SK Energy Daily

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SK 증권

1. News Summary (3 page)

2018년 7월 11일

News		Conclusion
WTI comment	상승세 지속…WTI, 74달러 회복	
Headline	EIA, 효율성 증가로 하반기 미국 가스 생산 추정치 사상 최고치로 조정	올해와 내년 사상 최대치의 미국산 LNG가 아시아와 유럽으로 유입될 것
News 1.	테슬라, 상하이에 연 50만대 생산공장…해외 최대규모	유효한 전략이지만 $100억에 달하는 자금 조달 방법이 중요할 것
News 2.	일본 정유사인 Idemitsu와 Showa Shell 합병	한국 정유사들에게 위협적인 규모의 합병은 아닌 것으로 판단됨
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	74.1	0.4	(0.0)	12.1	13.1	64.5
Dubai	$/bbl	76.0	1.8	1.6	2.2	14.3	67.9
Gasoline	$/bbl	85.5	1.9	3.1	0.2	6.5	44.5
Diesel	$/bbl	88.3	1.3	2.7	0.3	7.8	50.8
Complex margin	$/bbl	6.1	(0.2)	0.8	(0.5)	(1.9)	(2.3)
1M lagging	$/bbl	8.5	1.3	3.9	1.5	(5.2)	1.9
Petrochemical			%	%	%	%	%
Naphtha	$/t	680	1.4	2.4	4.8	14.6	67.9
Butadiene	$/t	1,610	0.0	0.6	(6.7)	26.3	65.1
HDPE	$/t	1,340	0.0	0.0	(1.5)	0.4	24.1
MEG	$/t	891	(0.3)	(0.6)	(1.3)	(13.5)	7.0
PX	$/t	995	0.6	0.8	2.7	6.7	32.5
SM	$/t	1,353	1.2	2.9	(3.9)	3.4	18.7
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.79	(1.4)	(2.9)	(4.8)	0.6	(3.7)
Natural rubber	$/t	1,300	(0.8)	0.0	(6.5)	(4.4)	(9.1)
Cotton	C/lbs	87.5	0.4	3.5	(8.1)	4.8	28.4

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	07/09	$/t	1,290	2.4	6.2	1.2	47.4
Propylene	07/09	$/t	965	(1.5)	(4.7)	0.8	27.8
Benzene	07/09	$/t	820	1.5	(4.1)	(2.4)	10.4
Toluene	07/09	$/t	795	1.3	(2.5)	8.2	26.2
Xylene	07/09	$/t	815	1.9	(3.0)	7.6	32.5
PP	07/09	$/t	1,263	(1.6)	(1.6)	3.7	22.9
PVC	07/09	$/t	935	0.0	1.6	(2.6)	7.5
ABS	07/09	$/t	1,960	(2.0)	(4.9)	(1.0)	9.5
SBR	07/09	$/t	1,770	(0.6)	(6.8)	7.3	22.1
SM	07/09	$/t	1,368	0.4	(10.3)	0.6	17.9
BPA	07/09	$/t	1,735	(1.7)	(7.6)	(2.9)	15.9
Caustic	07/09	$/t	475	0.0	(13.6)	(24.1)	5.0
2-EH	07/09	$/t	1,100	0.0	0.0	(2.7)	20.9
Caprolactam	07/09	$/t	2,140	0.5	0.9	(3.6)	32.9
Solar				%	%	%	%
Polysilicon	07/04	$/kg	11.2	(1.2)	(14.7)	(27.6)	(19.5)
Module	07/04	$/W	0.27	(1.5)	(7.6)	(11.9)	(19.1)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	83.7	0.9	1.7	0.1	8.6	4.4
Shell	EUR	2,695	1.1	3.2	3.4	13.2	32.0
Petrochina	CNY	7.76	2.0	3.1	(1.9)	2.2	(1.0)
Gazprom	RUB	147.3	(0.5)	3.4	2.2	3.9	18.6
Petrobras	BRL	17.8	(1.1)	1.4	16.4	(17.1)	48.2
Refinery							
Phillips66	USD	113.2	0.5	2.4	(3.1)	12.9	37.3
Valero	USD	108.6	(0.6)	0.4	(9.3)	9.8	59.5
JX	JPY	798.1	3.0	2.9	11.7	21.8	64.0
Neste Oil	EUR	67.5	1.9	3.1	(4.8)	19.1	89.7

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	83.1	0.4	2.2	(3.4)	(1.5)	1.9
DowDuPont	USD	67.8	1.6	4.1	(2.4)	2.9	5.1
SABIC	SAR	127.0	1.0	2.9	1.4	7.5	25.1
Formosa Pla.	TWD	112.0	0.9	(0.9)	3.2	6.2	21.5
Shin-Etsu	JPY	10,385	1.3	5.0	(7.6)	(4.0)	4.2
Renewable							
Wacker	EUR	118.9	3.8	2.2	0.2	(16.9)	26.4
First Solar	USD	55.22	0.7	5.5	4.8	(22.0)	39.7
GCL-Poly	HKD	0.69	0.0	(2.8)	(13.8)	(31.7)	(18.8)
Tesla Motors	USD	322.5	1.2	3.7	1.5	5.8	2.0

4. Coverage Summary

	07/10	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,294	0.4	0.9	(6.4)	(6.1)	(8.7)	(3.6)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,588	0.1	0.7	(8.1)	(8.4)	(9.4)	3.8				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	325,500	0.9	2.5	(13.3)	(11.3)	(23.3)	12.6	매수	400,000	22.9	12.86	1.45
롯데케미칼	341,500	0.4	4.1	(10.4)	(19.8)	(11.0)	(2.4)	매수	400,000	17.1	10.60	0.97
한화케미칼	21,100	0.5	1.9	(17.4)	(29.2)	(37.5)	(33.0)	매수	30,000	42.2	9.48	0.52
금호석유화학	114,000	3.2	(1.3)	14.8	23.1	5.1	53.8	매수	150,000	31.6	10.63	1.47
KCC	320,500	(0.8)	1.3	(8.6)	(12.0)	(18.4)	(22.4)	매수	400,000	24.8	27.79	0.49
OCI	95,800	1.8	(2.6)	(18.5)	(43.3)	(42.8)	9.4	매수	140,000	46.1	7.29	0.69
SKC	42,600	(1.8)	2.4	5.1	15.8	(12.2)	21.9	매수	50,000	17.4	11.62	1.01
SK이노베이션	192,000	(0.8)	4.1	(8.6)	(5.0)	(2.8)	20.4	매수	230,000	19.8	11.29	0.96
S-Oil	107,500	1.9	5.4	(3.6)	(6.1)	(3.6)	10.4	매수	140,000	30.2	12.27	1.80
GS	51,400	0.0	(0.2)	(12.3)	(16.0)	(16.8)	(25.7)	매수	80,000	55.6	4.76	0.58
SK가스	90,500	0.6	0.2	(5.5)	(8.0)	(4.2)	(23.6)	매수	130,000	43.6	8.55	0.61
포스코대우	21,150	3.9	2.9	(10.2)	(10.2)	6.8	(4.9)	매수	25,000	18.2	11.09	0.83
LG상사	22,750	1.6	0.4	(15.4)	(13.0)	(22.4)	(25.4)	매수	38,000	67.0	8.42	0.64
한국전력	31,000	(0.3)	(2.2)	(9.0)	(10.0)	(16.9)	(27.1)	매수	45,000	45.2	7.50	0.24
한국가스공사	59,100	2.6	(1.2)	(7.5)	17.0	36.5	16.8	매수	75,000	26.9	9.17	0.77

