

1. News Summary (3 page)

2017년 8월 7일

News	
WTI comment	원유채굴장비 감소에 상승...WTI 1.1%↑
Headline	[주간가격] SEA 에틸렌, 물량 타이트해지며 WoW 115\$/mt 상승
News 1.	[주간가격] MEG, WoW 5\$/mt 상승해 CFR China 875\$/mt로 마감
News 2.	[주간가격] 부타디엔, 플랫폼한 모습 보이며 Korea FOB 910\$/mt로 마감
News 3.	[주간가격] SBR, 플랫폼한 모습 보이며 CFR SEA 1,490\$/mt로 마감
News 4.	[주간가격] PX, WoW 17.83\$/mt 상승해 FOB Korea 822.5\$/mt로 마감

Conclusion	
8월 중순까지 아시아 물량이 일시적 쏠티지 상태일 전망	항구 사고는 일단락되었고, 에틸렌 가격 급증 후 MEG 마진 주목해야 함
8월 중순까지 아시아 올레핀 물량이 일시적 쏠티지 상태일 전망	부타디엔 가격 안정세 속 SBR 가격도 안정세를 보일 것으로 판단됨
마진 확대에 9~10월 카고에 대한 공격적인 바이잉センチ먼트가 작용함	

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	49.6	1.1	(0.3)	12.1	8.9	18.6
Dubai	\$/bbl	50.4	(0.9)	1.3	9.4	1.4	22.2
Gasoline	\$/bbl	66.2	(0.2)	1.5	9.7	4.6	32.1
Diesel	\$/bbl	63.4	(2.0)	(1.0)	6.9	4.8	27.6
Complex margin ¹	\$/bbl	8.4	(0.2)	(0.6)	(0.1)	1.7	4.7
1M lagging	\$/bbl	10.4	(1.5)	(3.4)	3.7	4.7	10.4
Petrochemical			%	%	%	%	%
Naphtha	\$/t	467	(0.4)	1.8	9.4	5.8	33.4
Butadiene	\$/t	910	0.0	0.0	(6.7)	(25.7)	(9.9)
HDPE	\$/t	1,120	0.9	1.8	3.7	0.0	(1.3)
MEG	\$/t	875	1.4	0.6	10.1	25.7	45.1
PX	\$/t	823	(0.1)	2.2	7.6	4.2	5.4
SM	\$/t	1,110	0.9	(1.6)	0.1	6.6	11.4
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.77	(0.9)	(5.7)	(2.9)	(17.7)	(9.6)
Natural rubber	\$/t	1,450	(0.7)	2.8	(0.7)	0.7	13.3
Cotton	C/lbs	71.0	(0.8)	1.1	(5.7)	(11.0)	(7.4)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	07/31	\$/t	975	6.6	11.4	(12.2)	(6.3)
Propylene	07/31	\$/t	763	0.7	2.7	5.2	12.1
Benzene	07/31	\$/t	743	0.7	(2.3)	(6.9)	18.3
Toluene	07/31	\$/t	635	0.8	0.8	(5.2)	10.4
Xylene	07/31	\$/t	623	0.8	2.0	(5.7)	3.8
PP	07/31	\$/t	1,073	1.4	3.4	0.5	3.6
PVC	07/31	\$/t	860	(1.1)	(1.1)	(2.3)	7.5
ABS	07/31	\$/t	1,820	0.6	1.7	8.0	31.4
SBR	07/31	\$/t	1,490	(0.7)	2.8	(21.6)	6.4
SM	07/31	\$/t	1,173	0.2	1.7	5.9	11.9
BPA	07/31	\$/t	1,540	0.7	3.7	14.3	(0.2)
Caustic	07/31	\$/t	463	0.0	3.4	3.4	54.2
2-EH	07/31	\$/t	970	2.1	5.4	4.3	29.3
Caprolactam	07/31	\$/t	1,730	1.8	7.5	(7.5)	32.1
Solar				%	%	%	%
Polysilicon	08/02	\$/kg	15.3	7.5	10.7	14.2	(3.5)
Module	08/02	\$/W	0.33	0.0	(0.6)	(2.7)	(31.9)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	80.2	(0.3)	0.8	(2.3)	(1.8)	(8.3)
Shell	EUR	2,183	0.3	3.2	5.3	7.8	15.2
Petrochina	CNY	8.18	0.9	1.0	4.5	7.9	13.0
Gazprom	RUB	119.5	(0.1)	2.2	(2.7)	(11.5)	(12.6)
Petrobras	BRL	13.4	0.7	2.1	7.8	(1.5)	11.6
Refinery							
Phillips66	USD	85.6	(0.1)	2.3	2.7	9.4	10.4
Valero	USD	68.5	0.0	2.8	0.7	6.5	28.5
JX	JPY	494.7	(0.0)	(0.3)	(2.8)	(1.6)	33.6
Neste Oil	EUR	35.4	0.8	(4.3)	2.1	(7.7)	0.3

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	81.9	1.7	2.7	(0.6)	(9.3)	18.9
Dow Chemical	USD	64.1	1.1	(2.4)	0.3	4.4	19.9
SABIC	SAR	97.2	0.0	(2.8)	(4.7)	0.4	20.6
Formosa Pla.	TWD	92.4	0.5	1.0	(0.6)	1.5	19.4
Shin-Etsu	JPY	10,040	(1.5)	(0.0)	0.6	4.6	43.3
Renewable							
Wacker	EUR	104.1	0.8	2.6	8.9	4.3	30.7
First Solar	USD	47.98	1.4	(1.8)	19.7	40.1	9.7
GCL-Poly	HKD	0.85	(1.2)	0.0	2.4	(9.6)	(20.6)
Tesla Motors	USD	356.9	2.8	6.5	1.2	20.8	54.8

4. Coverage Summary

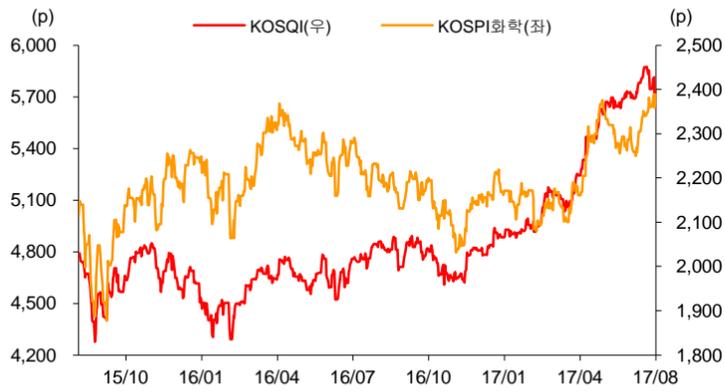
	08/04	1D	1W	1M	3M	6M	12M
KOSPI	2,395	0.4	(0.2)	0.3	6.9	15.7	20.1
KOSPI화학	5,712	1.3	1.2	5.3	9.0	11.6	10.7
LG화학	342,500	4.1	6.0	17.7	24.1	24.8	37.3
롯데케미칼	394,500	4.8	8.7	12.7	11.9	(0.3)	30.0
한화케미칼	33,100	0.6	2.2	6.8	31.3	25.6	31.9
금호석유화학	78,600	1.3	3.7	6.5	2.3	(7.6)	30.1
KCC	431,000	(0.3)	(0.9)	2.4	26.4	25.7	11.9
OCI	95,200	0.0	4.2	7.2	17.7	9.6	2.5
SKC	37,650	3.0	4.6	11.2	31.6	19.9	22.8
국도화학	57,000	0.0	0.4	8.2	19.7	8.6	(2.4)
SK이노베이션	180,000	4.3	2.9	12.5	5.6	11.8	26.8
S-Oil	118,000	4.9	3.5	22.4	18.0	43.9	56.7
GS	74,800	1.8	1.2	9.4	26.6	44.7	58.3
SK가스	115,000	0.0	0.9	(6.1)	(1.3)	8.0	38.4
포스코대우	24,050	2.3	2.8	9.8	(0.4)	(8.6)	12.9
LG상사	28,950	0.3	(2.7)	(5.5)	(12.5)	(10.5)	(18.0)
한국전력	44,450	0.6	(1.1)	5.8	0.0	5.7	(29.3)
한국가스공사	50,300	1.0	0.0	(2.1)	9.6	7.1	20.6

