

1. News Summary (3 page)

2017년 8월 29일

News	
WTI comment	WTI 2.7%↓...하비 여파로 원유 수요 감소 전망뒀
Headline	남북러 가스관 재추진?...한러 정상회담 관심
News 1.	美 허리케인 '하비' 여파 텍사스 정유공장 줄줄이 가동 중단
News 2.	-
News 3.	-
News 4.	-

Conclusion	
	PNG가 LNG보다 저렴하다는 점에서 러시아 가스관 사업 당위성 높음
	정제시설 타격으로 원유 수요가 줄어들며 유가 하락 요인으로 작용할 것
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	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	46.6	(2.7)	(1.7)	(7.2)	(6.5)	(0.9)
Dubai	\$/bbl	50.6	(0.0)	(0.3)	0.3	(0.2)	10.3
Gasoline	\$/bbl	69.0	1.4	0.8	3.9	6.1	15.3
Diesel	\$/bbl	64.1	(0.0)	0.1	(2.0)	4.1	14.6
Complex margin	\$/bbl	9.4	0.3	0.4	(0.1)	2.5	3.6
1M lagging	\$/bbl	10.9	(1.5)	(1.4)	(3.7)	3.9	(0.9)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	479	0.6	1.8	4.4	8.0	18.6
Butadiene	\$/t	1,310	0.0	9.2	44.0	35.8	22.4
HDPE	\$/t	1,155	0.9	2.2	5.0	4.5	1.8
MEG	\$/t	905	0.8	3.4	4.0	19.9	42.1
PX	\$/t	812	0.1	0.5	0.9	3.9	3.4
SM	\$/t	1,273	2.7	7.2	12.8	18.3	24.0
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.93	1.1	(1.2)	4.7	(12.0)	(3.8)
Natural rubber	\$/t	1,540	1.3	1.3	8.5	4.1	22.2
Cotton	C/lbs	70.3	2.5	2.4	(0.2)	(8.8)	5.5

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	08/28	\$/t	1,185	1.7	21.5	24.7	10.2
Propylene	08/28	\$/t	790	1.9	3.6	4.3	5.3
Benzene	08/28	\$/t	795	2.6	7.1	1.3	19.1
Toluene	08/28	\$/t	655	0.0	3.1	0.0	9.2
Xylene	08/28	\$/t	628	(1.2)	0.8	(2.0)	3.7
PP	08/28	\$/t	1,118	0.9	4.2	7.7	13.5
PVC	08/28	\$/t	920	3.4	7.0	4.5	8.9
ABS	08/28	\$/t	1,895	1.3	4.1	20.7	37.3
SBR	08/28	\$/t	1,650	7.1	10.7	(0.9)	17.0
SM	08/28	\$/t	1,243	4.2	6.0	11.4	19.2
BPA	08/28	\$/t	1,993	(1.5)	29.4	38.1	35.8
Caustic	08/28	\$/t	471	(1.1)	1.8	6.4	51.9
2-EH	08/28	\$/t	990	3.1	2.1	3.1	23.8
Caprolactam	08/28	\$/t	1,770	(1.7)	2.3	12.7	29.2
Solar				%	%	%	%
Polysilicon	08/23	\$/kg	15.6	0.0	9.0	15.8	0.6
Module	08/23	\$/W	0.32	(0.6)	(1.8)	(3.6)	(26.9)

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	76.5	(0.3)	0.1	(3.9)	(6.2)	(12.4)
Shell	EUR	2,143	0.0	1.6	1.3	1.2	13.0
Petrochina	CNY	8.20	1.6	2.2	1.2	5.1	10.8
Gazprom	RUB	118.8	0.8	2.4	1.6	(2.8)	(12.8)
Petrobras	BRL	13.9	(0.1)	4.0	5.6	1.4	10.5
Refinery							
Phillips66	USD	83.7	0.3	2.1	0.0	8.0	6.4
Valero	USD	68.4	1.1	5.7	2.6	9.6	23.8
JX	JPY	543.7	0.2	1.6	9.5	10.6	45.9
Neste Oil	EUR	35.7	(0.4)	2.4	(3.6)	(3.1)	(7.4)

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.0	(0.3)	1.9	2.8	(2.2)	13.8
Dow Chemical	USD	64.7	0.2	1.3	(1.5)	5.9	20.6
SABIC	SAR	99.0	0.5	0.7	(1.1)	1.6	19.9
Formosa Pla.	TWD	94.5	0.6	2.2	3.3	5.1	19.3
Shin-Etsu	JPY	9,602	(0.1)	0.3	(4.4)	(2.5)	32.0
Renewable							
Wacker	EUR	105.5	(1.2)	1.4	3.9	9.1	25.7
First Solar	USD	48.02	1.3	4.5	(1.7)	30.3	28.0
GCL-Poly	HKD	0.88	(1.1)	(3.3)	3.5	2.3	(21.4)
Tesla Motors	USD	345.7	(0.7)	2.3	3.2	6.3	57.1

4. Coverage Summary

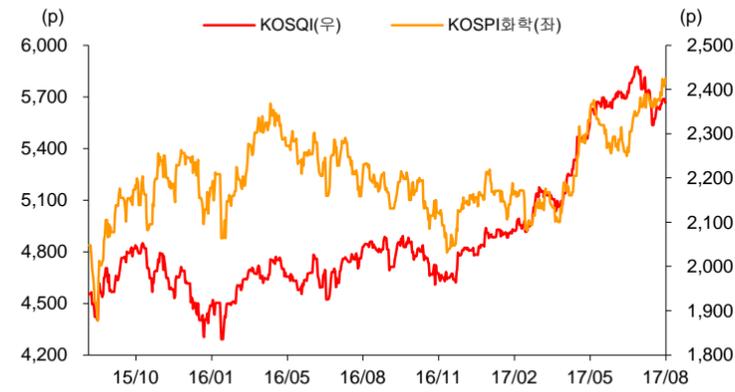
	08/28	1D	1W	1M	3M	6M	12M
KOSPI	2,370	(0.3)	0.6	(1.3)	1.1	13.2	16.3
KOSPI화학	5,805	0.7	2.3	2.9	2.9	12.6	11.7
LG화학	369,500	0.3	5.9	14.4	20.6	31.5	37.6
롯데케미칼	393,000	1.0	0.1	8.3	8.6	8.4	39.1
한화케미칼	35,000	(2.0)	0.1	8.0	16.5	36.7	33.3
금호석유화학	79,300	3.0	2.5	4.6	(0.1)	2.7	13.3
KCC	396,000	0.5	0.0	(9.0)	(2.0)	14.9	(4.6)
OCI	96,200	0.4	2.6	5.3	9.7	5.0	6.7
SKC	37,050	(1.2)	(0.4)	2.9	16.3	13.1	31.2
국도화학	54,000	0.0	(0.9)	(4.9)	3.1	4.0	(6.6)
SK이노베이션	183,500	1.7	5.5	4.9	7.6	19.9	27.9
S-Oil	120,000	2.6	3.0	5.3	15.9	42.5	71.2
GS	68,800	1.0	(1.1)	(6.9)	(6.4)	27.4	36.5
SK가스	111,500	1.4	4.2	(2.2)	(9.3)	5.7	12.1
포스코대우	21,700	0.2	(0.2)	(7.3)	(10.7)	(14.2)	(9.0)
LG상사	28,500	(0.9)	1.2	(4.2)	(12.8)	(10.9)	(17.2)
한국전력	44,350	0.2	0.3	(1.3)	5.0	1.8	(25.0)
한국가스공사	45,650	(0.7)	(2.0)	(9.2)	(11.5)	(7.1)	6.2