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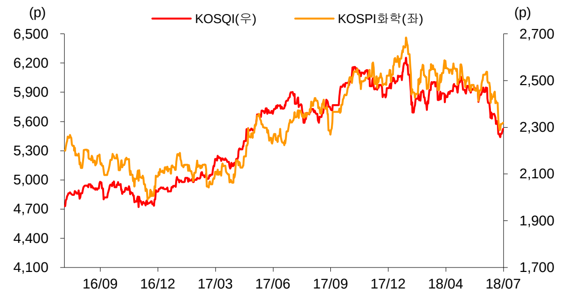
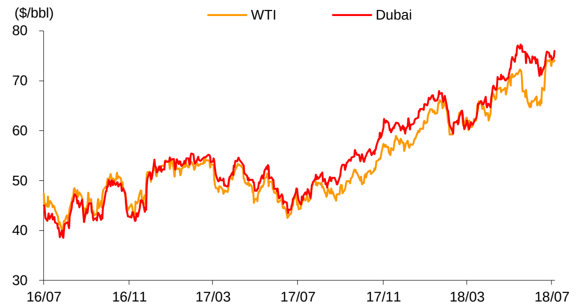
Key Chart

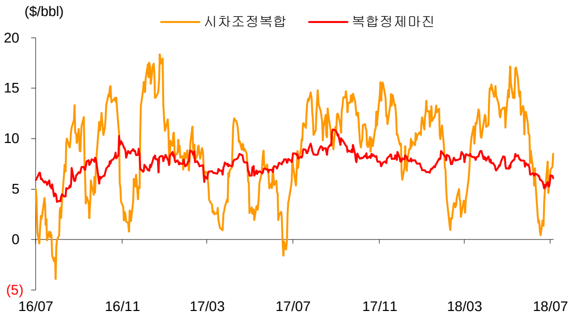
KOSPI/KOSPI화학



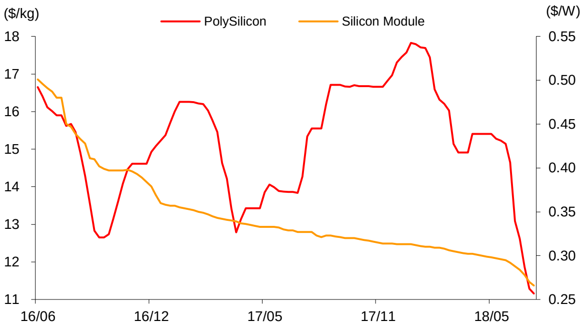
WTI/Dubai



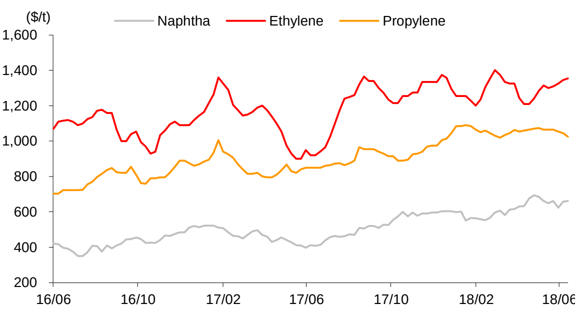
Complex & 1M lagging margin



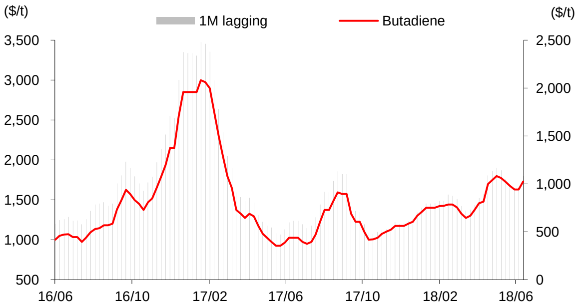
Polysilicon & Module prices



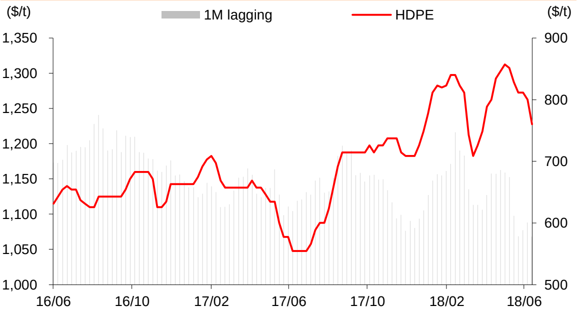
Naphtha/Ethylene/Propylene prices



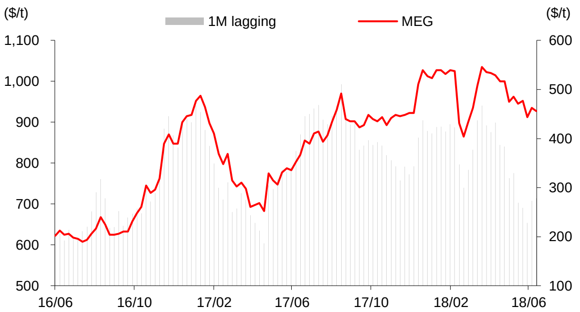
Butadiene price & 1M lagging naphtha spread



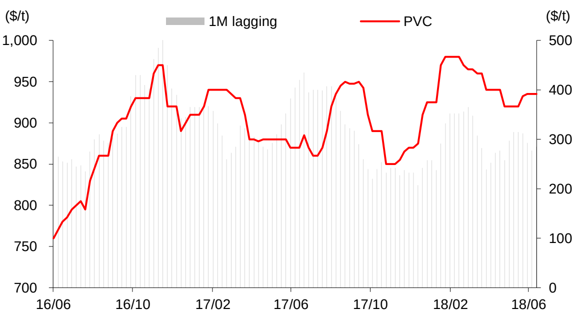
HDPE price & 1M lagging naphtha spread



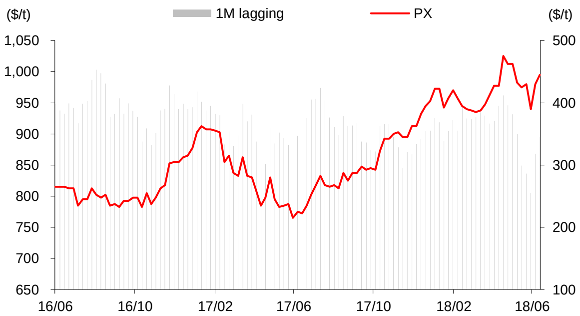
MEG price & 1M lagging naphtha spread



PVC price & 1M lagging naphtha spread



PX price & 1M lagging naphtha spread



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

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News Comment

Headline	(출처: Platts)
제목	EIA, 효율성 증가로 하반기 미국 가스 생산 추정치 사상 최고치로 조정
결론	올해와 내년 사상 최대치의 미국산 LNG가 아시아와 유럽으로 유입될 것
세부	
1)	EIA가 미국의 2018년 하반기 천연가스 생산량 추정치를 상향함
2)	천연가스 소비량도 발전량 증가로 2017년 대비 증가할 것으로 전망함
3)	EIA, "2018년 가스 생산량은 81bcf/d, 2019년 84bcf/d로 추정됨"
4)	EIA, "시추 효율성 증가로 비용이 줄었고 유가 상승 때문임"
5)	올해와 내년 사상 최대치의 미국산 LNG가 아시아와 유럽으로 유입될 것

