

1. News Summary (3 page)

2018년 7월 16일

News	
WTI comment	무역전쟁 부담속 상승...WTI 1.0%↑
Headline	[주간가격] 에틸렌, WoW \$10/mt 상승해 CFR SEA \$1,280/mt로 마감
News 1.	[주간가격] MEG, WoW \$5/mt 상승해 CFR China \$898/mt로 마감
News 2.	[주간가격] BD, WoW \$40/mt 상승해 FOB Korea \$1,650/mt로 마감
News 3.	[주간가격] SBR, WoW \$20/mt 하락해 CFR SEA \$1,750/mt로 마감
News 4.	[주간가격] PX, WoW \$2.5/mt 하락해 FOB Korea \$986/mt로 마감

Conclusion	
다운스트림이 역마진인데다가 증등 물량도 유입되며 하방 열릴 전망 아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음	
위안화 약세로 CFR China와 FOB Korea 사이 갭이 더욱 커질 전망	
무역전쟁은 자동차 관세로 이어질 개연성이 높아 일시적 섀티 약화 가능	
산유국의 증산기조와 하반기 역대 PX 설비 증설로 가격 하방 열릴 전망	

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
			%	%	%	%	%
Refinery							
WTI	\$/bbl	71.0	1.0	(3.8)	6.2	5.4	52.6
Dubai	\$/bbl	71.7	(1.3)	(3.4)	(3.6)	3.8	52.5
Gasoline	\$/bbl	81.0	(1.4)	(3.0)	(4.9)	(1.5)	33.6
Diesel	\$/bbl	83.4	(1.3)	(4.0)	(5.4)	(1.3)	38.9
Complex margin	\$/bbl	6.1	(0.1)	(0.2)	(0.4)	(1.5)	(2.0)
1M lagging	\$/bbl	3.0	(1.4)	(3.9)	(4.0)	(12.4)	(4.7)
			%	%	%	%	%
Petrochemical							
Naphtha	\$/t	647	(1.2)	(2.7)	0.3	5.5	58.2
Butadiene	\$/t	1,650	0.0	2.5	(4.1)	24.1	69.2
HDPE	\$/t	1,340	0.0	0.0	(1.5)	0.0	24.1
MEG	\$/t	898	0.0	0.6	(1.6)	(12.6)	5.6
PX	\$/t	986	(0.3)	(0.3)	2.1	5.0	27.1
SM	\$/t	1,379	0.4	2.2	(3.6)	3.4	18.7
			%	%	%	%	%
Commodity							
Natural Gas	\$/mmbtu	2.75	(1.6)	(3.7)	(8.7)	(2.4)	(5.1)
Natural rubber	\$/t	1,290	(0.8)	(0.8)	(4.4)	(5.8)	(13.4)
Cotton	C/lbs	88.9	(0.4)	2.9	(2.0)	6.6	32.3

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
				%	%	%	%
Petrochemical							
Ethylene	07/09	\$/t	1,290	2.4	6.2	1.2	47.4
Propylene	07/09	\$/t	965	(1.5)	(4.7)	0.8	27.8
Benzene	07/09	\$/t	820	1.5	(4.1)	(2.4)	10.4
Toluene	07/09	\$/t	795	1.3	(2.5)	8.2	26.2
Xylene	07/09	\$/t	815	1.9	(3.0)	7.6	32.5
PP	07/09	\$/t	1,263	(1.6)	(1.6)	3.7	22.9
PVC	07/09	\$/t	935	0.0	1.6	(2.6)	7.5
ABS	07/09	\$/t	1,960	(2.0)	(4.9)	(1.0)	9.5
SBR	07/09	\$/t	1,770	(0.6)	(6.8)	7.3	22.1
SM	07/09	\$/t	1,368	0.4	(10.3)	0.6	17.9
BPA	07/09	\$/t	1,735	(1.7)	(7.6)	(2.9)	15.9
Caustic	07/09	\$/t	475	0.0	(13.6)	(24.1)	5.0
2-EH	07/09	\$/t	1,100	0.0	0.0	(2.7)	20.9
Caprolactam	07/09	\$/t	2,140	0.5	0.9	(3.6)	32.9
				%	%	%	%
Solar							
Polysilicon	07/11	\$/kg	11.1	(0.3)	(11.8)	(27.8)	(19.7)
Module	07/11	\$/W	0.26	(1.5)	(7.7)	(13.0)	(20.4)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
			%	%	%	%	%
E&P							
ExxonMobil	USD	83.3	0.7	1.2	2.2	7.0	2.9
Shell	EUR	2,646	0.6	1.1	3.0	11.2	28.2
Petrochina	CNY	7.60	(0.5)	2.0	(2.3)	(0.3)	(3.7)
Gazprom	RUB	146.9	1.2	1.3	4.2	3.0	17.0
Petrobras	BRL	18.1	0.9	0.9	19.4	(14.6)	40.7
			%	%	%	%	%
Refinery							
Phillips66	USD	111.8	0.6	0.6	(3.4)	7.8	36.8
Valero	USD	107.3	0.5	(0.5)	(8.9)	5.4	58.4
JX	JPY	767.0	0.2	(0.4)	4.0	12.7	58.0
Neste Oil	EUR	67.0	(0.5)	2.0	0.7	22.1	83.5

	Unit	Price	1D	1W	1M	3M	12M
			%	%	%	%	%
Petrochemical							
BASF	EUR	81.9	0.5	(0.4)	(5.5)	(2.4)	(1.1)
DowDuPont	USD	66.4	0.2	0.7	(3.2)	0.3	1.1
SABIC	SAR	126.8	0.0	2.6	0.2	8.6	25.1
Formosa Pla.	TWD	110.0	3.8	0.5	2.3	3.3	20.4
Shin-Etsu	JPY	10,415	0.8	3.4	(5.4)	(6.4)	2.6
			%	%	%	%	%
Renewable							
Wacker	EUR	115.0	(1.5)	0.7	(2.0)	(20.6)	18.6
First Solar	USD	54.06	(1.2)	(0.9)	2.6	(23.5)	30.2
GCL-Poly	HKD	0.68	(1.4)	1.5	(15.0)	(32.7)	(18.1)
Tesla Motors	USD	318.9	0.7	3.2	(7.5)	6.2	(1.4)

4. Coverage Summary

	07/13	1D	1W	1M	3M	6M	12M
KOSPI	2,311	1.1	1.7	(6.4)	(5.9)	(7.1)	(3.4)
KOSPI확화	5,704	1.5	2.3	(6.7)	(7.0)	(8.8)	6.1
LG화학	335,000	3.6	4.0	(12.0)	(10.2)	(20.5)	11.9
롯데케미칼	344,000	(0.7)	4.2	(9.6)	(18.9)	(10.2)	(1.7)
한화케미칼	20,950	3.2	0.0	(18.0)	(28.6)	(36.2)	(31.8)
금호석유화학	114,000	0.4	2.7	12.3	19.5	5.1	57.0
KCC	323,000	1.9	0.8	(8.6)	(9.5)	(20.1)	(20.2)
OCI	98,300	1.3	2.5	(14.1)	(40.1)	(43.8)	17.0
SKC	43,700	0.7	1.3	3.3	16.8	(1.9)	16.5
SK이노베이션	192,000	0.8	(0.5)	(10.7)	(4.5)	(4.2)	17.4
S-Oil	109,500	3.3	3.8	(1.8)	(5.6)	(5.6)	7.4
GS	51,800	2.2	0.8	(13.1)	(13.7)	(19.1)	(27.3)
SK가스	89,500	(1.2)	(0.6)	(6.1)	(7.8)	(5.0)	(23.8)
포스코대우	20,700	1.5	(0.5)	(14.3)	(11.9)	0.2	(8.0)
LG상사	22,800	0.9	0.2	(17.1)	(13.0)	(25.0)	(23.9)
한국전력	31,200	(1.0)	(1.0)	(11.0)	(9.6)	(15.0)	(25.8)
한국가스공사	61,300	1.2	2.5	(4.2)	23.8	37.1	22.4