투자의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	330,000	(10.7)	14.71	1.98
매수	410,000	4.3	8.11	1.43
매수	33,000	(5.7)	8.35	1.04
매수	100,000	26.1	15.08	1.51
매수	450,000	13.6	22.52	0.64
매수	100,000	4.0	19.47	0.75
매수	40,000	8.0	13.97	0.99
매수	70,000	29.6	9.06	0.66
매수	180,000	(1.9)	8.25	1.00
매수	100,000	(16.7)	16.12	2.34
매수	80,000	16.3	5.72	1.01
매수	150,000	34.5	6.76	0.81
매수	27,000	24.4	7.54	0.90
매수	42,000	47.4	8.81	0.92
매수	60,000	35.3	7.66	0.35
매수	60,000	31.4	7.75	0.54

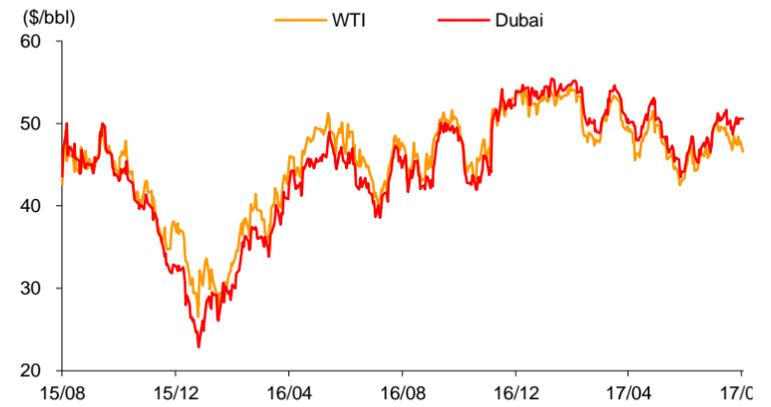
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
· 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

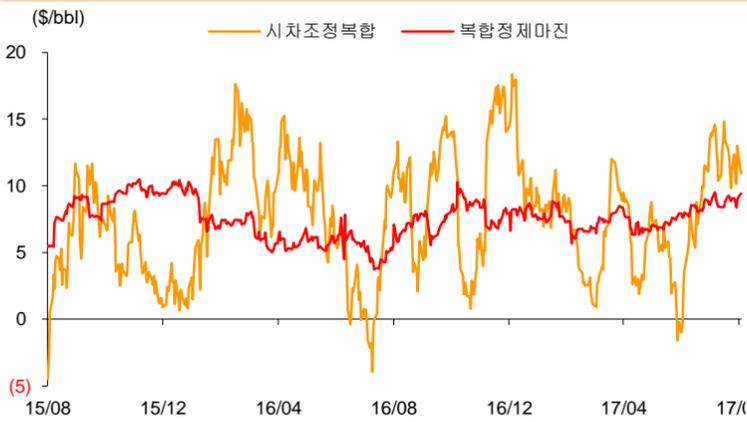
KOSPI/KOSPI화학



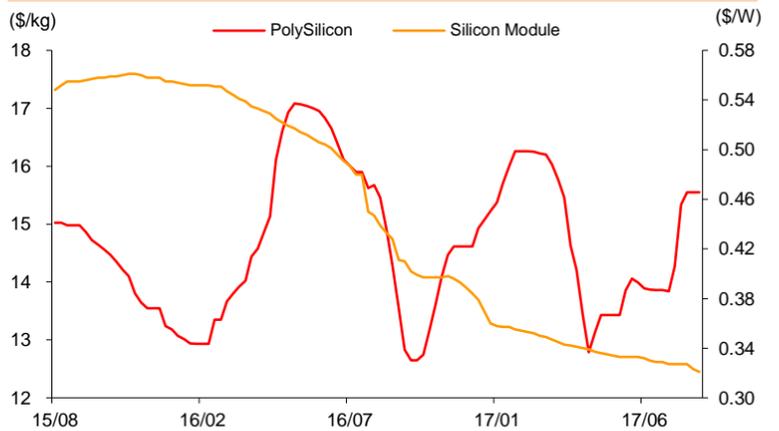
WTI/Dubai



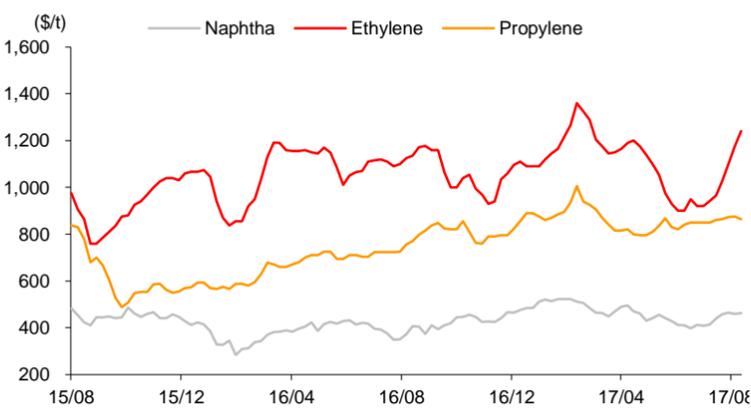
Complex & 1M lagging margin



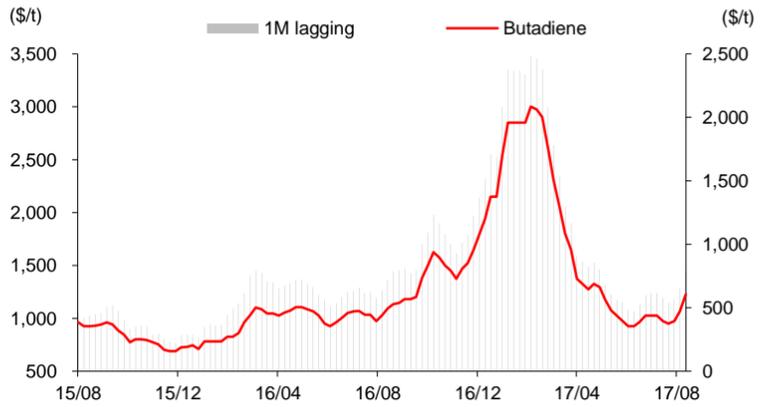
Polysilicon & Module prices



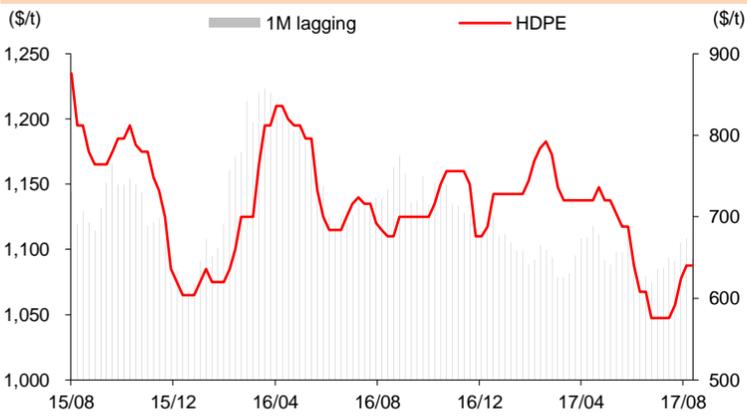
Naphtha/Ethylene/Propylene prices



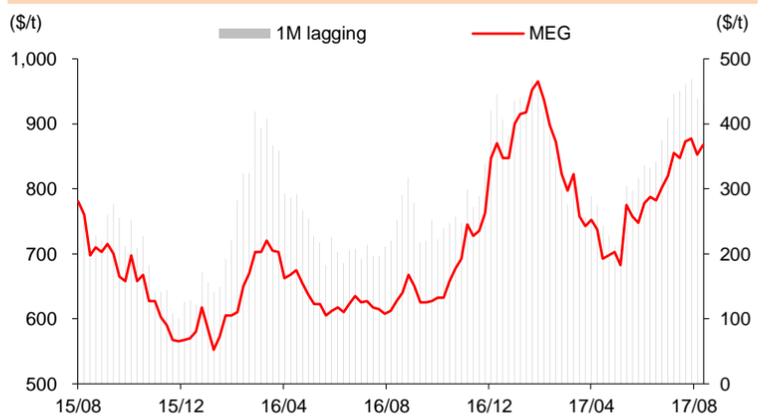
Butadiene price & 1M lagging naphtha spread



