

1. News Summary (3 page)

2018년 8월 23일

News	
WTI comment	美재고 감소에 급등...WTI 3.1%↑
Headline	사우디아라비아, IPO 계획 결국 철회
News 1.	사우디 왕세자 한국 오나... 22조 원전수주 최대 기회
News 2.	-
News 3.	-
News 4.	-

Conclusion	
SABIC 인수로 NEOM City를 위한 500조원 중 약 100조원 조달 가능할 것	
RUC-ODC 프로젝트의 완전 상업생산이 4분기 초여서 10월로 예상됨	
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	67.9	0.8	4.4	(0.0)	(5.5)	40.2
Dubai	\$/bbl	71.1	0.0	0.6	(0.5)	(7.2)	42.4
Gasoline	\$/bbl	83.9	0.0	(3.0)	1.4	(7.6)	26.3
Diesel	\$/bbl	86.8	0.0	0.7	2.9	(5.1)	39.2
Complex margin	\$/bbl	8.4	0.0	(0.9)	1.1	0.4	0.0
1M lagging	\$/bbl	8.0	(1.1)	(0.3)	1.8	(6.2)	(2.2)
Petrochemical			%	%	%	%	%
Naphtha	\$/t	643	0.6	(0.7)	1.5	(8.3)	36.7
Butadiene	\$/t	1,715	0.0	(1.2)	3.9	(4.7)	42.9
HDPE	\$/t	1,290	(0.8)	(0.8)	(2.3)	(5.8)	14.2
MEG	\$/t	933	0.9	2.1	3.8	(1.9)	6.6
PX	\$/t	1,205	0.5	6.3	22.1	20.3	49.1
SM	\$/t	1,410	(0.2)	(1.9)	4.4	0.4	18.8
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	2.96	(0.8)	0.5	7.3	0.0	2.0
Natural rubber	\$/t	1,380	0.0	3.8	4.5	(4.2)	(9.8)
Cotton	C/lbs	82.5	(1.2)	1.8	(7.1)	(5.1)	18.6

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	08/20	\$/t	1,275	0.0	0.8	12.3	9.4
Propylene	08/20	\$/t	1,048	1.0	5.8	2.4	35.2
Benzene	08/20	\$/t	890	1.4	7.2	2.3	14.8
Toluene	08/20	\$/t	820	(1.2)	3.8	(0.6)	25.2
Xylene	08/20	\$/t	845	0.6	2.7	1.8	33.1
PP	08/20	\$/t	1,233	0.0	(0.8)	(4.3)	11.3
PVC	08/20	\$/t	950	0.5	1.1	3.3	6.7
ABS	08/20	\$/t	1,960	0.0	2.1	(5.3)	4.8
SBR	08/20	\$/t	1,875	2.5	6.5	1.9	21.8
SM	08/20	\$/t	1,470	(0.3)	5.4	2.6	23.3
BPA	08/20	\$/t	1,870	3.0	3.2	0.3	(7.5)
Caustic	08/20	\$/t	421	14.1	0.2	(29.6)	(11.6)
2-EH	08/20	\$/t	1,130	0.9	2.7	(5.0)	17.7
Caprolactam	08/20	\$/t	2,155	0.0	0.0	3.1	19.7
Solar				%	%	%	%
Polysilicon	08/15	\$/kg	11.4	0.8	3.2	(25.3)	(26.9)
Module	08/15	\$/W	0.25	(0.4)	(1.9)	(14.5)	(21.7)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	80.0	1.4	3.9	(1.8)	(2.1)	4.2
Shell	EUR	2,525	0.9	3.0	(4.9)	(7.8)	19.0
Petrochina	CNY	8.00	(2.1)	(1.0)	8.7	(6.5)	(0.1)
Gazprom	RUB	144.2	0.6	1.9	5.6	(1.6)	24.3
Petrobras	BRL	18.4	3.6	(3.7)	(4.9)	(25.7)	33.1
Refinery							
Phillips66	USD	117.0	0.4	1.4	6.0	(1.5)	42.3
Valero	USD	115.7	1.3	3.7	8.9	(3.7)	76.4
JX	JPY	764.9	1.6	(2.7)	(4.7)	1.1	43.4
Neste Oil	EUR	74.3	1.0	0.2	10.6	5.7	113.1

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	79.4	0.3	2.1	(3.9)	(11.4)	(3.5)
DowDuPont	USD	68.8	(0.1)	3.5	4.5	1.9	6.1
SABIC	SAR	123.0	0.0	(0.6)	(4.9)	2.0	24.9
Formosa Pla.	TWD	110.0	0.9	0.9	2.3	0.5	18.3
Shin-Etsu	JPY	10,625	1.4	(1.0)	0.7	(8.1)	11.6
Renewable							
Wacker	EUR	120.9	(1.7)	0.8	3.5	(22.3)	14.9
First Solar	USD	52.55	(0.7)	3.6	(1.7)	(24.9)	12.8
GCL-Poly	HKD	0.53	1.9	3.9	(19.7)	(45.9)	(41.8)
Tesla Motors	USD	321.6	(0.1)	(5.0)	2.6	17.0	(5.8)

4. Coverage Summary

	08/22	1D	1W	1M	3M	6M	12M
KOSPI	2,273	0.1	0.6	0.2	(7.8)	(5.9)	(3.5)
KOSPI확화	5,495	(1.8)	(2.1)	0.3	(7.5)	(8.1)	(3.2)
LG화학	354,500	(2.6)	(5.0)	6.5	2.8	(5.8)	1.6
롯데케미칼	315,000	(5.0)	(7.4)	(5.1)	(14.4)	(30.5)	(19.7)
한화케미칼	20,000	(2.9)	(2.7)	(1.2)	(26.3)	(40.2)	(42.8)
금호석유화학	100,500	0.0	(3.4)	(8.6)	(6.5)	10.6	29.8
KCC	332,500	(1.0)	(3.1)	4.6	(5.8)	(8.5)	(16.0)
OCI	112,000	(1.8)	6.7	18.4	(23.5)	(28.9)	19.4
SKC	45,400	(2.0)	(0.3)	9.1	17.0	20.3	22.0
SK이노베이션	194,000	(1.8)	(2.5)	(1.3)	(4.9)	(0.3)	11.5
S-Oil	120,000	(1.6)	(1.2)	7.1	9.6	0.4	3.0
GS	53,800	(1.3)	(0.4)	4.1	(10.8)	(15.4)	(22.7)
SK가스	84,400	(1.1)	(2.9)	(1.1)	(18.5)	(9.2)	(21.1)
포스코대우	18,200	0.6	1.7	(9.0)	(24.6)	(12.9)	(16.3)
LG상사	22,550	(2.2)	(2.8)	(0.7)	(18.4)	(18.7)	(19.9)
한국전력	30,750	0.0	1.3	(4.7)	(12.4)	(9.0)	(30.4)
한국가스공사	53,800	(2.5)	(2.0)	(6.9)	(13.2)	14.0	15.5