WTI Comment	(출처: 연합뉴스)
제목	상승세 지속…WTI, 74달러 회복
상승 요인	미국은 11월 초까지 이란산 원유수입을 전면 중단할 것을 관련국에 요구
하락 요인	

Issue 1	(출처: 연합뉴스)
제목	테슬라, 상하이에 연 50만대 생산공장…해외 최대규모
결론	유효한 전략이지만 $100억에 달하는 자금 조달 방법이 중요할 것
세부	
1)	상하이 시 정부, "50만대/년 규모 테슬라 공장을 상해에 짓기로 함"
2)	미 언론, "미중 무역전쟁 격화를 대비한 계획으로 평가됨"
3)	상하이 시 정부, "테슬라의 생산, 연구 개발, 판매를 최대한 지원할 것"
4)	블룸버그, "텐센트가 테슬라의 중국 내 펀딩 실탄 제공할 것"
5)	유효한 전략이지만 $100억에 달하는 자금 조달 방법이 중요할 것

Issue 2	(출처: Financial Times)
제목	일본 정유사인 Idemitsu와 Showa Shell 합병
결론	한국 정유사들에게 위협적인 규모의 합병은 아닌 것으로 판단됨
세부	
1)	일본 2, 4위 정유사인 Idemitsu Kosan과 Showa Shell Sekiyu 합병
2)	양사 합산 연매출액은 $470억 규모로 추정됨
3)	2015년 합병 논의가 있었으나 Idemitsu의 지분 28% 보유한 손자가 반대
4)	JX Holdings와 TonenGeneral 합병으로 경쟁이 치열해져 합병 논의 재개
5)	한국 정유사들에게 위협적인 규모의 합병은 아닌 것으로 판단됨

Issue 3	
제목	
결론	
세부	
1)	
2)	
3)	
4)	
5)	

Issue 4	
제목	
결론	
세부	
1)	
2)	
3)	
4)	
5)	

Issue 5	
제목	
결론	
세부	
1)	
2)	
3)	
4)	
5)	

Issue 6	
제목	
결론	
세부	
1)	
2)	
3)	
4)	
5)	