투자 의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	330,000	(3.6)	13.63	1.83
매수	410,000	3.9	8.15	1.44
매수	33,000	(0.3)	7.90	0.98
매수	100,000	27.2	14.94	1.49
매수	450,000	4.4	24.51	0.69
매수	100,000	5.0	19.26	0.74
매수	40,000	6.2	14.19	1.00
매수	70,000	22.8	9.57	0.69
매수	180,000	0.0	8.09	0.98
매수	100,000	(15.3)	15.85	2.30
매수	80,000	7.0	6.22	1.10
매수	150,000	30.4	6.98	0.83
매수	27,000	12.3	8.36	1.00
매수	42,000	45.1	8.95	0.94
매수	60,000	35.0	7.68	0.35
매수	60,000	19.3	8.54	0.59

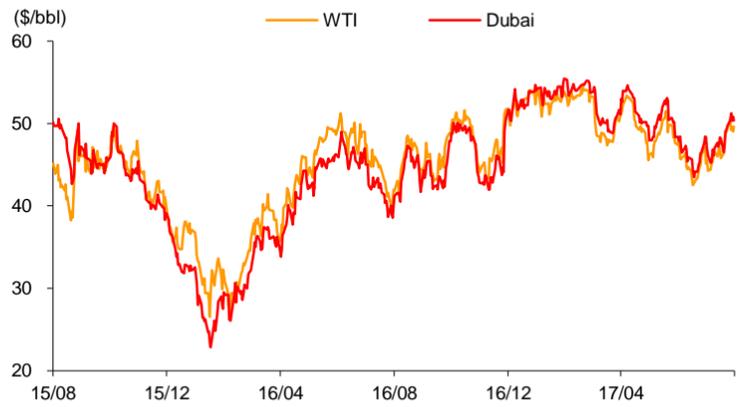
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
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Key Chart

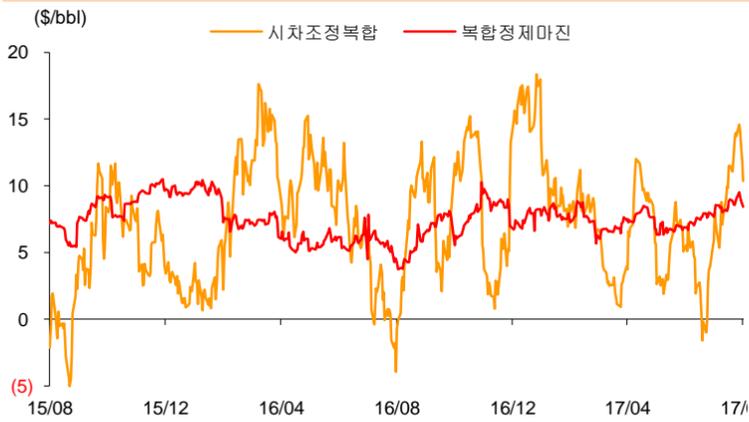
KOSPI/KOSPI화학



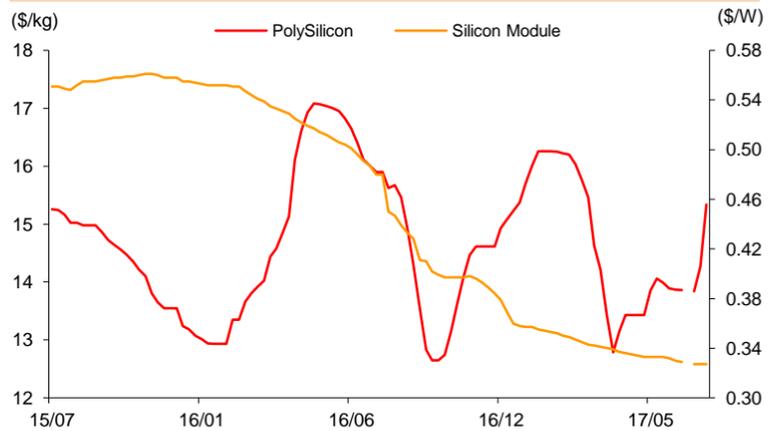
WTI/Dubai



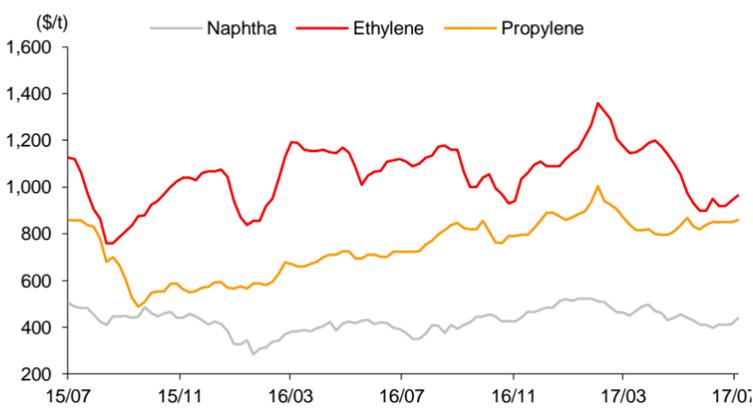
Complex & 1M lagging margin



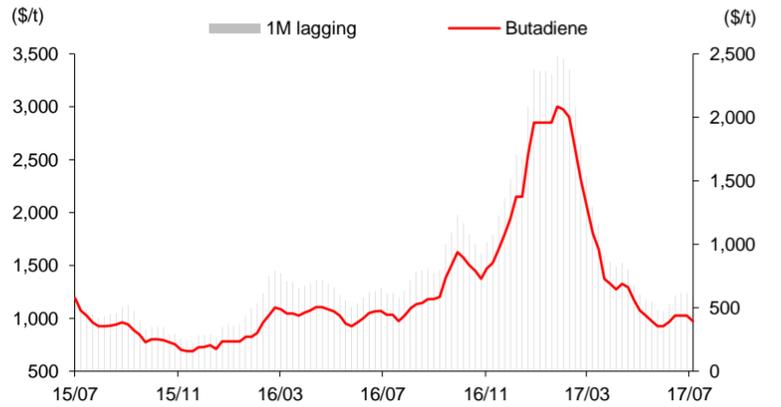
Polysilicon & Module prices



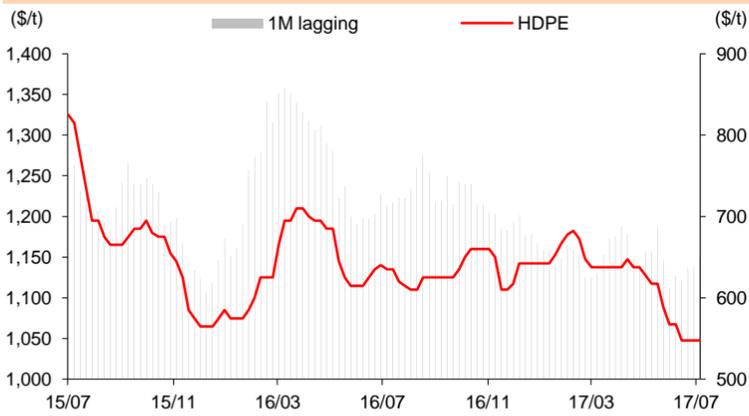
Naphtha/Ethylene/Propylene prices



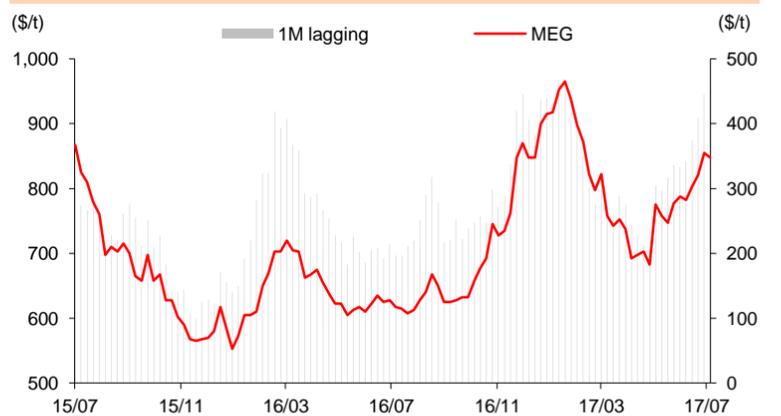
Butadiene price & 1M lagging naphtha spread



