

1. News Summary (3 page)

2017년 11월 7일

News	
WTI comment	사우디 축적 사태에 3%대 급등...WTI 57달러선
Headline	현대미포, 그리스 선사사 MR탱커 '1+1' 수주
News 1.	사우디 정국 격동, 주변국 운명 출렁...무함마드의 위험한 정치모험
News 2.	테슬라 전기트럭 초대장 발송...'연기는 없다' 공개 임박
News 3.	-
News 4.	-

Conclusion	
2018년 정유 및 화학제품 출회에 맞춰 발주되는 MR탱커 모멘텀 유효 사우디 아랍코 상장을 앞두고 유가를 끌어올릴 필요가 있는 사우디 모델3 양산에 난항을 겪고 있어 트럭 양산 여력도 제한될 것으로 판단	
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2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	\$/bbl	57.4	3.1	5.9	15.7	16.1	27.8
Dubai	\$/bbl	60.6	2.8	3.9	12.7	19.3	41.9
Gasoline	\$/bbl	75.8	2.6	3.6	11.3	13.4	29.6
Diesel	\$/bbl	71.8	2.3	0.8	7.3	13.0	28.3
Complex margin	\$/bbl	7.7	0.0	(0.5)	(0.3)	(0.7)	(1.6)
1M lagging	\$/bbl	14.4	2.2	3.5	4.8	3.5	11.2
Petrochemical			%	%	%	%	%
Naphtha	\$/t	588	1.4	5.5	12.6	26.0	38.1
Butadiene	\$/t	945	0.0	(0.5)	(19.9)	3.8	(31.8)
HDPE	\$/t	1,240	0.0	0.0	6.4	10.7	6.0
MEG	\$/t	910	1.1	0.7	3.1	4.0	30.4
PX	\$/t	877	1.5	4.5	4.8	6.6	14.2
SM	\$/t	1,189	1.8	2.0	(1.9)	7.1	9.1
Commodity			%	%	%	%	%
Natural Gas	\$/mmbtu	3.13	5.0	5.7	3.8	1.8	(3.1)
Natural rubber	\$/t	1,430	3.6	4.4	(0.7)	(4.0)	(4.7)
Cotton	C/lbs	68.9	0.2	0.3	(1.0)	(3.3)	0.6

*참고: 정제마진의 변동률은 %가 아닌 \$/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	11/06	\$/t	1,130	(3.8)	(10.0)	15.9	13.6
Propylene	11/06	\$/t	808	1.6	(3.3)	5.9	17.5
Benzene	11/06	\$/t	810	0.9	0.6	9.1	23.7
Toluene	11/06	\$/t	690	(0.7)	(1.4)	8.7	4.5
Xylene	11/06	\$/t	655	0.4	(0.4)	5.2	0.8
PP	11/06	\$/t	1,148	(1.7)	(1.7)	7.0	11.4
PVC	11/06	\$/t	890	(2.2)	(6.1)	3.5	(4.3)
ABS	11/06	\$/t	1,920	(1.5)	(6.8)	5.5	31.5
SBR	11/06	\$/t	1,700	(2.9)	(6.6)	14.1	(10.5)
SM	11/06	\$/t	1,210	(0.6)	(10.4)	3.2	14.4
BPA	11/06	\$/t	1,685	0.0	8.0	9.4	14.2
Caustic	11/06	\$/t	598	8.7	23.6	29.3	63.8
2-EH	11/06	\$/t	1,000	0.0	1.0	3.1	26.6
Caprolactam	11/06	\$/t	2,170	4.8	18.6	25.4	52.3
Solar				%	%	%	%
Polysilicon	11/01	\$/kg	16.7	0.0	0.1	8.7	18.5
Module	11/01	\$/W	0.32	(0.3)	(0.9)	(3.1)	(20.2)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	83.8	0.7	0.3	2.5	4.4	0.2
Shell	EUR	2,458	0.9	4.8	7.0	12.6	21.9
Petrochina	CNY	8.38	0.7	1.0	4.9	2.4	15.4
Gazprom	RUB	125.9	0.0	(0.1)	2.0	5.4	(10.0)
Petrobras	BRL	17.4	2.9	3.9	11.1	30.1	9.0
Refinery							
Phillips66	USD	94.4	0.9	3.7	1.7	10.3	20.1
Valero	USD	81.5	0.7	3.9	5.5	18.9	40.7
JX	JPY	610.5	0.5	2.5	7.1	23.4	51.2
Neste Oil	EUR	49.0	0.3	(1.3)	29.0	38.3	29.9

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	97.3	0.6	4.1	8.3	18.8	26.6
DowDuPont	USD	70.2	(1.3)	(2.0)	(1.4)	9.6	32.2
SABIC	SAR	100.5	0.7	0.7	(1.2)	3.1	19.3
Formosa Pla.	TWD	91.8	(0.8)	0.2	(0.2)	(0.6)	7.7
Shin-Etsu	JPY	12,320	1.7	5.6	21.9	22.7	57.7
Renewable							
Wacker	EUR	140.8	(0.0)	5.1	22.2	35.3	78.6
First Solar	USD	61.47	2.7	1.7	27.5	28.1	89.3
GCL-Poly	HKD	1.41	5.2	6.8	24.8	65.9	35.6
Tesla Motors	USD	302.8	(1.1)	(5.4)	(15.2)	(15.2)	58.9

4. Coverage Summary

	11/06	1D	1W	1M	3M	6M	12M
KOSPI	2,549	(0.3)	1.9	6.5	6.5	13.7	28.6
KOSPI화학	6,111	(0.1)	1.4	7.2	7.6	16.6	22.0
LG화학	409,000	(1.2)	0.9	4.3	20.3	48.2	67.3
롯데케미칼	370,500	(1.9)	0.3	(2.0)	(4.1)	5.1	27.1
한화케미칼	31,650	(1.9)	4.1	(2.5)	(5.9)	25.6	21.5
금호석유화학	75,600	(0.5)	9.9	4.9	1.3	(1.6)	15.4
KCC	405,000	3.4	4.9	8.1	(0.7)	18.8	8.0
OCI	127,000	2.4	13.4	23.9	38.8	57.0	37.4
SKC	40,900	1.4	3.3	(0.8)	13.0	43.0	48.5
SK이노베이션	212,000	1.4	1.4	6.5	19.8	24.3	37.7
S-Oil	127,500	0.4	(1.9)	0.0	9.0	27.5	55.1
GS	65,800	0.3	(2.9)	0.3	(12.4)	11.3	22.3
SK가스	93,700	(0.5)	(0.7)	(0.6)	(20.3)	(19.6)	(3.9)
포스코대우	19,800	2.6	1.3	2.6	(16.5)	(18.0)	(15.9)
LG상사	29,600	0.0	3.0	8.4	1.0	(10.6)	6.1
한국전력	38,700	(1.1)	(0.5)	(0.8)	(13.1)	(12.9)	(18.3)
한국가스공사	41,400	(1.0)	0.5	(1.7)	(18.2)	(9.8)	(10.8)

투자의견	TP	%	P/E	P/B
* 추정치는 12M fwd 기준임				
* 모든 coverage 업체의 실적은 연결기준임				
매수	400,000	(2.2)	12.95	2.14
매수	410,000	10.7	5.83	1.28
매수	39,000	23.2	5.34	0.88
매수	100,000	32.3	12.81	1.40
매수	450,000	11.1	22.48	0.59
매수	120,000	(5.5)	16.13	0.97
매수	45,000	10.0	11.30	1.11
매수	210,000	(0.9)	8.55	1.13
매수	140,000	9.8	13.79	2.41
매수	80,000	21.6	6.24	0.97
매수	130,000	38.7	7.08	0.69
매수	25,000	26.3	11.09	0.86
매수	38,000	28.4	10.78	0.96
매수	55,000	42.1	7.42	0.31
매수	60,000	44.9	8.45	0.54

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

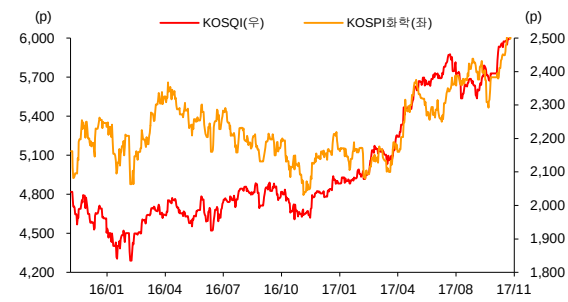
* 본 보고서에 언급된 종목의 경우 당사 조사분석담당자는 본인의 담당종목을 보유하고 있지 않습니다.