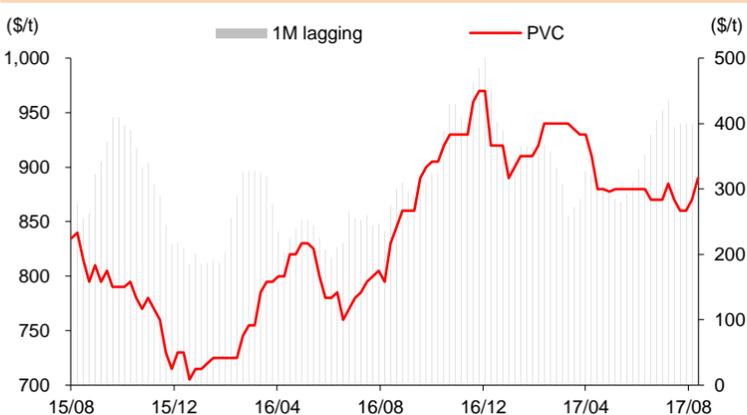
HDPE price & 1M lagging naphtha spread



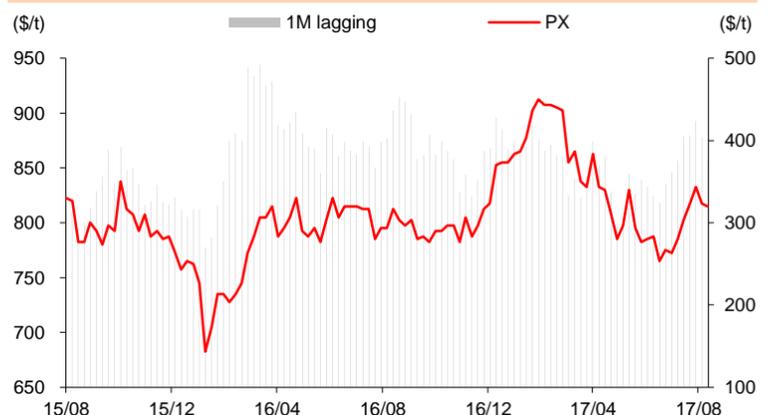
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline (출처: EBN)

제목 남북러 가스관 재추진?...한러 정상회담 관심

결론 PNG가 LNG보다 저렴하다는 점에서 러시아 가스관 사업 당위성 높음

세부

- 1) 文대통령은 9/6~9/7까지 러시아를 방문, 푸틴 대통령과 정상회담 예정
- 2) 文대통령은 제3차 동방경제포럼에도 참석해 기초연설을 할 예정
- 3) 정상회담에서 남북러 가스관 재추진을 강하게 요청할 것으로 예상됨
- 4) 文대통령은 후보시절 가스관 사업을 공약으로 내건 바 있음
- 5) PNG가 LNG보다 저렴하다는 점에서 러시아 가스관 사업 당위성 높음

Issue 1 (출처: 조선비즈)

제목 美 허리케인 '하비' 여파 텍사스 정유공장 줄줄이 가동 중단

결론 정제시설 타격으로 원유 수요가 줄어들며 유가 하락 요인으로 작용할 것

세부

- 1) 셸, 페트로브라스, 엑손모빌 등은 텍사스 연안 정제시설 가동 중단
- 2) 텍사스 연안의 정유 업체들은 미국 내 전체 원유 정제량 3분의 1을 생산
- 3) 하비로 인한 정유 공장 피해 복구에 오랜 시간이 소요될 것으로 예상됨
- 4) 하비는 정유공장 및 정제시설 외 원유 생산 시설에도 피해를 야기함
- 5) 정제시설 타격으로 원유 수요가 줄어들며 유가 하락 요인으로 작용할 것

Issue 3

제목

결론

세부

- 1)
- 2)
- 3)
- 4)
- 5)

Issue 5

제목

결론

세부

- 1)
- 2)
- 3)
- 4)
- 5)

WTI Comment (출처: 연합뉴스)

제목 WTI 2.7%↓...하비 여파로 원유 수요 감소 전망

상승

요인

하락 허리케인 '하비'의 여파로 일부 정유시설이 폐쇄

요인 정유시설의 원유 수요가 줄어들 것이라는 전망

Issue 2

제목

결론

세부

- 1)
- 2)
- 3)
- 4)
- 5)

Issue 4

제목

결론

세부

- 1)
- 2)
- 3)
- 4)
- 5)

Issue 6

제목

결론

세부

- 1)
- 2)
- 3)
- 4)
- 5)