투자의견	TP	%	P/E	P/B
			* 추정치는 12M fwd 기준임	
			* 모든 coverage 업체의 실적은 연결기준임	
매수	400,000	12.8	14.01	1.58
매수	400,000	27.0	9.78	0.89
매수	30,000	50.0	8.98	0.49
매수	150,000	49.3	9.37	1.30
매수	400,000	20.3	28.83	0.51
매수	140,000	25.0	8.52	0.81
매수	50,000	10.1	12.38	1.08
매수	230,000	18.6	11.41	0.97
매수	140,000	16.7	13.70	2.00
매수	80,000	48.7	4.98	0.61
매수	130,000	54.0	7.97	0.57
매수	25,000	37.4	9.54	0.71
매수	38,000	68.5	8.35	0.64
매수	45,000	46.3	7.44	0.24
매수	75,000	39.4	8.34	0.70

* 작성자(손지우)는 본 조사분석자료에 게재된 내용들이 본인의 의견을 정확하게 반영하고 있으며, 외부의 부당한 압력이나 간섭없이 신의성실하게 작성되었음을 확인합니다.

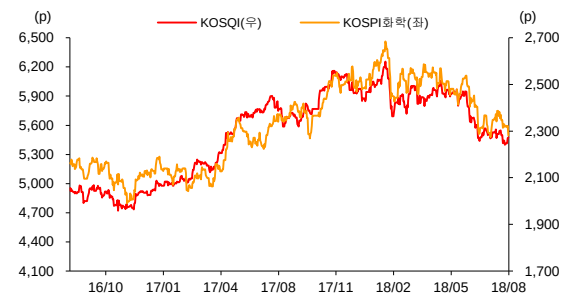
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

* 본 보고서는 기관투자자 또는 제 3자에게 사전 제공된 사실이 없습니다.

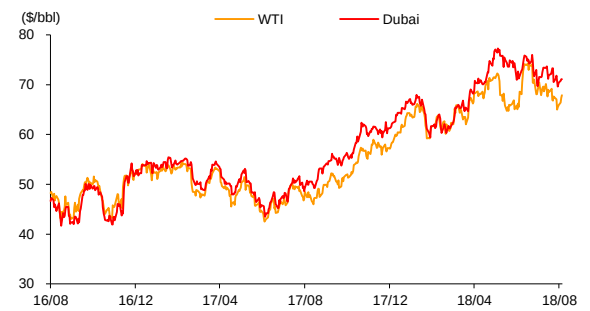
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

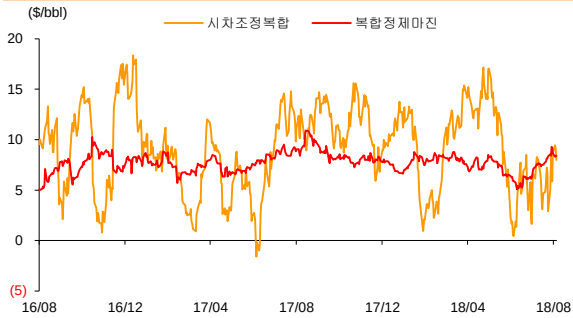
KOSPI/KOSPI화학



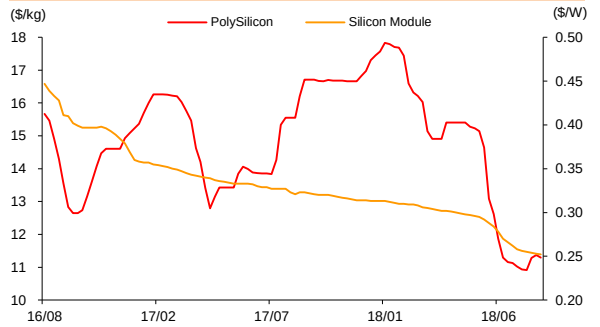
WTI/Dubai



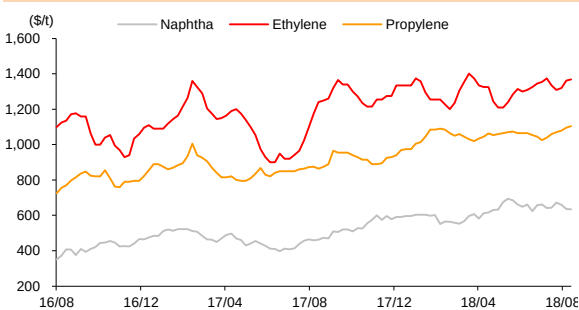
Complex & 1M lagging margin



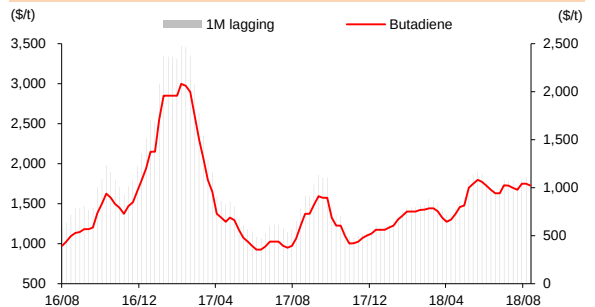
Polysilicon & Module prices



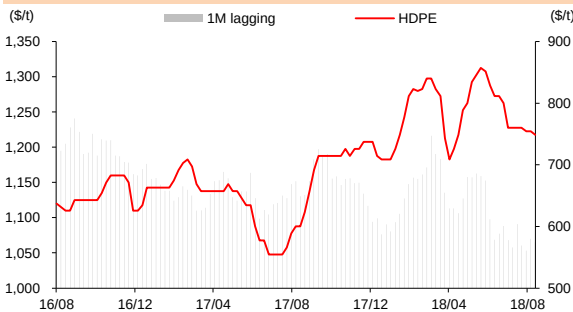
Naphtha/Ethylene/Propylene prices



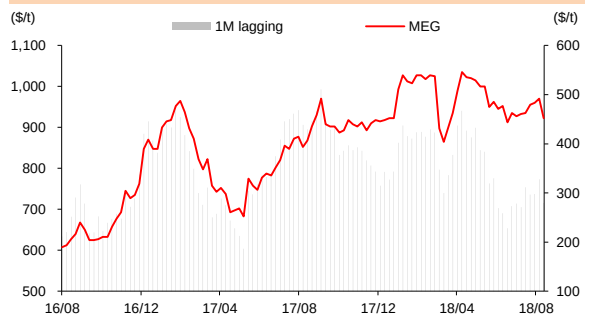
Butadiene price & 1M lagging naphtha spread