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

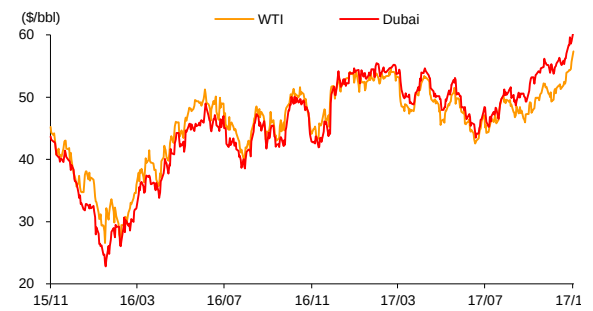
* 당사는 본 보고서의 발간시점에 해당종목을 1% 이상 보유하고 있지 않습니다.

Key Chart

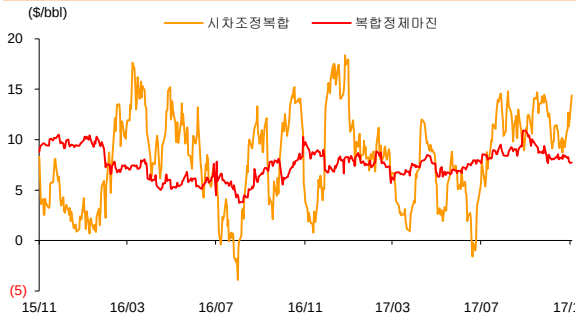
KOSPI/KOSPI화학



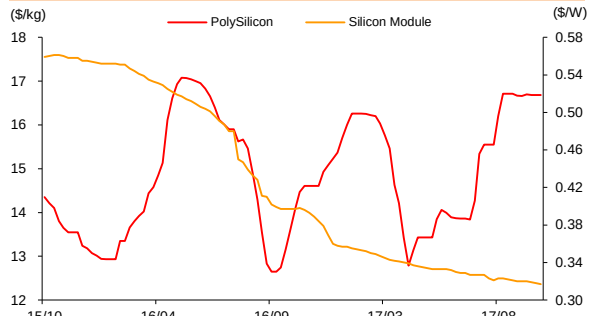
WTI/Dubai



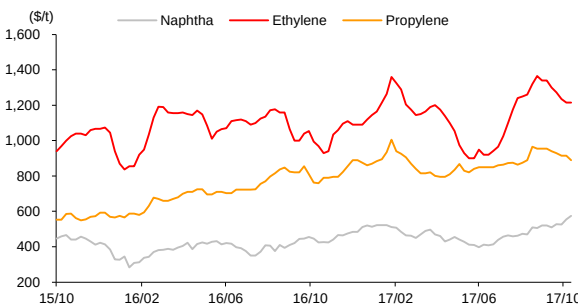
Complex & 1M lagging margin



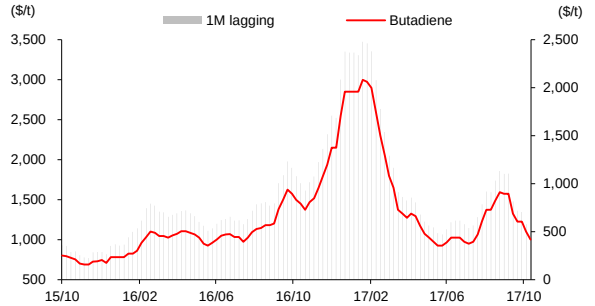
Polysilicon & Module prices



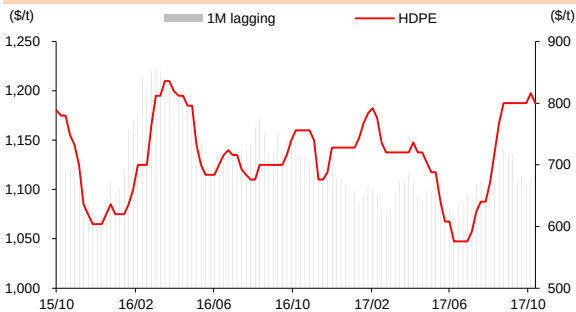
Naphtha/Ethylene/Propylene prices



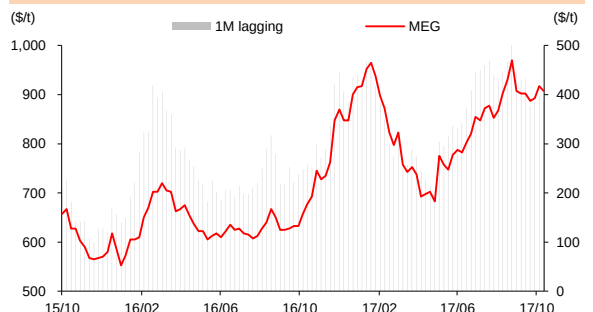
Butadiene price & 1M lagging naphtha spread



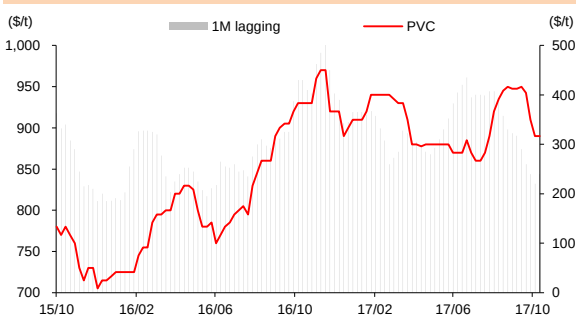
HDPE price & 1M lagging naphtha spread



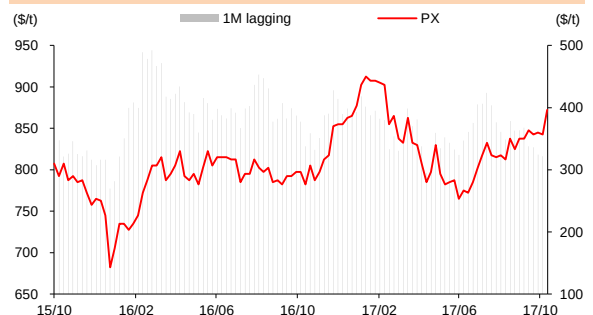
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