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
F/X	USD/EUR	0.835	0.839	0.846	0.851	0.894	0.946	0.893	0.951	0.901	0.904	0.907	
	Change, %		(0.5)	(1.4)	(1.9)	(6.7)	(11.7)	(6.5)	(12.2)	(7.4)	(7.6)	(8.0)	
	USD/JPY	109.3	109.4	109.0	110.7	111.3	112.8	101.8	117.0	121.1	108.8	112.1	
	Change, %		(0.1)	0.2	(1.3)	(1.9)	(3.1)	7.3	(6.6)	(9.7)	0.5	(2.5)	
	USD/KRW	1,120.1	1,128.4	1,138.9	1,122.2	1,120.8	1,130.3	1,113.8	1,205.8	1,131.2	1,160.5	1,139.9	
	Change, %		(0.7)	(1.7)	(0.2)	(0.1)	(0.9)	0.6	(7.1)	(1.0)	(3.5)	(1.7)	
	Agriculture	Corn	336.0	338.8	349.0	374.3	374.3	366.8	316.3	352.0	376.8	358.5	366.0
		Change, %		(0.8)	(3.7)	(10.2)	(10.2)	(8.4)	6.2	(4.5)	(10.8)	(6.3)	(8.2)
Soybean		935.3	939.0	932.5	1,000.8	926.5	1,025.0	990.8	996.5	945.4	987.5	977.5	
Change, %			(0.4)	0.3	(6.5)	0.9	(8.8)	(5.6)	(6.1)	(1.1)	(5.3)	(4.3)	
	Wheat	400.0	409.5	409.5	481.0	438.3	424.8	383.5	408.0	508.1	436.4	441.0	
	Change, %		(2.3)	(2.3)	(16.8)	(8.7)	(5.8)	4.3	(2.0)	(21.3)	(8.3)	(9.3)	
	Rice	12.3	12.4	12.2	12.4	11.0	9.3	9.7	9.4	11.1	10.3	10.6	
	Change, %		(0.5)	1.2	(0.7)	12.3	32.8	26.7	31.8	11.5	19.2	16.8	
	Oats	238.5	241.3	243.8	290.3	244.3	258.0	169.0	228.5	250.2	196.3	253.5	
	Change, %		(1.1)	(2.2)	(17.8)	(2.4)	(7.6)	41.1	4.4	(4.7)	21.5	(5.9)	
	MYR/mt	Palm Oil	2,723.0	2,733.0	2,703.0	2,666.0	2,840.0	2,898.0	2,800.0	3,218.0	2,190.3	2,653.8	2,859.5
		Change, %		(0.4)	0.7	2.1	(4.1)	(6.0)	(2.8)	(15.4)	24.3	2.6	(4.8)
Cocoa		2,015.0	1,962.0	1,930.0	2,060.0	1,911.0	1,943.0	3,012.0	2,126.0	3,091.6	2,854.0	1,995.2	
Change, %			2.7	4.4	(2.2)	5.4	3.7	(33.1)	(5.2)	(34.8)	(29.4)	1.0	
	Cotton	70.3	68.6	68.7	70.2	77.1	75.3	67.7	70.7	63.3	65.6	74.6	
	Change, %		2.5	2.4	0.2	(8.8)	(6.6)	3.9	(0.5)	11.2	7.2	(5.7)	
	Sugar	14.3	14.0	13.5	14.4	15.1	19.3	20.6	19.5	13.1	18.2	16.5	
	Change, %		2.0	5.8	(0.4)	(4.9)	(25.9)	(30.6)	(26.7)	8.9	(21.2)	(13.5)	
	Coffee	129.9	130.2	126.4	137.9	131.2	140.7	143.9	137.1	132.6	136.1	136.3	
	Change, %		(0.2)	2.8	(5.8)	(1.0)	(7.7)	(9.7)	(5.2)	(2.1)	(4.5)	(4.7)	
	Energy	WTI	46.6	47.9	47.4	49.7	49.8	54.0	47.6	53.7	48.8	43.4	49.5
		Change, %		(2.7)	(1.7)	(6.3)	(6.5)	(13.8)	(2.2)	(13.3)	(4.6)	7.3	(5.8)
Brent		51.9	52.4	51.7	52.5	52.2	55.6	49.9	56.8	53.7	45.1	52.2	
Change, %			(1.0)	0.4	(1.2)	(0.5)	(6.7)	3.9	(8.7)	(3.3)	15.1	(0.7)	
	Natural Gas	2.9	2.9	3.0	2.9	3.2	2.8	2.9	3.7	2.6	2.6	3.1	
	Change, %		1.1	(1.2)	(0.5)	(9.6)	5.4	1.9	(21.5)	11.3	14.6	(4.6)	
	Ethanol	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.5	1.5	
	Change, %		1.0	(1.6)	(1.7)	(0.3)	(0.7)	5.1	(5.7)	0.4	0.0	(1.4)	
	RBOB Gasoline	171.2	166.7	158.4	167.6	164.3	151.2	151.3	166.5	163.6	140.0	158.7	
	Change, %		2.7	8.1	2.2	4.2	13.2	13.2	2.8	4.7	22.3	7.9	
	Coal	97.8	98.6	98.4	87.2	74.5	83.5	67.2	88.4	59.0	65.5	83.2	
	Change, %		(0.9)	(0.6)	12.1	31.3	17.1	45.6	10.6	65.8	49.3	17.4	
Metal	Gold	1,308.4	1,291.4	1,291.9	1,269.7	1,266.9	1,248.3	1,321.2	1,152.3	1,160.6	1,248.5	1,243.8	
	Change, %		1.3	1.3	3.0	3.3	4.8	(1.0)	13.5	12.7	4.8	5.2	
	Silver	17.4	17.1	17.0	16.8	17.4	18.3	18.7	15.9	15.7	17.1	17.2	
	Change, %		2.2	2.5	4.1	0.5	(4.8)	(6.5)	9.6	11.0	2.0	1.7	
	Copper	6,666.0	6,666.0	6,586.0	6,325.0	5,657.5	5,973.0	4,615.0	5,535.5	5,503.1	4,872.0	5,888.7	
	Change, %		0.0	1.2	5.4	17.8	11.6	44.4	20.4	21.1	36.8	13.2	
	Nickel	745.4	729.3	724.9	656.9	584.8	726.7	656.8	682.0	759.5	646.4	646.4	
	Change, %		2.2	2.8	13.5	27.5	2.6	13.5	9.3	(1.9)	15.3	15.3	
	Zinc	3,063.5	3,063.5	3,125.5	2,776.0	2,640.0	2,825.0	2,314.5	2,576.0	1,941.9	2,097.5	2,741.2	
	Change, %		0.0	(2.0)	10.4	16.0	8.4	32.4	18.9	57.8	46.1	11.8	
	Lead	2,306.3	2,306.3	2,331.8	2,305.0	2,114.8	2,259.3	1,869.0	2,003.5	1,791.2	1,868.3	2,240.9	
	Change, %		0.0	(1.1)	0.1	9.1	2.1	23.4	15.1	28.8	23.4	2.9	
	Aluminum	16,320.0	16,465.0	16,285.0	14,315.0	14,015.0	13,725.0	12,480.0	12,765.0	12,184.0	12,373.5	14,027.1	
	Change, %		(0.9)	0.2	14.0	16.4	18.9	30.8	27.8	33.9	31.9	16.3	
	Cobalt	60,750.0	60,750.0	59,813.0	56,930.0	55,850.0	50,250.0	26,000.0	32,734.0	28,444.4	25,480.1	51,878.9	
	Change, %		0.0	1.6	6.7	8.8	20.9	133.7	85.6	113.6	138.4	17.1	
	HR Coil	621.0	621.0	621.0	625.0	613.0	620.0	591.0	633.0	461.5	519.3	620.6	
	Change, %		0.0	0.0	(0.6)	1.3	0.2	5.1	(1.9)	34.6	19.6	0.1	
	Scrap	372.0	372.0	372.0	354.0	350.0	350.0	265.0	302.0	252.9	275.7	343.2	
	Change, %		0.0	0.0	5.1	6.3	6.3	40.4	23.2	47.1	34.9	8.4	

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		08/28	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Crude Oil	WTI	46.6	47.9	47.4	50.2	49.8	54.1	47.0	53.7	48.8	43.4	49.4	
	<i>Change, %</i>		(2.7)	(1.7)	(7.2)	(6.5)	(13.8)	(0.9)	(13.3)	(4.5)	7.4	(5.7)	
	Dubai	50.6	50.6	50.7	50.4	50.7	55.2	45.8	53.8	50.8	41.3	50.7	
	<i>Change, %</i>		(0.0)	(0.3)	0.3	(0.2)	(8.4)	10.3	(6.1)	(0.5)	22.4	(0.4)	
Crude Oil Product	Gasoline(휘발유)	69.0	68.0	68.4	66.4	65.0	68.9	59.8	69.8	69.5	56.3	65.5	
	<i>Change, %</i>		1.4	0.8	3.9	6.1	0.1	15.3	(1.3)	(0.8)	22.6	5.3	
	Kerosene(등유)	63.7	63.7	63.0	64.3	61.8	67.0	55.8	66.4	64.7	52.9	62.1	
	<i>Change, %</i>		0.0	1.1	(0.9)	3.1	(4.8)	14.1	(4.1)	(1.6)	20.5	2.6	
	Diesel(경유)	64.1	64.1	64.0	65.4	61.6	67.6	55.9	65.5	64.8	52.1	62.7	
	<i>Change, %</i>		(0.0)	0.1	(2.0)	4.1	(5.2)	14.6	(2.2)	(1.1)	22.9	2.1	
	Bunker-C	47.4	47.4	47.7	48.1	47.2	50.8	39.8	52.1	45.3	35.5	47.5	
	<i>Change, %</i>		(0.0)	(0.6)	(1.5)	0.4	(6.8)	19.1	(9.0)	4.7	33.3	(0.3)	
	Naphtha	51.4	51.0	50.6	50.3	48.1	55.5	42.1	53.5	52.6	42.6	50.4	
	<i>Change, %</i>		0.6	1.5	2.2	6.9	(7.4)	22.0	(3.9)	(2.4)	20.6	2.0	
	Dubai Spread	Gasoline(휘발유)	18.4	17.4	17.7	16.0	14.3	13.7	14.0	16.0	18.7	14.9	14.7
		<i>Change</i>		1.0	0.7	2.4	4.1	4.7	4.4	2.4	(0.3)	3.5	3.7
Kerosene(등유)		13.2	13.2	12.3	13.9	11.1	11.8	10.0	12.6	14.0	11.6	11.4	
<i>Change</i>			0.0	0.9	(0.7)	2.0	1.4	3.2	0.6	(0.8)	1.6	1.8	
Diesel(경유)		13.5	13.5	13.2	15.0	10.9	12.4	10.1	11.7	14.0	10.8	12.0	
<i>Change</i>			0.0	0.3	(1.5)	2.6	1.1	3.4	1.8	(0.5)	2.7	1.5	
Bunker-C		(3.2)	(3.2)	(3.1)	(2.3)	(3.5)	(4.4)	(6.0)	(1.8)	(5.5)	(5.8)	(3.2)	
<i>Change</i>			(0.0)	(0.1)	(0.9)	0.3	1.2	2.9	(1.4)	2.3	2.6	0.1	
Naphtha		0.8	0.5	(0.1)	(0.1)	(2.6)	0.3	(3.7)	(0.4)	1.8	1.3	(0.4)	
<i>Change</i>			0.3	1.0	0.9	3.4	0.5	4.5	1.2	(1.0)	(0.5)	1.2	
Refining Margin	Simple(단순)	4.1	4.0	3.9	4.6	2.5	2.4	1.0	3.8	3.3	1.9	3.0	
	<i>Change</i>		0.1	0.2	(0.5)	1.6	1.7	3.1	0.3	0.8	2.2	1.1	
	Complex(복합)	9.4	9.1	9.1	9.5	6.9	7.3	5.9	8.3	9.3	7.0	7.7	
	<i>Change</i>		0.3	0.4	(0.1)	2.5	2.1	3.6	1.2	0.1	2.5	1.7	
Complex(lagging)	10.9	12.4	12.4	14.6	7.0	9.1	11.8	18.0	7.3	8.5	7.5		
<i>Change</i>		(1.5)	(1.4)	(3.7)	3.9	1.9	(0.9)	(7.0)	3.7	2.4	3.4		