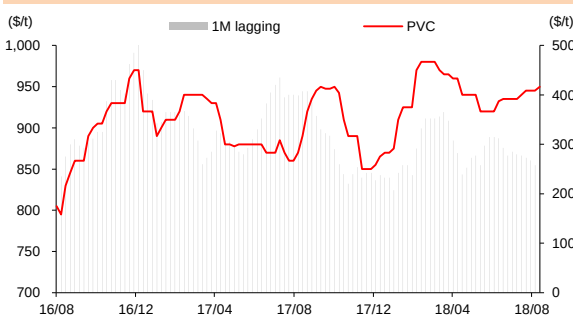
HDPE price & 1M lagging naphtha spread



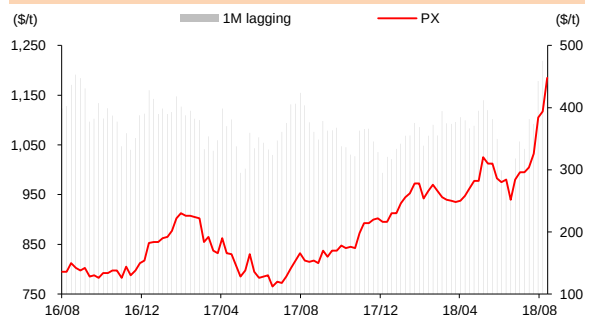
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline	(출처: 연합뉴스)
제목	사우디아라코, IPO 계획 결국 철회
결론	SABIC 인수로 NEOM City를 위한 500조원 중 약 100조원 조달 가능할 것
세부	1) 아람코가 기업공개(IPO) 계획을 결국 철회했다고 22일 CNBC가 보도 2) 사우디는 지난 7월 PIF가 소유한 SABIC의 지분을 인수하기로 함 3) 사우디가 아람코 IPO 대신 SABIC 지분 인수를 결심한 것으로 판단됨 4) 관계자, "아람코 IPO는 사실상 취소였지만 공식화되지 않았었을 뿐" 5) SABIC 인수로 NEOM City를 위한 500조원 중 약 100조원 조달 가능할 것

Issue 1	(출처: 아시아투데이)
제목	사우디 왕세자 한국 오나... 22조 원전수주 최대 기회
결론	RUC·ODC 프로젝트의 완전 상업생산이 4분기 초여서 10월로 예상됨
세부	1) S-Oil의 5조원 규모 프로젝트 준공식에 MBS가 참석하는 것을 추진 중 2) S-Oil에게는 RUC·ODC 설비가 추후 성장 여부를 가늠케 할 프로젝트임 3) 한국으로선 사우디 원전 수주전에서 유리한 고지에 설 수 있는 기회 4) 22조원 원전 예비사업자로 한국이 선정되어있어 좋은 기회가 될 것 5) RUC·ODC 프로젝트의 완전 상업생산이 4분기 초여서 10월로 예상됨

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	美재고 감소에 급등...WTI 3.1% ↑
상승	EIA에 따르면 지난주 원유재고는 전주보다 약 584만 배럴 감소
요인	
하락	
요인	