투자의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	400,000	19.4	13.24	1.49
매수	400,000	16.3	10.68	0.97
매수	30,000	43.2	9.41	0.51
매수	150,000	31.6	10.63	1.47
매수	400,000	23.8	28.00	0.50
매수	140,000	42.4	7.48	0.71
매수	50,000	14.4	11.92	1.04
매수	230,000	19.8	11.29	0.96
매수	140,000	27.9	12.50	1.83
매수	80,000	54.4	4.80	0.58
매수	130,000	45.3	8.46	0.60
매수	25,000	20.8	10.85	0.81
매수	38,000	66.7	8.44	0.64
매수	45,000	44.2	7.55	0.25
매수	75,000	22.3	9.51	0.79

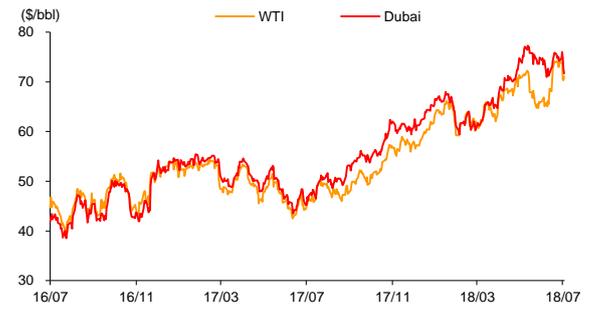
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Key Chart

KOSPI/KOSPI화학



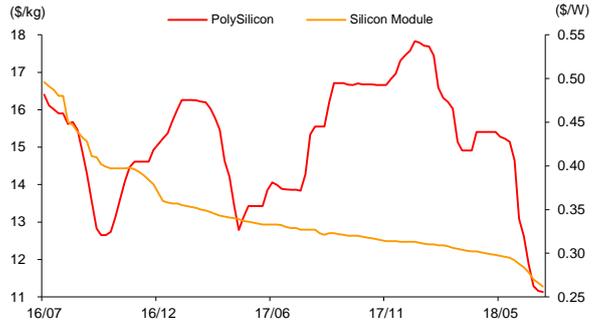
WTI/Dubai



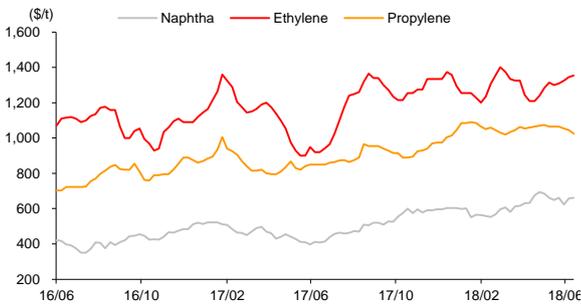
Complex & 1M lagging margin



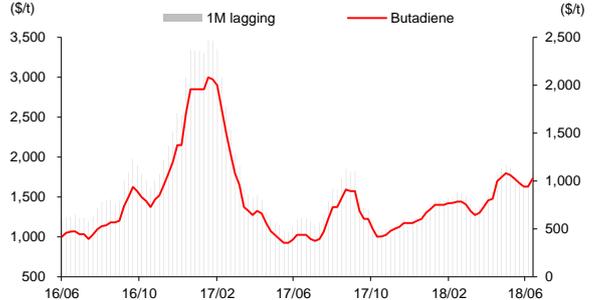
Polysilicon & Module prices



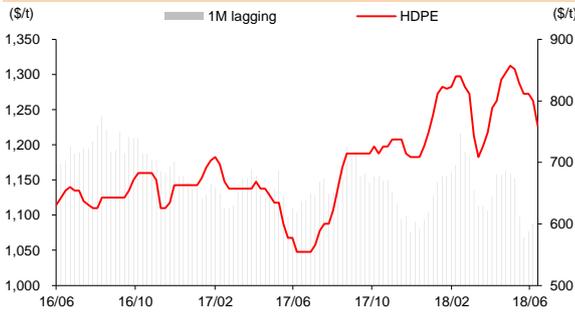
Naphtha/Ethylene/Propylene prices



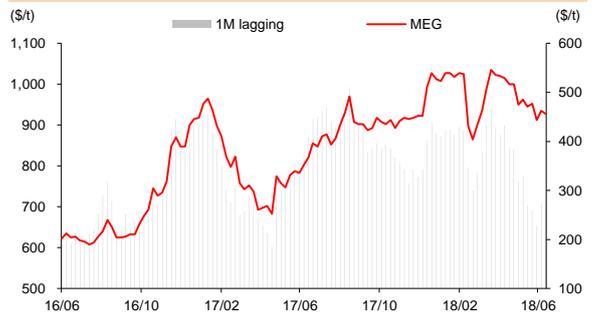
Butadiene price & 1M lagging naphtha spread



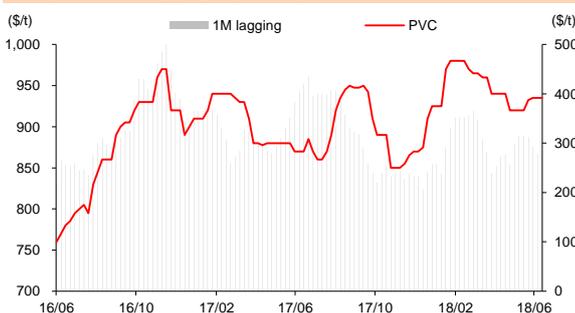
HDPE price & 1M lagging naphtha spread



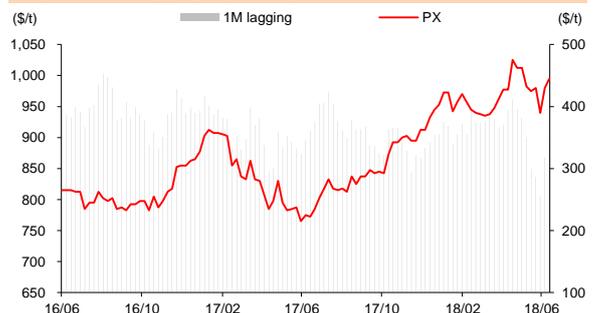
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



자료: Bloomberg, Cischem, Petronet, Platts, Pvinfosights, SK증권
참고: 상기 데이터는 일괄적으로 과거 2년치 적용

News Comment

Headline	(출처: Platts)
제목 [주간가격] 에틸렌, WoW \$10/mt 상승해 CFR SEA \$1,280/mt로 마감	
결론 다운스트림이 역마진인데다가 중동 물량도 유입되며 하방 열릴 전망	
세부	
1) 이번 주 유가 하락으로 에틸렌의 파생품 가격 센터먼트가 지속 악화됨	
2) 그러나 일본에서의 스팟 수요 증가로 에틸렌 가격은 상승세를 시현함	
3) Maruzen, Keiyo Ethylene, JXTG의 예상 밖 가동을 감소에 기인함	
4) Mitsui Chemical도 정기보수 종료가 연기되었고 S-Oil RFCC도 미가동중	
5) 다운스트림이 역마진인데다가 중동 물량도 유입되며 하방 열릴 전망	