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			08/28	08/25	08/24	08/23	08/22	08/21	08/18	08/17	08/16	08/15	
Spot Price	Naphtha	CFR Japan	478.6	476.0	472.5	463.4	466.0	470.3	464.0	454.3	460.5	460.8	
	Ethylene	CFR SE Asia	1,125.0	1,125.0	1,125.0	1,125.0	1,125.0	1,110.0	1,110.0	1,100.0	1,100.0	1,100.0	
	Propylene	FOB Korea	869.0	869.0	867.0	865.0	860.0	858.0	859.0	861.0	858.0	858.0	
	Butadiene	FOB Korea	1,310.0	1,310.0	1,230.0	1,230.0	1,200.0	1,200.0	1,200.0	1,200.0	1,090.0	1,070.0	
	HDPE	CFR FE Asia	1,155.0	1,145.0	1,140.0	1,140.0	1,140.0	1,130.0	1,125.0	1,120.0	1,110.0	1,110.0	
	LDPE	CFR FE Asia	1,190.0	1,180.0	1,180.0	1,180.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,160.0
	LLDPE	CFR FE Asia	1,140.0	1,130.0	1,130.0	1,130.0	1,130.0	1,125.0	1,120.0	1,110.0	1,100.0	1,100.0	
	MEG	CFR China	905.0	898.0	880.0	868.0	875.0	875.0	865.0	857.0	845.0	840.0	
	PP	CFR FE Asia	1,100.0	1,100.0	1,100.0	1,080.0	1,070.0	1,055.0	1,040.0	1,040.0	1,025.0	1,020.0	
	PX	CFR China	811.7	811.2	807.0	800.7	803.7	808.0	805.0	802.7	799.7	793.3	
	PTA	CFR China	637.0	635.0	633.0	633.0	630.0	630.0	630.0	631.0	629.0	635.0	
	Benzene	FOB Korea	816.5	795.5	771.5	768.0	770.0	766.0	761.0	757.0	753.0	754.0	
	Toluene	FOB Korea	635.5	637.5	623.5	622.5	622.5	628.5	624.5	620.5	622.5	619.0	
	Xylene	FOB Korea	656.5	656.0	649.5	648.5	651.5	651.5	650.5	650.5	647.0	649.0	
	SM	FOB Korea	1,273.0	1,240.0	1,218.0	1,193.0	1,203.0	1,187.0	1,171.0	1,175.5	1,151.5	1,144.0	

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	474.0	462.0	456.5	441.0	460.5	405.5	484.5	493.0	399.5	464.7
	<i>Change, %</i>			2.6	3.8	7.5	2.9	16.9	(2.2)	(3.9)	18.6	2.0
	Ethylene	CFR SE Asia	1,185.0	1,165.0	975.0	950.0	1,110.0	1,075.0	990.0	1,103.7	1,040.9	1,030.8
	<i>Change, %</i>			1.7	21.5	24.7	6.8	10.2	19.7	7.4	13.8	15.0
	Propylene	CFR SE Asia	790.0	775.0	762.5	757.5	725.0	750.0	815.0	770.0	705.7	861.4
	<i>Change, %</i>			1.9	3.6	4.3	9.0	5.3	(3.1)	2.6	12.0	(8.3)
	Butadiene	CFR SE Asia	1,325.0	1,175.0	900.0	975.0	1,275.0	1,095.0	2,100.0	877.5	1,116.8	1,626.4
	<i>Change, %</i>			12.8	47.2	35.9	3.9	21.0	(36.9)	51.0	18.6	(18.5)
	Benzene	CFR SE Asia	795.0	775.0	742.5	785.0	797.5	667.5	822.5	690.0	646.7	838.0
	<i>Change, %</i>			2.6	7.1	1.3	(0.3)	19.1	(3.3)	15.2	22.9	(5.1)
	Toluene	CFR SE Asia	655.0	655.0	635.0	655.0	670.0	600.0	690.0	700.8	630.5	681.7
	<i>Change, %</i>			0.0	3.1	0.0	(2.2)	9.2	(5.1)	(6.5)	3.9	(3.9)
	Xylene	CFR SE Asia	627.5	635.0	622.5	640.0	660.0	605.0	675.0	699.3	627.7	667.5
	<i>Change, %</i>			(1.2)	0.8	(2.0)	(4.9)	3.7	(7.0)	(10.3)	(0.0)	(6.0)

Spread	Ethylene	-Naphtha	711.0	703.0	518.5	509.0	649.5	669.5	505.5	610.6	641.4	566.1
	<i>Change, %</i>			1.1	37.1	39.7	9.5	6.2	40.7	16.4	10.9	25.6
	Propylene	-Naphtha	316.0	313.0	306.0	316.5	264.5	344.5	330.5	277.0	306.2	396.7
	<i>Change, %</i>			1.0	3.3	(0.2)	19.5	(8.3)	(4.4)	14.1	3.2	(20.4)
	Butadiene	-Naphtha	851.0	713.0	443.5	534.0	814.5	689.5	1,615.5	384.5	717.3	1,161.7
	<i>Change, %</i>			19.4	91.9	59.4	4.5	23.4	(47.3)	121.4	18.6	(26.7)
	Benzene	-Naphtha	321.0	313.0	286.0	344.0	337.0	262.0	338.0	197.0	247.2	373.3
	<i>Change, %</i>			2.6	12.2	(6.7)	(4.7)	22.5	(5.0)	63.0	29.9	(14.0)
	Toluene	-Naphtha	181.0	193.0	178.5	214.0	209.5	194.5	205.5	207.8	231.0	217.0
	<i>Change, %</i>			(6.2)	1.4	(15.4)	(13.6)	(6.9)	(11.9)	(12.9)	(21.6)	(16.6)
	Xylene	-Naphtha	153.5	173.0	166.0	199.0	199.5	199.5	190.5	206.3	228.2	202.8
	<i>Change, %</i>			(11.3)	(7.5)	(22.9)	(23.1)	(23.1)	(19.4)	(25.6)	(32.7)	(24.3)