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	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.862	0.864	0.881	0.853	0.849	0.811	0.850	0.833	0.904	0.887	0.835
	Change, %		(0.2)	(2.2)	1.1	1.6	6.3	1.4	3.5	(4.6)	(2.7)	3.3
	USD/JPY	110.6	110.3	110.7	111.4	110.9	106.8	109.6	112.6	108.8	112.1	109.3
	Change, %		0.2	(0.2)	(0.8)	(0.3)	3.6	0.9	(1.8)	1.7	(1.4)	1.2
	USD/KRW	1,119.1	1,118.7	1,132.2	1,133.8	1,076.5	1,084.3	1,133.8	1,066.7	1,160.5	1,130.9	1,086.9
	Change, %		0.0	(1.2)	(1.3)	3.9	3.2	(1.3)	4.9	(3.6)	(1.0)	3.0
Agriculture	Corn	352.5	359.8	361.5	355.3	404.8	366.8	346.0	350.8	358.5	359.4	370.4
	Change, %		(2.0)	(2.5)	(0.8)	(12.9)	(3.9)	1.9	0.5	(1.7)	(1.9)	(4.8)
	Soybean	858.3	874.5	857.5	849.8	1,030.5	1,032.0	933.8	951.8	987.5	975.9	968.7
	Change, %		(1.9)	0.1	1.0	(16.7)	(16.8)	(8.1)	(9.8)	(13.1)	(12.1)	(11.4)
	Wheat	526.0	527.3	532.3	516.0	521.5	451.3	402.3	427.0	436.4	436.0	487.4
	Change, %		(0.2)	(1.2)	1.9	0.9	16.6	30.8	23.2	20.5	20.6	7.9
	Rice	10.8	10.5	10.3	11.9	12.3	12.0	12.2	11.7	10.3	11.1	12.1
	Change, %		2.5	4.6	(9.5)	(12.4)	(10.1)	(11.5)	(7.5)	4.4	(2.4)	(10.4)
	Oats	259.8	257.0	249.8	233.3	249.8	257.8	239.0	241.0	196.3	252.3	246.3
	Change, %		1.1	4.0	11.4	4.0	0.8	8.7	7.8	32.3	3.0	5.5
MYR/mt	Palm Oil	2,205.0	2,205.0	2,178.0	2,180.0	2,463.0	2,509.0	2,729.0	2,444.0	2,653.8	2,787.3	2,373.2
	Change, %		0.0	1.2	1.1	(10.5)	(12.1)	(19.2)	(9.8)	(16.9)	(20.9)	(7.1)
	Cocoa	2,310.0	2,269.0	2,083.0	2,322.0	2,589.0	2,156.0	1,923.0	1,892.0	2,854.0	2,005.2	2,363.9
	Change, %		1.8	10.9	(0.5)	(10.8)	7.1	20.1	22.1	(19.1)	15.2	(2.3)
	Cotton	82.5	83.5	81.1	87.7	87.4	80.5	68.9	78.6	65.6	73.5	84.2
	Change, %		(1.2)	1.8	(5.9)	(5.5)	2.5	19.8	4.9	25.8	12.2	(2.0)
	Sugar	10.2	10.2	10.2	11.1	12.2	13.7	13.5	15.2	18.2	15.8	12.3
	Change, %		0.1	(0.5)	(8.5)	(16.2)	(25.7)	(24.6)	(32.8)	(43.9)	(35.6)	(17.0)
	Coffee	96.4	98.0	102.4	110.7	120.9	119.6	125.9	126.2	136.1	133.0	116.4
	Change, %		(1.6)	(5.9)	(12.9)	(20.2)	(19.4)	(23.4)	(23.6)	(29.1)	(27.5)	(17.2)
Energy	WTI	67.9	67.4	65.0	70.5	72.1	62.8	47.6	60.4	43.4	51.0	66.3
	Change, %		0.8	4.4	(3.7)	(5.9)	8.1	42.4	12.3	56.4	33.1	2.3
	Brent	74.8	72.6	70.8	73.1	79.6	66.4	51.9	66.9	45.1	54.9	71.8
	Change, %		3.0	5.7	2.3	(6.0)	12.6	44.2	11.8	65.9	36.3	4.1
	Natural Gas	3.0	3.0	2.9	2.8	2.9	2.6	2.9	3.0	2.6	3.0	2.8
	Change, %		(0.8)	0.5	7.2	1.7	12.2	0.6	0.1	15.8	(2.2)	4.1
	Ethanol	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.3	1.5	1.5	1.4
	Change, %		(2.1)	(2.7)	(7.6)	(11.5)	(11.2)	(14.3)	0.0	(12.9)	(11.8)	(7.8)
	RBOB Gasoline	206.8	201.8	199.7	206.9	227.0	176.6	159.1	179.9	140.0	162.9	200.8
	Change, %		2.5	3.5	(0.0)	(8.9)	17.1	30.0	14.9	47.7	27.0	3.0
	Coal	117.5	117.6	118.2	117.7	105.2	105.7	98.4	100.8	65.5	88.2	106.6
	Change, %		(0.0)	(0.6)	(0.2)	11.7	11.2	19.4	16.6	79.5	33.2	10.3
Metal	Gold	1,195.8	1,196.1	1,174.9	1,232.0	1,291.1	1,332.2	1,285.1	1,302.6	1,248.5	1,258.6	1,296.1
	Change, %		(0.0)	1.8	(2.9)	(7.4)	(10.2)	(6.9)	(8.2)	(4.2)	(5.0)	(7.7)
	Silver	14.8	14.8	14.4	15.5	16.5	16.6	17.0	16.9	17.1	17.1	16.4
	Change, %		(0.2)	2.2	(4.9)	(10.8)	(11.2)	(13.4)	(12.9)	(13.7)	(13.6)	(9.9)
	Copper	6,005.0	6,045.0	5,801.0	6,147.5	6,979.0	7,162.0	6,580.0	7,247.0	4,872.0	6,199.4	6,771.7
	Change, %		(0.7)	3.5	(2.3)	(14.0)	(16.2)	(8.7)	(17.1)	23.3	(3.1)	(11.3)
	Nickel	944.6	942.4	936.7	926.3	1,005.5	895.4	731.0	809.1	646.4	680.2	921.1
	Change, %		0.2	0.8	2.0	(6.1)	5.5	29.2	16.7	46.1	38.9	2.5
	Zinc	2,467.0	2,426.0	2,300.0	2,575.0	3,056.0	3,531.0	3,119.0	3,319.0	2,097.5	2,888.5	3,091.1
	Change, %		1.7	7.3	(4.2)	(19.3)	(30.1)	(20.9)	(25.7)	17.6	(14.6)	(20.2)
	Lead	2,009.5	2,003.0	1,922.0	2,127.0	2,480.0	2,540.0	2,400.3	2,482.8	1,868.3	2,315.7	2,381.9
	Change, %		0.3	4.6	(5.5)	(19.0)	(20.9)	(16.3)	(19.1)	7.6	(13.2)	(15.6)
	Aluminum	14,615.0	14,580.0	14,470.0	13,975.0	14,640.0	14,075.0	16,270.0	15,020.0	12,373.5	14,556.6	14,344.8
	Change, %		0.2	1.0	4.6	(0.2)	3.8	(10.2)	(2.7)	18.1	0.4	1.9
	Cobalt	63,806.0	63,806.0	63,855.0	69,750.0	92,500.0	80,854.0	60,000.0	75,205.0	25,480.1	55,906.9	80,804.8
	Change, %		0.0	(0.1)	(8.5)	(31.0)	(21.1)	6.3	(15.2)	150.4	14.1	(21.0)
	HR Coil	901.0	898.0	901.0	919.0	882.0	745.0	621.0	662.0	519.3	620.1	835.8
	Change, %		0.3	0.0	(2.0)	2.2	20.9	45.1	36.1	73.5	45.3	7.8
	Scrap	376.0	380.0	380.0	395.0	395.0	385.0	372.0	367.0	275.7	344.7	389.3
	Change, %		(1.1)	(1.1)	(4.8)	(4.8)	(2.3)	1.1	2.5	36.4	9.1	(3.4)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		08/22	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	67.9	67.4	65.0	67.9	71.8	61.7	48.4	53.7	43.4	50.9	66.3
	Change, %		0.8	4.4	(0.0)	(5.5)	10.0	40.2	26.3	56.5	33.3	2.3
	Dubai	71.1	71.1	70.7	71.5	76.7	61.3	49.9	53.8	41.3	53.1	69.1
	Change, %		0.0	0.6	(0.5)	(7.2)	16.0	42.4	32.1	72.2	33.9	2.9
Crude Oil	Gasoline(휘발유)	83.9	83.9	86.5	82.7	90.8	74.8	66.4	69.8	56.3	68.0	81.6
Product	Change, %		0.0	(3.0)	1.4	(7.6)	12.1	26.3	20.1	49.1	23.3	2.8
	Kerosene(등유)	86.0	86.0	85.7	85.9	92.0	78.3	61.9	66.4	52.9	65.2	84.4
	Change, %		0.0	0.3	0.0	(6.5)	9.8	38.8	29.4	62.5	31.8	1.8
	Diesel(경유)	86.8	86.8	86.2	84.3	91.5	75.8	62.3	65.5	52.1	65.6	83.5
	Change, %		0.0	0.7	2.9	(5.1)	14.5	39.2	32.4	66.5	32.2	3.9
	Bunker-C	67.6	67.6	67.6	69.7	70.7	55.7	46.8	52.1	35.5	49.7	63.7
	Change, %		0.0	0.0	(3.0)	(4.3)	21.4	44.6	29.9	90.3	36.2	6.1
	Naphtha	70.2	70.2	70.2	71.2	77.2	59.8	49.9	53.5	42.6	53.7	68.2
	Change, %		0.0	(0.0)	(1.4)	(9.1)	17.4	40.7	31.2	64.7	30.5	2.8
Dubai	Gasoline(휘발유)	12.8	12.8	15.8	11.2	14.1	13.5	16.5	16.0	14.9	14.9	12.5
Spread	Change		0.0	(3.1)	1.6	(1.4)	(0.8)	(3.7)	(3.3)	(2.2)	(2.2)	0.2
	Kerosene(등유)	14.8	14.8	15.0	14.4	15.3	17.0	12.0	12.6	11.6	12.1	15.4
	Change		0.0	(0.2)	0.4	(0.5)	(2.2)	2.9	2.2	3.3	2.7	(0.5)
	Diesel(경유)	15.7	15.7	15.5	12.8	14.8	14.5	12.4	11.7	10.8	12.5	14.4
	Change		0.0	0.2	2.8	0.8	1.2	3.2	4.0	4.8	3.1	1.2
	Bunker-C	(3.5)	(3.5)	(3.1)	(1.8)	(6.0)	(5.6)	(3.2)	(1.8)	(5.8)	(3.4)	(5.4)
	Change		0.0	(0.4)	(1.7)	2.5	2.1	(0.3)	(1.7)	2.3	(0.1)	1.9
	Naphtha	(1.0)	(1.0)	(0.5)	(0.3)	0.5	(1.6)	(0.1)	(0.4)	1.3	0.6	(0.9)
	Change		0.0	(0.5)	(0.6)	(1.5)	0.6	(0.9)	(0.6)	(2.2)	(1.6)	(0.1)
Refining	Simple(단순)	3.4	3.4	3.9	3.3	2.2	2.6	3.5	3.8	1.9	3.2	2.3
Margin	Change		0.0	(0.6)	0.1	1.2	0.7	(0.1)	(0.5)	1.4	0.2	1.1
	Complex(복합)	8.4	8.4	9.3	7.3	7.9	7.8	8.4	8.3	7.0	8.0	7.5
	Change		0.0	(0.9)	1.1	0.4	0.6	0.0	0.1	1.4	0.4	0.9
	Complex(lagging)	8.0	9.1	8.3	6.1	14.2	3.2	10.1	18.0	8.5	8.9	8.9
	Change		(1.1)	(0.3)	1.8	(6.2)	4.8	(2.2)	(10.0)	(0.5)	(1.0)	(0.9)

