

1. News Summary (3 page)

2017년 8월 30일

News	
WTI comment	WTI 0.3% 하락...하비 여파 '원유 수요감소' 전망 우세
Headline	하비로 美텍사스 정유·화학설비 85% 타격
News 1.	美 강타한 '하비' 여파... 국내 석유화학업계 반사이익 보나
News 2.	송영길, "러시아 천연가스관이 북한을 시장경제로 이끈다"
News 3.	-
News 4.	-

Conclusion	
	정제마진과 아시아 화학제품 호황이 하비 영향으로 지속될 전망
	美 ECC 가동이 지연되면 아시아 NCC들이 업황 호조 누릴 가능성 있음
	지리적 리스크가 있으나 러시아 PNG 도입은 경제적 당위성이 높음
	-
	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	46.4	(0.3)	(2.5)	(5.5)	(6.5)	0.2
Dubai	\$/bbl	50.1	(0.9)	0.3	(2.2)	(0.8)	8.5
Gasoline	\$/bbl	67.8	(1.8)	0.3	1.0	4.4	14.3
Diesel	\$/bbl	63.5	(0.8)	2.0	(3.3)	3.6	12.7
Complex margin	\$/bbl	9.3	(0.1)	0.6	0.1	2.3	3.5
1M lagging	\$/bbl	10.1	(0.9)	(0.3)	(4.0)	2.6	(3.3)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	473	(1.1)	1.5	5.4	6.0	18.2
Butadiene	\$/t	1,310	0.0	9.2	44.0	35.8	22.4
HDPE	\$/t	1,165	0.9	2.2	6.4	5.4	3.1
MEG	\$/t	908	0.3	3.8	5.6	20.3	41.7
PX	\$/t	814	0.2	1.2	0.5	3.3	3.5
SM	\$/t	1,303	2.4	8.3	15.5	19.3	27.1
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.98	0.7	0.5	4.5	(6.5)	(1.8)
Natural rubber	\$/t	1,520	(1.3)	(1.9)	4.8	0.0	20.6
Cotton	C/lbs	70.6	0.3	2.4	(0.9)	(8.7)	7.0

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

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)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	76.5	(0.0)	(0.4)	(4.0)	(6.3)	(13.0)
Shell	EUR	2,128	(0.7)	0.3	0.6	0.4	12.2
Petrochina	CNY	8.12	(1.0)	1.4	0.2	4.1	9.4
Gazprom	RUB	118.3	(0.4)	2.0	1.2	(3.9)	(13.1)
Petrobras	BRL	13.9	(0.1)	0.4	5.5	2.1	7.6
Refinery							
Phillips66	USD	83.5	(0.2)	1.5	(0.2)	7.8	5.9
Valero	USD	67.9	(0.7)	3.6	1.8	8.8	22.1
JX	JPY	539.6	(0.8)	1.2	8.7	9.8	44.0
Neste Oil	EUR	36.1	1.3	3.6	(2.3)	(1.5)	(5.8)

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	80.9	(1.3)	(1.6)	1.5	(4.2)	12.0
Dow Chemical	USD	64.2	(0.7)	(0.9)	(2.2)	5.2	18.6
SABIC	SAR	98.9	(0.1)	0.4	(1.1)	1.1	19.8
Formosa Pla.	TWD	93.7	(0.8)	0.8	2.4	4.2	17.7
Shin-Etsu	JPY	9,622	0.2	1.1	(4.2)	(2.9)	29.4
Renewable							
Wacker	EUR	105.1	(0.4)	(0.1)	3.5	9.0	25.8
First Solar	USD	48.40	0.8	3.9	(1.0)	31.4	28.8
GCL-Poly	HKD	0.89	1.1	(2.2)	4.7	6.0	(19.8)
Tesla Motors	USD	347.4	0.5	1.8	3.7	6.8	61.4

4. Coverage Summary

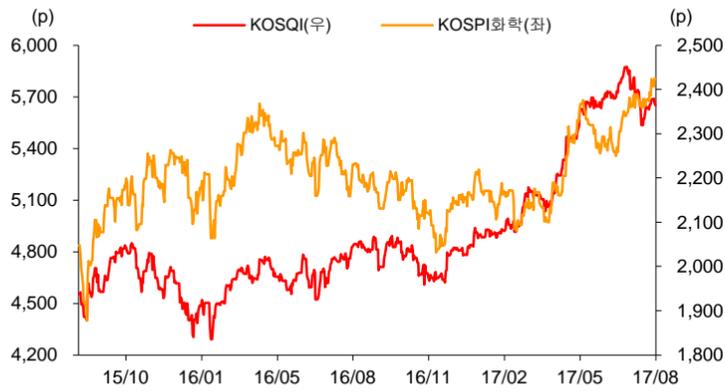
	08/29	1D	1W	1M	3M	6M	12M
KOSPI	2,365	(0.2)	(0.0)	(1.5)	0.7	13.4	16.1
KOSPI화학	5,807	0.0	1.4	2.9	3.3	12.6	11.7
LG화학	368,500	(0.3)	1.5	14.1	22.0	30.4	37.2
롯데케미칼	393,000	0.0	(1.1)	8.3	9.0	7.7	39.1
한화케미칼	35,150	0.4	(0.7)	8.5	18.0	38.4	33.9
금호석유화학	79,100	(0.3)	1.8	4.4	1.2	4.5	13.0
KCC	395,500	(0.1)	1.5	(9.1)	(2.9)	14.3	(4.7)
OCI	95,700	(0.5)	1.4	4.7	7.5	7.8	6.1
SKC	37,200	0.4	(0.4)	3.3	17.5	16.1	31.7
국도화학	53,900	(0.2)	(0.9)	(5.1)	1.7	3.7	(6.7)
SK이노베이션	183,500	0.0	5.2	4.9	8.6	19.5	27.9
S-Oil	123,000	2.5	5.6	7.9	18.8	44.7	75.5
GS	69,100	0.4	(0.6)	(6.5)	(5.2)	27.3	37.1
SK가스	113,500	1.8	3.2	(0.4)	(5.0)	9.7	14.1
포스코대우	21,450	(1.2)	(2.5)	(8.3)	(11.2)	(14.0)	(10.1)
LG상사	28,450	(0.2)	(0.5)	(4.4)	(15.6)	(11.0)	(17.3)
한국전력	43,850	(1.1)	0.1	(2.4)	2.7	(0.6)	(25.8)
한국가스공사	45,300	(0.8)	(1.6)	(9.9)	(10.8)	(7.3)	5.3

투자 의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	330,000	(10.4)	14.67	1.97
매수	410,000	4.3	8.11	1.43
매수	33,000	(6.1)	8.39	1.04
매수	100,000	26.4	15.04	1.50
매수	450,000	13.8	22.49	0.64
매수	100,000	4.5	19.36	0.75
매수	40,000	7.5	14.02	0.99
매수	70,000	29.9	9.05	0.65
매수	180,000	(1.9)	8.25	1.00
매수	100,000	(18.7)	16.52	2.40
매수	80,000	15.8	5.74	1.02
매수	150,000	32.2	6.88	0.82
매수	27,000	25.9	7.45	0.89
매수	42,000	47.6	8.79	0.92
매수	60,000	36.8	7.58	0.35
매수	60,000	32.5	7.69	0.54