WTI Comment	(출처: 연합뉴스)
제목 무역전쟁 부담속 상승...WTI 1.0%↑	
상승 노르웨이와 이라크 유전 근로자들의 파업 소식	
요인	
하락 미중간 무역전쟁 확산	
요인	

Issue 1	(출처: Platts)
제목 [주간가격] MEG, WoW \$5/mt 상승해 CFR China \$898/mt로 마감	
결론 아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음	
세부	
1) 위안화 약세 속 중국 내수 공급이 타이트해 내수 가격이 부양됨	
2) 동중국 내수 가격은 금요일 Yuan 7,210/mt에 마감함	
3) 관계자, "가격이 지지되고 있으나 2주간 역외물량 유입되며 하락할 것"	
4) 수요는 소강상태이며 위안화 약세로 역외물량 구매를 꺼리고 있음	
5) 아직 재고 레벨이 역사적 고점 수준으로 방향성은 하방으로 열려있음	

Issue 2	(출처: Platts)
제목 [주간가격] BD, WoW \$40/mt 상승해 FOB Korea \$1,650/mt로 마감	
결론 위안화 약세로 CFR China와 FOB Korea 사이 갭이 더욱 커질 전망	
세부	
1) 8월 도착 카고 확보가 용이했고 수요도 안정적인 모습을 보였음	
2) FOB Korea 스팟 공급은 타이트한 모습을 보여 상승 마감했음	
3) CFR China는 수입 수요 약세, 합성고무 마진 하락으로 WoW \$30/mt 하락	
4) 대만은 Formosa 크래커 재가동으로 공급이 덜 타이트할 것으로 전망됨	
5) 위안화 약세로 CFR China와 FOB Korea 사이 갭이 더욱 커질 전망	

Issue 3	(출처: Platts)
제목 [주간가격] SBR, WoW \$20/mt 하락해 CFR SEA \$1,750/mt로 마감	
결론 무역전쟁은 자동차 관세로 이어질 개연성이 높아 일시적 센터 악화 가능	
세부	
1) 무역전쟁 여파로 중국 자동차 산업이 타격을 받을 것이란 긴장감 팽배	
2) 도쿄 원자재 시장의 천연고무 가격도 2016년 9월 이후 최저치를 보임	
3) 반면 SBR 가격은 BD 가격 상승으로 SBR 공장 가동을 낮아지며 지지됨	
4) 한편 말레이시아 천연고무 생산은 5월 35,789톤으로 MoM 0.2% 증가	
5) 무역전쟁은 자동차 관세로 이어질 개연성이 높아 일시적 센터 악화 가능	

Issue 4	(출처: Platts)
제목 [주간가격] PX, WoW \$2.5/mt 하락해 FOB Korea \$986/mt로 마감	
결론 산유국의 증산기조와 하반기 역대 PX 설비 증설로 가격 하방 열릴 전망	
세부	
1) 업스트림이 약세를 보이는 가운데 8월말 수요가 견조해 가격 지지됨	
2) 이에 따라 CFR China/Taiwan과 CFR Japan 납사의 스프레드도 커짐	
3) 중동으로부터의 장거리 물량 유입이 지연되며 수요가 견조한 것임	
4) Hengli PetChem은 10월 가동하는 정유설비에 PX 450만톤 capa도 보유	
5) 산유국의 증산기조와 하반기 역대 PX 설비 증설로 가격 하방 열릴 전망	

Issue 5	(출처: Platts)
제목 [주간가격] PTA, WoW \$8/mt 하락해 CFR China \$842/mt로 마감	
결론 산유국 증산으로 유가 하방이 열린만큼 PTA 가격도 하락 압력 커질 것	
세부	
1) 트레이더, "9월 Brent 선물 가격이 WoW \$3.77/b 하락해 PTA 가격 하락"	
2) ZCE 9월 PTA 선물 가격은 Yuan 38/mt 하락한 Yuan 5,876/mt 에 마감	
3) CFR SEA와 CFR India 가격이 각각 \$11/mt, \$13/mt 하락함	
4) 관계자, "운임 약세로 CFR SEA, CFR India가 CFR China보다 낙폭 컸음"	
5) 산유국 증산으로 유가 하방이 열린만큼 PTA 가격도 하락 압력 커질 것	

Issue 6	(출처: PVinsights)
제목 [주간가격] 태양광 제품, 수요 약세 전망에 하락세 지속	
결론 지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것	
세부	
1) 폴리실리콘은 바이어들의 가격 하락 전망으로 이번주도 약세 면치 못할	
2) Wafer는 공급 과잉 상황과 수요 약세 전망이 가격 조정 국면 지속시킴	
3) Cell은 효율성이 18.6% 미만인 것들의 공급이 과도해 하락세 보였음	
4) 모듈은 수요 약세와 글로벌 가격 경쟁 심화 전망으로 신저가를 기록했음	
5) 지속되는 수요 약세로 전반적인 태양광 제품 가격의 하락세 보일 것	