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			08/21	08/20	08/17	08/16	08/15	08/14	08/13	08/10	08/09	08/08
Spot Price	Naphtha	CFR Japan	643.0	639.0	636.8	637.3	644.3	647.5	643.0	635.6	662.5	664.8
	Ethylene	CFR SE Asia	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,100.0	1,100.0	1,100.0	1,100.0	1,090.0	1,090.0	1,075.0	1,075.0	1,070.0	1,070.0
	Butadiene	FOB Korea	1,715.0	1,715.0	1,715.0	1,720.0	1,735.0	1,735.0	1,755.0	1,740.0	1,725.0	1,725.0
	HDPE	CFR FE Asia	1,290.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,300.0	1,310.0	1,310.0	1,310.0
	LDPE	CFR FE Asia	1,130.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,150.0	1,150.0	1,150.0
	LLDPE	CFR FE Asia	1,100.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0
	MEG	CFR China	933.0	925.0	908.0	900.0	903.0	914.0	914.0	909.0	940.0	940.0
	PP	CFR FE Asia	1,230.0	1,220.0	1,220.0	1,230.0	1,230.0	1,235.0	1,225.0	1,230.0	1,220.0	1,220.0
	PX	CFR China	1,204.7	1,198.7	1,179.0	1,165.3	1,139.3	1,132.8	1,116.7	1,110.7	1,106.7	1,106.7
	PTA	CFR China	985.0	970.0	960.0	940.0	930.0	917.0	913.0	913.0	910.0	910.0
	Benzene	FOB Korea	877.3	877.3	880.3	884.7	892.3	894.3	882.5	874.7	874.0	874.0
	Toluene	FOB Korea	787.0	783.0	777.0	782.0	785.0	788.0	793.0	797.0	805.0	805.0
	Xylene	FOB Korea	938.0	938.0	924.0	923.0	901.0	895.0	895.0	895.0	895.0	895.0
	SM	FOB Korea	1,410.0	1,413.0	1,415.5	1,409.0	1,420.0	1,438.0	1,446.0	1,431.0	1,434.0	1,434.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	Naphtha	CFR Japan	634.5	635.5	643.0	694.0	616.5	462.0	484.5	399.5	493.5	621.4
	Change, %			(0.2)	(1.3)	(8.6)	2.9	37.3	31.0	58.8	28.6	2.1
	Ethylene	CFR SE Asia	1,275.0	1,275.0	1,265.0	1,135.0	1,270.0	1,165.0	990.0	1,040.9	1,090.9	1,240.6
	Change, %			0.0	0.8	12.3	0.4	9.4	28.8	22.5	16.9	2.8
	Propylene	CFR SE Asia	1,047.5	1,037.5	990.0	1,022.5	997.5	775.0	815.0	705.7	823.6	1,058.1
	Change, %			1.0	5.8	2.4	5.0	35.2	28.5	48.4	27.2	(1.0)
	Butadiene	CFR SE Asia	1,675.0	1,700.0	1,650.0	1,700.0	1,325.0	1,175.0	2,100.0	1,116.8	1,481.1	1,476.1
	Change, %			(1.5)	1.5	(1.5)	26.4	42.6	(20.2)	50.0	13.1	13.5
	Benzene	CFR SE Asia	890.0	877.5	830.0	870.0	835.0	775.0	822.5	646.7	838.8	867.3
	Change, %			1.4	7.2	2.3	6.6	14.8	8.2	37.6	6.1	2.6
	Toluene	CFR SE Asia	820.0	830.0	790.0	825.0	755.0	655.0	690.0	630.5	689.5	774.4
	Change, %			(1.2)	3.8	(0.6)	8.6	25.2	18.8	30.1	18.9	5.9
	Xylene	CFR SE Asia	845.0	840.0	822.5	830.0	762.5	635.0	675.0	627.7	668.8	789.5
	Change, %			0.6	2.7	1.8	10.8	33.1	25.2	34.6	26.3	7.0

Spread	Ethylene	-Naphtha	640.5	639.5	622.0	441.0	653.5	703.0	505.5	641.4	597.4	619.2
	Change, %			0.2	3.0	45.2	(2.0)	(8.9)	26.7	(0.1)	7.2	3.4
	Propylene	-Naphtha	413.0	402.0	347.0	328.5	381.0	313.0	330.5	306.2	330.1	436.7
	Change, %			2.7	19.0	25.7	8.4	31.9	25.0	34.9	25.1	(5.4)
	Butadiene	-Naphtha	1,040.5	1,064.5	1,007.0	1,006.0	708.5	713.0	1,615.5	717.3	987.6	854.7
	Change, %			(2.3)	3.3	3.4	46.9	45.9	(35.6)	45.1	5.4	21.7
	Benzene	-Naphtha	255.5	242.0	187.0	176.0	218.5	313.0	338.0	247.2	345.3	246.0
	Change, %			5.6	36.6	45.2	16.9	(18.4)	(24.4)	3.4	(26.0)	3.9
	Toluene	-Naphtha	185.5	194.5	147.0	131.0	138.5	193.0	205.5	231.0	196.0	153.0
	Change, %			(4.6)	26.2	41.6	33.9	(3.9)	(9.7)	(19.7)	(5.4)	21.2
	Xylene	-Naphtha	210.5	204.5	179.5	136.0	146.0	173.0	190.5	228.2	175.3	168.1
	Change, %			2.9	17.3	54.8	44.2	21.7	10.5	(7.8)	20.1	25.2