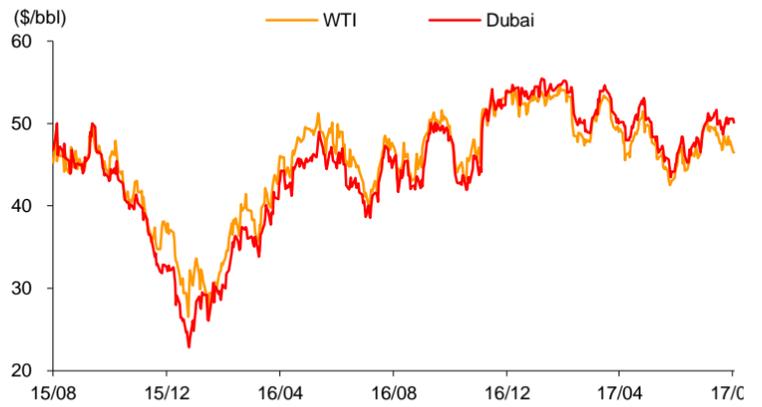
· 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.
· 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.
· 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.
· 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

KOSPI/KOSPI화학



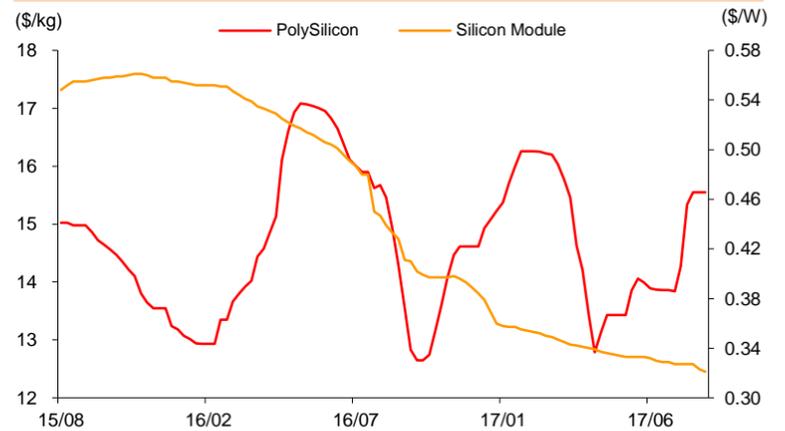
WTI/Dubai



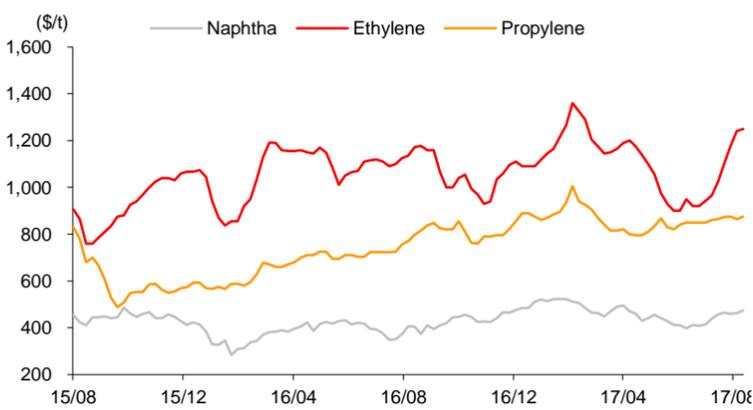
Complex & 1M lagging margin



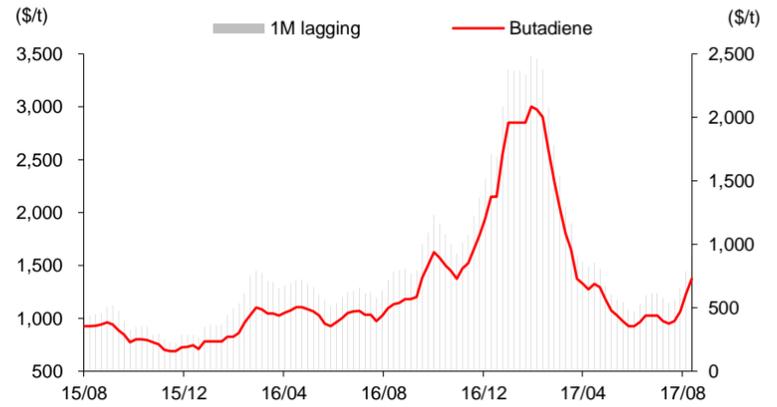
Polysilicon & Module prices



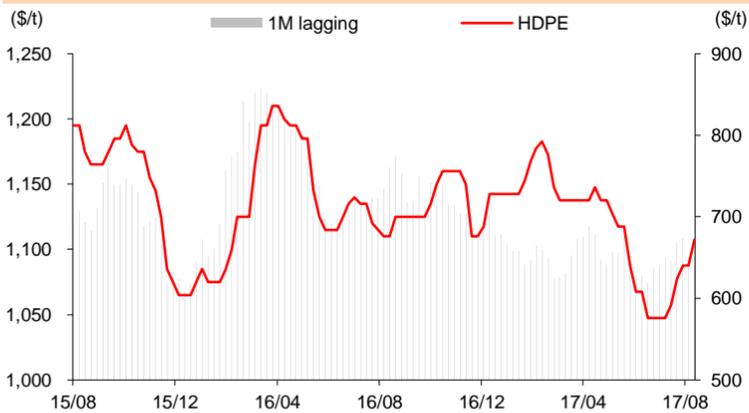
Naphtha/Ethylene/Propylene prices



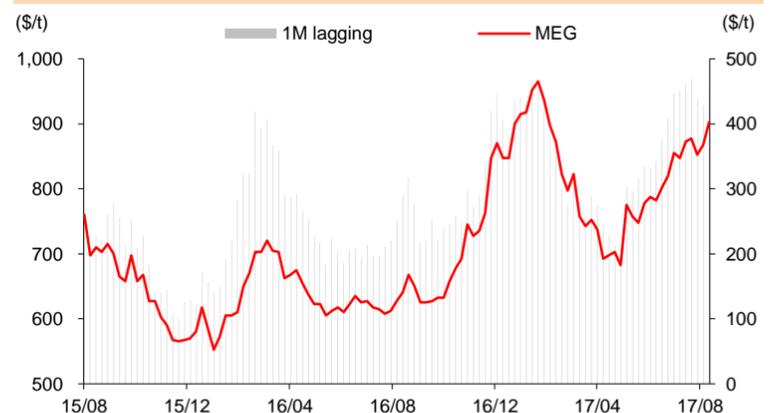
Butadiene price & 1M lagging naphtha spread