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	1,107.5	1,087.5	1,057.5	1,117.5	1,147.5	1,110.0	1,142.5	1,230.1	1,134.6	1,118.6
	Change, %			1.8	4.7	(0.9)	(3.5)	(0.2)	(3.1)	(10.0)	(2.4)	(1.0)
	MEG	CFR SE Asia	902.5	867.5	872.5	757.5	697.5	640.0	847.5	780.8	660.8	821.1
	Change, %			4.0	3.4	19.1	29.4	41.0	6.5	15.6	36.6	9.9
	PVC	CFR SE Asia	920.0	890.0	860.0	880.0	880.0	845.0	920.0	820.8	823.4	898.5
	Change, %			3.4	7.0	4.5	4.5	8.9	0.0	12.1	11.7	2.4
	PP	CFR SE Asia	1,117.5	1,107.5	1,072.5	1,037.5	1,067.5	985.0	1,032.5	1,109.8	978.4	1,070.8
	Change, %			0.9	4.2	7.7	4.7	13.5	8.2	0.7	14.2	4.4
	2-EH	CFR Korea	990.0	960.0	970.0	960.0	930.0	800.0	865.0	930.1	772.4	950.4
	Change, %			3.1	2.1	3.1	6.5	23.8	14.5	6.4	28.2	4.2
	ABS	CFR SE Asia	1,895.0	1,870.0	1,820.0	1,570.0	1,685.0	1,380.0	1,635.0	1,431.1	1,347.1	1,767.6
	Change, %			1.3	4.1	20.7	12.5	37.3	15.9	32.4	40.7	7.2
	SBR	CFR SE Asia	1,650.0	1,540.0	1,490.0	1,665.0	1,900.0	1,410.0	2,000.0	1,332.1	1,483.0	2,119.0
	Change, %			7.1	10.7	(0.9)	(13.2)	17.0	(17.5)	23.9	11.3	(22.1)
	SM	CFR SE Asia	1,242.5	1,192.5	1,172.5	1,115.0	1,107.5	1,042.5	1,205.0	1,100.7	1,064.6	1,228.7
	Change, %			4.2	6.0	11.4	12.2	19.2	3.1	12.9	16.7	1.1
	Caustic	FOB NEA	471.0	476.0	462.5	442.5	447.5	310.0	422.5	296.8	316.6	443.0
	Change, %			(1.1)	1.8	6.4	5.3	51.9	11.5	58.7	48.8	6.3
	PX	CFR SE Asia	817.5	815.0	817.5	795.0	807.5	802.5	855.0	842.9	790.4	833.8
	Change, %			0.3	0.0	2.8	1.2	1.9	(4.4)	(3.0)	3.4	(2.0)
PO	CFR China	1,992.5	2,022.5	1,540.0	1,442.5	1,347.5	1,467.5	1,562.5	1,683.4	1,396.8	1,520.3	
Change, %			(1.5)	29.4	38.1	47.9	35.8	27.5	18.4	42.6	31.1	
Caprolactam	CFR SE Asia	1,770.0	1,800.0	1,730.0	1,570.0	1,870.0	1,370.0	1,850.0	1,581.5	1,344.9	1,910.7	
Change, %			(1.7)	2.3	12.7	(5.3)	29.2	(4.3)	11.9	31.6	(7.4)	
PTA	CFR SE Asia	657.5	652.5	667.5	632.5	647.5	617.5	642.5	648.0	613.7	657.4	
Change, %			0.8	(1.5)	4.0	1.5	6.5	2.3	1.5	7.1	0.0	
Spread	HDPE		633.5	625.5	601.0	676.5	687.0	704.5	658.0	737.1	735.1	654.0
	Change, %			1.3	5.4	(6.4)	(7.8)	(10.1)	(3.7)	(14.1)	(13.8)	(3.1)
	MEG		428.5	405.5	416.0	316.5	237.0	234.5	363.0	287.8	261.3	356.4
	Change, %			5.7	3.0	35.4	80.8	82.7	18.0	48.9	64.0	20.2
	PVC		446.0	428.0	403.5	439.0	419.5	439.5	435.5	327.8	423.9	433.8
	Change, %			4.2	10.5	1.6	6.3	1.5	2.4	36.1	5.2	2.8
	PP		643.5	645.5	616.0	596.5	607.0	579.5	548.0	616.8	578.9	606.1
	Change, %			(0.3)	4.5	7.9	6.0	11.0	17.4	4.3	11.2	6.2
	2-EH		516.0	498.0	513.5	519.0	469.5	394.5	380.5	437.0	372.9	485.7
	Change, %			3.6	0.5	(0.6)	9.9	30.8	35.6	18.1	38.4	6.2
	ABS		1,421.0	1,408.0	1,363.5	1,129.0	1,224.5	974.5	1,150.5	938.1	947.6	1,302.9
	Change, %			0.9	4.2	25.9	16.0	45.8	23.5	51.5	50.0	9.1
	SBR	BD spread	325.0	365.0	590.0	690.0	625.0	315.0	(100.0)	454.7	366.2	492.6
	Change, %			(11.0)	(44.9)	(52.9)	(48.0)	3.2	(425.0)	(28.5)	(11.2)	(34.0)
	SM		768.5	730.5	716.0	674.0	647.0	637.0	720.5	607.7	665.1	764.0
	Change, %			5.2	7.3	14.0	18.8	20.6	6.7	26.5	15.5	0.6
	Caustic											
	Change, %											
	PX		343.5	353.0	361.0	354.0	347.0	397.0	370.5	349.9	390.9	369.1
	Change, %			(2.7)	(4.8)	(3.0)	(1.0)	(13.5)	(7.3)	(1.8)	(12.1)	(6.9)
PO	propylene spread	1,202.5	1,247.5	777.5	685.0	622.5	717.5	747.5	913.4	691.1	658.9	
Change, %			(3.6)	54.7	75.5	93.2	67.6	60.9	31.7	74.0	82.5	
Caprolactam	benzene spread	975.0	1,025.0	987.5	785.0	1,072.5	702.5	1,027.5	891.6	698.2	1,072.7	
Change, %			(4.9)	(1.3)	24.2	(9.1)	38.8	(5.1)	9.4	39.6	(9.1)	
PTA	px spread	85.3	82.0	95.3	76.0	82.3	55.8	44.0	58.0	60.4	73.8	
Change, %			4.0	(10.5)	12.2	3.6	52.9	93.8	47.0	41.1	15.5	