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.	
F/X	USD/EUR	0.856	0.857	0.852	0.848	0.811	0.820	0.877	0.833	0.904	0.887	0.829	
	Change, %		(0.1)	0.5	0.9	5.5	4.4	(2.5)	2.7	(5.3)	(3.5)	3.2	
	USD/JPY	112.4	112.6	110.5	110.3	107.4	111.1	113.3	112.6	108.8	112.1	108.9	
	Change, %		(0.2)	1.7	1.8	4.7	1.2	(0.8)	(0.2)	3.3	0.2	3.2	
	USD/KRW	1,123.4	1,126.0	1,115.9	1,086.0	1,069.7	1,064.9	1,136.4	1,066.7	1,160.5	1,130.9	1,079.4	
	Change, %		(0.2)	0.7	3.4	5.0	5.5	(1.1)	5.3	(3.2)	(0.7)	4.1	
	<hr/>												
	Agriculture	Corn	330.3	336.5	351.8	376.0	386.3	346.3	361.0	350.8	358.5	359.4	372.1
Change, %			(1.9)	(6.1)	(12.2)	(14.5)	(4.6)	(8.5)	(5.8)	(7.9)	(8.1)	(11.2)	
Soybean		814.0	830.0	874.0	936.0	1,054.3	944.0	972.5	951.8	987.5	975.9	988.0	
Change, %			(1.9)	(6.9)	(13.0)	(22.8)	(13.8)	(16.3)	(14.5)	(17.6)	(16.6)	(17.6)	
Wheat		481.5	482.5	512.8	516.5	472.5	420.5	495.5	427.0	436.4	436.0	477.3	
Change, %			(0.2)	(6.1)	(6.8)	1.9	14.5	(2.8)	12.8	10.3	10.4	0.9	
Rice		11.8	11.8	12.1	12.1	13.1	11.6	11.5	11.7	10.3	11.1	12.2	
Change, %			(0.2)	(2.5)	(2.3)	(9.9)	2.0	2.7	1.2	14.2	6.8	(3.2)	
Oats		258.0	257.5	254.3	233.0	234.3	249.5	294.5	241.0	196.3	252.3	246.4	
Change, %			0.2	1.5	10.7	10.1	3.4	(12.4)	7.1	31.4	2.3	4.7	
MYR/mt		Palm Oil	2,140.0	2,138.0	2,255.0	2,319.0	2,392.0	2,474.0	2,661.0	2,444.0	2,653.8	2,787.3	2,411.9
		Change, %		0.1	(5.1)	(7.7)	(10.5)	(13.5)	(19.6)	(12.4)	(19.4)	(23.2)	(11.3)
		Cocoa	2,517.0	2,489.0	2,459.0	2,380.0	2,564.0	1,914.0	1,833.0	1,892.0	2,854.0	2,005.2	2,399.1
		Change, %		1.1	2.4	5.8	(1.8)	31.5	37.3	33.0	(11.8)	25.5	4.9
	Cotton	88.9	89.2	86.4	93.8	83.4	81.7	66.5	78.6	65.6	73.5	83.8	
	Change, %		(0.4)	2.9	(5.2)	6.6	8.8	33.6	13.1	35.5	20.9	6.1	
	Sugar	11.0	11.1	11.5	12.5	12.1	14.2	14.1	15.2	18.2	15.8	12.6	
	Change, %		(1.1)	(4.8)	(12.4)	(9.3)	(22.7)	(22.5)	(27.7)	(39.6)	(30.7)	(12.8)	
Coffee	107.1	108.7	111.3	116.4	117.3	122.3	129.4	126.2	136.1	133.0	118.3		
Change, %		(1.5)	(3.8)	(8.0)	(8.7)	(12.4)	(17.2)	(15.2)	(21.3)	(19.5)	(9.5)		
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Energy	WTI	71.0	70.3	73.8	66.6	67.4	64.3	46.1	60.4	43.4	51.0	66.0	
	Change, %		1.0	(3.8)	6.6	5.4	10.4	54.1	17.5	63.7	39.3	7.6	
	Brent	75.3	74.5	77.1	76.7	72.6	69.9	48.4	66.9	45.1	54.9	71.6	
	Change, %		1.2	(2.3)	(1.8)	3.8	7.8	55.6	12.7	67.1	37.3	5.2	
	Natural Gas	2.8	2.8	2.9	3.0	2.7	3.2	3.0	3.0	2.6	3.0	2.8	
	Change, %		(1.6)	(3.7)	(7.1)	0.6	(14.0)	(7.1)	(6.8)	7.8	(8.9)	(3.0)	
	Ethanol	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.3	1.5	1.5	1.4	
	Change, %		(0.7)	(2.6)	(2.5)	(5.8)	3.2	(7.3)	6.1	(7.5)	(6.4)	(2.5)	
	RBOB Gasoline	210.7	207.2	210.9	212.5	206.5	185.0	152.6	179.9	140.0	162.9	199.8	
	Change, %		1.7	(0.1)	(0.9)	2.0	13.9	38.0	17.1	50.5	29.3	5.5	
Coal	117.7	118.1	116.1	116.0	93.4	105.9	83.8	100.8	65.5	88.2	104.4		
Change, %		(0.3)	1.4	1.5	26.0	11.2	40.5	16.8	79.8	33.4	12.8		
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Metal	Gold	1,241.5	1,247.4	1,255.2	1,299.3	1,345.4	1,338.0	1,217.6	1,302.6	1,248.5	1,258.6	1,312.6	
	Change, %		(0.5)	(1.1)	(4.5)	(7.7)	(7.2)	2.0	(4.7)	(0.6)	(1.4)	(5.4)	
	Silver	15.8	15.9	16.0	17.0	16.7	17.2	15.7	16.9	17.1	17.1	16.6	
	Change, %		(0.9)	(1.4)	(7.2)	(5.1)	(8.3)	0.7	(6.7)	(7.6)	(7.4)	(4.7)	
	Copper	6,237.0	6,228.0	6,282.0	7,257.0	6,830.0	7,110.0	5,876.0	7,247.0	4,872.0	6,199.4	6,894.3	
	Change, %		0.1	(0.7)	(14.1)	(8.7)	(12.3)	6.1	(13.9)	28.0	0.6	(9.5)	
	Nickel	953.4	970.4	958.9	1,054.2	904.9	803.7	591.5	809.1	646.4	680.2	918.0	
	Change, %		(1.8)	(0.6)	(9.6)	5.4	18.6	61.2	17.8	47.5	40.2	3.9	
	Zinc	2,578.0	2,581.0	2,735.0	3,216.0	3,117.0	3,383.5	2,803.5	3,319.0	2,097.5	2,888.5	3,199.2	
	Change, %		(0.1)	(5.7)	(19.8)	(17.3)	(23.8)	(8.0)	(22.3)	22.9	(10.8)	(19.4)	
	Lead	2,184.3	2,194.0	2,332.3	2,472.3	2,305.0	2,538.8	2,276.3	2,482.8	1,868.3	2,315.7	2,438.3	
	Change, %		(0.4)	(6.3)	(11.6)	(5.2)	(14.0)	(4.0)	(12.0)	16.9	(5.7)	(10.4)	
	Aluminum	13,950.0	13,970.0	13,940.0	14,565.0	14,480.0	14,935.0	14,115.0	15,020.0	12,373.5	14,556.6	14,348.0	
	Change, %		(0.1)	0.1	(4.2)	(3.7)	(6.6)	(1.2)	(7.1)	12.7	(4.2)	(2.8)	
	Cobalt	70,250.0	70,250.0	73,000.0	81,000.0	92,000.0	74,947.0	59,160.0	75,205.0	25,480.1	55,906.9	83,735.7	
	Change, %		0.0	(3.8)	(13.3)	(23.6)	(6.3)	18.7	(6.6)	175.7	25.7	(16.1)	
	HR Coil	917.0	918.0	912.0	905.0	859.0	669.0	620.0	662.0	519.3	620.1	823.3	
	Change, %		(0.1)	0.5	1.3	6.8	37.1	47.9	38.5	76.6	47.9	11.4	
Scrap	395.0	398.0	388.0	408.0	385.0	384.0	340.0	367.0	275.7	344.7	389.3		
Change, %		(0.8)	1.8	(3.2)	2.6	2.9	16.2	7.6	43.3	14.6	1.5		