News Comment

Headline	(출처: 뉴스1)
제목	현대미포, 그리스 선사 MR탱커 '1+1' 수주
결론	2018년 정유 및 화학제품 출회에 맞춰 발주되는 MR탱커 모멘텀 유효
세부	1) 그리스 선사 Evangelos Pisticolis는 현대미포에 MR탱커 1척을 발주함 2) 이번 계약은 추가로 같은 사양의 옵션 1척도 포함됨 3) 업계에서는 3500만달러 수준에서 계약이 이뤄진 것으로 보고 있음 4) 이번 MR탱커는 Pisticolis가 현대미포에 발주한 11번째 선박임 5) 2018년 정유 및 화학제품 출회에 맞춰 발주되는 MR탱커 모멘텀 유효

Issue 1	(출처: 경향신문)
제목	사우디 정국 격동, 주변국 운명 출렁...무함마드의 위험한 정치모험
결론	사우디 아랍코 상장을 앞두고 유가를 끌어올릴 필요가 있는 사우디
세부	1) 무함마드 빈 살만은 공개적, 대대적으로 숙청 작업을 진행중임 2) 무함마드가 이끄는 반부패위원회는 초법적인 기구임 3) 무함마드는 지난 달 24일 투자자 2천명에게 사우디에 투자하라고 설득 4) 예멘·레바논·시리아 등 주변 국가와 중동의 운명도 그의 손에 휘말릴 것 5) 사우디 아랍코 상장을 앞두고 유가를 끌어올릴 필요가 있는 사우디

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	사우디 숙청 사태'에 3%대 급등...WTI 57달러선
상승	세계 최대 원유 수출국인 사우디의 '숙청 사태'가 투심 자극
요인	
하락	
요인	

Issue 2	(출처: IT조선)
제목	테슬라 전기트럭 초대량 발송...'연기는 없다' 공개 임박
결론	모델3 양산에 난항을 겪고 있어 트럭 양산 여력도 제한될 것으로 판단
세부	1) 테슬라 전기트럭 공개는 원래 10월이었지만 11월 16일로 연기 2) 테슬라 세미'가 아닌 '테슬라 트럭'으로 명칭이 변경됐음 3) 일론 머스크, "지금까지 언론에 알려진 것보다 좋은 성능을 갖춤" 4) 2년 내 이 전기트럭을 대량 생산한다는 계획을 세워둔 것으로 알려짐 5) 모델3 양산에 난항을 겪고 있어 트럭 양산 여력도 제한될 것으로 판단

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	0.861	0.862	0.858	0.853	0.849	0.909	0.898	0.951	0.901	0.904	0.894
	Change, %		(0.0)	0.4	1.0	1.4	(5.3)	(4.0)	(9.4)	(4.4)	(4.7)	(3.6)
	USD/JPY	113.7	114.1	113.2	112.7	110.7	112.7	103.1	117.0	121.1	108.8	112.0
	Change, %		(0.3)	0.5	0.9	2.7	0.9	10.3	(2.8)	(6.1)	4.6	1.5
	USD/KRW	1,115.1	1,113.8	1,124.8	1,142.0	1,125.0	1,140.1	1,143.5	1,205.8	1,131.2	1,160.5	1,137.9
	Change, %		0.1	(0.9)	(2.4)	(0.9)	(2.2)	(2.5)	(7.5)	(1.4)	(3.9)	(2.0)
Agriculture	Corn	348.0	348.3	348.8	350.0	366.5	361.8	348.8	352.0	376.8	358.5	362.0
	Change, %		(0.1)	(0.2)	(0.6)	(5.0)	(3.8)	(0.2)	(1.1)	(7.7)	(2.9)	(3.9)
	Soybean	984.0	977.0	972.8	972.3	949.3	963.0	981.5	996.5	945.4	987.5	975.7
	Change, %		0.7	1.2	1.2	3.7	2.2	0.3	(1.3)	4.1	(0.4)	0.9
	Wheat	430.8	425.8	424.8	443.5	454.8	427.5	414.3	408.0	508.1	436.4	439.4
	Change, %		1.2	1.4	(2.9)	(5.3)	0.8	4.0	5.6	(15.2)	(1.3)	(2.0)
	Rice	11.2	11.3	11.5	11.9	12.3	9.6	9.6	9.4	11.1	10.3	10.9
	Change, %		(0.4)	(1.8)	(5.4)	(8.8)	16.8	16.6	20.1	1.7	8.7	3.1
	Oats	269.0	263.0	263.3	251.0	283.8	254.0	228.3	228.5	250.2	196.3	252.9
	Change, %		2.3	2.2	7.2	(5.2)	5.9	17.9	17.7	7.5	37.1	6.4
	MYR/mt	2,772.0	2,784.0	2,806.0	2,741.0	2,590.0	2,775.0	2,752.0	3,218.0	2,190.3	2,653.8	2,836.1
	Change, %		(0.4)	(1.2)	1.1	7.0	(0.1)	0.7	(13.9)	26.6	4.5	(2.3)
	Cocoa	2,117.0	2,061.0	2,118.0	2,085.0	1,994.0	1,866.0	2,581.0	2,126.0	3,091.6	2,854.0	2,005.9
	Change, %		2.7	(0.0)	1.5	6.2	13.5	(18.0)	(0.4)	(31.5)	(25.8)	5.5
	Cotton	68.9	68.7	68.6	69.5	71.0	79.8	68.5	70.7	63.3	65.6	73.5
	Change, %		0.2	0.3	(0.9)	(3.0)	(13.7)	0.5	(2.5)	8.8	5.0	(6.3)
	Sugar	14.6	14.4	14.7	14.0	14.1	15.3	21.7	19.5	13.1	18.2	16.0
	Change, %		1.3	(1.2)	4.1	3.0	(4.9)	(33.0)	(25.4)	10.8	(19.8)	(9.0)
	Coffee	125.6	124.0	125.9	130.0	140.2	133.1	171.4	137.1	132.6	136.1	134.6
	Change, %		1.3	(0.3)	(3.4)	(10.4)	(5.7)	(26.7)	(8.4)	(5.3)	(7.7)	(6.7)
Energy	WTI	57.4	55.6	54.2	49.3	49.6	46.2	44.1	53.7	48.8	43.4	49.8
	Change, %		3.1	5.9	16.4	15.7	24.1	30.1	6.8	17.4	32.2	15.2
	Brent	64.3	62.1	60.9	55.6	52.4	49.1	45.6	56.8	53.7	45.1	53.3
	Change, %		3.5	5.5	15.6	22.6	30.9	41.0	13.1	19.7	42.6	20.6
	Natural Gas	3.1	3.0	3.0	2.9	2.8	3.3	2.8	3.7	2.6	2.6	3.0
	Change, %		5.0	5.7	9.5	13.0	(4.0)	13.3	(15.8)	19.2	22.8	3.0
	Ethanol	1.5	1.4	1.4	1.4	1.6	1.5	1.5	1.6	1.5	1.5	1.5
	Change, %		4.2	3.9	4.2	(6.1)	(1.4)	(4.4)	(7.8)	(2.0)	(2.3)	(2.8)
	RBOB Gasoline	183.0	179.3	176.4	155.9	164.6	150.5	137.9	166.5	163.6	140.0	160.9
	Change, %		2.0	3.7	17.4	11.2	21.6	32.7	9.9	11.9	30.7	13.8
	Coal	98.8	99.0	99.4	97.4	95.4	78.0	108.7	88.4	59.0	65.5	86.5
	Change, %		(0.3)	(0.7)	1.4	3.6	26.6	(9.1)	11.7	67.5	50.9	14.2
Metal	Gold	1,282.1	1,269.7	1,276.4	1,276.6	1,258.8	1,221.6	1,304.6	1,152.3	1,160.6	1,248.5	1,255.7
	Change, %		1.0	0.4	0.4	1.9	5.0	(1.7)	11.3	10.5	2.7	2.1
	Silver	17.2	16.8	16.9	16.8	16.3	16.3	18.4	15.9	15.7	17.1	17.2
	Change, %		2.3	2.2	2.4	5.9	5.4	(6.5)	8.2	9.6	0.7	0.4
	Copper	6,970.0	6,895.0	6,867.0	6,666.5	6,372.0	5,585.0	4,991.0	5,535.5	5,503.1	4,872.0	6,081.7
	Change, %		1.1	1.5	4.6	9.4	24.8	39.7	25.9	26.7	43.1	14.6
	Nickel	837.1	820.1	754.2	693.2	659.0	589.7	698.0	682.0	759.5	646.4	667.6
	Change, %		2.1	11.0	20.8	27.0	42.0	19.9	22.7	10.2	29.5	25.4
	Zinc	3,232.0	3,219.0	3,209.0	3,235.0	2,812.0	2,582.0	2,447.0	2,576.0	1,941.9	2,097.5	2,834.6
	Change, %		0.4	0.7	(0.1)	14.9	25.2	32.1	25.5	66.4	54.1	14.0
	Lead	2,507.0	2,462.3	2,405.8	2,519.5	2,346.3	2,178.3	2,089.5	2,003.5	1,791.2	1,868.3	2,285.5
	Change, %		1.8	4.2	(0.5)	6.9	15.1	20.0	25.1	40.0	34.2	9.7
	Aluminum	15,955.0	16,045.0	16,195.0	16,235.0	14,570.0	13,880.0	13,880.0	12,765.0	12,184.0	12,373.5	14,530.0
	Change, %		(0.6)	(1.5)	(1.7)	9.5	14.9	14.9	25.0	31.0	28.9	9.8
	Cobalt	60,860.0	60,860.0	61,160.0	58,533.0	59,000.0	55,050.0	28,750.0	32,734.0	28,444.4	25,480.1	53,749.8
	Change, %		0.0	(0.5)	4.0	3.2	10.6	111.7	85.9	114.0	138.9	13.2
	HR Coil	611.0	612.0	605.0	604.0	619.0	610.0	492.0	633.0	461.5	519.3	618.7
	Change, %		(0.2)	1.0	1.2	(1.3)	0.2	24.2	(3.5)	32.4	17.7	(1.3)
	Scrap	330.0	330.0	330.0	335.0	354.0	360.0	235.0	302.0	252.9	275.7	343.6
	Change, %		0.0	0.0	(1.5)	(6.8)	(8.3)	40.4	9.3	30.5	19.7	(4.0)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