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	08/28	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	64.7	0.2	1.3	(1.5)	5.9	3.9	20.6	13.0	79,120	15.9	14.5	2.9	2.7	9.0	8.3	
Du Pont	USD	82.9	0.3	1.3	(1.3)	6.5	5.5	19.0	12.9	71,924	21.2	19.9	6.6	5.5	13.6	12.8	
Eastman	USD	85.4	0.7	2.8	2.9	6.9	6.5	27.0	13.6	12,377	11.4	10.5	2.5	2.3	8.7	8.3	
BASF	EUR	82.0	(0.3)	1.9	2.8	(2.2)	(6.6)	13.8	(7.2)	90,187	14.1	13.9	2.2	2.1	7.8	7.6	
Akzo Nobel	EUR	77.7	(0.7)	0.4	2.0	2.0	22.7	28.8	30.8	23,663	18.1	17.5	3.1	3.0	10.0	9.6	
Arkema	EUR	92.4	(0.8)	(1.7)	(4.0)	(1.9)	1.0	15.9	(0.6)	8,386	13.5	12.5	1.7	1.6	6.1	5.9	
Lanxess	EUR	64.8	(0.5)	3.7	(1.4)	2.4	1.1	35.0	3.9	7,103	17.0	14.7	2.2	2.1	7.5	7.4	
Sumitomo Chemical	JPY	659	0.2	1.2	1.4	12.3	5.3	51.5	18.5	9,990	10.4	9.7	1.2	1.1	7.5	7.2	
Mitsubishi Chemical	JPY	1,021	1.7	4.9	10.1	23.5	18.3	71.7	34.6	14,077	9.6	9.5	1.2	1.1	6.3	6.2	
Shin-Etsu Chemical	JPY	9,602	(0.1)	0.3	(4.4)	(2.5)	1.0	32.0	5.9	37,995	19.3	17.4	1.8	1.7	8.2	7.3	
Asahi Kasei	JPY	1,267	0.2	1.0	1.8	20.7	15.8	49.5	24.3	16,274	15.0	14.2	1.4	1.3	7.2	6.9	
JSR	JPY	2,129	0.7	4.4	11.9	13.7	10.9	48.4	15.5	4,409	16.4	15.4	1.2	1.2	8.4	7.9	
Nitto Denko	JPY	9,585	(0.6)	(0.2)	(1.1)	7.4	1.3	43.4	6.9	15,252	19.3	17.8	2.2	2.1	8.6	8.0	
SABIC	SAR	99.0	0.5	0.7	(1.1)	1.6	2.2	19.9	8.2	79,186	14.9	14.3	1.8	1.7	7.5	7.3	
Yansab	SAR	56.5	1.2	1.3	2.4	3.7	0.8	29.4	3.7	8,471	14.5	13.6	2.4	2.3	8.9	8.5	
Formosa Plastics	TWD	94.5	0.6	2.2	3.3	5.1	2.1	19.3	5.9	19,989	14.6	15.0	1.9	1.8	19.3	19.9	
Formosa Fiber	TWD	94.2	0.4	2.4	3.5	3.3	(3.1)	13.4	(2.2)	18,347	12.9	13.5	1.7	1.6	10.3	10.8	
Nan Ya Plastics	TWD	76.0	0.9	0.5	0.7	6.4	1.9	22.8	6.7	20,029	15.9	16.4	1.8	1.7	16.9	16.2	
Sinopec Shanghai	CNY	6.48	0.8	(4.7)	(5.0)	(1.8)	(3.3)	6.1	0.6	9,247	12.4	11.7	2.5	2.1	6.9	6.8	
Sinopec Yizheng(Fiber)	CNY	3.20	0.0	0.0	1.3	(18.4)	(18.6)	(17.3)	(22.0)	6,178	#N/A	N/A	47.1	6.9	7.2	37.8	17.5
Reliance	INR	1,567	(0.1)	0.1	(1.7)	17.1	26.5	52.4	44.7	79,861	17.3	14.2	1.7	1.5	11.5	9.3	
Industries Qatar	QAR	92.1	(0.1)	(1.2)	(8.7)	(12.2)	(22.9)	(18.9)	(21.6)	15,301	14.8	13.0	1.6	1.5	52.8	48.1	
PTT Chemical	THB	76.0	2.7	2.7	5.6	4.1	6.7	24.1	20.6	10,215	10.2	10.3	1.3	1.2	5.4	5.2	
Petronas	MYR	7.2	0.1	(0.1)	3.5	(2.8)	(0.8)	7.3	3.0	13,479	15.9	15.8	2.0	1.9	8.6	8.5	
LG화학	KRW	369,500	0.3	5.9	14.4	21.3	30.6	37.6	41.6	23,317	14.4	14.0	1.8	1.7	6.3	5.9	
롯데케미칼	KRW	393,000	1.0	0.1	8.3	4.5	7.8	39.1	6.5	12,041	6.2	6.0	1.2	1.0	4.1	3.6	
한화케미칼	KRW	35,000	(2.0)	0.1	8.0	19.7	38.1	33.3	41.7	5,156	6.0	6.3	1.0	0.8	7.5	7.0	
금호석유	KRW	79,300	3.0	2.5	4.6	(3.4)	3.4	13.3	(3.3)	2,160	15.4	13.8	1.5	1.3	10.1	8.8	
SKC	KRW	37,050	(1.2)	(0.4)	2.9	18.4	17.8	31.2	12.3	1,243	10.5	9.1	0.9	0.8	9.0	7.6	
국도화학	KRW	54,000	0.0	(0.9)	(4.9)	6.9	5.3	(6.6)	(1.6)	280	8.8	9.5	0.7	0.7	5.1	5.2	
효성	KRW	6,950	(3.5)	3.9	17.0	2.7	(15.8)	25.0	2.2	4,976	9.3	8.0	1.4	1.2	7.4	6.6	
Average			0.2	1.2	2.4	5.5	5.3	25.4	10.3								
Refinery																	
Valero	USD	68.4	1.1	5.7	2.6	9.6	0.7	23.8	0.1	30,219	16.7	12.4	1.6	1.6	6.8	5.8	
Conoco Phillips	USD	43.1	(1.2)	1.3	(4.9)	(5.1)	(9.5)	1.8	(14.1)	52,390	227.8	35.4	1.7	1.8	8.7	6.5	
Formosa Petrochemical	TWD	105.5	0.5	1.9	0.0	(0.5)	(1.4)	10.5	(5.8)	33,395	15.9	18.6	3.2	3.2	9.8	11.1	
Andeavor	USD	98.6	3.2	6.3	0.7	18.1	15.7	33.3	12.7	15,463	19.3	13.4	1.5	1.4	9.2	7.0	
Marathon Petroleum	USD	52.5	1.5	6.2	(4.5)	(0.6)	5.9	25.5	4.3	26,588	19.4	15.5	2.1	2.1	8.8	7.6	
Devon Energy	USD	30.9	(0.7)	1.9	(6.9)	(13.7)	(28.7)	(30.4)	(32.3)	16,257	18.2	14.9	2.3	2.0	8.1	7.3	
Hollyfrontier	USD	31.5	6.5	14.3	11.4	27.0	7.5	22.5	(3.9)	5,579	25.1	14.9	1.2	1.2	9.0	6.8	
Phillips 66	USD	83.7	0.3	2.1	0.0	8.0	7.0	6.4	(3.2)	42,788	20.3	15.1	1.9	1.9	10.0	8.4	
Murphy Oil	USD	22.8	(1.7)	(1.8)	(16.2)	(10.1)	(19.6)	(21.1)	(26.9)	3,926	#N/A	N/A	355.5	0.9	0.9	4.4	4.2
JX Holdings	JPY	543.7	0.2	1.6	9.5	10.6	1.6	45.9	9.9	17,062	8.5	8.0	0.8	0.8	8.4	7.9	
Idemitsu	JPY	2,695.0	(0.8)	2.6	2.0	(16.4)	(25.6)	49.1	(13.2)	5,133	5.8	5.9	0.7	0.6	7.9	7.6	
Nesteoil	EUR	35.7	(0.4)	2.4	(3.6)	(3.1)	8.5	(7.4)	(2.3)	0	13.8	13.6	2.2	2.0	7.8	8.2	
Ashland	USD	61.3	(0.3)	0.6	(6.4)	(7.8)	3.8	8.5	14.6	3,823	15.4	18.6	1.0	1.0	8.5	9.2	
Fuchs Petrolub	EUR	46.9	(0.8)	(0.5)	(6.4)	(4.2)	7.4	15.2	17.7	7,333	24.1	22.8	4.8	4.3	14.0	13.2	
SK이노베이션	KRW	183,500	1.7	5.5	4.9	9.6	18.8	27.9	25.3	15,168	7.7	7.6	0.9	0.9	4.6	4.1	
S-Oil	KRW	120,000	2.6	3.0	5.3	17.6	38.9	71.2	41.7	12,077	12.9	10.0	2.1	1.9	9.8	7.3	
GS	KRW	68,800	1.0	(1.1)	(6.9)	(4.4)	24.0	36.5	27.2	5,714	6.4	6.1	0.8	0.7	7.3	6.9	
Average			0.7	3.1	(1.1)	2.0	3.2	18.8	3.0								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/28	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	76	(0.3)	0.1	(3.9)	(6.2)	(6.0)	(12.4)	(15.3)	324,011	22.3	19.5	1.8	1.8	9.5	8.6