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		07/13	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	71.0	70.3	73.8	66.9	67.4	64.3	46.5	53.7	43.4	50.9	66.0
	Change, %		1.0	(3.8)	6.2	5.4	10.4	52.6	32.2	63.8	39.5	7.6
	Dubai	71.7	72.6	74.2	74.3	69.0	66.3	47.0	53.8	41.3	53.1	68.5
	Change, %		(1.3)	(3.4)	(3.6)	3.8	8.1	52.5	33.1	73.5	35.0	4.5
Crude Oil Product	Gasoline(휘발유)	81.0	82.1	83.4	85.1	82.2	78.1	60.6	69.8	56.3	68.0	81.2
	Change, %		(1.4)	(3.0)	(4.9)	(1.5)	3.7	33.6	15.9	43.9	19.0	(0.3)
	Kerosene(등유)	85.3	86.6	89.0	87.9	86.3	81.0	57.6	66.4	52.9	65.2	84.1
	Change, %		(1.6)	(4.2)	(3.0)	(1.2)	5.2	48.1	28.4	61.2	30.7	1.5
	Diesel(경유)	83.4	84.5	86.8	88.2	84.5	80.3	60.0	65.5	52.1	65.6	83.1
	Change, %		(1.3)	(4.0)	(5.4)	(1.3)	3.8	38.9	27.3	60.0	27.1	0.4
	Bunker-C	69.1	69.8	71.3	68.8	61.4	58.7	45.8	52.1	35.5	49.7	62.6
	Change, %		(1.0)	(3.1)	0.5	12.6	17.8	51.0	32.8	94.6	39.2	10.5
	Naphtha	70.5	71.4	72.6	71.8	67.5	66.2	44.2	53.5	42.6	53.7	67.6
	Change, %		(1.3)	(2.8)	(1.9)	4.5	6.6	59.6	31.9	65.5	31.2	4.3
Dubai Spread	Gasoline(휘발유)	9.3	9.5	9.3	10.8	13.2	11.8	13.6	16.0	14.9	14.9	12.7
	Change		(0.2)	0.0	(1.5)	(3.9)	(2.5)	(4.3)	(6.7)	(5.6)	(5.6)	(3.4)
	Kerosene(등유)	13.6	14.1	14.9	13.6	17.2	14.7	10.6	12.6	11.6	12.1	15.5
	Change		(0.5)	(1.2)	(0.0)	(3.6)	(1.1)	3.0	1.0	2.0	1.5	(1.9)
	Diesel(경유)	11.7	11.9	12.7	13.9	15.5	14.0	13.0	11.7	10.8	12.5	14.5
	Change		(0.2)	(0.9)	(2.1)	(3.7)	(2.3)	(1.3)	0.1	0.9	(0.8)	(2.8)
	Bunker-C	(2.5)	(2.8)	(2.9)	(5.5)	(7.6)	(7.6)	(1.2)	(1.8)	(5.8)	(3.4)	(6.0)
	Change		0.2	0.3	3.0	5.1	5.1	(1.3)	(0.8)	3.3	0.9	3.4
	Naphtha	(1.2)	(1.2)	(1.6)	(2.5)	(1.6)	(0.1)	(2.8)	(0.4)	1.3	0.6	(1.0)
	Change		0.0	0.5	1.3	0.4	(1.0)	1.7	(0.8)	(2.4)	(1.8)	(0.2)
Refining Margin	Simple(단순)	2.3	2.3	2.4	1.5	1.7	1.1	4.0	3.8	1.9	3.2	2.1
	Change		0.0	(0.1)	0.8	0.6	1.2	(1.7)	(1.5)	0.4	(0.8)	0.2
	Complex(복합)	6.1	6.2	6.4	6.5	7.6	6.7	8.1	8.3	7.0	8.0	7.4
	Change		(0.1)	(0.2)	(0.4)	(1.5)	(0.6)	(2.0)	(2.1)	(0.8)	(1.9)	(1.3)
	Complex(lagging)	3.0	4.4	6.9	7.1	15.4	12.7	7.8	18.0	8.5	8.9	9.5
Change		(1.4)	(3.9)	(4.0)	(12.4)	(9.7)	(4.7)	(15.0)	(5.5)	(5.9)	(6.4)	

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

Petrochemical Price Data

Daily Price			07/13	07/12	07/11	07/10	07/09	07/06	07/05	07/04	07/03	07/02
Spot Price	Naphtha	CFR Japan	647.3	655.3	669.9	680.4	671.3	665.0	665.5	669.0	664.6	663.1
	Ethylene	CFR SE Asia	1,280.0	1,280.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0
	Propylene	FOB Korea	1,035.0	1,035.0	1,035.0	1,040.0	1,040.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0
	Butadiene	FOB Korea	1,650.0	1,650.0	1,650.0	1,610.0	1,610.0	1,610.0	1,610.0	1,610.0	1,600.0	1,600.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,350.0
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0
	LLDPE	CFR FE Asia	1,110.0	1,110.0	1,115.0	1,115.0	1,120.0	1,120.0	1,135.0	1,140.0	1,140.0	1,140.0
	MEG	CFR China	898.0	898.0	900.0	891.0	894.0	893.0	895.0	902.0	896.0	895.0
	PP	CFR FE Asia	1,230.0	1,230.0	1,230.0	1,230.0	1,235.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0
	PX	CFR China	986.0	989.0	991.0	995.3	989.0	988.5	984.8	987.8	987.8	982.7
	PTA	CFR China	842.0	848.0	852.0	852.0	852.0	850.0	850.0	850.0	845.0	845.0
	Benzene	FOB Korea	831.3	831.0	834.7	834.7	831.7	832.0	832.3	828.7	820.7	819.2
	Toluene	FOB Korea	752.0	747.0	747.0	752.0	751.0	747.0	740.0	744.0	745.0	745.0
	Xylene	FOB Korea	816.0	814.0	823.0	831.0	831.0	833.0	834.0	840.0	837.0	833.0
	SM	FOB Korea	1,379.0	1,374.0	1,364.0	1,353.0	1,337.0	1,349.0	1,346.0	1,323.0	1,315.0	1,298.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	662.0	658.5	649.5	582.5	553.0	409.0	484.5	399.5	493.5	615.5
	<i>Change, %</i>			0.5	1.9	13.6	19.7	61.9	36.6	65.7	34.1	7.6
	Ethylene	CFR SE Asia	1,290.0	1,260.0	1,215.0	1,275.0	1,220.0	875.0	990.0	1,040.9	1,090.9	1,235.6
	<i>Change, %</i>			2.4	6.2	1.2	5.7	47.4	30.3	23.9	18.2	4.4
	Propylene	CFR SE Asia	965.0	980.0	1,012.5	957.5	995.0	755.0	815.0	705.7	823.6	1,054.4
	<i>Change, %</i>			(1.5)	(4.7)	0.8	(3.0)	27.8	18.4	36.8	17.2	(8.5)
	Butadiene	CFR SE Asia	1,680.0	1,580.0	1,675.0	1,225.0	1,390.0	975.0	2,100.0	1,116.8	1,481.1	1,432.8
	<i>Change, %</i>			6.3	0.3	37.1	20.9	72.3	(20.0)	50.4	13.4	17.3
	Benzene	CFR SE Asia	820.0	807.5	855.0	840.0	882.5	742.5	822.5	646.7	838.8	869.4
	<i>Change, %</i>			1.5	(4.1)	(2.4)	(7.1)	10.4	(0.3)	26.8	(2.2)	(5.7)
	Toluene	CFR SE Asia	795.0	785.0	815.0	735.0	720.0	630.0	690.0	630.5	689.5	767.0
	<i>Change, %</i>			1.3	(2.5)	8.2	10.4	26.2	15.2	26.1	15.3	3.6
	Xylene	CFR SE Asia	815.0	800.0	840.0	757.5	765.0	615.0	675.0	627.7	668.8	780.6
	<i>Change, %</i>			1.9	(3.0)	7.6	6.5	32.5	20.7	29.8	21.9	4.4