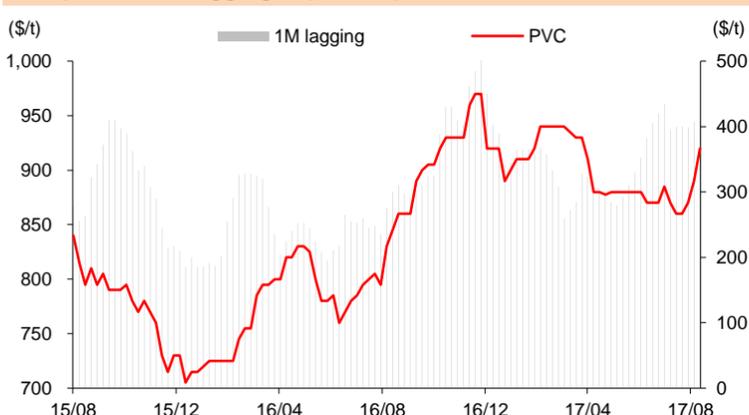
HDPE price & 1M lagging naphtha spread



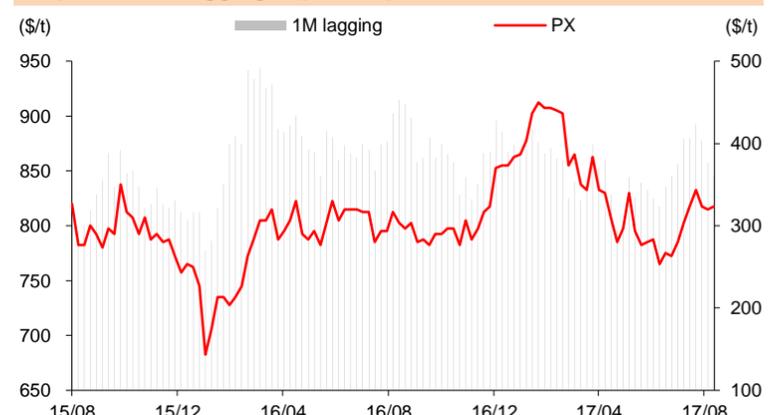
MEG price & 1M lagging naphtha spread



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: 뉴스1)

제목 하비로 美 텍사스 정유·화학설비 85% 타격

결론 정제마진과 아시아 화학제품 호황이 하비 영향으로 지속될 전망

세부

- 1) 엑손모빌, 아람코 등 총 256만b/d 규모의 정제설비 가동이 중단
- 2) 지난해 말 미국 전체 정제설비 1,896만b의 14%에 해당하는 규모
- 3) 텍사스 전체 정제설비 규모는 489만b로 美 전체의 26%, 세계 4.9% 차지
- 4) 美 에틸렌 capa 2,670만톤의 43%인 1,140만톤 규모 설비도 가동을 멈춤
- 5) 정제마진과 아시아 화학제품 호황이 하비 영향으로 지속될 전망

Issue 1 (출처: 디지털 타임스)

제목 美 강타한 '하비' 여파... 국내 석유화학업계 반사이익 보나

결론 美 ECC 가동이 지연되면 아시아 NCC들이 업황 호조 누릴 가능성 있음

세부

- 1) 하반기 美 ECC 가동에 차질이 전망되며 아시아 NCC 수혜 가능성 있음
- 2) 美 에틸렌 capa 2,670만톤의 43%인 1,140만톤 규모 섰다운
- 3) 다우, 쉘브론, 엑손모빌 등 신규 ECC 가동 준비 중인 업체들 섰다운
- 4) 이들 기업들은 당분간 피해 설비의 정상화에 집중할 계획
- 5) 美 ECC 가동이 지연되면 아시아 NCC들이 업황 호조 누릴 가능성 있음

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 0.3% 하락...하비 여파 '원유 수요감소' 전망 우세

상승 멕시코만의 원유생산 감소

요인

하락 허리케인 '하비'의 여파로 일부 정유시설이 폐쇄

요인 정유시설의 원유 수요가 줄어들 것이라는 전망

Issue 2 (출처: 비즈니스 포스트)

제목 송영길, "러시아 천연가스관이 북한을 시장경제로 이끈다"

결론 지리적 리스크가 있으나 러시아 PNG 도입은 경제적 당위성이 높음

세부

- 1) 송영길, "탈원전정책을 뒷받침하기 위해 러시아 PNG를 도입해야 함"
- 2) 송영길, "PNG를 도입하면 북한을 시장경제체제로 끌어낼 수 있음"
- 3) 이흥복 KOGAS E&P 사업처장, "PNG는 단거리에서 경제성 확보 용이"
- 4) 文대통령은 송영길 의원에게 북방경제협력위원회장 임명장을 수여함
- 5) 지리적 리스크가 있으나 러시아 PNG 도입은 경제적 당위성이 높음