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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.852	0.851	0.858	0.850	0.809	0.837	0.877	0.833	0.904	0.887	0.828
	Change, %		*0.1*	*(0.7)*	*0.2*	*5.2*	*1.7*	*(2.9)*	*2.2*	*(5.8)*	*(4.0)*	*2.8*
	USD/JPY	111.0	110.9	110.6	109.6	107.2	111.4	114.0	112.6	108.8	112.1	108.8
	Change, %		*0.1*	*0.4*	*1.3*	*3.5*	*(0.4)*	*(2.7)*	*(1.4)*	*2.1*	*(1.0)*	*2.0*
	USD/KRW	1,116.4	1,112.1	1,118.8	1,075.9	1,066.5	1,071.8	1,149.5	1,066.7	1,160.5	1,130.9	1,078.2
	Change, %		*0.4*	*(0.2)*	*3.8*	*4.7*	*4.2*	*(2.9)*	*4.7*	*(3.8)*	*(1.3)*	*3.5*
Agriculture	**Corn**	339.8	345.8	342.8	377.8	389.3	349.0	391.8	350.8	358.5	359.4	373.2
	Change, %		*(1.7)*	*(0.9)*	*(10.1)*	*(12.7)*	*(2.7)*	*(13.3)*	*(3.1)*	*(5.2)*	*(5.5)*	*(9.0)*
	Soybean	852.3	851.8	844.0	969.3	1,050.0	947.0	1,020.3	951.8	987.5	975.9	992.6
	Change, %		*0.1*	*1.0*	*(12.1)*	*(18.8)*	*(10.0)*	*(16.5)*	*(10.5)*	*(13.7)*	*(12.7)*	*(14.1)*
	Wheat	489.5	507.8	491.5	520.0	492.0	434.3	530.5	427.0	436.4	436.0	477.3
	Change, %		*(3.6)*	*(0.4)*	*(5.9)*	*(0.5)*	*12.7*	*(7.7)*	*14.6*	*12.2*	*12.3*	*2.6*
	Rice	11.8	12.2	12.0	11.2	12.8	11.7	11.8	11.7	10.3	11.1	12.2
	Change, %		*(2.8)*	*(1.6)*	*5.6*	*(7.6)*	*1.0*	*0.5*	*1.1*	*14.2*	*6.8*	*(3.3)*
	Oats	256.0	258.8	254.0	240.8	236.5	251.0	306.0	241.0	196.3	252.3	246.1
	Change, %		*(1.1)*	*0.8*	*6.3*	*8.2*	*2.0*	*(16.3)*	*6.2*	*30.4*	*1.5*	*4.0*
MYR/mt	**Palm Oil**	2,210.0	2,200.0	2,287.0	2,378.0	2,403.0	2,568.0	2,705.0	2,444.0	2,653.8	2,787.3	2,419.3
	Change, %		*0.5*	*(3.4)*	*(7.1)*	*(8.0)*	*(13.9)*	*(18.3)*	*(9.6)*	*(16.7)*	*(20.7)*	*(8.6)*
	Cocoa	2,501.0	2,443.0	2,418.0	2,393.0	2,489.0	1,941.0	1,801.0	1,892.0	2,854.0	2,005.2	2,396.2
	Change, %		*2.4*	*3.4*	*4.5*	*0.5*	*28.9*	*38.9*	*32.2*	*(12.4)*	*24.7*	*4.4*
	Cotton	87.5	87.2	84.5	94.9	83.5	79.7	67.7	78.6	65.6	73.5	83.7
	Change, %		*0.4*	*3.5*	*(7.8)*	*4.8*	*9.9*	*29.2*	*11.3*	*33.4*	*19.0*	*4.6*
	Sugar	11.4	11.4	11.4	12.3	12.1	14.7	13.6	15.2	18.2	15.8	12.6
	Change, %		*0.1*	*0.2*	*(6.9)*	*(5.9)*	*(22.1)*	*(15.9)*	*(24.7)*	*(37.1)*	*(27.9)*	*(9.6)*
	Coffee	112.0	112.2	108.4	117.3	117.6	124.0	126.3	126.2	136.1	133.0	118.6
	Change, %		*(0.2)*	*3.3*	*(4.5)*	*(4.8)*	*(9.7)*	*(11.3)*	*(11.3)*	*(17.7)*	*(15.8)*	*(5.6)*
Energy	**WTI**	74.1	73.9	74.1	65.7	65.5	63.6	44.4	60.4	43.4	51.0	65.9
	Change, %		*0.4*	*(0.0)*	*12.7*	*13.1*	*16.6*	*66.9*	*22.7*	*70.8*	*45.4*	*12.5*
	Brent	78.9	78.1	77.8	76.5	71.0	69.2	46.9	66.9	45.1	54.9	71.5
	Change, %		*1.0*	*1.4*	*3.1*	*11.0*	*14.0*	*68.2*	*17.9*	*74.9*	*43.8*	*10.3*
	Natural Gas	2.8	2.8	2.9	2.9	2.7	2.9	2.9	3.0	2.6	3.0	2.8
	Change, %		*(1.4)*	*(2.9)*	*(3.5)*	*5.0*	*(4.1)*	*(4.8)*	*(5.6)*	*9.2*	*(7.7)*	*(1.8)*
	Ethanol	1.4	1.4	1.4	1.4	1.5	1.3	1.6	1.3	1.5	1.5	1.4
	Change, %		*(0.6)*	*1.6*	*(1.5)*	*(2.7)*	*7.6*	*(8.2)*	*8.0*	*(5.9)*	*(4.8)*	*(0.9)*
	RBOB Gasoline	216.0	214.9	211.8	211.5	204.1	183.3	150.1	179.9	140.0	162.9	199.6
	Change, %		*0.5*	*2.0*	*2.1*	*5.9*	*17.9*	*44.0*	*20.1*	*54.3*	*32.6*	*8.3*
	Coal	117.5	116.1	115.4	113.9	93.5	106.6	82.4	100.8	65.5	88.2	104.0
	Change, %		*1.2*	*1.8*	*3.2*	*25.6*	*10.2*	*42.6*	*16.5*	*79.4*	*33.2*	*12.9*
Metal	**Gold**	1,255.5	1,257.7	1,252.7	1,299.4	1,339.5	1,316.9	1,214.4	1,302.6	1,248.5	1,258.6	1,314.5
	Change, %		*(0.2)*	*0.2*	*(3.4)*	*(6.3)*	*(4.7)*	*3.4*	*(3.6)*	*0.6*	*(0.2)*	*(4.5)*
	Silver	16.1	16.1	16.0	16.8	16.6	17.0	15.7	16.9	17.1	17.1	16.6
	Change, %		*(0.4)*	*0.2*	*(4.4)*	*(3.1)*	*(5.4)*	*2.5*	*(5.3)*	*(6.1)*	*(5.9)*	*(3.3)*
	Copper	6,332.5	6,390.0	6,491.0	7,312.0	6,945.0	7,153.0	5,824.0	7,247.0	4,872.0	6,199.4	6,912.4
	Change, %		*(0.9)*	*(2.4)*	*(13.4)*	*(8.8)*	*(11.5)*	*8.7*	*(12.6)*	*30.0*	*2.1*	*(8.4)*
	Nickel	971.0	964.3	984.5	1,043.1	889.3	819.0	581.1	809.1	646.4	680.2	917.0
	Change, %		*0.7*	*(1.4)*	*(6.9)*	*9.2*	*18.6*	*67.1*	*20.0*	*50.2*	*42.7*	*5.9*
	Zinc	2,630.0	2,705.0	2,789.0	3,202.0	3,243.0	3,336.0	2,780.5	3,319.0	2,097.5	2,888.5	3,215.7
	Change, %		*(2.8)*	*(5.7)*	*(17.9)*	*(18.9)*	*(21.2)*	*(5.4)*	*(20.8)*	*25.4*	*(8.9)*	*(18.2)*
	Lead	2,306.3	2,336.5	2,391.3	2,452.8	2,394.3	2,552.5	2,304.5	2,482.8	1,868.3	2,315.7	2,445.5
	Change, %		*(1.3)*	*(3.6)*	*(6.0)*	*(3.7)*	*(9.6)*	*0.1*	*(7.1)*	*23.4*	*(0.4)*	*(5.7)*
	Aluminum	14,030.0	14,020.0	13,915.0	14,760.0	14,280.0	14,860.0	14,020.0	15,020.0	12,373.5	14,556.6	14,359.2
	Change, %		*0.1*	*0.8*	*(4.9)*	*(1.8)*	*(5.6)*	*0.1*	*(6.6)*	*13.4*	*(3.6)*	*(2.3)*
	Cobalt	69,750.0	73,000.0	74,750.0	82,750.0	91,250.0	75,098.0	59,750.0	75,205.0	25,480.1	55,906.9	84,084.3
	Change, %		*(4.5)*	*(6.7)*	*(15.7)*	*(23.6)*	*(7.1)*	*16.7*	*(7.3)*	*173.7*	*24.8*	*(17.0)*
	HR Coil	912.0	912.0	920.0	909.0	868.0	666.0	620.0	662.0	519.3	620.1	820.8
	Change, %		*0.0*	*(0.9)*	*0.3*	*5.1*	*36.9*	*47.1*	*37.8*	*75.6*	*47.1*	*11.1*
	Scrap	402.4	393.0	390.0	397.0	384.4	370.3	365.8	367.0	275.7	344.7	389.2
	Change, %		*2.4*	*3.2*	*1.3*	*4.7*	*8.7*	*10.0*	*9.6*	*46.0*	*16.7*	*3.4*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		07/10	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	74.1	73.9	74.1	66.1	65.5	63.0	45.0	53.7	43.4	50.9	65.9
	Change, %		*0.4*	*(0.0)*	*12.1*	*13.1*	*17.7*	*64.5*	*38.0*	*70.9*	*45.6*	*12.5*
	Dubai	76.0	74.7	74.8	74.4	66.5	65.5	45.3	53.8	41.3	53.1	68.4
	Change, %		*1.8*	*1.6*	*2.2*	*14.3*	*16.0*	*67.9*	*41.2*	*84.0*	*43.2*	*11.0*
Crude Oil Product	**Gasoline(휘발유)**	85.5	83.9	83.0	85.4	80.3	77.4	59.2	69.8	56.3	68.0	81.2
	Change, %		*1.9*	*3.1*	*0.2*	*6.5*	*10.4*	*44.5*	*22.4*	*52.0*	*25.7*	*5.3*
	Kerosene(등유)	90.7	89.5	87.8	88.0	83.2	79.4	57.1	66.4	52.9	65.2	84.0
	Change, %		*1.4*	*3.3*	*3.1*	*9.1*	*14.3*	*58.9*	*36.6*	*71.6*	*39.1*	*8.0*
	Diesel(경유)	88.3	87.2	85.9	88.0	81.9	79.3	58.5	65.5	52.1	65.6	83.0
	Change, %		*1.3*	*2.7*	*0.3*	*7.8*	*11.4*	*50.8*	*34.8*	*69.4*	*34.6*	*6.3*
	Bunker-C	72.4	71.8	71.6	69.5	60.1	58.5	43.9	52.1	35.5	49.7	62.4
	Change, %		*0.8*	*1.1*	*4.1*	*20.5*	*23.8*	*65.1*	*39.1*	*103.8*	*45.8*	*16.0*
	Naphtha	74.1	73.2	72.3	71.1	65.3	66.9	43.6	53.5	42.6	53.7	67.5
	Change, %		*1.3*	*2.5*	*4.3*	*13.5*	*10.8*	*70.1*	*38.7*	*74.0*	*37.9*	*9.8*
Dubai Spread	**Gasoline(휘발유)**	9.5	9.2	8.2	11.0	13.8	11.9	13.9	16.0	14.9	14.9	12.7
	Change		*0.3*	*1.3*	*(1.5)*	*(4.3)*	*(2.4)*	*(4.4)*	*(6.5)*	*(5.4)*	*(5.4)*	*(3.2)*
	Kerosene(등유)	14.7	14.8	13.1	13.6	16.7	13.9	11.8	12.6	11.6	12.1	15.5
	Change		*(0.1)*	*1.7*	*1.1*	*(1.9)*	*0.9*	*2.9*	*2.1*	*3.2*	*2.6*	*(0.8)*
	Diesel(경유)	12.3	12.5	11.2	13.6	15.4	13.7	13.3	11.7	10.8	12.5	14.6
	Change		*(0.2)*	*1.1*	*(1.3)*	*(3.1)*	*(1.5)*	*(1.0)*	*0.6*	*1.5*	*(0.2)*	*(2.3)*
	Bunker-C	(3.6)	(2.9)	(3.2)	(4.8)	(6.4)	(7.0)	(1.4)	(1.8)	(5.8)	(3.4)	(6.0)
	Change		*(0.7)*	*(0.4)*	*1.2*	*2.8*	*3.4*	*(2.2)*	*(1.8)*	*2.2*	*(0.2)*	*2.4*
	Naphtha	(1.9)	(1.5)	(2.5)	(3.3)	(1.2)	1.4	(1.7)	(0.4)	1.3	0.6	(0.9)
	Change		*(0.4)*	*0.6*	*1.4*	*(0.6)*	*(3.3)*	*(0.2)*	*(1.5)*	*(3.2)*	*(2.5)*	*(0.9)*
Refining Margin	**Simple(단순)**	1.9	2.3	1.5	1.7	2.4	1.3	4.2	3.8	1.9	3.2	2.1
	Change		*(0.4)*	*0.4*	*0.2*	*(0.4)*	*0.6*	*(2.3)*	*(1.9)*	*0.0*	*(1.2)*	*(0.1)*
	Complex(복합)	6.1	6.3	5.3	6.6	8.0	6.8	8.4	8.3	7.0	8.0	7.5
	Change		*(0.2)*	*0.8*	*(0.5)*	*(1.9)*	*(0.8)*	*(2.3)*	*(2.2)*	*(0.9)*	*(1.9)*	*(1.4)*
	Complex(lagging)	8.5	7.2	4.6	7.0	13.7	12.1	6.6	18.0	8.5	8.9	9.6
	Change		*1.3*	*3.9*	*1.5*	*(5.2)*	*(3.6)*	*1.9*	*(9.5)*	*0.0*	*(0.4)*	*(1.1)*