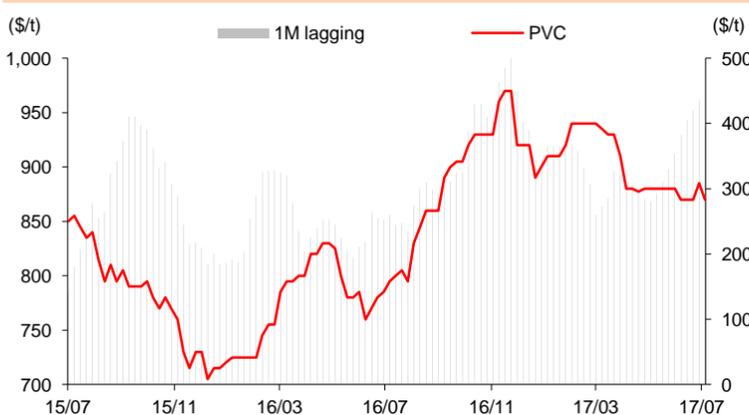
HDPE price & 1M lagging naphtha spread



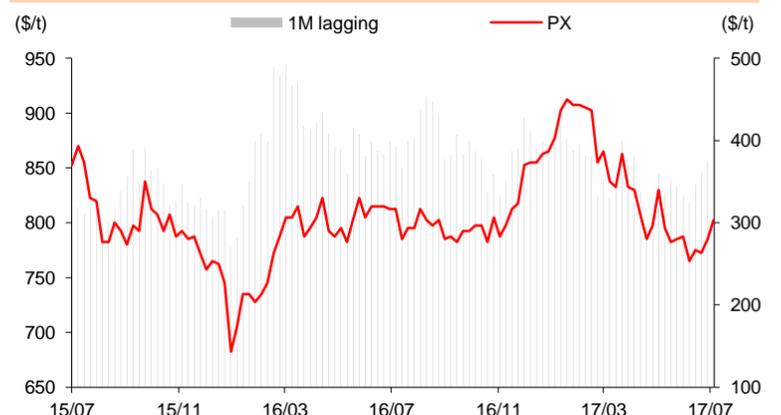
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline (출처: Platts)

제목 [주간가격] SEA 에틸렌, 물량 타이트해지며 WoW 115\$/mt 상승

결론 8월 중순까지 아시아 물량이 일시적 쏠티지 상태일 전망

세부

- 1) 스팟 물량 오퍼가 부족해 트레이더들은 스팟 가격을 1,110\$/mt까지 전망
- 2) Shell의 네덜란드 refinery가 가동 중단되며 크래커 가동 여부가 불투명
- 3) 따라서 8월 중순 물량이 서방으로 넘어가며 아시아 지역 쏠티지 발생
- 4) 동시에 아시아 지역이 정기보수 앞두고 다운스트림 수요가 가격 받쳐줌
- 5) 8월 중순까지 아시아 올레핀 물량이 일시적 쏠티지 상태일 전망

Issue 1 (출처: Platts)

제목 [주간가격] MEG, WoW 5\$/mt 상승해 CFR China 875\$/mt로 마감

결론 항구 사고는 일단락되었고, 에틸렌 가격 급증 후 MEG 마진 주목해야 함

세부

- 1) 화요일 Taicang항에서 두 화물선이 충돌하며 항구가 일시 폐쇄됨
- 2) MEG 하역선이 하역을 제때 못하며 일시적으로 공급이 차질을 빚음
- 3) 항구 MEG 재고가 충분치 못했던 것도 가격 상승의 원인이 됨
- 4) 주 후반, 동중국항 MEG 재고는 WoW 4.5만톤 올라 59.5만톤 기록함
- 5) 항구 사고는 일단락되었고, 에틸렌 가격 급증 후 MEG 마진 주목해야 함

Issue 3 (출처: Platts)

제목 [주간가격] SBR, 플랫폼 모습 보이며 CFR SEA 1,490\$/mt로 마감

결론 부타디엔 가격 안정세 속 SBR 가격도 안정세를 보일 것으로 판단됨

세부

- 1) 원재료인 부타디엔의 안정적인 가격과 늘어난 공급으로 플랫폼 마감함
- 2) 부타디엔 deepsea 물량 덕분에 이번 주 가격이 플랫폼 마감함
- 3) Deepsea 물량 증가로 Sinopec은 동중국 BD 오퍼가격 3.5% 인하함
- 4) 중국 Shen Hua화학이 18만톤/년 규모의 SBR 공장 100% 가동 예정
- 5) 부타디엔 가격 안정세 속 SBR 가격도 안정세를 보일 것으로 판단됨

Issue 5 (출처: Platts)

제목 [주간가격] PTA, WoW 7\$/mt 하락해 CFR China 638\$/mt로 마감

결론 정기보수 종료되며 아시아 지역 공급이 서서히 늘어날 전망

세부

- 1) 공급 증가로 바잉, 셀링センチ먼트가 모두 약세를 보였음
- 2) 정기보수가 종료되고 다운스트림 폴리에스터 생산자들 수요가 감소함
- 3) 인도 수요는 GST에 대한 논쟁으로 아직 미온적인 모습을 보이고 있음
- 4) Hengli PetChem PTA 제 1공장 재가동과 동시에 제 2공장 섯다운 예정
- 5) 정기보수 종료되며 아시아 지역 공급이 서서히 늘어날 전망

WTI Comment (출처: 연합뉴스)

제목 원유채굴장비 감소에 상승...WTI 1.1%↑

상승 베이커 휴, "美 주간 원유 채굴장비는 765개로 WoW 1개 감소"

요인

하락

요인

Issue 2 (출처: Platts)

제목 [주간가격] 부타디엔, 플랫폼 모습 보이며 Korea FOB 910\$/mt로 마감

결론 8월 중순까지 아시아 올레핀 물량이 일시적 쏠티지 상태일 전망

세부

- 1) 이번 주 바이어들은 유럽과 미국산 물량으로 9월 수요를 충당했음
- 2) Deepsea 물량 증가로 Sinopec은 동중국 BD 오퍼가격 3.5% 인하함
- 3) 엔드유저들은 Shell의 네덜란드 refinery 가동 중단의 여파를 우려중임
- 4) Shell의 네덜란드 크래커 가동 여부가 불투명한 상황임
- 5) 8월 중순까지 아시아 올레핀 물량이 일시적 쏠티지 상태일 전망

Issue 4 (출처: Platts)

제목 [주간가격] PX, WoW 17.83\$/mt 상승해 FOB Korea 822.5\$/mt로 마감

결론 마진 확대로 9~10월 카고에 대한 공격적인 바잉センチ먼트가 작용함

세부

- 1) Hengli PetChem 대련 공장에 9만톤이 도착 예정임에도 불구하고 하락함
- 2) 9~10월 CFR Japan 납사로부터의 PX 마진이 10.08\$/mt로 정해짐
- 3) 그에 따라 9~10월 물량에 대해서センチ가 호전되며 매수세 몰림
- 4) Hengli PetChem PTA 제 1공장 재가동과 동시에 제 2공장 섯다운 예정
- 5) 마진 확대로 9~10월 카고에 대한 공격적인 바잉センチ먼트가 작용함

Issue 6 (출처: PVinsights)

제목 [주간가격] 2017년 신고가를 보인 폴리실리콘 가격

결론 정기보수가 끝나가며, 일시적 사고였다는 점에서 기초적 상승세 아님

세부

- 1) 주요 생산자들이 생산 트러블을 겪으며 이번 주 랠리를 펼침
- 2) 많은 생산자들이 정기보수를 마치는 와중 중국쪽 공장에서 사고 발생
- 3) 그러나 다운스트림 수요는 가격 랠리에 찬물을 끼얹을 수도 있음
- 4) 해외 시장에서도 중국 가격 랠리를 따라 가격이 오를 것임
- 5) 정기보수가 끝나가며, 일시적 사고였다는 점에서 기초적 상승세 아님