Refining Price Data

Daily Price		11/06	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	WTI	57.4	55.6	54.2	49.6	49.4	46.4	44.9	53.7	48.8	43.4	49.7
	Change, %		3.1	5.9	15.7	16.1	23.5	27.8	6.8	17.6	32.3	15.3
	Dubai	60.6	58.9	58.3	53.8	50.8	48.0	42.7	53.8	50.8	41.3	51.6
	Change, %		2.8	3.9	12.7	19.3	26.3	41.9	12.5	19.3	46.7	17.3
Crude Oil	Gasoline(휘발유)	75.8	73.8	73.1	68.1	66.8	60.7	58.5	69.8	69.5	56.3	66.6
Product	Change, %		2.6	3.6	11.3	13.4	24.9	29.6	8.5	9.0	34.7	13.7
	Kerosene(등유)	73.4	71.4	71.5	66.3	63.4	57.5	55.1	66.4	64.7	52.9	63.5
	Change, %		2.8	2.7	10.7	15.8	27.8	33.2	10.5	13.4	38.8	15.6
	Diesel(경유)	71.8	70.1	71.2	66.9	63.5	58.0	55.9	65.5	64.8	52.1	64.0
	Change, %		2.3	0.8	7.3	13.0	23.7	28.3	9.6	10.8	37.7	12.1
	Bunker-C	57.3	55.6	54.7	49.9	47.7	44.8	41.6	52.1	45.3	35.5	48.4
	Change, %		3.1	4.7	14.8	20.1	27.9	37.6	10.0	26.6	61.3	18.4
	Naphtha	64.2	63.0	61.4	55.2	50.5	46.8	45.7	53.5	52.6	42.6	51.7
	Change, %		1.9	4.5	16.1	27.1	37.1	40.3	20.0	22.0	50.6	24.0
Dubai	Gasoline(휘발유)	15.2	14.9	14.8	14.3	16.0	12.7	15.8	16.0	18.7	14.9	15.0
Spread	Change		0.3	0.4	0.9	(0.8)	2.5	(0.6)	(0.8)	(3.5)	0.2	0.2
	Kerosene(등유)	12.8	12.5	13.1	12.6	12.6	9.5	12.4	12.6	14.0	11.6	11.9
	Change		0.4	(0.3)	0.2	0.2	3.3	0.4	0.2	(1.1)	1.3	1.0
	Diesel(경유)	11.2	11.2	12.9	13.1	12.7	10.1	13.2	11.7	14.0	10.8	12.4
	Change		(0.0)	(1.7)	(1.9)	(1.5)	1.1	(2.0)	(0.5)	(2.8)	0.4	(1.2)
	Bunker-C	(3.3)	(3.4)	(3.6)	(3.9)	(3.1)	(3.2)	(1.1)	(1.8)	(5.5)	(5.8)	(3.2)
	Change		0.1	0.3	0.6	(0.2)	(0.1)	(2.2)	(1.5)	2.2	2.5	(0.0)
	Naphtha	3.6	4.1	3.1	1.5	(0.3)	(1.2)	3.1	(0.4)	1.8	1.3	0.1
	Change		(0.5)	0.5	2.1	3.9	4.7	0.5	4.0	1.8	2.3	3.5
Refining	Simple(단순)	3.0	2.9	3.2	3.1	3.5	2.2	4.9	3.8	3.3	1.9	3.2
Margin	Change		0.0	(0.3)	(0.1)	(0.6)	0.8	(2.0)	(0.9)	(0.3)	1.0	(0.2)
	Complex(복합)	7.7	7.7	8.2	8.0	8.4	6.3	9.3	8.3	9.3	7.0	8.0
	Change		0.0	(0.5)	(0.3)	(0.7)	1.4	(1.6)	(0.5)	(1.5)	0.8	(0.2)
	Complex(lagging)	14.4	12.2	10.9	9.6	10.9	3.2	3.2	18.0	7.3	8.5	8.4
	Change		2.2	3.5	4.8	3.5	11.2	11.2	(3.6)	7.1	5.9	6.0