Issue 4

제목

결론

세부

- 1)
- 2)
- 3)
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- 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	0.835	0.850	0.851	0.896	0.948	0.894	0.951	0.901	0.904	0.907	
	Change, %		0.0	(1.8)	(1.9)	(6.8)	(11.9)	(6.6)	(12.1)	(7.3)	(7.6)	(7.9)	
	USD/JPY	109.7	109.3	109.6	110.7	111.3	113.7	101.9	117.0	121.1	108.8	112.0	
	Change, %		0.4	0.1	(0.9)	(1.4)	(3.5)	7.6	(6.2)	(9.4)	0.9	(2.1)	
	USD/KRW	1,126.2	1,120.1	1,133.8	1,122.2	1,122.0	1,144.3	1,125.0	1,205.8	1,131.2	1,160.5	1,139.9	
	Change, %		0.5	(0.7)	0.4	0.4	(1.6)	0.1	(6.6)	(0.4)	(3.0)	(1.2)	
	Agriculture	Corn	333.5	336.0	346.0	374.3	374.3	375.8	311.8	352.0	376.8	358.5	365.9
		Change, %		(0.7)	(3.6)	(10.9)	(10.9)	(11.2)	7.0	(5.3)	(11.5)	(7.0)	(8.8)
Soybean		930.8	935.3	933.8	1,000.8	926.5	1,041.3	983.3	996.5	945.4	987.5	977.2	
Change, %			(0.5)	(0.3)	(7.0)	0.5	(10.6)	(5.3)	(6.6)	(1.6)	(5.7)	(4.8)	
	Wheat	402.8	400.0	402.3	481.0	438.3	435.5	370.5	408.0	508.1	436.4	440.9	
	Change, %		0.7	0.1	(16.3)	(8.1)	(7.5)	8.7	(1.3)	(20.7)	(7.7)	(8.7)	
	Rice	12.3	12.3	12.2	12.4	11.0	9.4	9.5	9.4	11.1	10.3	10.6	
	Change, %		(0.4)	0.7	(1.0)	11.9	31.0	29.7	31.3	11.1	18.8	16.3	
	Oats	235.0	238.5	239.0	290.3	244.3	260.8	162.0	228.5	250.2	196.3	253.4	
	Change, %		(1.5)	(1.7)	(19.0)	(3.8)	(9.9)	45.1	2.8	(6.1)	19.7	(7.2)	
	MYR/mt	Palm Oil	2,680.0	2,723.0	2,729.0	2,666.0	2,787.0	2,951.0	2,790.0	3,218.0	2,190.3	2,653.8	2,858.6
		Change, %		(1.6)	(1.8)	0.5	(3.8)	(9.2)	(3.9)	(16.7)	22.4	1.0	(6.2)
Cocoa		1,977.0	2,015.0	1,923.0	2,060.0	1,911.0	1,931.0	2,945.0	2,126.0	3,091.6	2,854.0	1,995.0	
Change, %			(1.9)	2.8	(4.0)	3.5	2.4	(32.9)	(7.0)	(36.1)	(30.7)	(0.9)	
	Cotton	70.6	70.3	68.9	70.2	77.1	76.9	66.7	70.7	63.3	65.6	74.6	
	Change, %		0.3	2.4	0.5	(8.5)	(8.2)	5.8	(0.1)	11.5	7.6	(5.4)	
	Sugar	13.8	14.3	13.5	14.4	15.1	19.5	20.7	19.5	13.1	18.2	16.5	
	Change, %		(3.4)	2.3	(3.8)	(8.2)	(29.1)	(33.1)	(29.2)	5.2	(23.9)	(16.4)	
	Coffee	127.3	129.9	125.9	137.9	131.2	142.7	144.0	137.1	132.6	136.1	136.3	
	Change, %		(2.0)	1.2	(7.7)	(3.0)	(10.8)	(11.6)	(7.1)	(4.0)	(6.4)	(6.6)	
	Energy	WTI	46.4	46.6	47.6	49.7	49.8	53.8	47.0	53.7	48.8	43.4	49.4
		Change, %		(0.3)	(2.5)	(6.6)	(6.7)	(13.7)	(1.1)	(13.6)	(4.9)	7.0	(6.1)
Brent		52.0	51.9	51.9	52.5	52.3	56.4	49.3	56.8	53.7	45.1	52.2	
Change, %			0.2	0.3	(1.0)	(0.6)	(7.7)	5.6	(8.5)	(3.1)	15.4	(0.4)	
	Natural Gas	3.0	2.9	2.9	2.9	3.2	2.8	2.9	3.7	2.6	2.6	3.1	
	Change, %		1.2	0.7	0.7	(8.5)	5.8	3.8	(20.5)	12.6	16.0	(3.4)	
	Ethanol	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.5	1.5	
	Change, %		(0.1)	(1.8)	(1.8)	(0.4)	(0.5)	5.1	(5.7)	0.3	(0.0)	(1.4)	
	RBOB Gasoline	178.3	171.2	159.1	167.6	164.3	167.8	146.7	166.5	163.6	140.0	158.8	
	Change, %		4.1	12.1	6.4	8.6	6.3	21.6	7.1	9.0	27.4	12.3	
	Coal	97.1	97.8	98.4	87.2	73.9	82.8	67.0	88.4	59.0	65.5	83.3	
	Change, %		(0.7)	(1.4)	11.3	31.4	17.3	45.0	9.8	64.6	48.3	16.5	
Metal	Gold	1,309.3	1,308.4	1,285.1	1,269.7	1,269.5	1,249.5	1,323.5	1,152.3	1,160.6	1,248.5	1,244.1	
	Change, %		0.1	1.9	3.1	3.1	4.8	(1.1)	13.6	12.8	4.9	5.2	
	Silver	17.4	17.4	17.0	16.8	17.4	18.4	18.9	15.9	15.7	17.1	17.2	
	Change, %		(0.3)	2.1	3.8	(0.0)	(5.6)	(7.9)	9.3	10.6	1.7	1.4	
	Copper	6,791.5	6,666.0	6,580.0	6,325.0	5,657.5	6,016.0	4,615.0	5,535.5	5,503.1	4,872.0	5,892.9	
	Change, %		1.9	3.2	7.4	20.0	12.9	47.2	22.7	23.4	39.4	15.2	
	Nickel	746.5	745.4	731.0	656.9	584.7	737.1	659.8	682.0	759.5	646.4	646.8	
	Change, %		0.1	2.1	13.6	27.7	1.3	13.1	9.5	(1.7)	15.5	15.4	
	Zinc	3,110.0	3,063.5	3,119.0	2,776.0	2,640.0	2,862.0	2,314.5	2,576.0	1,941.9	2,097.5	2,742.9	
	Change, %		1.5	(0.3)	12.0	17.8	8.7	34.4	20.7	60.2	48.3	13.4	
	Lead	2,358.5	2,306.3	2,400.3	2,305.0	2,114.8	2,304.5	1,869.0	2,003.5	1,791.2	1,868.3	2,241.6	
	Change, %		2.3	(1.7)	2.3	11.5	2.3	26.2	17.7	31.7	26.2	5.2	
	Aluminum	16,205.0	16,320.0	16,270.0	14,315.0	14,015.0	13,935.0	12,530.0	12,765.0	12,184.0	12,373.5	14,035.8	
	Change, %		(0.7)	(0.4)	13.2	15.6	16.3	29.3	26.9	33.0	31.0	15.5	
	Cobalt	61,250.0	60,750.0	60,000.0	56,930.0	55,850.0	51,250.0	26,000.0	32,734.0	28,444.4	25,480.1	51,919.7	
	Change, %		0.8	2.1	7.6	9.7	19.5	135.6	87.1	115.3	140.4	18.0	
	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	343.3	
	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		08/29	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.	
Crude Oil	WTI	46.4	46.6	47.6	49.2	49.7	54.0	46.4	53.7	48.8	43.4	49.4	
	<i>Change, %</i>		(0.3)	(2.5)	(5.5)	(6.5)	(14.0)	0.2	(13.6)	(4.8)	7.1	(6.0)	
	Dubai	50.1	50.6	50.0	51.2	50.5	55.2	46.2	53.8	50.8	41.3	50.7	
	<i>Change, %</i>		(0.9)	0.3	(2.2)	(0.8)	(9.2)	8.5	(6.9)	(1.4)	21.3	(1.3)	
Crude Oil Product	Gasoline(휘발유)	67.8	69.0	67.6	67.1	64.9	68.9	59.3	69.8	69.5	56.3	65.5	
	<i>Change, %</i>		(1.8)	0.3	1.0	4.4	(1.7)	14.3	(3.0)	(2.5)	20.4	3.4	
	Kerosene(등유)	63.5	63.7	61.9	64.6	61.7	67.0	56.7	66.4	64.7	52.9	62.1	
	<i>Change, %</i>		(0.4)	2.6	(1.7)	3.0	(5.2)	12.0	(4.4)	(1.9)	20.0	2.2	
	Diesel(경유)	63.5	64.1	62.3	65.7	61.3	67.6	56.3	65.5	64.8	52.1	62.7	
	<i>Change, %</i>		(0.8)	2.0	(3.3)	3.6	(6.0)	12.7	(3.1)	(2.0)	21.9	1.2	
	Bunker-C	47.3	47.4	47.0	48.4	47.1	50.8	40.6	52.1	45.3	35.5	47.5	
	<i>Change, %</i>		(0.2)	0.6	(2.3)	0.5	(6.9)	16.6	(9.2)	4.5	33.1	(0.5)	
	Naphtha	51.2	51.4	50.1	51.4	48.1	55.5	42.4	53.5	52.6	42.6	50.4	
	<i>Change, %</i>		(0.3)	2.2	(0.3)	6.5	(7.7)	20.9	(4.2)	(2.6)	20.3	1.7	
	Dubai Spread	Gasoline(휘발유)	17.7	18.4	17.6	15.9	14.4	13.7	13.1	16.0	18.7	14.9	14.8
		<i>Change</i>		(0.8)	0.1	1.8	3.2	3.9	4.6	1.6	(1.1)	2.7	2.9
Kerosene(등유)		13.4	13.2	11.9	13.4	11.2	11.8	10.5	12.6	14.0	11.6	11.4	
<i>Change</i>			0.2	1.5	(0.0)	2.2	1.6	2.8	0.8	(0.6)	1.8	2.0	
Diesel(경유)		13.4	13.5	12.3	14.5	10.9	12.4	10.2	11.7	14.0	10.8	12.0	
<i>Change</i>			(0.1)	1.1	(1.1)	2.6	1.0	3.2	1.7	(0.6)	2.6	1.4	
Dubai Spread	Bunker-C	(2.8)	(3.2)	(3.0)	(2.8)	(3.4)	(4.4)	(5.6)	(1.8)	(5.5)	(5.8)	(3.2)	
	<i>Change</i>		0.4	0.2	0.0	0.6	1.6	2.8	(1.1)	2.7	3.0	0.4	
	Naphtha	1.1	0.8	0.1	0.1	(2.4)	0.3	(3.8)	(0.4)	1.8	1.3	(0.4)	
	<i>Change</i>		0.3	1.0	1.0	3.5	0.8	4.9	1.5	(0.7)	(0.2)	1.5	
Refining Margin	Simple(단순)	4.2	4.1	3.7	4.2	2.5	2.4	1.1	3.8	3.3	1.9	3.0	
	<i>Change</i>		0.1	0.5	0.0	1.7	1.8	3.1	0.4	0.9	2.3	1.2	
	Complex(복합)	9.3	9.4	8.7	9.2	7.0	7.3	5.8	8.3	9.3	7.0	7.7	
	<i>Change</i>		(0.1)	0.6	0.1	2.3	2.0	3.5	1.1	0.0	2.3	1.6	
Refining Margin	Complex(lagging)	10.1	10.9	10.3	14.0	7.4	8.7	13.3	18.0	7.3	8.5	7.5	
	<i>Change</i>		(0.9)	(0.3)	(4.0)	2.6	1.4	(3.3)	(7.9)	2.8	1.6	2.6	