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
F/X	USD/EUR	0.849	0.843	0.851	0.882	0.910	0.927	0.899	0.951	0.901	0.904	0.914	
	Change, %		0.8	(0.2)	(3.6)	(6.7)	(8.4)	(5.5)	(10.6)	(5.8)	(6.0)	(7.0)	
	USD/JPY	110.7	110.1	110.7	113.3	112.5	112.6	101.2	117.0	121.1	108.8	112.3	
	Change, %		0.6	0.0	(2.3)	(1.6)	(1.7)	9.4	(5.4)	(8.6)	1.8	(1.5)	
	USD/KRW	1,125.0	1,128.6	1,122.2	1,150.7	1,132.8	1,147.7	1,114.1	1,205.8	1,131.2	1,160.5	1,140.5	
	Change, %		(0.3)	0.2	(2.2)	(0.7)	(2.0)	1.0	(6.7)	(0.6)	(3.1)	(1.4)	
	Agriculture	Corn	366.5	363.5	374.3	378.0	358.0	365.3	320.8	352.0	376.8	358.5	367.5
		Change, %		0.8	(2.1)	(3.0)	2.4	0.3	14.3	4.1	(2.7)	2.2	(0.3)
	Soybean	949.3	950.5	1,000.8	964.8	965.3	1,027.0	990.5	996.5	945.4	987.5	981.7	
	Change, %		(0.1)	(5.1)	(1.6)	(1.7)	(7.6)	(4.2)	(4.7)	0.4	(3.9)	(3.3)	
	Wheat	454.8	457.8	481.0	536.8	426.0	430.3	403.3	408.0	508.1	436.4	442.9	
	Change, %		(0.7)	(5.5)	(15.3)	6.7	5.7	12.8	11.5	(10.5)	4.2	2.7	
	Rice	12.3	12.4	12.4	11.5	9.7	9.5	9.3	9.4	11.1	10.3	10.4	
	Change, %		(0.4)	(0.7)	7.1	27.8	29.2	32.2	31.8	11.5	19.2	18.8	
	Oats	283.8	285.3	290.3	284.5	249.3	258.8	185.0	228.5	250.2	196.3	253.4	
	Change, %		(0.5)	(2.2)	(0.3)	13.8	9.7	53.4	24.2	13.4	44.6	12.0	
MYR/mt	Palm Oil	2,590.0	2,588.0	2,666.0	2,650.0	2,730.0	3,250.0	2,509.0	3,218.0	2,190.3	2,653.8	2,878.3	
	Change, %		0.1	(2.9)	(2.3)	(5.1)	(20.3)	3.2	(19.5)	18.3	(2.4)	(10.0)	
	Cocoa	1,994.0	2,061.0	2,060.0	1,921.0	1,839.0	2,072.0	2,991.0	2,126.0	3,091.6	2,854.0	1,999.8	
	Change, %		(3.3)	(3.2)	3.8	8.4	(3.8)	(33.3)	(6.2)	(35.5)	(30.1)	(0.3)	
	Cotton	71.0	71.6	70.2	73.7	80.8	76.4	75.9	70.7	63.3	65.6	75.1	
	Change, %		(0.8)	1.1	(3.7)	(12.2)	(7.1)	(6.4)	0.5	12.2	8.2	(5.5)	
	Sugar	14.1	14.3	14.4	13.9	15.4	21.1	19.7	19.5	13.1	18.2	16.9	
	Change, %		(1.2)	(1.6)	1.6	(8.0)	(33.0)	(28.2)	(27.5)	7.6	(22.1)	(16.1)	
	Coffee	140.2	140.2	137.9	125.9	132.7	146.3	142.1	137.1	132.6	136.1	136.7	
	Change, %		(0.0)	1.7	11.4	5.6	(4.2)	(1.4)	2.3	5.7	3.0	2.5	
Energy	WTI	49.6	49.0	49.7	47.1	45.5	53.8	41.9	53.7	48.8	43.4	49.6	
	Change, %		1.1	(0.3)	5.3	8.9	(7.9)	18.2	(7.7)	1.5	14.3	(0.0)	
	Brent	52.4	52.0	52.5	49.6	48.4	56.8	44.3	56.8	53.7	45.1	52.3	
	Change, %		0.8	(0.2)	5.7	8.4	(7.7)	18.4	(7.7)	(2.3)	16.3	0.3	
	Natural Gas	2.8	2.8	2.9	3.0	3.2	3.1	2.8	3.7	2.6	2.6	3.1	
	Change, %		(0.9)	(5.7)	(6.0)	(12.9)	(9.4)	(2.1)	(25.5)	5.5	8.7	(10.0)	
	Ethanol	1.6	1.6	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.5	1.5	
	Change, %		1.1	2.3	4.0	7.4	5.8	12.3	(1.9)	4.4	4.0	2.6	
	RBOB Gasoline	164.6	163.2	167.6	153.5	148.1	155.4	136.8	166.5	163.6	140.0	158.3	
	Change, %		0.9	(1.8)	7.3	11.1	6.0	20.3	(1.1)	0.6	17.6	4.0	
	Coal	95.4	94.6	87.2	81.2	78.0	83.0	65.0	88.4	59.0	65.5	81.8	
	Change, %		0.8	9.3	17.5	22.2	14.9	46.7	7.9	61.7	45.7	16.6	
Metal	Gold	1,258.8	1,268.5	1,269.7	1,223.3	1,228.1	1,220.2	1,361.2	1,152.3	1,160.6	1,248.5	1,239.4	
	Change, %		(0.8)	(0.9)	2.9	2.5	3.2	(7.5)	9.2	8.5	0.8	1.6	
	Silver	16.3	16.7	16.8	16.1	16.3	17.5	20.4	15.9	15.7	17.1	17.2	
	Change, %		(2.4)	(2.9)	1.1	(0.4)	(7.1)	(20.1)	2.2	3.5	(4.9)	(5.2)	
	Copper	6,372.0	6,352.0	6,325.0	5,892.0	5,543.0	5,772.0	4,831.0	5,535.5	5,503.1	4,872.0	5,821.8	
	Change, %		0.3	0.7	8.1	15.0	10.4	31.9	15.1	15.8	30.8	9.5	
	Nickel	659.0	660.9	656.9	595.4	580.0	689.6	708.3	682.0	759.5	646.4	640.2	
	Change, %		(0.3)	0.3	10.7	13.6	(4.4)	(7.0)	(3.4)	(13.2)	2.0	2.9	
	Zinc	2,812.0	2,792.0	2,776.0	2,793.0	2,569.0	2,796.0	2,255.0	2,576.0	1,941.9	2,097.5	2,711.4	
	Change, %		0.7	1.3	0.7	9.5	0.6	24.7	9.2	44.8	34.1	3.7	
	Lead	2,346.3	2,350.0	2,305.0	2,287.5	2,187.8	2,329.8	1,785.0	2,003.5	1,791.2	1,868.3	2,230.1	
	Change, %		(0.2)	1.8	2.6	7.2	0.7	31.4	17.1	31.0	25.6	5.2	
	Aluminum	14,570.0	14,615.0	14,315.0	13,985.0	13,820.0	13,660.0	12,350.0	12,765.0	12,184.0	12,373.5	13,814.3	
	Change, %		(0.3)	1.8	4.2	5.4	6.7	18.0	14.1	19.6	17.8	5.5	
	Cobalt	59,000.0	58,000.0	56,930.0	58,709.0	55,050.0	37,500.0	26,250.0	32,734.0	28,444.4	25,480.1	51,155.7	
	Change, %		1.7	3.6	0.5	7.2	57.3	124.8	80.2	107.4	131.6	15.3	
	HR Coil	619.0	620.0	625.0	638.0	610.0	620.0	596.0	633.0	461.5	519.3	620.6	
	Change, %		(0.2)	(1.0)	(3.0)	1.5	(0.2)	3.9	(2.2)	34.1	19.2	(0.3)	
	Scrap	354.0	354.0	354.0	360.0	360.0	300.0	260.0	302.0	252.9	275.7	340.6	
	Change, %		0.0	0.0	(1.7)	(1.7)	18.0	36.2	17.2	40.0	28.4	3.9	