Spread	Ethylene	-Naphtha	628.0	601.5	565.5	692.5	667.0	466.0	505.5	641.4	597.4	620.0
	<i>Change, %</i>			4.4	11.1	(9.3)	(5.8)	34.8	24.2	(2.1)	5.1	1.3
	Propylene	-Naphtha	303.0	321.5	363.0	375.0	442.0	346.0	330.5	306.2	330.1	438.8
	<i>Change, %</i>			(5.8)	(16.5)	(19.2)	(31.4)	(12.4)	(8.3)	(1.0)	(8.2)	(31.0)
	Butadiene	-Naphtha	1,018.0	921.5	1,025.5	642.5	837.0	566.0	1,615.5	717.3	987.6	817.3
	<i>Change, %</i>			10.5	(0.7)	58.4	21.6	79.9	(37.0)	41.9	3.1	24.6
	Benzene	-Naphtha	158.0	149.0	205.5	257.5	329.5	333.5	338.0	247.2	345.3	253.9
	<i>Change, %</i>			6.0	(23.1)	(38.6)	(52.0)	(52.6)	(53.3)	(36.1)	(54.2)	(37.8)
Toluene	-Naphtha	133.0	126.5	165.5	152.5	167.0	221.0	205.5	231.0	196.0	151.5	
<i>Change, %</i>			5.1	(19.6)	(12.8)	(20.4)	(39.8)	(35.3)	(42.4)	(32.1)	(12.2)	
Xylene	-Naphtha	153.0	141.5	190.5	175.0	212.0	206.0	190.5	228.2	175.3	165.0	
<i>Change, %</i>			8.1	(19.7)	(12.6)	(27.8)	(25.7)	(19.7)	(33.0)	(12.7)	(7.3)	

자료 : Cischem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차이임

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,227.5	1,262.5	1,287.5	1,182.5	1,297.5	1,047.5	1,142.5	1,134.6	1,142.5	1,258.1
	Change, %			(2.8)	(4.7)	3.8	(5.4)	17.2	7.4	8.2	7.4	(2.4)
	MEG	CFR SE Asia	927.5	935.0	945.0	990.0	897.5	820.0	847.5	660.8	850.6	978.9
	Change, %			(0.8)	(1.9)	(6.3)	3.3	13.1	9.4	40.4	9.0	(5.2)
	PVC	CFR SE Asia	935.0	935.0	920.0	960.0	980.0	870.0	920.0	823.4	899.9	942.5
	Change, %			0.0	1.6	(2.6)	(4.6)	7.5	1.6	13.6	3.9	(0.8)
	PP	CFR SE Asia	1,262.5	1,282.5	1,282.5	1,217.5	1,307.5	1,027.5	1,032.5	978.4	1,099.6	1,261.7
	Change, %			(1.6)	(1.6)	3.7	(3.4)	22.9	22.3	29.0	14.8	0.1
	2-EH	CFR Korea	1,100.0	1,100.0	1,100.0	1,130.0	1,125.0	910.0	865.0	772.4	970.0	1,118.1
	Change, %			0.0	0.0	(2.7)	(2.2)	20.9	27.2	42.4	13.4	(1.6)
	ABS	CFR SE Asia	1,960.0	2,000.0	2,060.0	1,980.0	2,070.0	1,790.0	1,635.0	1,347.1	1,844.7	2,030.7
	Change, %			(2.0)	(4.9)	(1.0)	(5.3)	9.5	19.9	45.5	6.3	(3.5)
	SBR	CFR SE Asia	1,770.0	1,780.0	1,900.0	1,650.0	1,750.0	1,450.0	2,000.0	1,483.0	1,980.5	1,753.7
	Change, %			(0.6)	(6.8)	7.3	1.1	22.1	(11.5)	19.4	(10.6)	0.9
	SM	CFR SE Asia	1,367.5	1,362.5	1,525.0	1,360.0	1,397.5	1,160.0	1,205.0	1,064.6	1,253.8	1,400.5
	Change, %			0.4	(10.3)	0.6	(2.1)	17.9	13.5	28.5	9.1	(2.4)
	Caustic	FOB NEA	475.0	475.0	550.0	626.0	590.0	452.5	422.5	316.6	491.2	574.3
	Change, %			0.0	(13.6)	(24.1)	(19.5)	5.0	12.4	50.0	(3.3)	(17.3)
	PX	CFR SE Asia	995.0	980.0	975.0	937.5	945.0	772.5	855.0	790.4	844.4	965.4
	Change, %			1.5	2.1	6.1	5.3	28.8	16.4	25.9	17.8	3.1
PO	CFR China	1,735.0	1,765.0	1,877.5	1,787.5	1,962.5	1,497.5	1,562.5	1,396.8	1,601.2	1,877.6	
Change, %			(1.7)	(7.6)	(2.9)	(11.6)	15.9	11.0	24.2	8.4	(7.6)	
Caprolactam	CFR SE Asia	2,140.0	2,130.0	2,120.0	2,220.0	2,150.0	1,610.0	1,850.0	1,344.9	1,936.4	2,120.2	
Change, %			0.5	0.9	(3.6)	(0.5)	32.9	15.7	59.1	10.5	0.9	
PTA	CFR SE Asia	865.0	860.0	860.0	777.5	810.0	635.0	642.5	613.7	667.8	804.3	
Change, %			0.6	0.6	11.3	6.8	36.2	34.6	41.0	29.5	7.6	
Spread	HDPE		565.5	604.0	638.0	600.0	744.5	638.5	658.0	735.1	649.0	642.6
	Change, %			(6.4)	(11.4)	(5.8)	(24.0)	(11.4)	(14.1)	(23.1)	(12.9)	(12.0)
	MEG		265.5	276.5	295.5	407.5	344.5	411.0	363.0	261.3	357.1	363.4
	Change, %			(4.0)	(10.2)	(34.8)	(22.9)	(35.4)	(26.9)	1.6	(25.7)	(26.9)
	PVC		273.0	276.5	270.5	377.5	427.0	461.0	435.5	423.9	406.4	327.0
	Change, %			(1.3)	0.9	(27.7)	(36.1)	(40.8)	(37.3)	(35.6)	(32.8)	(16.5)
	PP		600.5	624.0	633.0	635.0	754.5	618.5	548.0	578.9	606.1	646.2
	Change, %			(3.8)	(5.1)	(5.4)	(20.4)	(2.9)	9.6	3.7	(0.9)	(7.1)
	2-EH		438.0	441.5	450.5	547.5	572.0	501.0	380.5	372.9	476.5	502.6
	Change, %			(0.8)	(2.8)	(20.0)	(23.4)	(12.6)	15.1	17.5	(8.1)	(12.9)
	ABS		1,298.0	1,341.5	1,410.5	1,397.5	1,517.0	1,381.0	1,150.5	947.6	1,351.2	1,415.2
	Change, %			(3.2)	(8.0)	(7.1)	(14.4)	(6.0)	12.8	37.0	(3.9)	(8.3)
	SBR	BD spread	90.0	200.0	225.0	425.0	360.0	475.0	(100.0)	366.2	499.4	320.9
	Change, %			(55.0)	(60.0)	(78.8)	(75.0)	(81.1)	(190.0)	(75.4)	(82.0)	(72.0)
	SM		705.5	704.0	875.5	777.5	844.5	751.0	720.5	665.1	760.3	784.9
	Change, %			0.2	(19.4)	(9.3)	(16.5)	(6.1)	(2.1)	6.1	(7.2)	(10.1)
	Caustic											
	Change, %											
	PX		333.0	321.5	325.5	355.0	392.0	363.5	370.5	390.9	351.0	349.9
	Change, %			3.6	2.3	(6.2)	(15.1)	(8.4)	(10.1)	(14.8)	(5.1)	(4.8)
PO	propylene spread	770.0	785.0	865.0	830.0	967.5	742.5	747.5	691.1	777.6	823.2	
Change, %			(1.9)	(11.0)	(7.2)	(20.4)	3.7	3.0	11.4	(1.0)	(6.5)	
Caprolactam	benzene spread	1,320.0	1,322.5	1,265.0	1,380.0	1,267.5	867.5	1,027.5	698.2	1,097.6	1,250.7	
Change, %			(0.2)	4.3	(4.3)	4.1	52.2	28.5	89.1	20.3	5.5	
PTA	px spread	168.5	174.0	177.5	121.3	148.5	94.3	44.0	60.4	76.7	128.5	
Change, %			(3.2)	(5.1)	39.0	13.5	78.8	283.0	178.9	119.7	31.1	