BP	GBP	446	0.0	1.2	0.4	(6.1)	(1.8)	2.4	(12.6)	113,365	20.4	15.3	1.2	1.2	5.9	5.3
Shell	EUR	2,143	0.0	1.6	1.3	1.2	3.0	13.0	(4.5)	229,331	16.0	14.1	1.2	1.2	6.3	5.8
Chevron	USD	108	(0.4)	1.9	(0.3)	2.9	(4.2)	6.4	(8.4)	204,205	26.5	21.9	1.4	1.4	7.8	7.0
Total	EUR	43	(0.4)	0.8	0.3	(9.1)	(8.3)	(0.7)	(11.5)	129,239	13.0	11.9	1.2	1.1	6.1	5.4
Sinopec	CNY	6	0.7	0.8	(0.7)	(1.1)	5.6	22.6	12.2	106,653	14.4	13.2	1.0	1.0	4.6	4.5
Petrochina	CNY	8	1.6	2.2	1.2	5.1	(0.4)	10.8	3.1	213,953	56.9	32.4	1.2	1.2	6.8	6.6
CNOOC	CNY	11	0.2	0.7	1.2	(7.5)	(15.9)	(7.4)	(11.5)	53,532	13.4	11.5	0.9	0.9	3.7	3.5
Gazprom	RUB	119	0.8	2.4	1.6	(2.8)	(11.4)	(12.8)	(23.2)	48,018	4.3	3.8	0.2	0.2	3.5	3.2
Rosneft	RUB	301	(0.2)	(0.0)	(1.6)	(1.0)	(9.1)	(14.1)	(25.3)	54,479	9.3	6.5	0.8	0.7	4.9	4.1
Anadarko	USD	41	(2.6)	(1.9)	(10.9)	(20.4)	(36.2)	(25.3)	(40.8)	23,126	#N/A	#N/A	1.6	1.6	6.6	6.0
Petrobras	BRL	14	(0.1)	4.0	5.6	1.4	(8.6)	10.5	(6.7)	58,578	10.3	8.3	0.5	0.6	5.3	4.8
Lukoil	USD	2,920	0.2	2.3	4.5	4.4	(5.4)	(3.5)	(15.3)	41,937	5.9	5.2	0.6	0.6	N/A	N/A
Kinder	USD	19	(0.8)	2.5	(6.8)	(1.2)	(10.8)	(11.5)	(8.2)	47,497	29.2	27.1	1.2	1.2	11.4	11.0
Statoil	NOK	146	(0.3)	0.8	(1.4)	(2.7)	(1.9)	9.7	(8.1)	61,674	16.5	17.4	1.6	1.6	3.3	3.3
BHP	AUD	27	0.8	4.6	6.2	12.0	7.6	28.8	7.3	107,948	18.2	19.3	1.9	1.9	6.7	6.7
PTT E&P	THB	86	0.3	(0.6)	(2.3)	(7.3)	(7.8)	6.2	(10.9)	10,258	12.9	11.9	0.8	0.8	3.1	2.8
Petronas gas	MYR	19	(1.3)	(0.9)	(1.7)	(1.7)	(6.9)	(16.0)	(12.5)	8,643	20.8	19.5	2.9	2.8	11.8	11.0
Chesapeake	USD	4	(3.7)	(4.5)	(27.9)	(31.0)	(33.0)	(43.0)	(48.0)	3,315	5.2	4.6	#N/A	#N/A	15.9	7.1
Noble Energy	USD	23	(1.0)	(0.6)	(19.3)	(20.5)	(35.7)	(33.8)	(38.5)	11,390	#N/A	#N/A	1.2	1.2	7.9	6.5
Average		0	(0.3)	0.9	(2.7)	(4.6)	(9.4)	(3.5)	(13.9)							
PV																
WACKER	EUR	105.5	(1.2)	1.4	3.9	9.1	(0.3)	25.7	6.7	6,590	28.9	21.5	1.8	1.7	6.6	6.3
GCL-Poly	HKD	0.9	(1.1)	(3.3)	3.5	2.3	(17.0)	(21.4)	(5.4)	2,091	7.2	6.8	0.6	0.6	5.6	5.2
SunPower	USD	9.1	(0.9)	2.9	(19.8)	14.5	3.9	(8.3)	37.7	1,269	#N/A	#N/A	1.8	1.8	40.9	13.5
Canadian Solar	USD	15.4	(0.6)	2.6	(8.3)	16.2	4.5	17.1	26.3	892	10.4	8.9	0.9	0.8	9.8	9.8
JA Solar	USD	6.4	0.0	3.1	0.3	(7.7)	25.1	(16.5)	34.0	304	#N/A	#N/A	1.6	1.5	4.3	3.0
Yingli	USD	2.7	5.5	6.8	14.1	20.8	0.4	(30.1)	2.7	49	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	48.0	1.3	4.5	(1.7)	30.3	32.7	28.0	49.6	5,014	23.0	43.4	0.9	0.9	8.5	9.5
한화큐셀	USD	7.5	0.8	6.4	(12.2)	5.5	(13.8)	(40.4)	(8.3)	623	68.0	57.5	#N/A	#N/A	7.5	7.5
OCI	KRW	96,200	0.4	2.6	5.3	6.4	8.0	6.7	22.2	2,051	15.6	21.0	0.7	0.7	7.8	7.3
웅진에너지	KRW	8,470	(2.6)	2.4	4.7	24.6	69.6	0.2	78.9	189	N/A	0.7	0.7	7.8	7.3	9.3
신성솔라에너지	KRW	2,130	(1.8)	(1.4)	(8.4)	4.7	11.8	(8.6)	(3.6)	329	N/A	0.7	7.8	7.3	9.3	8.0
Average			(0.0)	2.5	(1.7)	11.5	11.3	(4.3)	21.9							
Gas Company																
Towngas China	HKD	5.2	1.4	1.8	(6.2)	7.5	21.6	12.9	27.0	1,833	11.9	11.0	1.0	0.9	11.2	10.4
Kulun	HKD	7.1	(0.1)	(4.4)	(6.1)	0.1	5.5	24.3	22.8	7,347	11.0	10.7	1.3	1.2	5.9	5.7
Beijing Enterprise	HKD	41.1	0.5	2.6	1.0	12.9	1.1	(9.7)	12.0	6,622	8.0	7.6	0.8	0.8	13.6	13.2
ENN Energy	HKD	49.8	1.9	0.1	(4.9)	20.3	32.7	16.0	56.0	6,879	13.3	11.8	2.5	2.1	8.5	7.6
China Resources Gas	HKD	27.1	1.3	0.4	(7.7)	9.7	14.3	3.8	24.3	7,704	15.5	13.8	2.9	2.6	9.2	8.4
China Gas Holdings	HKD	18.9	2.4	2.2	2.3	59.0	64.2	44.9	79.8	12,016	17.3	14.7	3.8	3.2	13.9	12.0
Shenzen Gas	HKD	14.5	(2.4)	3.0	10.2	15.6	30.8	19.0	28.7	3,757	12.0	11.5	1.4	1.3	9.4	8.9
Shann Xi	CNY	8.7	0.9	(0.5)	(1.0)	2.7	(10.4)	(17.8)	(9.7)	1,454	18.3	16.4	1.7	1.6	#N/A	#N/A
Suntien	HKD	1.7	(1.2)	(6.2)	0.0	9.9	26.5	51.8	67.0	793	6.8	5.7	0.6	0.6	8.9	7.7
China Oil & Gas	HKD	0.6	3.8	7.8	(1.8)	(3.5)	(12.7)	(9.8)	(9.8)	410	9.5	8.2	0.9	0.8	6.3	5.6
Average			0.8	0.7	(1.4)	13.4	17.4	13.5	29.8							
EV																
LG화학	KRW	369,500	0.3	5.9	14.4	21.3	30.6	37.6	41.6	23,317	13.7	13.5	1.8	1.6	6.5	6.2
삼성SDI	KRW	187,000	(2.1)	4.8	12.7	17.2	45.0	57.1	71.6	11,495	19.6	12.8	1.2	1.1	22.2	14.0
Panasonic	JPY	1450.0	(0.3)	(1.0)	(3.9)	4.5	17.6	42.6	21.9	32,573	18.8	14.4	2.0	1.8	6.1	5.3
GS Yuasa	JPY	532.0	0.9	(0.2)	2.5	4.9	3.3	36.1	9.5	2,015	16.1	14.8	1.3	1.2	7.2	6.7
NEC	JPY	291.0	(0.3)	(1.4)	(2.0)	1.0	3.9	11.1	(6.1)	6,941	18.2	16.3	0.9	0.8	6.9	6.1
BYD Auto	CNY	49.4	1.4	1.4	(0.2)	0.5	(1.5)	(15.4)	(0.7)	19,217	24.5	17.8	2.5	2.2	12.6	10.2
Tesla Motors	USD	345.7	(0.7)	2.3	3.2	6.3	38.3	57.1	61.8	57,686	#N/A	#N/A	11.6	10.1	73.5	25.8
Kandi Technologies	USD	4.0	11.3	8.2	(3.7)	(7.1)	(3.7)	(37.5)	(19.4)	190	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			1.3	2.5	2.9	6.1	16.7	23.6	22.5							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임