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		08/04	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	49.6	49.0	49.7	44.2	45.5	53.8	41.8	53.7	48.8	43.4	49.6
	<i>Change, %</i>		1.1	(0.3)	12.1	8.9	(7.9)	18.6	(7.7)	1.6	14.3	0.1
	Dubai	50.4	50.8	49.7	46.1	49.7	55.5	41.2	53.8	50.8	41.3	50.8
	<i>Change, %</i>		(0.9)	1.3	9.4	1.4	(9.2)	22.2	(6.4)	(0.8)	21.9	(0.9)
Crude Oil Product	Gasoline(휘발유)	66.2	66.3	65.2	60.3	63.3	70.6	50.1	69.8	69.5	56.3	65.3
	<i>Change, %</i>		(0.2)	1.5	9.7	4.6	(6.3)	32.1	(5.2)	(4.8)	17.7	1.4
	Kerosene(등유)	63.4	64.0	63.0	57.9	59.3	66.9	50.0	66.4	64.7	52.9	62.0
	<i>Change, %</i>		(1.0)	0.6	9.3	6.8	(5.3)	26.8	(4.6)	(2.1)	19.8	2.1
	Diesel(경유)	63.4	64.7	64.1	59.3	60.5	66.9	49.7	65.5	64.8	52.1	62.7
	<i>Change, %</i>		(2.0)	(1.0)	6.9	4.8	(5.2)	27.6	(3.2)	(2.1)	21.7	1.2
	Bunker-C	46.9	47.3	47.3	45.1	46.3	50.2	34.6	52.1	45.3	35.5	47.5
	<i>Change, %</i>		(0.8)	(0.7)	4.0	1.3	(6.6)	35.6	(9.9)	3.7	32.1	(1.3)
	Naphtha	50.1	50.5	49.1	43.9	47.9	56.8	36.8	53.5	52.6	42.6	50.4
	<i>Change, %</i>		(0.8)	2.0	14.3	4.6	(11.7)	36.1	(6.2)	(4.7)	17.7	(0.6)
Dubai Spread	Gasoline(휘발유)	15.8	15.5	15.5	14.3	13.6	15.2	8.9	16.0	18.7	14.9	14.5
	<i>Change</i>		0.4	0.4	1.6	2.2	0.7	6.9	(0.2)	(2.9)	0.9	1.3
	Kerosene(등유)	13.0	13.1	13.3	11.9	9.6	11.4	8.8	12.6	14.0	11.6	11.2
	<i>Change</i>		(0.1)	(0.3)	1.1	3.4	1.6	4.2	0.4	(1.0)	1.4	1.7
	Diesel(경유)	13.1	13.9	14.3	13.3	10.8	11.5	8.5	11.7	14.0	10.8	11.9
	<i>Change</i>		(0.8)	(1.3)	(0.2)	2.2	1.6	4.6	1.4	(0.9)	2.3	1.2
Dubai Spread	Bunker-C	(3.4)	(3.5)	(2.5)	(0.9)	(3.4)	(5.2)	(6.6)	(1.8)	(5.5)	(5.8)	(3.3)
	<i>Change</i>		0.1	(1.0)	(2.5)	(0.1)	1.8	3.2	(1.7)	2.1	2.4	(0.2)
	Naphtha	(0.2)	(0.3)	(0.6)	(2.2)	(1.8)	1.3	(4.4)	(0.4)	1.8	1.3	(0.4)
	<i>Change</i>		0.0	0.3	2.0	1.5	(1.6)	4.2	0.1	(2.1)	(1.5)	0.2
Refining Margin	Simple(단순)	3.5	3.6	4.2	4.4	2.3	2.0	(0.3)	3.8	3.3	1.9	2.9
	<i>Change</i>		(0.1)	(0.7)	(0.9)	1.2	1.5	3.8	(0.3)	0.2	1.6	0.6
	Complex(복합)	8.4	8.6	9.0	8.5	6.8	7.3	3.7	8.3	9.3	7.0	7.6
	<i>Change</i>		(0.2)	(0.6)	(0.1)	1.7	1.2	4.7	0.2	(0.8)	1.5	0.9
Refining Margin	Complex(lagging)	10.4	11.8	13.7	6.7	5.7	8.1	(0.1)	18.0	7.3	8.5	7.0
	<i>Change</i>		(1.5)	(3.4)	3.7	4.7	2.3	10.4	(7.6)	3.1	1.9	3.3

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			08/04	08/03	08/02	08/01	07/31	07/28	07/27	07/26	07/25	07/24	
Spot Price	Naphtha	CFR Japan	466.8	468.8	463.8	476.3	467.3	458.5	448.9	439.8	426.3	427.3	
	Ethylene	CFR SE Asia	1,020.0	1,010.0	970.0	940.0	905.0	905.0	905.0	905.0	900.0	890.0	885.0
	Propylene	FOB Korea	857.0	850.0	850.0	849.0	855.0	856.0	857.0	857.0	857.0	858.0	855.0
	Butadiene	FOB Korea	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0	910.0
	HDPE	CFR FE Asia	1,120.0	1,110.0	1,110.0	1,110.0	1,105.0	1,100.0	1,095.0	1,095.0	1,090.0	1,090.0	1,085.0
	LDPE	CFR FE Asia	1,160.0	1,160.0	1,160.0	1,150.0	1,150.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,130.0
	LLDPE	CFR FE Asia	1,110.0	1,100.0	1,100.0	1,095.0	1,090.0	1,090.0	1,085.0	1,085.0	1,080.0	1,080.0	1,070.0
	MEG	CFR China	875.0	863.0	877.0	880.0	867.0	870.0	860.0	860.0	855.0	848.0	847.0
	PP	CFR FE Asia	1,020.0	1,010.0	1,020.0	1,020.0	1,010.0	1,005.0	1,010.0	1,010.0	1,020.0	1,020.0	1,010.0
	PX	CFR China	822.5	823.2	824.0	818.3	807.7	804.7	809.7	809.7	798.7	791.7	786.7
	PTA	CFR China	638.0	637.0	640.0	642.0	645.0	645.0	645.0	645.0	652.0	652.0	652.0
	Benzene	FOB Korea	746.0	739.0	727.0	731.0	732.5	728.5	729.5	729.5	732.0	726.5	726.5
	Toluene	FOB Korea	643.0	627.0	624.0	606.0	602.5	596.5	600.5	600.5	602.5	596.5	596.5
	Xylene	FOB Korea	669.0	662.0	658.0	656.0	655.0	653.0	653.0	653.0	643.0	641.0	641.0
	SM	FOB Korea	1,110.0	1,100.0	1,109.0	1,113.0	1,122.5	1,128.5	1,128.5	1,128.5	1,134.5	1,128.5	1,141.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Spot Price	Naphtha	CFR Japan	456.5	438.5	411.5	460.5	469.5	349.5	484.5	493.0	399.5	464.7	
	<i>Change, %</i>			4.1	10.9	(0.9)	(2.8)	30.6	(5.8)	(7.4)	14.3	(1.8)	
	Ethylene	CFR SE Asia	975.0	915.0	875.0	1,110.0	1,045.0	1,040.0	990.0	990.0	1,103.7	1,040.9	1,018.5
	<i>Change, %</i>			6.6	11.4	(12.2)	(6.7)	(6.3)	(1.5)	(11.7)	(6.3)	(4.3)	
	Propylene	CFR SE Asia	762.5	757.5	742.5	725.0	775.0	680.0	815.0	815.0	770.0	705.7	860.1
	<i>Change, %</i>			0.7	2.7	5.2	(1.6)	12.1	(6.4)	(1.0)	8.1	(11.3)	
	Butadiene	CFR SE Asia	900.0	925.0	975.0	1,275.0	1,600.0	995.0	2,100.0	2,100.0	877.5	1,116.8	1,693.1
	<i>Change, %</i>			(2.7)	(7.7)	(29.4)	(43.8)	(9.5)	(57.1)	2.6	(19.4)	(46.8)	
	Benzene	CFR SE Asia	742.5	737.5	760.0	797.5	815.0	627.5	822.5	822.5	690.0	646.7	846.4
	<i>Change, %</i>			0.7	(2.3)	(6.9)	(8.9)	18.3	(9.7)	7.6	14.8	(12.3)	
	Toluene	CFR SE Asia	635.0	630.0	630.0	670.0	675.0	575.0	690.0	690.0	700.8	630.5	685.3
	<i>Change, %</i>			0.8	0.8	(5.2)	(5.9)	10.4	(8.0)	(9.4)	0.7	(7.3)	
	Xylene	CFR SE Asia	622.5	617.5	610.0	660.0	710.0	600.0	675.0	675.0	699.3	627.7	672.0
	<i>Change, %</i>			0.8	2.0	(5.7)	(12.3)	3.8	(7.8)	(11.0)	(0.8)	(7.4)	

Spread	Ethylene	-Naphtha	518.5	476.5	463.5	649.5	575.5	690.5	505.5	610.6	641.4	553.8	
	<i>Change, %</i>			8.8	11.9	(20.2)	(9.9)	(24.9)	2.6	(15.1)	(19.2)	(6.4)	
	Propylene	-Naphtha	306.0	319.0	331.0	264.5	305.5	330.5	330.5	330.5	277.0	306.2	395.4
	<i>Change, %</i>			(4.1)	(7.6)	15.7	0.2	(7.4)	(7.4)	10.5	(0.1)	(22.6)	
	Butadiene	-Naphtha	443.5	486.5	563.5	814.5	1,130.5	645.5	1,615.5	1,615.5	384.5	717.3	1,228.4
	<i>Change, %</i>			(8.8)	(21.3)	(45.5)	(60.8)	(31.3)	(72.5)	15.4	(38.2)	(63.9)	
	Benzene	-Naphtha	286.0	299.0	348.5	337.0	345.5	278.0	338.0	338.0	197.0	247.2	381.7
	<i>Change, %</i>			(4.3)	(17.9)	(15.1)	(17.2)	2.9	(15.4)	45.2	15.7	(25.1)	
Toluene	-Naphtha	178.5	191.5	218.5	209.5	205.5	225.5	205.5	205.5	207.8	231.0	220.6	
<i>Change, %</i>			(6.8)	(18.3)	(14.8)	(13.1)	(20.8)	(13.1)	(14.1)	(22.7)	(19.1)		
Xylene	-Naphtha	166.0	179.0	198.5	199.5	240.5	250.5	190.5	190.5	206.3	228.2	207.3	
<i>Change, %</i>			(7.3)	(16.4)	(16.8)	(31.0)	(33.7)	(12.9)	(19.5)	(27.3)	(19.9)		