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			11/06	11/03	11/02	11/01	10/31	10/30	10/27	10/26	10/25	10/24
Spot Price	Naphtha	CFR Japan	588.1	580.0	573.1	567.0	564.5	557.5	554.0	548.5	546.5	534.9
	Ethylene	CFR SE Asia	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,140.0	1,150.0	1,155.0	1,155.0
	Propylene	FOB Korea	918.0	918.0	918.0	923.0	925.0	940.0	943.0	943.0	945.0	945.0
	Butadiene	FOB Korea	945.0	945.0	945.0	945.0	950.0	950.0	950.0	1,165.0	1,165.0	1,165.0
	HDPE	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,225.0
	LDPE	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,250.0	1,250.0	1,255.0	1,255.0	1,255.0
	LLDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,180.0	1,190.0	1,190.0	1,190.0
	MEG	CFR China	910.0	900.0	898.0	898.0	898.0	904.0	903.0	900.0	895.0	900.0
	PP	CFR FE Asia	1,120.0	1,130.0	1,130.0	1,120.0	1,115.0	1,115.0	1,125.0	1,130.0	1,130.0	1,120.0
	PX	CFR China	877.0	864.3	855.3	854.7	840.7	839.3	831.3	831.3	835.3	834.3
	PTA	CFR China	665.0	660.0	660.0	655.0	653.0	653.0	650.0	650.0	645.0	645.0
	Benzene	FOB Korea	828.0	815.0	811.0	812.0	794.0	795.0	791.0	794.0	798.0	800.5
	Toluene	FOB Korea	682.0	676.0	676.0	678.0	668.0	672.0	664.5	658.5	658.5	654.5
	Xylene	FOB Korea	689.0	677.0	677.0	671.0	664.0	661.0	660.0	654.0	658.0	658.0
	SM	FOB Korea	1,189.0	1,168.0	1,169.0	1,161.0	1,159.5	1,165.5	1,169.5	1,193.5	1,199.5	1,188.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Spot Price	Naphtha	CFR Japan	554.5	526.5	520.5	456.5	411.5	446.5	484.5	493.0	399.5	475.2
	Change, %			5.3	6.5	21.5	34.8	24.2	14.4	12.5	38.8	16.7
	Ethylene	CFR SE Asia	1,130.0	1,175.0	1,255.0	975.0	875.0	995.0	990.0	1,103.7	1,040.9	1,068.1
	Change, %			(3.8)	(10.0)	15.9	29.1	13.6	14.1	2.4	8.6	5.8
	Propylene	CFR SE Asia	807.5	795.0	835.0	762.5	742.5	687.5	815.0	770.0	705.7	876.6
	Change, %			1.6	(3.3)	5.9	8.8	17.5	(0.9)	4.9	14.4	(7.9)
	Butadiene	CFR SE Asia	1,050.0	1,175.0	1,525.0	900.0	975.0	1,450.0	2,100.0	877.5	1,116.8	1,567.5
	Change, %			(10.6)	(31.1)	16.7	7.7	(27.6)	(50.0)	19.7	(6.0)	(33.0)
	Benzene	CFR SE Asia	810.0	802.5	805.0	742.5	760.0	655.0	822.5	690.0	646.7	831.0
	Change, %			0.9	0.6	9.1	6.6	23.7	(1.5)	17.4	25.3	(2.5)
	Toluene	CFR SE Asia	690.0	695.0	700.0	635.0	630.0	660.0	690.0	700.8	630.5	684.0
	Change, %			(0.7)	(1.4)	8.7	9.5	4.5	0.0	(1.5)	9.4	0.9
	Xylene	CFR SE Asia	655.0	652.5	657.5	622.5	610.0	650.0	675.0	699.3	627.7	664.0
	Change, %			0.4	(0.4)	5.2	7.4	0.8	(3.0)	(6.3)	4.3	(1.4)
Spread	Ethylene	-Naphtha	575.5	648.5	734.5	518.5	463.5	548.5	505.5	610.6	641.4	592.9
	Change, %			(11.3)	(21.6)	11.0	24.2	4.9	13.8	(5.8)	(10.3)	(2.9)
	Propylene	-Naphtha	253.0	268.5	314.5	306.0	331.0	241.0	330.5	277.0	306.2	401.4
	Change, %			(5.8)	(19.6)	(17.3)	(23.6)	5.0	(23.4)	(8.7)	(17.4)	(37.0)
	Butadiene	-Naphtha	495.5	648.5	1,004.5	443.5	563.5	1,003.5	1,615.5	384.5	717.3	1,092.3
	Change, %			(23.6)	(50.7)	11.7	(12.1)	(50.6)	(69.3)	28.9	(30.9)	(54.6)
	Benzene	-Naphtha	255.5	276.0	284.5	286.0	348.5	208.5	338.0	197.0	247.2	355.8
	Change, %			(7.4)	(10.2)	(10.7)	(26.7)	22.5	(24.4)	29.7	3.4	(28.2)
	Toluene	-Naphtha	135.5	168.5	179.5	178.5	218.5	213.5	205.5	207.8	231.0	208.8
	Change, %			(19.6)	(24.5)	(24.1)	(38.0)	(36.5)	(34.1)	(34.8)	(41.3)	(35.1)
	Xylene	-Naphtha	100.5	126.0	137.0	166.0	198.5	203.5	190.5	206.3	228.2	188.8
	Change, %			(20.2)	(26.6)	(39.5)	(49.4)	(50.6)	(47.2)	(51.3)	(56.0)	(46.8)