자료 : Petronet, SK증권

참고 1) Crude Oil 가격은 현물(spot) 기준으로 선물(future) 가격과 다를 수 있음

참고 2) Gasoline은 95RON, 경유는 L/P 0.5%, Bunker-C는 380cst/4.0% 기준임

Petrochemical Price Data

Daily Price			08/29	08/28	08/25	08/24	08/23	08/22	08/21	08/18	08/17	08/16	
Spot Price	Naphtha	CFR Japan	473.1	478.6	476.0	472.5	463.4	466.0	470.3	464.0	454.3	460.5	
	Ethylene	CFR SE Asia	1,125.0	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	
	Propylene	FOB Korea	870.0	869.0	869.0	867.0	865.0	860.0	858.0	859.0	861.0	858.0	
	Butadiene	FOB Korea	1,310.0	1,310.0	1,310.0	1,230.0	1,230.0	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	1,090.0
	HDPE	CFR FE Asia	1,165.0	1,155.0	1,145.0	1,140.0	1,140.0	1,140.0	1,130.0	1,130.0	1,125.0	1,120.0	1,110.0
	LDPE	CFR FE Asia	1,200.0	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
	LLDPE	CFR FE Asia	1,150.0	1,140.0	1,130.0	1,130.0	1,130.0	1,130.0	1,130.0	1,125.0	1,120.0	1,110.0	1,100.0
	MEG	CFR China	908.0	905.0	898.0	880.0	868.0	875.0	875.0	875.0	865.0	857.0	845.0
	PP	CFR FE Asia	1,110.0	1,100.0	1,100.0	1,100.0	1,080.0	1,070.0	1,055.0	1,055.0	1,040.0	1,040.0	1,025.0
	PX	CFR China	813.7	811.7	811.2	807.0	800.7	803.7	808.0	808.0	805.0	802.7	799.7
	PTA	CFR China	635.0	637.0	635.0	633.0	633.0	630.0	630.0	630.0	630.0	631.0	629.0
	Benzene	FOB Korea	818.0	816.5	795.5	771.5	768.0	770.0	766.0	766.0	761.0	757.0	753.0
	Toluene	FOB Korea	635.5	635.5	637.5	623.5	622.5	622.5	622.5	628.5	624.5	620.5	622.5
	Xylene	FOB Korea	657.5	656.5	656.0	649.5	648.5	651.5	651.5	651.5	650.5	650.5	647.0
	SM	FOB Korea	1,303.0	1,273.0	1,240.0	1,218.0	1,193.0	1,203.0	1,187.0	1,187.0	1,171.0	1,175.5	1,151.5

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>		<i>2.6</i>	<i>3.8</i>	<i>7.5</i>	<i>2.9</i>	<i>16.9</i>	<i>(2.2)</i>	<i>(3.9)</i>	<i>18.6</i>	<i>2.0</i>
	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>		<i>1.7</i>	<i>21.5</i>	<i>24.7</i>	<i>6.8</i>	<i>10.2</i>	<i>19.7</i>	<i>7.4</i>	<i>13.8</i>	<i>15.0</i>
	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>		<i>1.9</i>	<i>3.6</i>	<i>4.3</i>	<i>9.0</i>	<i>5.3</i>	<i>(3.1)</i>	<i>2.6</i>	<i>12.0</i>	<i>(8.3)</i>
	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>		<i>12.8</i>	<i>47.2</i>	<i>35.9</i>	<i>3.9</i>	<i>21.0</i>	<i>(36.9)</i>	<i>51.0</i>	<i>18.6</i>	<i>(18.5)</i>
	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>		<i>2.6</i>	<i>7.1</i>	<i>1.3</i>	<i>(0.3)</i>	<i>19.1</i>	<i>(3.3)</i>	<i>15.2</i>	<i>22.9</i>	<i>(5.1)</i>
	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>		<i>0.0</i>	<i>3.1</i>	<i>0.0</i>	<i>(2.2)</i>	<i>9.2</i>	<i>(5.1)</i>	<i>(6.5)</i>	<i>3.9</i>	<i>(3.9)</i>
	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>		<i>(1.2)</i>	<i>0.8</i>	<i>(2.0)</i>	<i>(4.9)</i>	<i>3.7</i>	<i>(7.0)</i>	<i>(10.3)</i>	<i>(0.0)</i>	<i>(6.0)</i>