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

SK Energy Daily

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Petrochemical Price Data

Daily Price			07/10	07/09	07/06	07/05	07/04	07/03	07/02	06/29	06/28	06/27
Spot Price	**Naphtha**	CFR Japan	680.4	671.3	665.0	665.5	669.0	664.6	663.1	658.8	652.4	642.8
	Ethylene	CFR SE Asia	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0	1,260.0	1,260.0	1,260.0
	Propylene	FOB Korea	1,040.0	1,040.0	1,060.0	1,060.0	1,060.0	1,060.0	1,060.0	1,055.0	1,050.0	1,050.0
	Butadiene	FOB Korea	1,610.0	1,610.0	1,610.0	1,610.0	1,600.0	1,600.0	1,600.0	1,600.0	1,590.0	1,590.0
	HDPE	CFR FE Asia	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,340.0	1,350.0	1,350.0	1,350.0	1,350.0
	LDPE	CFR FE Asia	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,170.0	1,175.0	1,175.0	1,175.0
	LLDPE	CFR FE Asia	1,115.0	1,120.0	1,120.0	1,135.0	1,140.0	1,140.0	1,140.0	1,150.0	1,150.0	1,150.0
	MEG	CFR China	891.0	894.0	893.0	895.0	902.0	896.0	895.0	905.0	895.0	895.0
	PP	CFR FE Asia	1,230.0	1,235.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0	1,240.0
	PX	CFR China	995.3	989.0	988.5	984.8	987.8	987.8	982.7	973.7	965.7	964.7
	PTA	CFR China	852.0	852.0	850.0	850.0	850.0	845.0	845.0	845.0	845.0	835.0
	Benzene	FOB Korea	834.7	831.7	832.0	832.3	828.7	820.7	819.2	813.7	817.7	814.7
	Toluene	FOB Korea	752.0	751.0	747.0	740.0	744.0	745.0	745.0	746.0	744.0	736.0
	Xylene	FOB Korea	831.0	831.0	833.0	834.0	840.0	837.0	833.0	831.5	819.5	819.5
	SM	FOB Korea	1,353.0	1,337.0	1,349.0	1,346.0	1,323.0	1,315.0	1,298.0	1,311.0	1,316.5	1,332.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	662.0	658.5	649.5	582.5	553.0	409.0	484.5	399.5	493.5	615.5
	Change, %			*0.5*	*1.9*	*13.6*	*19.7*	*61.9*	*36.6*	*65.7*	*34.1*	*7.6*
	Ethylene	CFR SE Asia	1,290.0	1,260.0	1,215.0	1,275.0	1,220.0	875.0	990.0	1,040.9	1,090.9	1,235.6
	Change, %			*2.4*	*6.2*	*1.2*	*5.7*	*47.4*	*30.3*	*23.9*	*18.2*	*4.4*
	Propylene	CFR SE Asia	965.0	980.0	1,012.5	957.5	995.0	755.0	815.0	705.7	823.6	1,054.4
	Change, %			*(1.5)*	*(4.7)*	*0.8*	*(3.0)*	*27.8*	*18.4*	*36.8*	*17.2*	*(8.5)*
	Butadiene	CFR SE Asia	1,680.0	1,580.0	1,675.0	1,225.0	1,390.0	975.0	2,100.0	1,116.8	1,481.1	1,432.8
	Change, %			*6.3*	*0.3*	*37.1*	*20.9*	*72.3*	*(20.0)*	*50.4*	*13.4*	*17.3*
	Benzene	CFR SE Asia	820.0	807.5	855.0	840.0	882.5	742.5	822.5	646.7	838.8	869.4
	Change, %			*1.5*	*(4.1)*	*(2.4)*	*(7.1)*	*10.4*	*(0.3)*	*26.8*	*(2.2)*	*(5.7)*
	Toluene	CFR SE Asia	795.0	785.0	815.0	735.0	720.0	630.0	690.0	630.5	689.5	767.0
	Change, %			*1.3*	*(2.5)*	*8.2*	*10.4*	*26.2*	*15.2*	*26.1*	*15.3*	*3.6*
	Xylene	CFR SE Asia	815.0	800.0	840.0	757.5	765.0	615.0	675.0	627.7	668.8	780.6
	Change, %			*1.9*	*(3.0)*	*7.6*	*6.5*	*32.5*	*20.7*	*29.8*	*21.9*	*4.4*
Spread	**Ethylene**	-Naphtha	628.0	601.5	565.5	692.5	667.0	466.0	505.5	641.4	597.4	620.0
	Change, %			*4.4*	*11.1*	*(9.3)*	*(5.8)*	*34.8*	*24.2*	*(2.1)*	*5.1*	*1.3*
	Propylene	-Naphtha	303.0	321.5	363.0	375.0	442.0	346.0	330.5	306.2	330.1	438.8
	Change, %			*(5.8)*	*(16.5)*	*(19.2)*	*(31.4)*	*(12.4)*	*(8.3)*	*(1.0)*	*(8.2)*	*(31.0)*
	Butadiene	-Naphtha	1,018.0	921.5	1,025.5	642.5	837.0	566.0	1,615.5	717.3	987.6	817.3
	Change, %			*10.5*	*(0.7)*	*58.4*	*21.6*	*79.9*	*(37.0)*	*41.9*	*3.1*	*24.6*
	Benzene	-Naphtha	158.0	149.0	205.5	257.5	329.5	333.5	338.0	247.2	345.3	253.9
	Change, %			*6.0*	*(23.1)*	*(38.6)*	*(52.0)*	*(52.6)*	*(53.3)*	*(36.1)*	*(54.2)*	*(37.8)*
	Toluene	-Naphtha	133.0	126.5	165.5	152.5	167.0	221.0	205.5	231.0	196.0	151.5
	Change, %			*5.1*	*(19.6)*	*(12.8)*	*(20.4)*	*(39.8)*	*(35.3)*	*(42.4)*	*(32.1)*	*(12.2)*
	Xylene	-Naphtha	153.0	141.5	190.5	175.0	212.0	206.0	190.5	228.2	175.3	165.0
	Change, %			*8.1*	*(19.7)*	*(12.6)*	*(27.8)*	*(25.7)*	*(19.7)*	*(33.0)*	*(12.7)*	*(7.3)*