자료 : Ciscem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	07/13	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	66.4	0.2	0.7	(3.2)	0.3	(12.0)	1.1	(6.8)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	99.5	0.3	(0.3)	(8.3)	(5.7)	2.1	16.8	7.4	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	81.9	0.5	(0.4)	(5.5)	(2.4)	(13.4)	(1.1)	(10.7)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.0	0.9	(0.6)	(3.2)	(6.0)	(2.6)	(4.4)	1.3	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	102.1	0.2	0.2	(0.8)	(5.4)	0.0	2.7	0.5	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	67.7	0.9	1.3	(5.6)	7.9	(2.1)	(1.7)	2.1	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	616	1.1	0.0	(7.4)	(1.0)	(27.9)	(5.2)	(24.0)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	931	1.6	1.4	(6.7)	(10.4)	(28.0)	(5.1)	(24.7)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,415	0.8	3.4	(5.4)	(6.4)	(12.8)	2.6	(9.0)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,427	2.0	1.8	(3.3)	(1.6)	(4.4)	16.3	(1.8)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,942	1.2	3.9	(3.6)	(17.9)	(14.6)	(1.6)	(12.4)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	7,999	0.7	(0.7)	(7.9)	(3.8)	(21.5)	(17.9)	(20.1)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	126.8	0.0	2.6	0.2	8.6	24.9	25.1	25.0	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	75.2	0.0	(0.1)	3.0	5.2	22.3	38.7	27.5	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	110.0	3.8	0.5	2.3	3.3	8.4	20.4	11.4	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	115.5	1.3	2.2	0.0	5.0	6.5	24.9	12.1	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	85.0	0.4	(2.4)	(1.0)	1.1	4.8	9.5	9.1	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.58	1.1	3.1	(2.8)	(4.5)	(19.6)	(14.4)	(11.8)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.87	(0.5)	1.1	(7.9)	(8.8)	(36.0)	(41.7)	(30.0)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,100	1.6	12.5	9.7	17.1	15.9	44.5	20.9	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	113.6	0.0	1.0	5.2	0.1	7.2	12.5	17.1	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	76.3	(1.6)	3.0	(11.8)	(21.2)	(17.6)	9.7	(10.3)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.6	1.1	2.1	3.4	2.6	6.7	24.0	11.9	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	335,000	3.6	4.0	(12.0)	(10.2)	(21.4)	6.7	(17.3)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	344,000	(0.7)	4.2	(9.6)	(18.9)	(12.8)	(1.1)	(6.5)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	20,950	3.2	0.0	(18.0)	(28.6)	(35.6)	(33.0)	(33.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	114,000	0.4	2.7	12.3	19.5	10.1	58.8	14.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	43,700	0.7	1.3	3.3	16.8	(3.9)	16.5	(7.0)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	57,400	(1.0)	0.9	(15.6)	(5.0)	(11.6)	7.9	(9.0)	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	6,320	0.0	3.3	(16.6)	(29.5)	(24.1)	6.2	(16.6)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			0.8	1.8	(3.9)	(3.3)	(7.1)	7.3	(3.0)							
Refinery																
Valero	USD	107.3	0.5	(0.5)	(8.9)	5.4	10.9	58.4	16.8	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	72.0	0.8	3.4	3.4	10.9	19.9	66.5	31.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemi	TWD	121.0	2.1	4.3	0.0	0.4	0.8	16.9	4.8	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	135.5	1.4	1.9	(2.2)	22.5	13.7	40.0	18.5	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	71.7	1.7	2.2	(4.2)	(3.8)	0.4	33.2	8.7	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	44.7	1.8	0.5	5.0	33.1	1.5	43.3	8.0	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	68.7	1.1	0.1	(6.0)	23.3	30.8	155.4	34.1	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	111.8	0.6	0.6	(3.4)	7.8	6.5	36.8	10.5	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.0	0.1	(0.2)	(1.7)	14.9	(4.7)	32.1	6.3	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	767.0	0.2	(0.4)	4.0	12.7	(1.6)	58.0	5.5	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,720.0	(1.3)	25.4	25.5	22.3	5.6	72.9	4.3	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	67.0	(0.5)	2.0	0.7	22.1	19.4	83.5	25.7	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	81.2	0.1	3.3	2.7	16.7	9.5	23.8	14.0	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.0	(1.0)	1.8	(6.2)	(2.1)	(3.0)	(13.8)	(2.8)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	192,000	0.8	(0.5)	(10.7)	(4.5)	(4.5)	17.8	(6.1)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	109,500	3.3	3.8	(1.8)	(5.6)	(3.5)	6.8	(6.4)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	51,800	2.2	0.8	(13.1)	(13.7)	(20.1)	(26.6)	(16.7)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			0.8	2.8	(1.0)	9.6	4.8	41.5	9.2							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	07/13	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