자료 : Cischem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차이임

Weekly Price		Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Spot Price	HDPE	CFR SE Asia	1,057.5	1,047.5	1,047.5	1,147.5	1,137.5	1,135.0	1,142.5	1,230.1	1,134.6	1,122.3
	Change, %			1.0	1.0	(7.8)	(7.0)	(6.8)	(7.4)	(14.0)	(6.8)	(5.8)
	MEG	CFR SE Asia	872.5	847.5	802.5	697.5	742.5	615.0	847.5	780.8	660.8	814.1
	Change, %			2.9	8.7	25.1	17.5	41.9	2.9	11.7	32.0	7.2
	PVC	CFR SE Asia	860.0	870.0	870.0	880.0	930.0	800.0	920.0	820.8	823.4	900.2
	Change, %			(1.1)	(1.1)	(2.3)	(7.5)	7.5	(6.5)	4.8	4.4	(4.5)
	PP	CFR SE Asia	1,072.5	1,057.5	1,037.5	1,067.5	1,057.5	1,035.0	1,032.5	1,109.8	978.4	1,066.7
	Change, %			1.4	3.4	0.5	1.4	3.6	3.9	(3.4)	9.6	0.5
	2-EH	CFR Korea	970.0	950.0	920.0	930.0	1,035.0	750.0	865.0	930.1	772.4	948.1
	Change, %			2.1	5.4	4.3	(6.3)	29.3	12.1	4.3	25.6	2.3
	ABS	CFR SE Asia	1,820.0	1,810.0	1,790.0	1,685.0	1,660.0	1,385.0	1,635.0	1,431.1	1,347.1	1,754.8
	Change, %			0.6	1.7	8.0	9.6	31.4	11.3	27.2	35.1	3.7
	SBR	CFR SE Asia	1,490.0	1,500.0	1,450.0	1,900.0	2,545.0	1,400.0	2,000.0	1,332.1	1,483.0	2,192.7
	Change, %			(0.7)	2.8	(21.6)	(41.5)	6.4	(25.5)	11.9	0.5	(32.0)
	SM	CFR SE Asia	1,172.5	1,170.0	1,152.5	1,107.5	1,185.0	1,047.5	1,205.0	1,100.7	1,064.6	1,233.9
	Change, %			0.2	1.7	5.9	(1.1)	11.9	(2.7)	6.5	10.1	(5.0)
	Caustic	FOB NEA	462.5	462.5	447.5	447.5	449.0	300.0	422.5	296.8	316.6	439.3
	Change, %			0.0	3.4	3.4	3.0	54.2	9.5	55.9	46.1	5.3
	PX	CFR SE Asia	817.5	802.5	775.0	807.5	832.5	785.0	855.0	842.9	790.4	835.5
	Change, %			1.9	5.5	1.2	(1.8)	4.1	(4.4)	(3.0)	3.4	(2.2)
PO	CFR China	1,540.0	1,530.0	1,485.0	1,347.5	1,537.5	1,542.5	1,562.5	1,683.4	1,396.8	1,486.0	
Change, %			0.7	3.7	14.3	0.2	(0.2)	(1.4)	(8.5)	10.3	3.6	
Caprolactam	CFR SE Asia	1,730.0	1,700.0	1,610.0	1,870.0	2,250.0	1,310.0	1,850.0	1,581.5	1,344.9	1,927.3	
Change, %			1.8	7.5	(7.5)	(23.1)	32.1	(6.5)	9.4	28.6	(10.2)	
PTA	CFR SE Asia	667.5	672.5	630.0	647.5	662.5	625.0	642.5	648.0	613.7	657.6	
Change, %			(0.7)	6.0	3.1	0.8	6.8	3.9	3.0	8.8	1.5	
Spread	HDPE		601.0	609.0	636.0	687.0	668.0	785.5	658.0	737.1	735.1	657.7
	Change, %			(1.3)	(5.5)	(12.5)	(10.0)	(23.5)	(8.7)	(18.5)	(18.2)	(8.6)
	MEG		416.0	409.0	391.0	237.0	273.0	265.5	363.0	287.8	261.3	349.4
	Change, %			1.7	6.4	75.5	52.4	56.7	14.6	44.5	59.2	19.0
	PVC		403.5	431.5	458.5	419.5	460.5	450.5	435.5	327.8	423.9	435.6
	Change, %			(6.5)	(12.0)	(3.8)	(12.4)	(10.4)	(7.3)	23.1	(4.8)	(7.4)
	PP		616.0	619.0	626.0	607.0	588.0	685.5	548.0	616.8	578.9	602.0
	Change, %			(0.5)	(1.6)	1.5	4.8	(10.1)	12.4	(0.1)	6.4	2.3
	2-EH		513.5	511.5	508.5	469.5	565.5	400.5	380.5	437.0	372.9	483.5
	Change, %			0.4	1.0	9.4	(9.2)	28.2	35.0	17.5	37.7	6.2
	ABS		1,363.5	1,371.5	1,378.5	1,224.5	1,190.5	1,035.5	1,150.5	938.1	947.6	1,290.2
	Change, %			(0.6)	(1.1)	11.4	14.5	31.7	18.5	45.4	43.9	5.7
	SBR	BD spread	590.0	575.0	475.0	625.0	945.0	405.0	(100.0)	454.7	366.2	499.7
	Change, %			2.6	24.2	(5.6)	(37.6)	45.7	(690.0)	29.8	61.1	18.1
	SM		716.0	731.5	741.0	647.0	715.5	698.0	720.5	607.7	665.1	769.2
	Change, %			(2.1)	(3.4)	10.7	0.1	2.6	(0.6)	17.8	7.7	(6.9)
	Caustic											
	Change, %											
	PX		361.0	364.0	363.5	347.0	363.0	435.5	370.5	349.9	390.9	370.8
	Change, %			(0.8)	(0.7)	4.0	(0.6)	(17.1)	(2.6)	3.2	(7.6)	(2.6)
PO	propylene spread	777.5	772.5	742.5	622.5	762.5	862.5	747.5	913.4	691.1	625.9	
Change, %			0.6	4.7	24.9	2.0	(9.9)	4.0	(14.9)	12.5	24.2	
Caprolactam	benzene spread	987.5	962.5	850.0	1,072.5	1,435.0	682.5	1,027.5	891.6	698.2	1,080.9	
Change, %			2.6	16.2	(7.9)	(31.2)	44.7	(3.9)	10.8	41.4	(8.6)	
PTA	px spread	95.3	110.8	87.5	82.3	79.8	75.5	44.0	58.0	60.4	72.7	
Change, %			(14.0)	8.9	15.8	19.4	26.2	116.5	64.2	57.6	30.9	