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>		<i>1.1</i>	<i>37.1</i>	<i>39.7</i>	<i>9.5</i>	<i>6.2</i>	<i>40.7</i>	<i>16.4</i>	<i>10.9</i>	<i>25.6</i>
	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>		<i>1.0</i>	<i>3.3</i>	<i>(0.2)</i>	<i>19.5</i>	<i>(8.3)</i>	<i>(4.4)</i>	<i>14.1</i>	<i>3.2</i>	<i>(20.4)</i>
	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>		<i>19.4</i>	<i>91.9</i>	<i>59.4</i>	<i>4.5</i>	<i>23.4</i>	<i>(47.3)</i>	<i>121.4</i>	<i>18.6</i>	<i>(26.7)</i>
	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>		<i>2.6</i>	<i>12.2</i>	<i>(6.7)</i>	<i>(4.7)</i>	<i>22.5</i>	<i>(5.0)</i>	<i>63.0</i>	<i>29.9</i>	<i>(14.0)</i>
	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>		<i>(6.2)</i>	<i>1.4</i>	<i>(15.4)</i>	<i>(13.6)</i>	<i>(6.9)</i>	<i>(11.9)</i>	<i>(12.9)</i>	<i>(21.6)</i>	<i>(16.6)</i>
	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>		<i>(11.3)</i>	<i>(7.5)</i>	<i>(22.9)</i>	<i>(23.1)</i>	<i>(23.1)</i>	<i>(19.4)</i>	<i>(25.6)</i>	<i>(32.7)</i>	<i>(24.3)</i>