자료 : Ciscem, Platts, Bloomberg, SK증권

참고 : Spread는 Polymer와 Naphtha의 가격차이임

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	HDPE	CFR SE Asia	1,217.5	1,222.5	1,227.5	1,302.5	1,217.5	1,087.5	1,142.5	1,134.6	1,142.5	1,252.0
	Change, %			(0.4)	(0.8)	(6.5)	0.0	12.0	6.6	7.3	6.6	(2.8)
	MEG	CFR SE Asia	922.5	970.0	935.0	1,000.0	1,022.5	867.5	847.5	660.8	850.6	972.9
	Change, %			(4.9)	(1.3)	(7.8)	(9.8)	6.3	8.8	39.6	8.5	(5.2)
	PVC	CFR SE Asia	950.0	945.0	940.0	920.0	940.0	890.0	920.0	823.4	899.9	942.7
	Change, %			0.5	1.1	3.3	1.1	6.7	3.3	15.4	5.6	0.8
	PP	CFR SE Asia	1,232.5	1,232.5	1,242.5	1,287.5	1,247.5	1,107.5	1,032.5	978.4	1,099.6	1,257.0
	Change, %			0.0	(0.8)	(4.3)	(1.2)	11.3	19.4	26.0	12.1	(1.9)
	2-EH	CFR Korea	1,130.0	1,120.0	1,100.0	1,190.0	1,155.0	960.0	865.0	772.4	970.0	1,116.1
	Change, %			0.9	2.7	(5.0)	(2.2)	17.7	30.6	46.3	16.5	1.2
	ABS	CFR SE Asia	1,960.0	1,960.0	1,920.0	2,070.0	1,990.0	1,870.0	1,635.0	1,347.1	1,844.7	2,014.7
	Change, %			0.0	2.1	(5.3)	(1.5)	4.8	19.9	45.5	6.3	(2.7)
	SBR	CFR SE Asia	1,875.0	1,830.0	1,760.0	1,840.0	1,650.0	1,540.0	2,000.0	1,483.0	1,980.5	1,760.2
	Change, %			2.5	6.5	1.9	13.6	21.8	(6.3)	26.4	(5.3)	6.5
	SM	CFR SE Asia	1,470.0	1,475.0	1,395.0	1,432.5	1,362.5	1,192.5	1,205.0	1,064.6	1,253.8	1,406.5
	Change, %			(0.3)	5.4	2.6	7.9	23.3	22.0	38.1	17.2	4.5
	Caustic	FOB NEA	421.0	369.0	420.0	598.0	579.0	476.0	422.5	316.6	491.2	541.1
	Change, %			14.1	0.2	(29.6)	(27.3)	(11.6)	(0.4)	33.0	(14.3)	(22.2)
	PX	CFR SE Asia	1,185.0	1,117.5	1,005.0	1,012.5	962.5	815.0	855.0	790.4	844.4	985.0
	Change, %			6.0	17.9	17.0	23.1	45.4	38.6	49.9	40.3	20.3
	PO	CFR China	1,870.0	1,815.0	1,812.5	1,865.0	2,040.0	2,022.5	1,562.5	1,396.8	1,601.2	1,865.2
	Change, %			3.0	3.2	0.3	(8.3)	(7.5)	19.7	33.9	16.8	0.3
	Caprolactam	CFR SE Asia	2,155.0	2,155.0	2,155.0	2,090.0	2,190.0	1,800.0	1,850.0	1,344.9	1,936.4	2,126.2
	Change, %			0.0	0.0	3.1	(1.6)	19.7	16.5	60.2	11.3	1.4
	PTA	CFR SE Asia	972.5	920.0	855.0	842.5	802.5	652.5	642.5	613.7	667.8	820.1
	Change, %			5.7	13.7	15.4	21.2	49.0	51.4	58.5	45.6	18.6
Spread	HDPE		583.0	587.0	584.5	608.5	601.0	625.5	658.0	735.1	649.0	630.6
	Change, %			(0.7)	(0.3)	(4.2)	(3.0)	(6.8)	(11.4)	(20.7)	(10.2)	(7.5)
	MEG		288.0	334.5	292.0	306.0	406.0	405.5	363.0	261.3	357.1	351.5
	Change, %			(13.9)	(1.4)	(5.9)	(29.1)	(29.0)	(20.7)	10.2	(19.3)	(18.1)
	PVC		315.5	309.5	297.0	226.0	323.5	428.0	435.5	423.9	406.4	321.3
	Change, %			1.9	6.2	39.6	(2.5)	(26.3)	(27.6)	(25.6)	(22.4)	(1.8)
	PP		598.0	597.0	599.5	593.5	631.0	645.5	548.0	578.9	606.1	635.6
	Change, %			0.2	(0.3)	0.8	(5.2)	(7.4)	9.1	3.3	(1.3)	(5.9)
	2-EH		495.5	484.5	457.0	496.0	538.5	498.0	380.5	372.9	476.5	494.7
	Change, %			2.3	8.4	(0.1)	(8.0)	(0.5)	30.2	32.9	4.0	0.2
	ABS		1,325.5	1,324.5	1,277.0	1,376.0	1,373.5	1,408.0	1,150.5	947.6	1,351.2	1,393.3
	Change, %			0.1	3.8	(3.7)	(3.5)	(5.9)	15.2	39.9	(1.9)	(4.9)
	SBR	BD spread	200.0	130.0	110.0	140.0	325.0	365.0	(100.0)	366.2	499.4	284.1
	Change, %			53.8	81.8	42.9	(38.5)	(45.2)	(300.0)	(45.4)	(60.0)	(29.6)
	SM		835.5	839.5	752.0	738.5	746.0	730.5	720.5	665.1	760.3	785.1
	Change, %			(0.5)	11.1	13.1	12.0	14.4	16.0	25.6	9.9	6.4
	Caustic											
	Change, %											
	PX		550.5	482.0	362.0	318.5	346.0	353.0	370.5	390.9	351.0	363.6
	Change, %			14.2	52.1	72.8	59.1	55.9	48.6	40.8	56.9	51.4
	PO	propylene spread	822.5	777.5	822.5	842.5	1,042.5	1,247.5	747.5	691.1	777.6	807.0
	Change, %			5.8	0.0	(2.4)	(21.1)	(34.1)	10.0	19.0	5.8	1.9
	Caprolactam	benzene spread	1,265.0	1,277.5	1,325.0	1,220.0	1,355.0	1,025.0	1,027.5	698.2	1,097.6	1,258.9
	Change, %			(1.0)	(4.5)	3.7	(6.6)	23.4	23.1	81.2	15.2	0.5
	PTA	px spread	143.0	137.8	151.5	133.8	128.8	82.0	44.0	60.4	76.7	130.6
	Change, %			3.8	(5.6)	6.9	11.1	74.4	225.0	136.7	86.4	9.5