자료 : Ciscem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	08/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA		
											17E	18E	17E	18E	17E	18E	
Petrochemical																	
Dow Chemical	USD	64.1	1.1	(2.4)	0.3	4.4	6.5	19.9	12.0	78,435	15.8	14.4	2.9	2.7	8.9	8.2	
Du Pont	USD	82.0	0.8	(2.3)	(0.1)	4.1	7.3	19.1	11.7	71,169	21.0	19.7	6.4	5.4	13.5	12.7	
Eastman	USD	84.1	0.2	1.3	(0.5)	7.6	7.9	29.8	11.8	12,180	11.2	10.3	2.4	2.3	8.6	8.2	
BASF	EUR	81.9	1.7	2.7	(0.6)	(9.3)	(8.1)	18.9	(7.3)	88,401	14.1	13.9	2.2	2.1	7.8	7.6	
Akzo Nobel	EUR	77.0	(0.2)	1.1	(0.7)	(3.4)	20.9	35.3	29.7	23,023	17.9	17.3	3.1	3.0	9.9	9.6	
Arkema	EUR	96.6	1.1	0.3	0.6	(1.7)	3.1	26.2	3.9	8,602	14.2	13.1	1.7	1.6	6.4	6.1	
Lanxess	EUR	67.2	1.4	2.3	0.4	(0.2)	(0.0)	60.5	7.8	7,232	18.1	15.3	2.3	2.1	5.9	5.8	
Sumitomo Chemical	JPY	627	(1.4)	(3.5)	(3.2)	(1.1)	3.0	51.8	12.8	9,367	10.2	9.4	1.2	1.1	7.4	7.0	
Mitsubishi Chemical	JPY	938	(1.6)	1.1	(1.5)	5.8	21.1	73.6	23.7	12,747	9.3	9.1	1.1	1.1	6.3	6.2	
Shin-Etsu Chemical	JPY	10,040	(1.5)	(0.0)	0.6	4.6	3.2	43.3	10.7	39,151	20.2	18.1	1.9	1.7	8.7	7.7	
Asahi Kasei	JPY	1,292	0.1	3.7	7.3	20.3	25.3	68.4	26.7	16,348	15.4	14.6	1.5	1.4	7.4	7.1	
JSR	JPY	1,928	0.8	1.3	(1.0)	(4.4)	(3.0)	38.7	4.6	3,934	15.4	14.3	1.1	1.1	8.0	7.3	
Nitto Denko	JPY	10,260	(1.9)	5.9	9.2	14.7	10.0	54.3	14.4	16,088	21.8	19.7	2.4	2.2	9.6	8.9	
SABIC	SAR	97.2	0.0	(2.8)	(4.7)	0.4	0.7	20.6	6.3	77,762	14.6	14.1	1.7	1.7	7.4	7.2	
Yansab	SAR	54.4	0.0	(1.4)	(0.1)	(1.1)	(8.5)	32.2	(0.1)	8,159	13.8	13.1	2.2	2.2	8.6	8.1	
Formosa Plastics	TWD	92.4	0.5	1.0	(0.6)	1.5	3.8	19.4	3.6	19,490	14.4	14.7	1.8	1.8	19.5	20.0	
Formosa Fiber	TWD	92.2	0.5	1.3	(4.2)	(1.1)	(3.7)	9.8	(4.3)	17,906	12.7	13.3	1.6	1.6	10.2	10.5	
Nan Ya Plastics	TWD	75.8	0.5	0.4	1.1	4.8	1.7	24.7	6.5	19,919	16.0	16.4	1.7	1.7	16.7	16.2	
Sinopec Shanghai	CNY	6.90	1.5	1.2	3.9	7.3	2.2	12.7	7.1	9,504	14.3	13.4	2.7	2.3	7.4	7.3	
Sinopec Yizheng(Fiber)	CNY	3.22	0.0	1.9	(3.6)	1.3	(16.4)	(17.2)	(21.5)	6,106	#N/A	N/A	47.4	6.9	7.3	37.8	17.5
Reliance	INR	1,622	(1.7)	1.7	14.1	19.5	56.9	63.4	49.9	82,745	17.9	14.7	1.7	1.5	12.0	9.6	
Industries Qatar	QAR	96.0	0.0	(4.9)	1.6	(4.4)	(16.9)	(9.3)	(18.3)	15,951	14.8	12.9	1.7	1.6	47.7	45.2	
PTT Chemical	THB	72.8	0.7	1.0	5.4	(2.7)	6.6	22.3	15.5	9,746	10.1	10.0	1.2	1.2	5.2	5.1	
Petronas	MYR	7.0	0.6	0.9	(1.8)	(1.7)	(1.7)	6.9	0.4	13,107	15.8	15.7	1.9	1.8	8.5	8.5	
LG화학	KRW	342,500	4.1	6.0	18.1	24.1	24.3	36.5	31.2	21,396	13.4	13.0	1.7	1.5	5.9	5.5	
롯데케미칼	KRW	394,500	4.8	8.7	13.0	11.9	0.3	30.6	6.9	11,966	6.2	6.1	1.2	1.0	4.1	3.6	
한화케미칼	KRW	33,100	0.6	2.2	6.9	31.3	25.9	33.2	34.0	4,828	6.4	6.5	0.9	0.8	7.5	7.0	
금호석유	KRW	78,600	1.3	3.7	4.0	2.3	(2.1)	30.6	(4.1)	2,119	15.3	13.8	1.5	1.3	10.0	8.8	
SKC	KRW	37,650	3.0	4.6	13.7	31.6	20.1	22.8	14.1	1,251	12.1	9.7	0.9	0.9	9.0	7.6	
국도화학	KRW	57,000	0.0	0.4	9.4	19.7	11.8	(3.6)	3.8	293	9.3	10.0	0.7	0.7	5.4	5.5	
효성	KRW	6,700	0.8	12.8	16.7	(12.4)	(20.7)	29.8	(1.5)	5,221	9.9	8.5	1.5	1.3	7.6	6.8	
Average			0.6	1.6	3.3	5.6	5.9	29.2	9.4								
Refinery																	
Valero	USD	68.5	0.0	2.8	0.7	6.5	4.6	28.5	0.3	30,649	16.8	12.4	1.6	1.6	7.0	5.9	
Conoco Phillips	USD	45.6	1.4	0.7	(0.2)	(0.8)	(9.7)	13.6	(9.1)	55,444	257.4	36.0	1.8	1.8	8.4	6.4	
Formosa Petrochemical	TWD	106.5	1.9	0.9	0.9	0.9	2.4	18.3	(4.9)	33,615	16.4	18.9	3.2	3.2	9.9	11.2	
Andeavor	USD	97.9	0.2	0.1	3.1	24.1	17.3	31.9	12.0	15,663	20.6	14.1	1.8	1.9	8.0	6.3	
Marathon Petroleum	USD	55.8	(0.2)	1.5	5.1	12.6	15.8	37.3	10.8	28,244	20.5	16.5	2.2	2.0	9.0	7.9	
Devon Energy	USD	33.7	4.3	1.4	2.7	(9.0)	(28.1)	(12.8)	(26.3)	17,692	20.2	15.9	2.6	2.3	8.4	7.5	
Hollyfrontier	USD	30.5	(0.1)	8.1	8.9	17.2	6.5	19.2	(6.8)	5,412	24.4	13.9	1.1	1.2	8.7	6.5	
Phillips 66	USD	85.6	(0.1)	2.3	2.7	9.4	7.1	10.4	(0.9)	43,785	20.7	15.1	2.0	2.0	10.2	8.5	
Murphy Oil	USD	26.4	2.8	(2.6)	0.7	4.5	(11.0)	(2.3)	(15.1)	4,561	#N/A	N/A	77.7	1.0	1.0	4.8	4.5
JX Holdings	JPY	494.7	(0.0)	(0.3)	(2.8)	(1.6)	(6.0)	33.6	0.0	15,299	7.8	7.2	0.7	0.7	8.0	7.6	
Idemitsu	JPY	2,615.0	(0.7)	(1.0)	(9.7)	(28.3)	(25.9)	42.8	(15.8)	4,909	5.0	4.9	0.6	0.6	9.3	8.7	
Nesteoil	EUR	35.4	0.8	(4.3)	2.1	(7.7)	7.9	0.3	(3.0)	0	13.6	13.5	2.2	2.0	7.8	8.1	
Ashland	USD	63.5	1.1	(3.0)	(4.2)	6.6	9.3	14.0	18.7	3,961	15.0	19.0	1.1	1.0	8.2	9.4	
Fuchs Petrolub	EUR	47.6	0.1	(5.2)	(2.2)	(2.0)	11.5	20.2	19.3	7,341	24.4	23.1	4.9	4.4	14.3	13.5	
SK이노베이션	KRW	180,000	4.3	2.9	12.5	5.6	15.0	22.4	22.9	14,729	7.5	7.5	0.9	0.8	4.5	4.0	
S-Oil	KRW	118,000	4.9	3.5	22.3	18.0	45.9	53.2	39.3	11,756	12.7	9.8	2.1	1.9	9.6	7.1	
GS	KRW	74,800	1.8	1.2	8.7	26.6	46.7	55.7	38.3	6,150	6.4	6.3	0.9	0.8	7.3	6.9	
Average			1.3	0.5	3.0	4.9	6.4	22.7	4.7								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/04	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											17E	18E	17E	18E	17E	18E