E&P/Shale																
Exxon Mobil	USD	83	0.7	1.2	2.2	7.0	(4.8)	2.9	(0.4)	352,721	16.8	15.4	1.8	1.7	7.7	7.2
BP	GBP	571	(0.1)	(1.4)	(0.4)	13.2	6.7	27.7	9.2	150,750	13.9	13.0	1.5	1.4	5.3	5.1
Shell	EUR	2,646	0.6	1.1	3.0	11.2	2.8	28.2	6.7	295,937	12.4	11.1	1.4	1.4	5.8	5.5
Chevron	USD	124	(0.2)	(0.1)	(2.4)	3.4	(7.2)	19.1	(0.9)	237,035	15.5	14.8	1.6	1.5	6.3	6.1
Total	EUR	53	0.1	0.0	2.4	9.7	9.7	23.7	15.8	165,971	11.8	11.0	1.3	1.2	5.5	5.2
Sinopec	CNY	6	(0.2)	1.1	(2.3)	(7.2)	(11.3)	2.6	3.4	112,952	10.1	9.7	1.0	1.0	3.8	3.8
Petrochina	CNY	8	(0.5)	2.0	(2.3)	(0.3)	(13.1)	(3.7)	(6.1)	198,341	24.8	21.0	1.1	1.1	5.4	5.4
CNOOC	CNY	9	(1.5)	2.1	(10.9)	(19.9)	(21.6)	(16.6)	(12.5)	73,266	9.2	9.2	1.2	1.2	3.9	3.9
Gazprom	RUB	147	1.2	1.3	4.2	3.0	2.0	17.0	12.5	55,616	3.2	3.3	0.3	0.3	2.6	2.6
Rosneft	RUB	407	0.1	0.9	6.5	26.0	25.5	28.0	39.6	68,980	7.7	6.6	0.9	0.9	4.6	4.4
Anadarko	USD	75	1.2	1.3	4.6	18.3	26.5	67.8	39.1	38,420	24.9	20.6	4.0	3.5	7.0	6.2
Petrobras	BRL	18	0.9	0.9	19.4	(14.6)	4.7	40.7	12.5	65,902	6.8	6.0	0.7	0.7	4.3	4.1
Lukoil	USD	4,319	2.0	(2.2)	4.3	10.7	10.5	48.5	29.5	58,570	5.5	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	(0.7)	(0.1)	7.0	16.8	(8.2)	(7.3)	(0.9)	47,497	20.7	18.6	1.2	1.2	10.7	10.5
Equinor ASA	NOK	218	0.0	0.7	1.4	9.7	17.4	56.2	24.5	89,595	14.0	13.0	2.0	1.9	3.4	3.3
BHP	AUD	33	(0.7)	0.5	0.2	12.1	5.7	33.3	12.7	125,376	14.7	16.5	2.1	2.1	6.0	6.3
PTT E&P	THB	136	1.1	4.2	0.4	14.8	22.1	59.9	35.5	16,141	13.3	12.4	1.4	1.3	4.0	3.8
Petronas gas	MYR	18	1.7	7.6	0.8	1.0	(4.2)	(2.0)	4.1	8,907	19.1	18.9	2.8	2.7	10.5	10.4
Chesapeake	USD	5	1.4	(1.9)	9.0	65.3	21.3	8.6	31.1	4,732	6.3	6.8	1,297.5	6.2	6.5	6.2
Noble Energy	USD	36	0.2	2.3	4.3	12.2	11.8	27.7	23.6	17,450	30.9	22.3	1.6	1.5	7.9	6.6
Average		0	0.4	1.1	2.6	9.6	4.8	23.1	14.0							
PV																
WACKER	EUR	115.0	(1.5)	0.7	(2.0)	(20.6)	(33.2)	18.6	(29.1)	7,002	16.7	14.8	1.8	1.7	5.8	5.6
GCL-Poly	HKD	0.7	(1.4)	1.5	(15.0)	(32.7)	(54.1)	(18.1)	(51.4)	1,611	6.2	5.4	0.4	0.4	6.3	5.8
SunPower	USD	7.8	(1.6)	(0.4)	(1.8)	(4.4)	(13.8)	(20.6)	(7.0)	1,104	#N/A	#N/A	#N/A	#N/A	20.6	12.0
Canadian Solar	USD	13.1	0.3	2.7	5.9	(19.1)	(20.8)	(19.8)	(22.3)	767	8.7	8.8	0.8	0.7	7.8	8.4
JA Solar	USD	7.5	0.1	8.6	5.7	6.7	1.2	22.9	0.1	355	#N/A	#N/A	#N/A	#N/A	4.9	7.1
Yingli	USD	0.4	(2.0)	88.1	(74.1)	(76.6)	(79.7)	(82.7)	(75.7)	7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	54.1	(1.2)	(0.9)	2.6	(23.5)	(26.4)	30.2	(19.9)	5,663	31.7	17.5	1.0	1.0	9.6	5.3
한화큐셀	USD	5.6	(1.2)	(1.1)	(11.8)	(22.5)	(23.3)	(20.6)	(19.8)	469	10.1	20.9	#N/A	#N/A	7.7	8.0
OCI	KRW	98,300	1.3	2.5	(14.1)	(40.1)	(44.9)	16.9	(27.7)	2,074	0.0	9.8	0.0	0.7	0.0	4.5
웅진에너지	KRW	3,535	0.1	1.3	(32.3)	(47.1)	(55.9)	(54.9)	(57.0)	93	N/A	0.0	0.7	0.0	4.5	0.0
신성솔라에너지	KRW	1,360	0.7	3.0	(20.7)	(17.8)	(32.7)	(34.9)	(29.0)	208	N/A	0.7	0.0	4.5	0.0	2.9
Average			(0.6)	9.6	(14.3)	(27.1)	(34.9)	(14.8)	(30.8)							
Gas Company																
Towngas China	HKD	7.9	(0.1)	4.8	5.3	11.4	29.3	40.1	25.8	2,787	15.5	13.8	1.3	1.2	12.7	11.6
Kulun	HKD	6.9	(0.1)	1.5	(1.7)	4.2	(14.1)	(5.6)	(15.5)	7,076	9.9	8.6	1.1	1.0	5.6	5.1
Beijing Enterprise	HKD	37.9	(1.8)	(0.7)	(10.0)	(7.6)	(17.1)	(10.8)	(18.4)	6,086	6.6	6.0	0.7	0.6	11.8	11.2
ENN Energy	HKD	82.0	1.7	4.4	4.6	19.8	51.6	49.5	47.0	11,330	18.4	15.5	3.7	3.2	10.7	9.4
China Resources Gas	HKD	35.0	2.3	6.1	16.3	24.6	38.9	14.4	23.5	9,917	18.3	16.4	3.1	2.7	10.0	9.1
China Gas Holdings	HKD	34.0	(0.1)	5.3	0.3	21.2	56.3	74.5	57.4	21,523	22.0	18.5	5.1	4.3	16.5	14.0
Shenzen Gas	HKD	15.2	1.5	4.0	(12.4)	(9.6)	(3.7)	11.8	2.2	4,084	9.3	8.0	1.2	1.1	5.8	5.1
Shann Xi	CNY	7.2	0.0	5.4	2.4	3.5	(14.9)	(16.5)	(14.8)	1,188	16.5	14.5	1.4	1.3	#N/A	#N/A
Suntien	HKD	2.3	(0.4)	5.1	(13.1)	(11.1)	8.2	37.2	8.7	1,065	5.9	5.3	0.7	0.7	8.3	7.2
China Oil & Gas	HKD	0.6	0.0	1.7	(9.1)	(1.6)	(25.9)	1.7	(29.4)	446	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			0.3	3.8	(1.7)	5.5	10.9	19.6	8.6							
EV																
LG화학	KRW	335,000	3.6	4.0	(12.0)	(10.2)	(21.4)	6.7	(17.3)	20,920	12.6	11.5	1.4	1.3	5.9	5.3
삼성SDI	KRW	237,000	1.5	2.6	3.0	23.1	10.0	30.9	15.9	14,417	22.2	16.1	1.4	1.3	15.2	11.9
Panasonic	JPY	1427.5	1.7	1.2	(10.2)	(8.6)	(16.4)	(5.9)	(13.5)	31,143	13.0	11.4	1.8	1.6	4.7	4.4
GS Yuasa	JPY	498.0	0.6	1.2	(3.5)	(14.0)	(13.5)	(0.4)	(11.2)	1,832	14.5	13.4	1.1	1.0	6.8	6.3
NEC	JPY	2939.0	0.2	(2.0)	(4.1)	0.4	(5.8)	(1.0)	(3.3)	6,808	22.3	12.5	0.8	0.8	7.0	5.4
BYD Auto	CNY	46.0	(1.2)	(0.2)	(6.3)	(17.4)	(31.5)	(7.8)	(29.4)	17,983	26.9	20.2	2.2	2.0	12.2	10.4
Tesla Motors	USD	318.9	0.7	3.2	(7.5)	6.2	(5.2)	(1.4)	2.4	54,142	#N/A	#N/A	137.2	10.6	9.8	62.7
Kandi Technologies	USD	4.2	0.0	(1.7)	(18.8)	(12.9)	(41.3)	(2.9)	(37.9)	216	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			0.9	1.1	(7.4)	(4.2)	(15.6)	2.3	(11.8)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임