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	08/22	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	68.8	(0.1)	3.5	4.5	1.9	(4.4)	6.1	(3.5)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	98.4	(0.8)	1.7	(1.6)	(9.3)	(3.1)	16.9	6.2	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	79.4	0.3	2.1	(3.9)	(11.4)	(9.6)	(3.5)	(13.5)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	79.8	0.6	0.4	2.1	3.2	0.1	2.7	9.3	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	106.7	(0.0)	2.6	3.1	(3.7)	(0.3)	12.2	5.1	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.7	0.0	2.3	1.3	(2.6)	0.4	7.5	3.7	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	624	1.5	1.5	0.2	(6.6)	(4.9)	(5.0)	(23.0)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	974	2.2	2.9	2.0	(7.4)	(9.7)	1.2	(21.3)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,625	1.4	(1.0)	0.7	(8.1)	(4.9)	11.6	(7.2)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,589	0.8	1.5	8.3	5.0	19.9	27.0	9.3	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,160	1.3	5.1	12.0	(2.4)	(11.0)	5.6	(2.6)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,325	0.2	(0.2)	4.8	(5.8)	(2.0)	(13.6)	(16.8)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	123.0	0.0	(0.6)	(4.9)	2.0	17.6	24.9	21.3	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	72.4	0.0	0.4	(4.7)	0.4	8.3	28.8	22.7	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	110.0	0.9	0.9	2.3	0.5	7.3	18.3	11.4	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	120.0	0.8	1.7	6.2	3.0	12.7	29.3	16.5	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	83.9	0.7	0.7	(0.1)	(3.2)	6.9	11.0	7.7	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.21	0.4	(1.7)	(0.6)	(15.0)	(11.8)	(22.8)	(17.7)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fiber)	CNY	1.96	0.0	1.0	3.7	(11.7)	(13.7)	(38.8)	(26.6)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,247	0.0	3.0	10.5	34.6	34.9	59.9	37.1	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	119.5	0.0	(2.0)	1.3	12.8	10.0	28.2	23.2	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	82.0	0.3	0.6	3.5	(13.9)	(12.5)	9.7	(3.5)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	9.4	0.0	0.9	7.3	11.3	15.7	30.3	21.8	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	354,500	(2.6)	(5.0)	6.6	4.7	(5.8)	(2.3)	(12.5)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	315,000	(5.0)	(7.4)	(6.3)	(19.5)	(28.8)	(20.8)	(14.4)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	20,000	(2.9)	(2.7)	(1.5)	(28.8)	(38.3)	(43.5)	(36.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	100,500	0.0	(3.4)	(11.8)	(9.5)	13.6	29.3	1.0	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	45,400	(2.0)	(0.3)	6.7	15.1	21.2	21.6	(3.4)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	56,900	(1.4)	(1.4)	4.6	(12.6)	(4.4)	4.6	(9.8)	359	#N/A	N/A	#N/A	N/A	#N/A	N/A
효성	KRW	6,360	1.3	5.8	4.1	(7.7)	(35.2)	(8.0)	(16.1)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			(0.1)	0.4	2.0	(2.8)	(1.1)	7.6	(1.1)							
Refinery																
Valero	USD	115.7	1.3	3.7	8.9	(3.7)	25.7	76.4	25.9	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	72.0	1.6	6.2	2.8	2.7	31.1	66.7	31.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemical	TWD	125.0	0.0	3.7	3.7	0.0	10.6	21.4	8.2	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	149.7	1.2	3.2	9.3	4.2	61.9	60.2	30.9	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	80.2	1.5	3.9	10.6	2.2	20.7	61.5	21.6	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	42.7	2.1	5.5	(3.2)	2.2	40.4	40.5	3.2	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	71.4	0.2	6.0	0.5	(2.1)	62.0	157.1	39.4	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	117.0	0.4	1.4	6.0	(1.5)	29.8	42.3	15.7	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	30.9	1.9	3.3	(2.4)	(2.5)	18.2	33.6	(0.5)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	764.9	1.6	(2.7)	(4.7)	1.1	17.1	43.4	5.2	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	5,340.0	3.3	5.3	7.8	31.2	35.5	102.4	18.0	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	74.3	1.0	0.2	10.6	5.7	24.5	113.1	39.3	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	85.9	0.5	2.5	6.0	9.6	22.1	39.8	20.7	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	49.8	1.2	1.8	13.9	8.7	5.8	4.1	12.5	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	194,000	(1.8)	(2.5)	0.3	(6.3)	0.5	11.2	(5.1)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	120,000	(1.6)	(1.2)	5.7	7.1	3.4	3.0	2.6	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	53,800	(1.3)	(0.4)	4.7	(12.9)	(14.2)	(22.6)	(13.5)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			0.8	2.4	4.7	2.7	23.3	50.2	15.0							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	08/22	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA	