자료 : Cischem, Platts, Bloomberg, SK증권
참고 : Spread는 Polymer와 Naphtha의 가격차이임

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Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**HDPE**	CFR SE Asia	1,227.5	1,262.5	1,287.5	1,182.5	1,297.5	1,047.5	1,142.5	1,134.6	1,142.5	1,258.1
	Change, %			(2.8)	(4.7)	3.8	(5.4)	17.2	7.4	8.2	7.4	(2.4)
	MEG	CFR SE Asia	927.5	935.0	945.0	990.0	897.5	820.0	847.5	660.8	850.6	978.9
	Change, %			(0.8)	(1.9)	(6.3)	3.3	13.1	9.4	40.4	9.0	(5.2)
	PVC	CFR SE Asia	935.0	935.0	920.0	960.0	980.0	870.0	920.0	823.4	899.9	942.5
	Change, %			0.0	1.6	(2.6)	(4.6)	7.5	1.6	13.6	3.9	(0.8)
	PP	CFR SE Asia	1,262.5	1,282.5	1,282.5	1,217.5	1,307.5	1,027.5	1,032.5	978.4	1,099.6	1,261.7
	Change, %			(1.6)	(1.6)	3.7	(3.4)	22.9	22.3	29.0	14.8	0.1
	2-EH	CFR Korea	1,100.0	1,100.0	1,100.0	1,130.0	1,125.0	910.0	865.0	772.4	970.0	1,118.1
	Change, %			0.0	0.0	(2.7)	(2.2)	20.9	27.2	42.4	13.4	(1.6)
	ABS	CFR SE Asia	1,960.0	2,000.0	2,060.0	1,980.0	2,070.0	1,790.0	1,635.0	1,347.1	1,844.7	2,030.7
	Change, %			(2.0)	(4.9)	(1.0)	(5.3)	9.5	19.9	45.5	6.3	(3.5)
	SBR	CFR SE Asia	1,770.0	1,780.0	1,900.0	1,650.0	1,750.0	1,450.0	2,000.0	1,483.0	1,980.5	1,753.7
	Change, %			(0.6)	(6.8)	7.3	1.1	22.1	(11.5)	19.4	(10.6)	0.9
	SM	CFR SE Asia	1,367.5	1,362.5	1,525.0	1,360.0	1,397.5	1,160.0	1,205.0	1,064.6	1,253.8	1,400.5
	Change, %			0.4	(10.3)	0.6	(2.1)	17.9	13.5	28.5	9.1	(2.4)
	Caustic	FOB NEA	475.0	475.0	550.0	626.0	590.0	452.5	422.5	316.6	491.2	574.3
	Change, %			0.0	(13.6)	(24.1)	(19.5)	5.0	12.4	50.0	(3.3)	(17.3)
	PX	CFR SE Asia	995.0	980.0	975.0	937.5	945.0	772.5	855.0	790.4	844.4	965.4
	Change, %			1.5	2.1	6.1	5.3	28.8	16.4	25.9	17.8	3.1
	PO	CFR China	1,735.0	1,765.0	1,877.5	1,787.5	1,962.5	1,497.5	1,562.5	1,396.8	1,601.2	1,877.6
	Change, %			(1.7)	(7.6)	(2.9)	(11.6)	15.9	11.0	24.2	8.4	(7.6)
	Caprolactam	CFR SE Asia	2,140.0	2,130.0	2,120.0	2,220.0	2,150.0	1,610.0	1,850.0	1,344.9	1,936.4	2,120.2
	Change, %			0.5	0.9	(3.6)	(0.5)	32.9	15.7	59.1	10.5	0.9
	PTA	CFR SE Asia	865.0	860.0	860.0	777.5	810.0	635.0	642.5	613.7	667.8	804.3
	Change, %			0.6	0.6	11.3	6.8	36.2	34.6	41.0	29.5	7.6
Spread	**HDPE**		565.5	604.0	638.0	600.0	744.5	638.5	658.0	735.1	649.0	642.6
	Change, %			(6.4)	(11.4)	(5.8)	(24.0)	(11.4)	(14.1)	(23.1)	(12.9)	(12.0)
	MEG		265.5	276.5	295.5	407.5	344.5	411.0	363.0	261.3	357.1	363.4
	Change, %			(4.0)	(10.2)	(34.8)	(22.9)	(35.4)	(26.9)	1.6	(25.7)	(26.9)
	PVC		273.0	276.5	270.5	377.5	427.0	461.0	435.5	423.9	406.4	327.0
	Change, %			(1.3)	0.9	(27.7)	(36.1)	(40.8)	(37.3)	(35.6)	(32.8)	(16.5)
	PP		600.5	624.0	633.0	635.0	754.5	618.5	548.0	578.9	606.1	646.2
	Change, %			(3.8)	(5.1)	(5.4)	(20.4)	(2.9)	9.6	3.7	(0.9)	(7.1)
	2-EH		438.0	441.5	450.5	547.5	572.0	501.0	380.5	372.9	476.5	502.6
	Change, %			(0.8)	(2.8)	(20.0)	(23.4)	(12.6)	15.1	17.5	(8.1)	(12.9)
	ABS		1,298.0	1,341.5	1,410.5	1,397.5	1,517.0	1,381.0	1,150.5	947.6	1,351.2	1,415.2
	Change, %			(3.2)	(8.0)	(7.1)	(14.4)	(6.0)	12.8	37.0	(3.9)	(8.3)
	SBR	BD spread	90.0	200.0	225.0	425.0	360.0	475.0	(100.0)	366.2	499.4	320.9
	Change, %			(55.0)	(60.0)	(78.8)	(75.0)	(81.1)	(190.0)	(75.4)	(82.0)	(72.0)
	SM		705.5	704.0	875.5	777.5	844.5	751.0	720.5	665.1	760.3	784.9
	Change, %			0.2	(19.4)	(9.3)	(16.5)	(6.1)	(2.1)	6.1	(7.2)	(10.1)
	Caustic											
	Change, %											
	PX		333.0	321.5	325.5	355.0	392.0	363.5	370.5	390.9	351.0	349.9
	Change, %			3.6	2.3	(6.2)	(15.1)	(8.4)	(10.1)	(14.8)	(5.1)	(4.8)
	PO	propylene sprea	770.0	785.0	865.0	830.0	967.5	742.5	747.5	691.1	777.6	823.2
	Change, %			(1.9)	(11.0)	(7.2)	(20.4)	3.7	3.0	11.4	(1.0)	(6.5)
	Caprolactam	benzene spreac	1,320.0	1,322.5	1,265.0	1,380.0	1,267.5	867.5	1,027.5	698.2	1,097.6	1,250.7
	Change, %			(0.2)	4.3	(4.3)	4.1	52.2	28.5	89.1	20.3	5.5
	PTA	px spread	168.5	174.0	177.5	121.3	148.5	94.3	44.0	60.4	76.7	128.5
	Change, %			(3.2)	(5.1)	39.0	13.5	78.8	283.0	178.9	119.7	31.1