자료 : Ciscem, 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	1,197.5	1,187.5	1,187.5	1,057.5	1,047.5	1,160.0	1,142.5	1,230.1	1,134.6	1,131.4
	Change, %			0.8	0.8	13.2	14.3	3.2	4.8	(2.7)	5.5	5.8
	MEG	CFR SE Asia	907.5	917.5	902.5	872.5	802.5	677.5	847.5	780.8	660.8	839.9
	Change, %			(1.1)	0.6	4.0	13.1	33.9	7.1	16.2	37.3	8.1
	PVC	CFR SE Asia	890.0	910.0	947.5	860.0	870.0	930.0	920.0	820.8	823.4	906.0
	Change, %			(2.2)	(6.1)	3.5	2.3	(4.3)	(3.3)	8.4	8.1	(1.8)
	PP	CFR SE Asia	1,147.5	1,167.5	1,167.5	1,072.5	1,037.5	1,030.0	1,032.5	1,109.8	978.4	1,088.8
	Change, %			(1.7)	(1.7)	7.0	10.6	11.4	11.1	3.4	17.3	5.4
	2-EH	CFR Korea	1,000.0	1,000.0	990.0	970.0	920.0	790.0	865.0	930.1	772.4	959.4
	Change, %			0.0	1.0	3.1	8.7	26.6	15.6	7.5	29.5	4.2
	ABS	CFR SE Asia	1,920.0	1,950.0	2,060.0	1,820.0	1,790.0	1,460.0	1,635.0	1,431.1	1,347.1	1,816.7
	Change, %			(1.5)	(6.8)	5.5	7.3	31.5	17.4	34.2	42.5	5.7
	SBR	CFR SE Asia	1,700.0	1,750.0	1,820.0	1,490.0	1,450.0	1,900.0	2,000.0	1,332.1	1,483.0	2,047.2
	Change, %			(2.9)	(6.6)	14.1	17.2	(10.5)	(15.0)	27.6	14.6	(17.0)
	SM	CFR SE Asia	1,210.0	1,217.5	1,350.0	1,172.5	1,152.5	1,057.5	1,205.0	1,100.7	1,064.6	1,243.9
	Change, %			(0.6)	(10.4)	3.2	5.0	14.4	0.4	9.9	13.7	(2.7)
	Caustic	FOB NEA	598.0	550.0	484.0	462.5	447.5	365.0	422.5	296.8	316.6	455.8
	Change, %			8.7	23.6	29.3	33.6	63.8	41.5	101.5	88.9	31.2
	PX	CFR SE Asia	842.5	845.0	837.5	817.5	775.0	797.5	855.0	842.9	790.4	834.3
	Change, %			(0.3)	0.6	3.1	8.7	5.6	(1.5)	(0.0)	6.6	1.0
	PO	CFR China	1,685.0	1,685.0	1,560.0	1,540.0	1,485.0	1,475.0	1,562.5	1,683.4	1,396.8	1,558.6
	Change, %			0.0	8.0	9.4	13.5	14.2	7.8	0.1	20.6	8.1
	Caprolactam	CFR SE Asia	2,170.0	2,070.0	1,830.0	1,730.0	1,610.0	1,425.0	1,850.0	1,581.5	1,344.9	1,906.9
	Change, %			4.8	18.6	25.4	34.8	52.3	17.3	37.2	61.4	13.8
	PTA	CFR SE Asia	667.5	667.5	667.5	667.5	630.0	617.5	642.5	648.0	613.7	659.5
	Change, %			0.0	0.0	0.0	6.0	8.1	3.9	3.0	8.8	1.2
Spread	HDPE		643.0	661.0	667.0	601.0	636.0	713.5	658.0	737.1	735.1	656.2
	Change, %			(2.7)	(3.6)	7.0	1.1	(9.9)	(2.3)	(12.8)	(12.5)	(2.0)
	MEG		353.0	391.0	382.0	416.0	391.0	231.0	363.0	287.8	261.3	364.7
	Change, %			(9.7)	(7.6)	(15.1)	(9.7)	52.8	(2.8)	22.7	35.1	(3.2)
	PVC		335.5	383.5	427.0	403.5	458.5	483.5	435.5	327.8	423.9	430.8
	Change, %			(12.5)	(21.4)	(16.9)	(26.8)	(30.6)	(23.0)	2.3	(20.9)	(22.1)
	PP		593.0	641.0	647.0	616.0	626.0	583.5	548.0	616.8	578.9	613.5
	Change, %			(7.5)	(8.3)	(3.7)	(5.3)	1.6	8.2	(3.9)	2.4	(3.3)
	2-EH		445.5	473.5	469.5	513.5	508.5	343.5	380.5	437.0	372.9	484.2
	Change, %			(5.9)	(5.1)	(13.2)	(12.4)	29.7	17.1	1.9	19.5	(8.0)
	ABS		1,365.5	1,423.5	1,539.5	1,363.5	1,378.5	1,013.5	1,150.5	938.1	947.6	1,341.5
	Change, %			(4.1)	(11.3)	0.1	(0.9)	34.7	18.7	45.6	44.1	1.8
	SBR	BD spread	650.0	575.0	295.0	590.0	475.0	450.0	(100.0)	454.7	366.2	479.7
	Change, %			13.0	120.3	10.2	36.8	44.4	(750.0)	43.0	77.5	35.5
	SM		655.5	691.0	829.5	716.0	741.0	611.0	720.5	607.7	665.1	768.7
	Change, %			(5.1)	(21.0)	(8.4)	(11.5)	7.3	(9.0)	7.9	(1.4)	(14.7)
	Caustic											
	Change, %											
	PX		288.0	318.5	317.0	361.0	363.5	351.0	370.5	349.9	390.9	359.1
	Change, %			(9.6)	(9.1)	(20.2)	(20.8)	(17.9)	(22.3)	(17.7)	(26.3)	(19.8)
	PO	propylene spread	877.5	890.0	725.0	777.5	742.5	787.5	747.5	913.4	691.1	682.0
	Change, %			(1.4)	21.0	12.9	18.2	11.4	17.4	(3.9)	27.0	28.7
	Caprolactam	benzene spread	1,360.0	1,267.5	1,025.0	987.5	850.0	770.0	1,027.5	891.6	698.2	1,076.0
	Change, %			7.3	32.7	37.7	60.0	76.6	32.4	52.5	94.8	26.4
	PTA	px spread	77.8	76.0	81.3	95.3	87.5	59.3	44.0	58.0	60.4	75.5
	Change, %			2.3	(4.3)	(18.4)	(11.1)	31.2	76.7	34.0	28.7	3.0