											18E	19E	18E	19E	18E	19E
E&P/Shale																
Exxon Mobil	USD	80	1.4	3.9	(1.8)	(2.1)	5.4	4.2	(4.4)	338,535	17.1	14.6	1.8	1.7	7.7	6.8
BP	GBP	555	0.5	1.8	(2.2)	(5.7)	17.0	25.4	6.1	143,028	13.0	11.7	1.4	1.4	5.0	4.7
Shell	EUR	2,525	0.9	3.0	(4.9)	(7.8)	11.5	19.0	1.8	273,322	12.0	10.2	1.3	1.3	5.6	5.2
Chevron	USD	119	0.8	0.8	(2.7)	(7.3)	8.2	11.8	(5.0)	227,868	15.0	13.8	1.5	1.5	6.2	5.7
Total	EUR	54	1.0	3.2	2.1	(0.7)	14.6	23.7	16.7	166,021	11.6	10.5	1.3	1.3	5.7	5.2
Sinopec	CNY	7	0.8	0.6	2.2	(10.2)	0.8	9.0	6.5	115,400	10.1	9.7	1.0	1.0	3.8	3.8
Petrochina	CNY	8	(2.1)	(1.0)	8.7	(6.5)	(2.0)	(0.1)	(1.1)	204,912	24.5	20.3	1.2	1.2	5.5	5.3
CNOOC	CNY	11	0.7	(0.7)	15.5	(11.0)	(2.6)	(5.4)	0.1	72,918	9.0	8.7	1.2	1.2	3.9	3.8
Gazprom	RUB	144	0.6	1.9	5.6	(1.6)	(1.2)	24.3	10.5	49,969	3.1	3.2	0.2	0.2	2.5	2.5
Rosneft	RUB	437	0.8	2.0	11.2	13.4	29.6	45.3	50.0	67,859	8.2	6.7	1.0	0.9	4.7	4.4
Anadarko	USD	64	1.6	2.0	(10.4)	(9.9)	9.1	50.4	18.5	32,553	21.6	15.7	2.6	2.3	6.4	5.5
Petrobras	BRL	18	3.6	(3.7)	(4.9)	(25.7)	(11.5)	33.1	14.0	64,057	6.7	5.6	0.6	0.6	4.5	4.1
Lukoil	USD	4,513	1.1	1.9	4.9	3.5	17.6	55.8	35.3	56,052	5.5	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	1.8	3.1	3.3	14.7	9.7	(2.7)	1.2	47,497	23.3	18.4	1.2	1.2	10.7	10.5
Equinor ASA	NOK	216	0.2	2.4	1.6	(1.3)	21.6	47.3	23.4	86,398	13.2	12.2	2.0	1.8	3.4	3.2
BHP	AUD	32	(1.4)	(4.8)	(2.5)	(4.8)	6.2	23.5	8.5	120,292	13.4	14.9	2.2	2.2	5.9	6.2
PTT E&P	THB	139	2.6	1.5	3.7	(7.4)	20.4	62.0	38.5	16,823	13.3	12.3	1.4	1.3	4.3	3.9
Petronas gas	MYR	19	0.0	1.8	3.5	5.7	5.8	1.1	8.7	9,172	19.8	19.7	2.9	2.8	10.8	10.8
Chesapeake	USD	5	3.3	7.0	3.5	3.7	47.2	22.3	18.9	4,297	6.0	6.1	#N/A	N/A	7.2	6.7
Noble Energy	USD	30	3.9	3.2	(13.9)	(18.9)	1.6	27.1	2.5	14,426	27.9	22.0	1.4	1.3	7.1	6.1
Average		0	1.1	1.5	1.1	(4.0)	10.5	23.9	12.5							
PV																
WACKER	EUR	120.9	(1.7)	0.8	3.5	(22.3)	(14.0)	14.9	(25.5)	7,305	17.3	15.6	1.9	1.8	6.5	6.2
GCL-Poly	HKD	0.5	1.9	3.9	(19.7)	(45.9)	(60.2)	(41.8)	(62.1)	1,240	4.9	4.2	0.3	0.3	6.4	5.8
SunPower	USD	6.8	(1.9)	1.5	(8.0)	(26.2)	(4.6)	(23.8)	(19.5)	957	#N/A	N/A	#N/A	N/A	16.6	10.1
Canadian Solar	USD	13.2	0.7	(0.1)	3.1	(23.3)	(15.2)	(12.5)	(21.8)	772	8.6	8.9	0.8	0.7	6.5	7.3
JA Solar	USD	7.5	0.0	0.0	0.0	4.3	1.4	20.4	0.4	356	#N/A	N/A	#N/A	N/A	4.9	7.1
Yingli	USD	0.3	0.0	(4.2)	(33.3)	(82.6)	(81.6)	(88.2)	(82.2)	5	#N/A	N/A	#N/A	N/A	#N/A	N/A
First Solar	USD	52.6	(0.7)	3.6	(1.7)	(24.9)	(20.7)	12.8	(22.2)	5,507	32.3	17.0	1.0	1.0	8.0	4.2
한화큐셀	USD	8.4	1.2	0.4	45.5	13.2	(1.5)	15.2	18.9	695	14.9	30.9	#N/A	N/A	8.8	9.1
OCI	KRW	112,000	(1.8)	6.7	17.2	(26.3)	(29.3)	18.6	(17.6)	2,387	0.0	12.5	0.0	0.8	0.0	5.5
웅진에너지	KRW	3,025	(2.4)	(3.4)	(4.0)	(46.8)	(59.5)	(65.2)	(63.2)	80	N/A	0.0	0.8	0.0	5.5	0.0
신성솔라에너지	KRW	1,415	0.4	3.7	7.2	(18.0)	(24.7)	(35.4)	(26.1)	219	N/A	0.8	0.0	5.5	0.0	2.2
Average			(0.4)	1.2	0.9	(27.2)	(28.2)	(16.8)	(29.2)							
Gas Company																
Towngas China	HKD	7.2	1.7	(1.0)	(7.6)	(8.9)	9.9	38.7	14.6	2,577	14.0	12.4	1.2	1.1	12.6	11.4
Kulun	HKD	7.3	3.8	7.0	10.4	(2.0)	0.0	(3.2)	(10.3)	7,507	10.6	9.2	1.2	1.1	5.9	5.3
Beijing Enterprise	HKD	36.5	1.0	3.6	(5.7)	(16.3)	(16.6)	(10.1)	(21.4)	5,860	6.4	5.8	0.6	0.6	11.6	11.0
ENN Energy	HKD	76.3	3.5	7.8	(13.2)	(5.0)	21.4	53.4	36.9	10,939	16.8	14.5	3.6	3.1	10.6	9.2
China Resources Gas	HKD	38.3	3.9	14.9	4.4	25.4	43.8	40.4	34.9	10,837	18.8	16.7	3.4	2.9	10.3	9.3
China Gas Holdings	HKD	26.3	1.0	(3.1)	(24.6)	(19.3)	7.6	40.2	21.8	17,015	16.8	14.3	3.9	3.3	13.5	11.4
Shenzen Gas	HKD	14.2	(0.1)	6.5	(4.3)	(14.1)	(11.4)	(1.0)	(4.7)	3,810	8.1	7.1	1.1	1.0	7.4	6.4
Shann Xi	CNY	7.3	(0.1)	(3.6)	(2.9)	(12.3)	0.8	(15.8)	(13.7)	1,182	16.8	14.9	1.4	1.3	#N/A	N/A
Suntien	HKD	2.2	(1.3)	1.8	(7.9)	(24.8)	16.3	24.9	6.8	1,046	5.8	5.1	0.7	0.7	8.2	7.1
China Oil & Gas	HKD	0.6	0.0	(1.6)	(1.6)	1.7	(11.6)	19.6	(28.2)	454	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			1.3	3.2	(5.3)	(7.6)	6.0	18.7	3.7							
EV																
LG 화학	KRW	354,500	(2.6)	(5.0)	6.6	4.7	(5.8)	(2.3)	(12.5)	22,366	13.6	12.2	1.5	1.4	6.6	5.9
삼성SDI	KRW	215,500	(0.7)	0.5	(7.1)	8.8	20.4	16.2	5.4	13,244	20.6	14.6	1.3	1.2	12.8	10.1
Panasonic	JPY	1346.5	1.1	(3.2)	(6.7)	(14.0)	(17.1)	(7.6)	(18.4)	29,884	12.2	10.8	1.7	1.5	4.9	4.5
GS Yuasa	JPY	502.0	0.8	0.8	0.0	(11.3)	(16.2)	(6.9)	(10.5)	1,878	15.1	14.0	1.1	1.1	6.9	6.3
NEC	JPY	2958.0	0.6	(0.6)	(2.7)	(3.0)	(7.7)	0.3	(2.7)	6,971	23.2	12.7	0.8	0.8	7.1	5.3
BYD Auto	CNY	44.8	(0.2)	6.3	4.4	(18.6)	(28.1)	(7.0)	(31.1)	17,612	28.5	21.2	2.1	2.0	13.2	11.3
Tesla Motors	USD	321.6	(0.1)	(5.0)	2.6	17.0	(7.1)	(5.8)	3.3	54,870	#N/A	N/A	9.7	9.1	43.0	19.3
Kandi Technologies	USD	4.1	2.5	2.5	(3.0)	(32.2)	(25.5)	15.5	(39.7)	211	#N/A	N/A	#N/A	N/A	#N/A	N/A
Average			0.2	(0.5)	(0.7)	(6.1)	(10.9)	0.3	(13.3)							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임