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	07/10	1D	1W	1M	3M	6M	12M	YTD	MKT CAP (mil USD)	PER 18E	PER 19E	PBR 18E	PBR 19E	EV/EBITDA 18E	EV/EBITDA 19E
Petrochemical																
DowDuPont	USD	67.8	1.6	4.1	(2.4)	2.9	(8.6)	5.1	(4.8)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	101.9	1.0	3.4	(6.6)	(4.1)	4.7	20.3	10.0	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	83.1	0.4	2.2	(3.4)	(1.5)	(10.8)	1.9	(9.5)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	74.5	0.2	1.6	(1.9)	(5.8)	0.2	(3.6)	2.0	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	104.2	1.5	2.3	0.8	(1.9)	0.2	8.0	2.6	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	68.5	0.5	2.2	(1.0)	10.8	(0.7)	2.2	3.3	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	629	0.8	1.3	(4.7)	0.6	(27.5)	(2.8)	(22.3)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	949	1.5	3.1	(5.0)	(7.1)	(26.4)	(0.7)	(23.3)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,385	1.3	5.0	(7.6)	(4.0)	(13.9)	4.2	(9.3)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,416	0.5	1.3	(6.8)	(0.7)	(7.3)	16.9	(2.6)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	1,948	1.0	5.9	(3.9)	(18.5)	(15.6)	(0.4)	(12.2)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,086	(0.1)	0.9	(10.0)	(2.1)	(23.5)	(16.7)	(19.2)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	127.0	1.0	2.9	1.4	7.5	24.9	25.1	25.2	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	77.0	0.0	3.8	4.8	6.5	27.3	43.4	30.5	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	112.0	0.9	(0.9)	3.2	6.2	10.9	21.5	13.5	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	114.5	(0.9)	(7.7)	(1.3)	1.8	6.0	27.4	11.2	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	82.7	(5.5)	(6.0)	(3.3)	(1.3)	0.0	10.9	6.2	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.52	0.5	0.4	(3.2)	(6.0)	(21.1)	(17.2)	(12.8)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.88	0.0	(0.5)	(8.3)	(6.5)	(36.7)	(43.0)	(29.6)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,026	2.9	5.6	4.2	11.8	8.8	37.4	12.7	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	114.9	2.1	3.4	5.4	0.3	10.5	20.9	18.5	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	78.0	6.1	5.1	(12.8)	(18.3)	(15.9)	11.4	(8.2)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.4	1.1	1.8	1.1	5.3	23.9	10.9	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	325,500	0.9	2.5	(13.3)	(11.5)	(21.8)	11.7	(19.6)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	341,500	0.4	4.1	(10.4)	(20.6)	(10.2)	(1.6)	(7.2)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	21,100	0.5	1.9	(17.4)	(28.1)	(37.5)	(33.3)	(33.2)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	114,000	3.2	(1.3)	14.8	20.3	6.5	54.1	14.6	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	42,600	(1.8)	2.4	5.1	19.7	(7.0)	22.6	(9.4)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	57,500	1.2	(1.5)	(13.0)	(5.3)	(12.2)	8.7	(8.9)	359	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
효성	KRW	6,180	1.5	2.5	(17.4)	(30.9)	(28.1)	13.2	(18.5)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**0.8**	**1.7**	**(3.7)**	**(2.8)**	**(7.3)**	**9.1**	**(3.0)**							
Refinery																
Valero	USD	108.6	(0.6)	0.4	(9.3)	9.8	15.4	59.5	18.2	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	71.7	1.0	3.1	3.3	15.1	24.4	65.9	30.7	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	118.0	0.4	(4.1)	(4.8)	0.4	(1.7)	14.6	2.2	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	135.8	0.1	1.8	(6.2)	23.1	16.6	41.3	18.7	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	71.9	0.1	1.5	(9.0)	(2.5)	3.4	32.9	8.9	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	45.6	0.7	3.7	8.2	35.7	8.1	53.4	10.2	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	69.0	(1.5)	(0.1)	(10.7)	27.8	34.5	152.4	34.6	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	113.2	0.5	2.4	(3.1)	12.9	10.9	37.3	11.9	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	34.2	0.7	2.0	1.4	21.4	1.6	39.1	10.2	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	798.1	3.0	2.9	11.7	21.8	2.8	64.0	9.8	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	4,290.0	12.6	9.3	15.8	12.6	(4.7)	51.6	(5.2)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	67.5	1.9	3.1	(4.8)	19.1	22.5	89.7	26.5	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	80.9	1.4	3.7	1.0	16.2	11.8	23.0	13.6	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.3	0.7	1.1	(4.0)	(0.0)	(2.2)	(10.8)	(2.1)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	192,000	(0.8)	4.1	(8.6)	(5.4)	(5.4)	20.0	(6.1)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	107,500	1.9	5.4	(3.6)	(6.5)	(8.5)	7.5	(8.1)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	51,400	0.0	(0.2)	(12.3)	(15.9)	(21.3)	(26.0)	(17.4)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**1.3**	**2.4**	**(2.1)**	**10.9**	**6.4**	**42.1**	**9.2**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임
* 국내업체의 multiple은 Dataguidepro 기준임