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	08/29	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	64.2	(0.7)	(0.9)	(2.2)	5.2	1.2	18.6	12.2	78,570	15.8	14.4	2.9	2.7	8.9	8.3	
Du Pont	USD	82.2	(0.8)	(0.9)	(2.1)	5.6	3.2	16.7	12.0	71,368	21.0	19.8	6.5	5.5	13.5	12.7	
Eastman	USD	84.6	(1.0)	0.5	1.9	5.8	3.8	24.3	12.4	12,252	11.3	10.4	2.5	2.3	8.6	8.2	
BASF	EUR	80.9	(1.3)	(1.6)	1.5	(4.2)	(10.1)	12.0	(8.4)	89,308	13.9	13.7	2.2	2.1	7.7	7.5	
Akzo Nobel	EUR	77.2	(0.7)	(0.7)	1.3	1.0	19.2	28.1	29.9	23,578	18.0	17.3	3.1	3.0	9.9	9.6	
Arkema	EUR	91.3	(1.2)	(3.9)	(5.2)	(3.9)	(1.6)	15.2	(1.7)	8,315	13.4	12.3	1.7	1.6	6.0	5.8	
Lanxess	EUR	62.3	(3.8)	(2.4)	(5.1)	(7.6)	(5.2)	31.1	(0.0)	6,856	16.3	14.1	2.1	2.0	7.3	7.2	
Sumitomo Chemical	JPY	663	0.6	0.9	2.0	13.5	4.6	45.4	19.2	10,055	10.4	9.8	1.2	1.1	7.5	7.2	
Mitsubishi Chemical	JPY	1,024	0.3	6.3	10.4	24.5	16.6	61.9	35.0	14,123	9.5	9.4	1.2	1.1	6.3	6.2	
Shin-Etsu Chemical	JPY	9,622	0.2	1.1	(4.2)	(2.9)	(2.3)	29.4	6.1	38,088	19.4	17.4	1.8	1.7	8.2	7.3	
Asahi Kasei	JPY	1,257	(0.8)	0.5	1.0	18.4	14.0	44.9	23.3	16,151	14.8	14.0	1.4	1.3	7.1	6.8	
JSR	JPY	2,138	0.4	4.5	12.3	14.8	9.5	45.9	16.0	4,429	16.3	15.4	1.2	1.2	8.5	7.9	
Nitto Denko	JPY	9,585	0.0	(0.5)	(1.1)	8.3	(0.6)	37.5	6.9	15,257	19.2	17.7	2.2	2.1	8.6	8.0	
SABIC	SAR	98.9	(0.1)	0.4	(1.1)	1.1	2.1	19.8	8.1	79,132	14.9	14.3	1.8	1.7	7.5	7.3	
Yansab	SAR	56.4	(0.2)	0.3	2.1	1.6	0.0	29.5	3.5	8,454	14.4	13.6	2.4	2.3	8.9	8.5	
Formosa Plastics	TWD	93.7	(0.8)	0.8	2.4	4.2	3.0	17.7	5.0	19,827	14.5	14.8	1.8	1.8	19.1	19.7	
Formosa Fiber	TWD	94.4	0.2	1.7	3.7	3.5	(0.6)	13.5	(2.0)	18,392	13.0	13.5	1.7	1.6	10.4	10.8	
Nan Ya Plastics	TWD	76.2	0.3	0.8	0.9	6.7	5.1	23.7	7.0	20,089	16.0	16.4	1.8	1.7	17.0	16.2	
Sinopec Shanghai	CNY	6.44	(0.6)	(4.6)	(5.6)	(2.4)	(4.0)	4.9	0.0	9,226	12.3	11.7	2.4	2.1	6.8	6.7	
Sinopec Yizheng(Fiber)	CNY	3.20	0.0	0.0	1.3	(18.4)	(18.4)	(17.3)	(22.0)	6,191	#N/A	N/A	47.1	6.9	7.2	37.0	17.2
Reliance	INR	1,532	(2.2)	(1.8)	(3.9)	12.9	24.1	44.9	41.6	77,927	17.0	13.9	1.6	1.4	11.4	9.2	
Industries Qatar	QAR	91.0	(1.2)	(2.4)	(9.8)	(13.8)	(21.1)	(21.8)	(22.6)	15,118	14.7	12.8	1.6	1.5	52.1	47.5	
PTT Chemical	THB	78.3	3.0	4.7	8.7	9.4	7.6	28.3	24.2	10,520	10.3	10.4	1.3	1.2	5.4	5.3	
Petronas	MYR	7.2	0.0	(0.1)	3.5	(0.8)	(1.5)	7.6	3.0	13,481	15.9	15.8	2.0	1.9	8.6	8.5	
LG화학	KRW	368,500	(0.3)	1.5	14.1	19.1	30.2	39.8	41.2	23,108	14.4	13.9	1.8	1.6	6.3	5.9	
롯데케미칼	KRW	393,000	0.0	(1.1)	8.3	5.4	7.8	45.0	6.5	11,966	6.2	6.0	1.2	1.0	4.1	3.6	
한화케미칼	KRW	35,150	0.4	(0.7)	8.5	18.0	38.7	37.6	42.3	5,146	6.0	6.3	1.0	0.8	7.5	7.1	
금호석유	KRW	79,100	(0.3)	1.8	4.4	(3.1)	3.1	13.5	(3.5)	2,141	15.4	13.7	1.5	1.3	10.1	8.8	
SKC	KRW	37,200	0.4	(0.4)	3.3	17.7	18.3	36.5	12.7	1,240	10.5	9.2	0.9	0.9	9.0	7.6	
국도화학	KRW	53,900	(0.2)	(0.9)	(5.1)	3.9	5.1	(5.8)	(1.8)	278	8.8	9.5	0.7	0.7	5.1	5.2	
효성	KRW	7,080	1.9	2.5	19.2	(2.2)	(14.2)	41.6	4.1	4,929	9.3	8.0	1.4	1.2	7.4	6.6	
Average			(0.3)	0.2	2.1	4.6	4.4	24.8	10.0								
Refinery																	
Valero	USD	67.9	(0.7)	3.6	1.8	8.8	(0.8)	22.1	(0.6)	29,998	16.7	12.4	1.6	1.6	6.7	5.7	
Conoco Phillips	USD	42.9	(0.5)	(0.8)	(5.3)	(5.5)	(12.6)	1.2	(14.5)	52,146	234.2	37.0	1.7	1.8	8.7	6.5	
Formosa Petrochemical	TWD	105.0	(0.5)	1.9	(0.5)	(0.9)	0.5	12.2	(6.3)	33,249	15.9	18.6	3.2	3.2	9.8	11.1	
Andeavor	USD	98.8	0.3	5.8	1.0	18.4	14.9	34.0	13.0	15,503	19.2	13.4	1.5	1.4	9.2	7.0	
Marathon Petroleum	USD	51.4	(2.1)	3.5	(6.5)	(2.6)	0.9	21.6	2.1	26,037	19.2	15.3	2.1	2.0	8.6	7.4	
Devon Energy	USD	31.0	0.2	1.9	(6.7)	(13.5)	(30.6)	(31.1)	(32.1)	16,288	18.3	15.2	2.3	2.0	8.2	7.4	
Hollyfrontier	USD	32.2	2.4	15.9	14.0	30.0	9.6	25.0	(1.7)	5,710	25.8	15.5	1.2	1.2	9.1	6.9	
Phillips 66	USD	83.5	(0.2)	1.5	(0.2)	7.8	5.2	5.9	(3.4)	42,711	20.4	15.1	1.9	1.9	10.0	8.4	
Murphy Oil	USD	22.6	(0.5)	(2.1)	(16.6)	(10.6)	(22.8)	(21.8)	(27.3)	3,905	#N/A	N/A	353.6	0.9	0.9	4.3	4.2
JX Holdings	JPY	539.6	(0.8)	1.2	8.7	9.8	(0.8)	44.0	9.1	16,940	8.4	7.9	0.8	0.8	8.4	7.9	
Idemitsu	JPY	2,683.0	(0.4)	1.7	1.6	(16.4)	(27.0)	47.3	(13.6)	5,112	5.8	5.8	0.7	0.6	7.9	7.6	
Nesteoil	EUR	36.1	1.3	3.6	(2.3)	(1.5)	7.0	(5.8)	(1.0)	0	14.0	13.8	2.2	2.1	7.9	8.3	
Ashland	USD	60.9	(0.6)	(0.9)	(7.0)	(8.4)	1.6	6.4	13.9	3,799	16.2	18.6	1.0	1.0	8.4	9.2	
Fuchs Petrolub	EUR	46.4	(1.2)	(3.0)	(7.6)	(5.4)	4.3	14.0	16.2	7,294	23.8	22.5	4.8	4.3	13.9	13.1	
SK이노베이션	KRW	183,500	0.0	5.2	4.9	7.6	18.8	32.0	25.3	15,072	7.7	7.6	0.9	0.9	4.6	4.1	
S-Oil	KRW	123,000	2.5	5.6	7.9	17.7	42.4	77.2	45.2	12,301	13.2	10.2	2.2	2.0	10.0	7.5	
GS	KRW	69,100	0.4	(0.6)	(6.5)	(5.5)	24.5	40.0	27.7	5,703	6.4	6.1	0.8	0.8	7.4	6.9	
Average			(0.0)	2.6	(1.1)	1.8	2.1	19.1	3.1								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/29	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	(0.0)	(0.4)	(4.0)	(6.3)	(7.9)	(13.0)	(15.3)	323,927	22.5	19.6	1.8	1.8	9.5	8.6