자료 : Ciscchem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

Global peers

	Currency	11/06	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER		PBR		EV/EBITDA		
											17E	18E	17E	18E	17E	18E	
Petrochemical																	
DowDuPont	USD	70.2	(1.3)	(2.0)	(1.4)	9.6	11.3	32.2	22.8	164,361	20.4	17.0	1.6	1.8	11.4	9.9	
Eastman	USD	90.4	(1.1)	(1.6)	(0.7)	7.5	13.5	26.8	20.1	12,988	12.8	11.1	2.6	2.4	9.3	8.5	
BASF	EUR	97.3	0.6	4.1	8.3	18.8	7.6	26.6	10.2	103,787	15.9	15.8	2.6	2.4	8.5	8.3	
Akzo Nobel	EUR	78.0	0.1	(0.0)	(0.5)	1.3	(1.8)	35.5	31.3	22,815	19.0	18.2	3.3	3.2	10.2	9.8	
Arkema	EUR	109.0	(0.4)	1.4	5.7	12.9	9.3	30.4	17.3	9,598	15.9	14.6	2.0	1.9	7.0	6.7	
Lanxess	EUR	69.9	(0.5)	4.2	5.2	4.0	1.3	26.3	12.2	7,432	18.2	15.8	2.4	2.2	7.8	8.2	
Sumitomo Chemical	JPY	822	0.2	2.4	18.1	31.1	29.7	72.3	47.8	11,953	11.2	10.8	1.5	1.4	7.9	7.6	
Mitsubishi Chemical	JPY	1,216	1.0	2.4	9.9	29.6	37.2	82.3	60.4	16,083	9.9	9.8	1.4	1.3	6.8	6.6	
Shin-Etsu Chemical	JPY	12,320	1.7	5.6	21.9	22.7	28.4	57.7	35.9	46,763	24.0	21.2	2.3	2.1	10.8	9.4	
Asahi Kasei	JPY	1,372	(2.0)	(1.2)	(1.0)	6.2	27.8	42.9	34.5	16,898	15.1	14.7	1.5	1.4	7.6	7.3	
JSR	JPY	2,194	(0.9)	(1.3)	5.4	13.8	8.8	43.8	19.0	4,358	15.6	15.0	1.3	1.2	8.5	7.9	
Nitto Denko	JPY	11,325	0.3	11.7	19.6	10.4	26.6	58.4	26.3	17,286	21.5	19.7	2.6	2.4	9.6	9.0	
SABIC	SAR	100.5	0.7	0.7	(1.2)	3.1	3.7	19.3	9.8	80,355	15.0	14.3	1.8	1.7	7.5	7.3	
Yansab	SAR	55.6	0.2	0.2	(5.0)	2.1	1.0	22.4	2.0	8,331	14.0	13.1	2.3	2.2	8.9	8.5	
Formosa Plastics	TWD	91.8	(0.8)	0.2	(0.2)	(0.6)	2.0	7.7	2.9	19,358	13.4	14.0	1.8	1.7	19.3	19.1	
Formosa Fiber	TWD	91.8	(0.8)	0.1	(0.1)	(0.4)	0.3	(2.3)	(4.7)	17,824	11.9	12.5	1.6	1.6	10.6	10.7	
Nan Ya Plastics	TWD	74.6	(0.5)	1.4	1.6	(1.6)	5.1	15.7	4.8	19,598	14.3	14.7	1.7	1.7	14.6	15.0	
Sinopec Shanghai	CNY	6.43	0.2	1.9	1.9	(6.8)	1.4	9.5	(0.2)	9,175	12.4	12.0	2.5	2.2	6.8	6.8	
Sinopec Yizheng(Fiber)	CNY	3.07	0.7	1.3	(2.5)	(4.7)	(3.2)	(22.1)	(25.1)	5,955	#N/A	N/A	56.9	5.9	28.7	15.0	
Reliance	INR	933	(1.4)	(1.1)	11.4	15.0	40.4	85.5	72.3	93,899	17.5	14.4	2.0	1.7	11.9	10.0	
Industries Qatar	QAR	95.0	(1.0)	0.0	3.3	0.6	(5.4)	(4.0)	(19.1)	14,975	16.1	13.8	1.6	1.6	54.2	50.9	
PTT Chemical	THB	77.5	(1.6)	(3.7)	(6.3)	6.5	3.7	30.8	23.0	10,518	10.6	10.8	1.4	1.3	5.5	5.4	
Petronas	MYR	7.4	1.1	(1.7)	0.3	5.1	3.1	5.9	5.6	13,928	16.0	16.0	2.0	1.9	8.8	8.7	
LG화학	KRW	409,000	(1.2)	0.9	4.3	19.4	48.2	67.3	56.7	25,959	15.2	14.4	2.0	1.8	6.7	6.3	
롯데케미칼	KRW	370,500	(1.9)	0.3	(2.0)	(6.1)	5.1	27.1	0.4	11,418	5.5	5.5	1.1	0.9	3.8	3.3	
한화케미칼	KRW	31,650	(1.9)	4.1	(2.5)	(4.4)	25.6	21.5	28.1	4,690	5.1	5.6	0.9	0.7	6.6	6.5	
금호석유	KRW	75,600	(0.5)	9.9	4.9	(3.8)	(1.6)	15.4	(7.8)	2,071	13.2	12.2	1.4	1.3	9.7	8.6	
SKC	KRW	40,900	1.4	3.3	(0.8)	8.6	43.0	48.5	23.9	1,380	10.9	9.8	1.0	0.9	9.5	8.0	
국도화학	KRW	60,900	0.3	4.1	10.3	6.8	27.9	13.4	10.9	318	0.0	0.0	0.0	0.0	0.0	0.0	
효성	KRW	7,790	(1.6)	(6.3)	17.1	16.3	1.8	47.0	14.6	4,326	8.4	7.3	1.2	1.1	6.8	6.0	
Average			(0.4)	1.4	4.2	7.4	13.4	31.5	17.9								
Refinery																	
Valero	USD	81.5	0.7	3.9	5.5	18.9	24.7	40.7	19.2	35,974	16.8	13.3	1.8	1.8	7.2	6.3	
Conoco Phillips	USD	53.7	1.3	4.4	9.8	17.8	14.8	25.5	7.0	64,163	132.2	36.3	2.2	2.2	9.3	7.4	
Formosa Petrochemical	TWD	105.5	(0.9)	1.0	(1.9)	(0.9)	1.4	5.0	(5.8)	33,291	15.0	18.0	3.1	3.2	9.5	10.9	
Andeavor	USD	111.6	1.3	6.3	5.3	13.9	38.0	39.6	27.6	17,506	16.2	13.8	1.7	1.7	9.1	7.3	
Marathon Petroleum	USD	62.4	0.2	5.6	11.3	11.8	23.1	51.2	23.8	30,452	17.1	15.7	2.5	2.5	8.4	7.6	
Devon Energy	USD	40.9	4.0	13.5	14.2	21.4	7.5	1.7	(10.5)	21,472	23.1	18.6	3.0	2.6	9.6	8.6	
Hollyfrontier	USD	42.1	4.8	14.0	18.8	37.8	56.2	77.7	28.4	7,458	20.1	16.7	1.5	1.5	8.6	7.6	
Phillips 66	USD	94.4	0.9	3.7	1.7	10.3	19.0	20.1	9.3	47,852	21.0	15.5	2.2	2.1	10.6	8.9	
Murphy Oil	USD	29.2	5.6	11.5	11.9	10.3	11.3	12.1	(6.4)	5,030	#N/A	N/A	122.5	1.1	1.1	5.3	4.9
JX Holdings	JPY	610.5	0.5	2.5	7.1	23.4	21.4	51.2	23.4	18,378	9.6	8.9	0.9	0.8	7.9	7.4	
Idemitsu	JPY	3,435.0	0.3	3.8	8.4	31.4	(5.8)	47.1	10.6	6,276	7.8	7.7	0.9	0.8	8.8	8.5	
Nesteoil	EUR	49.0	0.3	(1.3)	29.0	38.3	26.7	29.9	34.2	0	15.9	15.9	2.9	2.7	9.2	9.7	
Ashland	USD	68.4	(0.4)	1.2	2.3	7.7	13.2	23.7	27.9	4,268	17.0	20.7	1.3	1.2	7.9	9.8	
Fuchs Petrolub	EUR	48.4	(0.5)	0.4	(3.1)	1.7	(0.6)	28.1	21.3	7,376	25.5	24.0	5.0	4.5	14.7	13.9	
SK이노베이션	KRW	212,000	1.4	1.4	6.5	17.8	24.3	37.7	44.7	17,625	8.4	8.0	1.1	1.0	5.2	4.7	
S-Oil	KRW	127,500	0.4	(1.9)	0.0	8.1	27.5	55.1	50.5	12,906	12.5	9.5	2.2	2.0	9.6	7.0	
GS	KRW	65,800	0.3	(2.9)	0.3	(12.0)	11.3	22.3	21.6	5,497	6.3	6.0	0.8	0.7	7.1	6.8	
Average			1.2	3.9	7.5	15.1	18.5	33.5	19.2								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임

