	10.3
Equinor ASA	NOK	214	2.5	(0.9)	(2.2)	19.0	22.5	54.0	22.3	88,299	14.4	13.8	2.0	1.9	3.5	3.4
BHP	AUD	33	(0.7)	(3.1)	(3.5)	9.5	11.8	46.8	10.0	124,272	15.4	16.7	2.1	2.0	6.2	6.4
PTT E&P	THB	130	2.8	(3.4)	(13.4)	11.6	29.8	49.7	29.5	15,616	13.0	12.4	1.3	1.2	3.9	3.6
Petronas gas	MYR	17	0.7	(0.8)	(3.4)	(3.6)	1.5	(8.1)	(0.7)	8,569	18.2	18.0	2.6	2.5	10.0	9.9
Chesapeake	USD	5	3.7	8.8	11.2	62.4	31.2	12.2	27.5	4,605	6.1	7.0	#N/A N/A	6.6	6.5	6.3
Noble Energy	USD	36	3.2	6.6	(2.0)	18.1	25.3	30.0	23.8	17,479	31.4	23.2	1.6	1.5	7.9	6.6
Average		**0**	**1.7**	**0.6**	**(5.6)**	**9.5**	**11.2**	**21.4**	**10.5**							
PV																
WACKER	EUR	113.4	(0.7)	(2.4)	(27.1)	(14.9)	(30.1)	20.2	(30.1)	6,886	16.5	14.7	1.7	1.6	5.7	5.5
GCL-Poly	HKD	0.8	4.1	0.0	(22.4)	(25.5)	(44.9)	4.1	(45.7)	1,801	6.4	5.6	0.5	0.4	6.4	5.8
SunPower	USD	8.2	3.1	8.0	(10.5)	6.1	(9.0)	(5.3)	(2.4)	1,159	#N/A N/A	#N/A N/A	1.5	1.5	19.9	12.0
Canadian Solar	USD	12.5	0.6	4.5	(27.3)	(26.3)	(27.0)	(17.1)	(25.9)	732	7.8	8.1	0.7	0.7	7.6	8.2
JA Solar	USD	6.8	(0.1)	(1.4)	(4.9)	2.2	(7.5)	5.9	(8.4)	325	#N/A N/A	#N/A N/A	1.6	1.7	4.9	6.7
Yingli	USD	1.6	(1.8)	(2.2)	(9.0)	1.0	(7.9)	(28.2)	(7.4)	28	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
First Solar	USD	52.7	0.6	3.1	(24.8)	(27.0)	(23.5)	37.0	(22.0)	5,516	30.8	17.1	1.0	0.9	9.1	5.1
한화큐셀	USD	6.0	0.2	(3.5)	(18.1)	(24.2)	(16.6)	(14.2)	(14.0)	503	10.8	22.4	#N/A N/A	#N/A N/A	7.9	8.1
OCI	KRW	110,500	2.8	0.9	(27.3)	(29.8)	(13.3)	21.3	(18.8)	2,369	0.0	10.6	0.0	0.7	0.0	4.8
웅진에너지	KRW	3,930	(2.1)	(25.8)	(30.9)	(44.0)	(51.7)	(44.9)	(52.2)	105	N/A	0.0	0.7	0.0	4.8	0.0
신성솔라에너지	KRW	1,530	0.0	(8.1)	(11.3)	(13.3)	(21.7)	(29.8)	(20.1)	238	N/A	0.7	0.0	4.8	0.0	6.8
Average			**0.6**	**(2.5)**	**(19.4)**	**(17.8)**	**(23.0)**	**(4.6)**	**(22.5)**							
Gas Company																
Towngas China	HKD	7.5	1.4	2.9	(5.7)	5.8	23.5	44.1	18.6	2,629	14.5	12.9	1.2	1.2	12.2	11.1
Kulun	HKD	6.9	0.0	(2.3)	(7.1)	0.9	(15.4)	7.8	(15.0)	7,119	9.7	8.4	1.1	1.0	5.7	5.1
Beijing Enterprise	HKD	40.6	1.6	(4.1)	(6.8)	(3.1)	(11.6)	6.7	(12.5)	6,530	7.1	6.4	0.7	0.6	12.2	11.6
ENN Energy	HKD	81.0	7.4	6.3	0.8	26.3	41.7	86.0	45.3	11,201	17.8	15.0	3.6	3.1	10.4	9.1
China Resources Gas	HKD	32.1	6.5	5.3	5.1	18.7	14.1	32.2	13.1	9,084	17.0	15.3	2.9	2.5	9.3	8.5
China Gas Holdings	HKD	32.6	2.5	1.4	0.0	17.1	47.5	129.6	50.9	20,642	21.6	18.3	5.5	4.5	16.7	14.4
Shenzen Gas	HKD	16.3	1.9	(5.6)	(1.3)	(2.9)	11.2	14.8	9.4	4,224	10.8	9.2	1.3	1.2	6.0	5.2
Shann Xi	CNY	6.9	2.4	(2.8)	(17.2)	(5.5)	(25.6)	(23.4)	(18.6)	1,173	15.8	13.8	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.3	0.4	(6.5)	(21.8)	6.0	15.0	59.7	11.1	1,089	5.9	5.2	0.7	0.7	8.3	7.1
China Oil & Gas	HKD	0.7	6.5	0.0	10.0	(5.7)	(2.9)	26.9	(22.4)	490	8.7	7.7	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**3.0**	**(0.5)**	**(4.4)**	**5.8**	**9.7**	**38.4**	**8.0**							
EV																
LG화학	KRW	343,000	(1.9)	(8.2)	1.3	(16.1)	(12.8)	19.5	(15.3)	21,767	12.6	11.6	1.5	1.3	6.0	5.4
삼성SDI	KRW	227,000	0.4	(3.6)	14.6	9.1	12.1	38.4	11.0	14,033	21.4	15.4	1.3	1.2	15.0	11.7
Panasonic	JPY	1505.5	(1.1)	(3.9)	(3.8)	(8.5)	(9.7)	(0.7)	(8.7)	33,589	13.7	12.1	1.9	1.7	5.3	4.9
GS Yuasa	JPY	498.0	(0.6)	(1.6)	(12.0)	(13.5)	(11.2)	2.0	(11.2)	1,873	14.1	12.9	1.1	1.1	6.5	6.1
NEC	JPY	3085.0	(0.3)	(1.3)	1.1	(3.0)	0.8	6.0	1.5	7,308	22.8	13.3	0.9	0.8	7.3	5.6
BYD Auto	CNY	46.9	2.4	(2.8)	(14.8)	(25.1)	(24.7)	(7.7)	(28.0)	18,734	25.0	20.2	2.2	2.0	12.3	10.6
Tesla Motors	USD	333.6	(4.0)	(6.9)	21.3	7.9	2.6	(12.8)	7.2	56,648	#N/A N/A	154.6	11.1	10.3	64.2	21.8
Kandi Technologies	USD	4.6	(1.1)	(9.0)	(24.8)	(8.1)	(36.8)	11.0	(33.1)	232	#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			**(0.8)**	**(4.6)**	**(2.1)**	**(7.2)**	**(10.0)**	**7.0**	**(9.6)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임