BP	GBP	440	(1.1)	(0.4)	(0.7)	(7.2)	(5.2)	1.3	(13.6)	112,450	20.0	15.2	1.2	1.2	5.9	5.3
Shell	EUR	2,128	(0.7)	0.3	0.6	0.4	0.2	12.2	(5.1)	228,320	15.9	14.0	1.2	1.2	6.3	5.7
Chevron	USD	108	0.1	1.4	(0.2)	3.0	(5.3)	5.7	(8.4)	204,395	26.7	22.1	1.4	1.4	7.8	7.0
Total	EUR	43	(0.4)	(1.1)	(0.1)	(9.6)	(10.0)	(0.1)	(11.8)	129,119	13.0	11.8	1.2	1.1	6.1	5.4
Sinopec	CNY	6	(0.2)	1.2	(0.8)	(1.3)	5.2	22.4	12.0	106,578	14.2	13.2	1.0	1.0	4.6	4.4
Petrochina	CNY	8	(1.0)	1.4	0.2	4.1	(1.6)	9.4	2.1	212,476	58.8	34.0	1.2	1.2	6.8	6.6
CNOOC	CNY	11	(0.5)	1.2	0.6	(8.0)	(15.9)	(8.0)	(11.9)	53,180	12.9	11.3	0.9	0.9	3.7	3.5
Gazprom	RUB	118	(0.4)	2.0	1.2	(3.9)	(11.6)	(13.1)	(23.5)	47,656	4.3	3.8	0.2	0.2	3.5	3.2
Rosneft	RUB	301	0.0	0.0	(1.6)	(2.0)	(11.9)	(14.1)	(25.3)	54,284	9.3	6.6	0.8	0.7	4.9	4.1
Anadarko	USD	41	(1.4)	(3.7)	(12.1)	(21.5)	(38.3)	(27.6)	(41.6)	22,812	#N/A	#N/A	1.5	1.6	6.6	5.9
Petrobras	BRL	14	(0.1)	0.4	5.5	2.1	(10.8)	7.6	(6.9)	58,071	10.3	8.3	0.5	0.6	5.3	4.8
Lukoil	USD	2,894	(0.9)	(0.1)	3.6	3.6	(7.2)	(3.2)	(16.1)	41,686	5.8	5.2	0.6	0.6	N/A	N/A
Kinder	USD	19	0.1	1.2	(6.8)	(1.2)	(12.6)	(12.6)	(8.2)	47,497	29.2	27.1	1.2	1.2	11.4	11.0
Statoil	NOK	144	(1.0)	(1.8)	(2.4)	(3.8)	(4.0)	8.6	(9.0)	61,228	16.3	17.2	1.6	1.6	3.3	3.2
BHP	AUD	27	(0.1)	3.4	6.1	12.7	8.0	28.4	7.2	108,279	18.3	19.4	1.9	1.9	6.8	6.7
PTT E&P	THB	88	2.0	2.3	(0.3)	(4.6)	(6.2)	8.4	(9.1)	10,469	13.2	12.1	0.9	0.8	3.1	2.9
Petronas gas	MYR	18	(1.6)	(2.4)	(3.3)	(1.4)	(8.3)	(17.1)	(13.9)	8,506	20.5	19.2	2.9	2.8	11.7	10.8
Chesapeake	USD	4	(0.3)	(5.5)	(28.1)	(31.2)	(34.6)	(43.5)	(48.1)	3,306	5.2	4.6	#N/A	#N/A	15.8	7.1
Noble Energy	USD	24	0.7	0.4	(18.7)	(19.9)	(36.7)	(34.5)	(38.0)	11,473	#N/A	#N/A	1.2	1.2	8.0	6.6
Average		0	(0.3)	(0.0)	(3.1)	(4.8)	(10.7)	(4.1)	(14.2)							
PV																
WACKER	EUR	105.1	(0.4)	(0.1)	3.5	9.0	(2.6)	25.8	6.3	6,583	28.9	21.6	1.8	1.7	6.6	6.2
GCL-Poly	HKD	0.9	1.1	(2.2)	4.7	6.0	(16.8)	(19.8)	(4.3)	2,114	7.2	6.8	0.6	0.6	5.6	5.2
SunPower	USD	9.0	(0.9)	1.2	(20.5)	13.5	7.4	(10.2)	36.5	1,258	#N/A	#N/A	1.8	1.8	40.7	13.5
Canadian Solar	USD	15.5	1.0	3.1	(7.4)	17.3	7.5	18.6	27.5	901	10.0	6.8	0.9	0.8	9.5	8.5
JA Solar	USD	6.5	1.9	4.5	2.2	(5.9)	29.0	(12.4)	36.6	309	18.8	14.8	1.5	1.5	3.9	3.0
Yingli	USD	2.7	1.5	6.3	15.8	22.6	7.1	(28.3)	4.2	49	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
First Solar	USD	48.4	0.8	3.9	(1.0)	31.4	38.2	28.8	50.8	5,054	23.2	43.8	0.9	0.9	8.6	9.6
한화큐셀	USD	7.4	(0.9)	2.2	(13.0)	4.5	(17.5)	(38.8)	(9.2)	617	64.4	46.3	#N/A	#N/A	7.4	7.4
OCI	KRW	95,700	(0.5)	1.4	4.7	7.6	7.4	8.4	21.6	2,027	15.5	20.9	0.7	0.7	7.8	7.3
웅진에너지	KRW	8,280	(2.2)	(4.7)	2.3	12.3	65.8	(2.0)	74.9	183	N/A	0.7	0.7	7.8	7.3	9.3
신성솔라에너지	KRW	2,080	(2.3)	(5.0)	(10.5)	0.0	9.2	(4.4)	(5.9)	320	N/A	0.7	7.8	7.3	9.3	8.0
Average			(0.1)	1.0	(1.7)	10.8	12.2	(3.1)	21.7							
Gas Company																
Towngas China	HKD	5.2	(0.4)	(0.6)	(6.5)	7.1	20.3	14.4	26.5	1,826	11.9	11.0	1.0	0.9	11.2	10.4
Kulun	HKD	7.1	(0.1)	(5.7)	(6.2)	0.4	6.3	23.9	22.6	7,335	10.9	10.6	1.3	1.2	5.8	5.6
Beijing Enterprise	HKD	40.9	(0.4)	0.9	0.6	9.9	0.2	(10.1)	11.6	6,597	8.0	7.6	0.8	0.8	13.6	13.1
ENN Energy	HKD	50.2	0.9	0.9	(4.0)	22.4	27.4	18.0	57.4	6,940	13.3	11.9	2.6	2.2	8.5	7.6
China Resources Gas	HKD	27.0	(0.4)	(0.9)	(8.0)	10.0	11.6	4.4	23.9	7,674	15.4	13.7	2.9	2.6	9.2	8.4
China Gas Holdings	HKD	18.9	(0.1)	0.7	2.2	60.7	57.5	43.0	79.7	12,001	17.3	14.7	3.8	3.2	13.9	12.0
Shenzen Gas	HKD	14.4	(0.8)	0.7	9.2	14.6	28.5	18.4	27.6	3,725	11.9	11.4	1.3	1.3	9.3	8.8
Shann Xi	CNY	8.7	0.6	0.7	(0.5)	3.3	(9.6)	(17.8)	(9.2)	1,466	18.4	16.5	1.8	1.6	#N/A	#N/A
Suntien	HKD	1.7	0.6	(5.1)	0.6	11.3	24.4	52.7	68.0	798	6.8	5.7	0.6	0.6	8.9	7.7
China Oil & Gas	HKD	0.5	(3.6)	3.9	(5.4)	(5.4)	(13.1)	(11.7)	(13.1)	395	9.1	7.9	0.9	0.8	6.2	5.6
Average			(0.4)	(0.4)	(1.8)	13.4	15.4	13.5	29.5							
EV																
LG화학	KRW	368,500	(0.3)	1.5	14.1	19.1	30.2	39.8	41.2	23,108	13.7	13.5	1.8	1.6	6.5	6.2
삼성SDI	KRW	185,500	(0.8)	0.0	11.7	12.4	43.8	57.9	70.2	11,331	19.1	12.4	1.1	1.1	21.7	13.7
Panasonic	JPY	1447.0	(0.2)	(0.7)	(4.1)	5.2	14.4	40.5	21.6	32,517	18.8	14.4	2.0	1.8	6.1	5.3
GS Yuasa	JPY	525.0	(1.3)	(2.6)	1.2	4.2	0.2	32.2	8.0	1,989	15.9	14.6	1.3	1.2	7.2	6.7
NEC	JPY	289.0	(0.7)	(2.0)	(2.7)	0.3	3.2	10.3	(6.8)	6,896	18.1	16.2	0.9	0.8	6.8	6.1
BYD Auto	CNY	48.4	(1.9)	0.5	(2.1)	(1.4)	(3.5)	(16.9)	(2.5)	18,816	24.1	17.6	2.4	2.2	12.4	10.0
Tesla Motors	USD	347.4	0.5	1.8	3.7	6.8	38.9	61.4	62.6	57,970	#N/A	#N/A	11.6	10.1	73.8	25.9
Kandi Technologies	USD	4.0	1.3	12.7	(2.4)	(5.9)	(1.2)	(37.1)	(18.4)	192	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Average			(0.4)	1.4	2.4	5.1	15.7	23.5	22.0							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임