* 국내업체의 multiple은 Dataguidepro 기준임

Global peers

	Currency	11/06	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	84	0.7	0.3	2.5	4.4	2.1	0.2	(7.2)	354,858	23.7	21.1	2.0	2.0	10.1	9.1	
BP	GBP	521	0.8	3.9	6.7	12.5	15.5	16.7	2.3	135,753	23.6	17.9	1.4	1.4	6.7	6.0	
Shell	EUR	2,458	0.9	4.8	7.0	12.6	18.9	21.9	9.6	269,569	17.8	16.1	1.4	1.4	7.0	6.4	
Chevron	USD	117	1.8	2.3	0.0	6.3	10.6	11.7	(0.6)	222,303	29.1	23.7	1.5	1.5	8.3	7.2	
Total	EUR	49	0.3	1.8	6.7	10.7	1.3	15.4	(0.2)	142,616	13.8	13.3	1.3	1.2	6.4	5.7	
Sinopec	CNY	6	0.8	3.5	5.1	1.6	9.9	25.5	14.6	108,298	14.3	13.2	1.0	1.0	4.6	4.4	
Petrochina	CNY	8	0.7	1.0	4.9	2.4	11.0	15.4	5.4	219,833	53.0	31.9	1.3	1.2	6.8	6.3	
CNOOC	CNY	12	0.0	1.9	1.4	1.9	8.5	(5.5)	(10.3)	63,059	13.7	12.0	1.1	1.0	4.3	4.1	
Gazprom	RUB	126	0.0	(0.1)	2.0	5.4	(6.3)	(10.0)	(18.5)	50,417	4.4	4.0	0.2	0.2	3.7	3.4	
Rosneft	RUB	318	0.0	(1.0)	(0.9)	0.6	1.7	(7.1)	(21.1)	56,973	10.0	7.1	0.9	0.8	5.1	4.3	
Anadarko	USD	52	4.7	6.4	6.6	15.5	(1.4)	(11.6)	(25.7)	28,359	#N/A	N/A	2.0	1.9	7.8	6.9	
Petrobras	BRL	17	2.9	3.9	11.1	30.1	22.7	9.0	17.2	71,145	15.4	10.8	0.7	0.7	5.8	5.3	
Lukoil	USD	3,169	0.0	3.6	3.5	9.1	12.7	6.2	(8.1)	46,356	6.8	6.2	0.7	0.6	N/A	N/A	
Kinder	USD	18	1.9	(0.1)	(4.9)	(10.5)	(10.5)	(9.0)	(12.7)	47,497	28.0	25.9	1.1	1.1	11.2	10.8	
Statoil	NOK	167	1.1	(0.4)	5.5	11.8	14.1	26.7	5.6	67,983	16.6	18.1	1.7	1.7	3.6	3.5	
BHP	AUD	28	(0.1)	3.9	4.0	7.6	22.3	24.2	10.4	108,908	15.5	17.8	1.9	1.9	6.2	6.6	
PTT E&P	THB	92	3.1	5.8	2.5	5.5	(2.9)	11.2	(4.7)	11,002	13.7	12.6	0.9	0.9	3.4	3.2	
Petronas gas	MYR	17	(3.4)	(5.5)	(5.5)	(8.6)	(8.4)	(22.4)	(19.7)	7,993	19.1	17.9	2.7	2.6	10.9	10.1	
Chesapeake	USD	4	11.8	8.9	(0.5)	(7.7)	(23.4)	(21.0)	(40.5)	3,798	6.0	5.8	#N/A	N/A	20.6	7.7	
Noble Energy	USD	29	2.5	2.6	2.4	11.9	(6.5)	(21.8)	(23.8)	14,112	#N/A	N/A	783.8	1.5	1.5	8.4	7.7
Average		0	1.5	2.4	3.0	6.1	4.6	3.8	(6.4)								
PV																	
WACKER	EUR	140.8	(0.0)	5.1	22.2	35.3	41.1	78.6	42.4	8,527	27.0	24.6	2.3	2.2	8.0	7.5	
GCL-Poly	HKD	1.4	5.2	6.8	24.8	65.9	48.4	35.6	51.6	3,359	10.2	9.8	1.0	0.9	6.8	6.3	
SunPower	USD	8.8	1.7	22.8	23.8	(5.0)	27.2	32.0	33.0	1,227	#N/A	N/A	1.6	1.5	18.8	12.4	
Canadian Solar	USD	18.8	(0.2)	7.7	13.5	12.3	40.9	52.5	54.0	1,088	10.7	7.2	1.1	1.0	9.9	8.6	
JA Solar	USD	8.0	4.3	5.0	10.2	30.4	12.3	41.3	67.4	379	8.1	15.2	1.9	1.8	3.5	3.3	
Yingli	USD	2.2	(3.1)	(3.5)	(5.2)	(8.8)	(6.8)	(41.4)	(16.2)	40	#N/A	N/A	#N/A	N/A	#N/A	N/A	
First Solar	USD	61.5	2.7	1.7	27.5	28.1	78.0	89.3	91.6	6,419	25.0	52.1	1.1	1.2	11.5	12.3	
한화큐셀	USD	8.4	2.2	5.7	3.1	2.2	26.6	(18.4)	2.7	698	93.1	46.6	#N/A	N/A	7.5	7.9	
OCI	KRW	127,000	2.4	13.4	23.9	33.4	57.0	37.4	61.4	2,723	14.3	15.8	0.9	0.9	7.8	6.5	
웅진에너지	KRW	7,720	(1.7)	(0.1)	2.3	(7.3)	50.2	44.8	63.0	174	N/A	0.9	0.9	7.8	6.5	8.4	
신성솔라에너지	KRW	1,750	(0.8)	(1.1)	(2.8)	(20.5)	(2.8)	(30.0)	(20.8)	272	N/A	0.9	7.8	6.5	8.4	7.3	
Average			1.2	5.8	13.0	15.1	33.8	29.2	39.1								
Gas Company																	
Towngas China	HKD	6.5	(0.3)	5.0	17.9	17.5	39.7	56.9	59.6	2,310	15.1	13.6	1.2	1.1	13.3	12.2	
Kulun	HKD	7.1	(0.6)	(1.8)	(5.8)	(7.0)	4.4	23.2	22.8	7,366	11.3	10.2	1.3	1.2	5.7	5.6	
Beijing Enterprise	HKD	45.5	(0.5)	(1.5)	3.1	12.3	24.3	21.0	24.1	7,360	8.7	8.0	0.9	0.8	15.9	14.7	
ENN Energy	HKD	58.2	0.5	3.1	0.4	8.6	40.5	59.1	82.3	8,069	15.5	13.6	3.0	2.5	9.4	8.5	
China Resources Gas	HKD	28.2	0.2	(1.1)	3.1	(4.3)	10.4	15.8	29.1	8,024	16.1	14.3	3.1	2.7	9.5	8.6	
China Gas Holdings	HKD	23.6	1.1	0.9	(3.9)	25.3	98.3	103.4	124.3	15,028	20.3	17.2	4.7	3.9	16.0	13.6	
Shenzen Gas	HKD	15.0	0.4	(0.5)	(4.2)	6.2	16.8	28.7	32.6	3,893	12.2	11.8	1.4	1.3	9.1	8.5	
Shann Xi	CNY	8.3	1.3	(0.1)	0.1	(6.1)	(2.8)	(18.1)	(13.6)	1,394	17.5	15.7	1.7	1.5	#N/A	N/A	
Suntien	HKD	2.1	(2.7)	(4.1)	8.1	23.8	38.3	106.8	113.0	1,014	8.0	6.9	0.8	0.7	10.1	8.6	
China Oil & Gas	HKD	0.5	(1.9)	(1.9)	(7.0)	(3.6)	(7.0)	(8.6)	(13.1)	396	9.1	7.9	0.9	0.8	6.2	5.6	
Average			(0.2)	(0.2)	1.2	7.3	26.3	38.8	46.1								
EV																	
LG화학	KRW	409,000	(1.2)	0.9	4.3	19.4	48.2	67.3	56.7	25,959	14.2	13.8	1.9	1.7	6.9	6.6	
삼성SDI	KRW	217,500	(1.1)	7.4	9.6	19.8	56.5	132.1	99.5	13,447	22.9	14.1	1.3	1.2	23.8	15.0	
Panasonic	JPY	1699.5	(0.8)	(0.6)	4.6	13.0	26.9	73.9	42.9	36,621	22.3	17.0	2.3	2.1	7.3	6.3	
GS Yuasa	JPY	568.0	(0.2)	(6.0)	(4.1)	11.2	7.8	28.2	16.9	2,064	17.2	15.6	1.4	1.3	7.7	7.1	
NEC	JPY	3005.0	(0.8)	(3.4)	(2.0)	(0.5)	6.6	6.9	(3.1)	6,876	18.0	16.8	0.9	0.9	7.1	6.6	
BYD Auto	CNY	65.6	2.1	4.9	(4.0)	35.2	35.6	18.5	32.0	26,099	37.7	26.3	3.3	2.9	16.0	12.9	
Tesla Motors	USD	302.8	(1.1)	(5.4)	(15.2)	(15.2)	(1.8)	58.9	41.7	50,887	#N/A	N/A	10.5	10.3	120.8	29.6	
Kandi Technologies	USD	7.3	5.1	8.2	(21.2)	83.5	66.7	57.6	48.0	348	#N/A	N/A	#N/A	N/A	#N/A	N/A	
Average			0.2	0.8	(3.5)	20.8	30.8	55.4	41.8								

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임