E&P/Shale																
Exxon Mobil	USD	80	(0.3)	0.8	(2.3)	(1.8)	(4.0)	(8.3)	(11.1)	339,858	22.9	20.4	1.9	1.9	9.7	9.0
BP	GBP	463	0.6	4.4	3.0	4.2	(3.2)	11.3	(9.1)	119,276	21.2	16.2	1.3	1.3	6.1	5.5
Shell	EUR	2,183	0.3	3.2	5.3	7.8	(0.5)	15.2	(2.7)	236,646	16.5	14.4	1.2	1.2	6.4	5.9
Chevron	USD	110	0.6	1.8	3.6	5.1	(3.0)	9.7	(6.4)	208,659	27.5	22.3	1.4	1.4	8.0	7.2
Total	EUR	44	0.8	2.2	(0.1)	(6.6)	(6.9)	4.0	(9.9)	129,138	13.0	11.9	1.2	1.1	6.1	5.5
Sinopec	CNY	6	0.2	(0.2)	0.8	6.8	2.5	27.1	12.8	105,998	14.4	13.0	1.0	1.0	4.8	4.7
Petrochina	CNY	8	0.9	1.0	4.5	7.9	(4.7)	13.0	2.9	210,659	54.5	31.5	1.2	1.2	7.0	6.6
CNOOC	CNY	11	0.9	0.6	1.2	3.2	(12.1)	(7.0)	(11.9)	49,677	15.8	12.0	0.9	0.8	3.9	3.6
Gazprom	RUB	119	(0.1)	2.2	(2.7)	(11.5)	(20.0)	(12.6)	(22.7)	47,198	4.3	3.8	0.2	0.2	3.6	3.2
Rosneft	RUB	316	(0.3)	3.3	(4.9)	1.9	(20.6)	(4.0)	(21.5)	55,898	9.8	6.9	0.8	0.7	5.0	4.3
Anadarko	USD	45	2.6	(3.1)	(2.6)	(13.6)	(36.2)	(12.4)	(35.6)	25,154	#N/A	#N/A	1.7	1.7	6.9	6.3
Petrobras	BRL	13	0.7	2.1	7.8	(1.5)	(12.6)	11.6	(9.9)	57,221	10.0	7.9	0.6	0.6	5.3	4.7
Lukoil	USD	2,903	(0.9)	3.9	(1.0)	4.4	(13.9)	2.2	(15.8)	40,797	5.8	5.1	0.6	0.6	N/A	N/A
Kinder	USD	20	(0.1)	(1.0)	3.5	2.2	(11.9)	0.4	(2.5)	47,497	31.3	28.3	1.3	1.3	11.8	11.3
Statoil	NOK	150	0.2	1.4	6.8	5.4	(3.2)	11.9	(5.5)	61,849	16.7	17.7	1.6	1.6	3.4	3.3
BHP	AUD	26	0.3	1.5	8.2	10.7	(1.8)	33.2	2.6	103,016	17.5	17.9	1.8	1.8	6.7	6.7
PTT E&P	THB	87	(0.6)	(0.9)	0.0	(9.4)	(11.0)	9.4	(9.6)	10,372	13.2	12.0	0.8	0.8	3.1	2.8
Petronas gas	MYR	19	0.4	(1.4)	1.1	(2.0)	(9.2)	(15.0)	(12.2)	8,648	20.8	19.3	3.0	2.8	11.9	10.9
Chesapeake	USD	5	0.7	(10.5)	(11.5)	(11.7)	(31.1)	(11.7)	(35.5)	4,115	6.1	5.1	#N/A	#N/A	7.5	6.3
Noble Energy	USD	26	0.1	(10.6)	(10.4)	(15.3)	(35.7)	(21.9)	(31.9)	12,611	#N/A	150.7	1.2	1.3	7.8	6.8
Average		0	0.3	0.0	0.5	(0.7)	(11.9)	2.8	(11.8)							
PV																
WACKER	EUR	104.1	0.8	2.6	8.9	4.3	(5.8)	30.7	5.3	6,381	29.2	22.2	1.8	1.7	6.7	6.3
GCL-Poly	HKD	0.9	(1.2)	0.0	2.4	(9.6)	(14.1)	(20.6)	(8.6)	2,021	7.1	6.8	0.6	0.5	5.5	5.1
SunPower	USD	9.3	4.2	(18.5)	(1.6)	38.5	32.1	(36.0)	39.9	1,290	#N/A	27.4	1.8	1.8	41.2	13.6
Canadian Solar	USD	16.7	0.6	(0.4)	4.4	31.5	37.4	17.7	37.2	969	13.0	8.0	0.9	0.9	10.1	9.7
JA Solar	USD	6.1	0.0	(3.9)	(3.8)	(9.2)	30.6	(22.2)	28.4	291	152.6	15.4	1.5	1.5	4.8	3.5
Yingli	USD	2.4	2.1	2.1	6.2	(2.8)	(10.5)	(40.3)	(8.1)	43	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	48.0	1.4	(1.8)	19.7	40.1	49.2	9.7	49.5	5,010	28.0	47.8	0.9	0.9	9.1	9.7
한화큐셀	USD	8.2	1.4	(3.8)	14.4	32.9	2.6	(40.1)	0.5	683	63.1	37.3	#N/A	#N/A	7.5	7.1
OCI	KRW	95,200	0.0	4.2	7.9	17.7	11.5	5.0	21.0	2,009	15.9	21.0	0.7	0.7	7.8	7.3
웅진에너지	KRW	8,330	3.2	3.0	22.5	62.1	76.3	(3.7)	75.9	183	N/A	0.7	0.7	7.8	7.3	9.9
신성솔라에너지	KRW	2,200	1.9	(5.4)	3.3	22.2	13.1	(7.2)	(0.5)	337	N/A	0.7	7.8	7.3	9.9	8.5
Average			1.3	(2.0)	7.7	20.7	20.2	(9.7)	21.9							
Gas Company																
Towngas China	HKD	5.5	(0.4)	0.4	8.6	17.4	32.2	16.9	35.8	1,962	12.7	11.8	1.0	1.0	11.5	10.7
Kulun	HKD	7.7	(0.5)	1.1	12.3	10.1	26.0	30.7	32.1	7,908	12.5	11.4	1.4	1.3	5.9	5.6
Beijing Enterprise	HKD	40.5	0.1	(0.4)	7.0	8.0	6.3	(10.3)	10.5	6,537	7.9	7.5	0.8	0.7	13.5	13.1
ENN Energy	HKD	53.6	(0.9)	2.4	13.8	28.7	38.7	44.0	67.9	7,408	14.6	12.9	2.8	2.4	9.1	8.3
China Resources Gas	HKD	29.4	(2.0)	0.2	9.9	12.0	18.8	27.3	34.9	8,362	16.8	14.9	3.2	2.7	10.2	9.3
China Gas Holdings	HKD	18.8	(1.3)	1.8	14.6	56.2	65.8	51.7	79.1	11,971	17.2	14.7	3.8	3.2	13.8	12.0
Shenzen Gas	HKD	14.1	7.6	6.8	1.7	7.6	27.3	26.1	24.8	3,644	12.3	11.4	1.3	1.2	8.2	7.8
Shann Xi	CNY	8.8	0.2	0.9	(0.7)	1.6	(5.6)	(15.2)	(7.9)	1,461	18.7	16.8	1.8	1.7	#N/A	#N/A
Suntien	HKD	1.7	0.6	3.0	22.0	7.5	38.7	95.5	72.0	817	7.5	6.5	0.7	0.6	8.7	7.4
China Oil & Gas	HKD	0.6	1.9	(1.8)	1.9	(3.5)	(9.8)	(6.8)	(9.8)	410	9.5	8.2	0.9	0.8	6.0	5.4
Average			0.5	1.4	9.1	14.6	23.8	26.0	33.9							
EV																
LG화학	KRW	342,500	4.1	6.0	18.1	24.1	24.3	36.5	31.2	21,396	12.8	12.7	1.7	1.5	6.1	5.9
삼성SDI	KRW	181,500	3.4	9.3	7.7	30.6	53.2	57.8	66.5	11,045	18.9	12.4	1.1	1.0	21.3	13.3
Panasonic	JPY	1504.0	(0.5)	(0.3)	0.2	12.3	29.0	56.6	26.4	33,295	19.7	15.2	2.0	1.8	6.4	5.5
GS Yuasa	JPY	511.0	0.0	(1.5)	3.9	(3.0)	8.5	30.4	5.1	1,907	15.4	14.2	1.2	1.2	7.1	6.6
NEC	JPY	302.0	(0.3)	1.7	2.0	7.1	15.3	20.8	(2.6)	7,099	21.3	17.0	0.9	0.9	7.3	6.3
BYD Auto	CNY	48.5	(0.3)	(1.9)	(3.9)	(0.4)	0.3	(17.9)	(2.4)	18,736	23.7	17.5	2.4	2.2	13.6	10.8
Tesla Motors	USD	356.9	2.8	6.5	1.2	20.8	42.0	54.8	67.0	59,564	#N/A	#N/A	12.2	10.6	72.9	26.4
Kandi Technologies	USD	4.0	0.0	(3.7)	(11.2)	(9.2)	(7.1)	(44.4)	(19.4)	190	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			1.1	2.0	2.2	10.3	20.7	24.3	21.5							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임