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Global peers

	Currency	07/10	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
E&P/Shale																
Exxon Mobil	USD	84	0.9	1.7	0.1	8.6	(2.8)	4.4	0.0	354,203	16.8	15.5	1.8	1.7	7.7	7.2
BP	GBP	590	0.8	1.4	1.0	16.7	11.1	32.8	12.8	156,089	14.4	13.5	1.5	1.5	5.5	5.2
Shell	EUR	2,695	1.1	3.2	3.4	13.2	5.4	32.0	8.6	302,140	12.7	11.4	1.5	1.4	5.9	5.6
Chevron	USD	128	1.3	2.3	0.9	7.4	(0.8)	23.8	1.9	243,819	15.9	15.3	1.6	1.6	6.5	6.2
Total	EUR	55	1.1	3.6	2.9	11.9	13.4	27.7	18.6	170,744	12.2	11.3	1.3	1.3	5.6	5.3
Sinopec	CNY	7	1.6	3.8	0.2	(3.8)	(9.0)	6.0	6.2	116,301	10.4	10.0	1.0	1.0	3.9	3.8
Petrochina	CNY	8	2.0	3.1	(1.9)	2.2	(11.3)	(1.0)	(4.1)	204,111	25.3	21.5	1.2	1.1	5.5	5.5
CNOOC	CNY	9	1.9	(0.1)	(8.8)	(16.8)	(21.0)	(15.4)	(10.2)	74,181	9.2	9.3	1.2	1.2	3.9	3.9
Gazprom	RUB	147	(0.5)	3.4	2.2	3.9	2.7	18.6	12.9	56,326	3.2	3.3	0.3	0.3	2.6	2.6
Rosneft	RUB	413	1.2	6.0	8.1	33.7	30.0	28.9	41.7	70,735	7.8	6.7	1.0	0.9	4.6	4.4
Anadarko	USD	75	0.4	2.7	5.7	22.1	36.2	73.1	40.7	38,874	25.5	21.2	3.8	3.3	7.1	6.3
Petrobras	BRL	18	(1.1)	1.4	16.4	(17.1)	5.7	48.2	10.2	65,409	6.7	5.9	0.7	0.6	4.3	4.1
Lukoil	USD	4,355	(2.2)	0.7	3.9	11.7	19.6	52.3	30.6	59,590	5.6	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	0.7	3.0	8.1	16.7	(3.5)	(4.5)	0.8	47,497	21.0	18.9	1.2	1.2	10.8	10.6
Equinor ASA	NOK	225	2.4	5.1	4.0	14.5	22.2	63.9	28.7	93,697	14.6	13.5	2.1	1.9	3.6	3.5
BHP	AUD	34	1.1	3.6	0.5	18.5	10.6	39.6	15.8	129,803	15.3	17.1	2.2	2.1	6.3	6.5
PTT E&P	THB	139	3.4	3.4	1.8	20.4	29.4	63.9	38.5	16,588	13.6	12.8	1.4	1.3	4.1	3.9
Petronas gas	MYR	18	2.8	1.5	(1.1)	(2.4)	(7.1)	(6.6)	1.0	8,676	18.5	18.3	2.7	2.6	10.2	10.1
Chesapeake	USD	5	0.2	2.3	12.3	74.8	35.0	15.9	36.4	4,924	6.5	7.2	1,350.0	6.7	6.6	6.3
Noble Energy	USD	37	1.1	7.4	9.3	19.6	18.8	34.3	27.8	18,036	32.3	23.5	1.6	1.6	8.0	6.8
Average		**0**	**1.0**	**3.0**	**3.4**	**12.8**	**9.2**	**26.9**	**15.9**							
PV																
WACKER	EUR	118.9	3.8	2.2	0.2	(16.9)	(29.1)	26.4	(26.7)	7,273	17.2	15.2	1.8	1.8	6.0	5.8
GCL-Poly	HKD	0.7	0.0	(2.8)	(13.8)	(31.7)	(52.1)	(18.8)	(50.7)	1,635	6.2	5.4	0.4	0.4	6.3	5.8
SunPower	USD	8.0	0.3	3.6	13.2	(3.9)	(6.0)	(10.3)	(5.3)	1,124	#N/A N/A	#N/A N/A	1.4	1.4	20.8	12.1
Canadian Solar	USD	13.2	1.1	8.4	7.1	(17.6)	(21.9)	(15.6)	(21.6)	774	8.8	8.9	0.8	0.7	7.8	8.5
JA Solar	USD	7.4	6.3	9.4	5.1	5.2	(1.3)	21.2	(0.5)	353	#N/A N/A	#N/A N/A	1.8	1.9	4.9	7.0
Yingli	USD	0.4	83.6	(0.0)	(72.2)	(72.9)	(77.3)	(80.5)	(73.4)	8	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
First Solar	USD	55.2	0.7	5.5	4.8	(22.0)	(20.7)	39.7	(18.2)	5,785	32.5	18.0	1.1	1.0	9.9	5.4
한화큐셀	USD	5.9	3.0	5.0	(10.0)	(23.2)	(22.5)	(13.9)	(16.2)	489	10.5	21.8	#N/A N/A	#N/A N/A	7.8	8.1
OCI	KRW	95,800	1.8	(2.6)	(18.5)	(40.7)	(48.6)	10.6	(29.6)	2,050	0.0	9.6	0.0	0.6	0.0	4.4
웅진에너지	KRW	3,680	4.4	8.6	(31.2)	(41.4)	(56.5)	(46.1)	(55.2)	98	N/A	0.0	0.6	0.0	4.4	0.0
신성솔라에너지	KRW	1,390	5.7	2.6	(18.0)	(11.5)	(31.7)	(35.3)	(27.4)	216	N/A	0.6	0.0	4.4	0.0	6.8
Average			**10.1**	**3.6**	**(12.1)**	**(25.1)**	**(33.4)**	**(11.2)**	**(29.5)**							
Gas Company																
Towngas China	HKD	7.6	(2.4)	(1.3)	4.7	6.6	24.0	46.2	21.0	2,681	14.9	13.3	1.3	1.2	12.4	11.3
Kulun	HKD	6.9	1.0	1.9	(5.1)	2.8	(11.9)	(1.4)	(14.7)	7,138	9.9	8.5	1.1	1.0	5.7	5.1
Beijing Enterprise	HKD	38.5	(0.6)	1.0	(10.0)	(5.6)	(14.3)	(1.4)	(17.0)	6,191	6.7	6.1	0.7	0.6	11.9	11.3
ENN Energy	HKD	80.2	0.2	(0.5)	2.8	14.7	55.6	54.3	43.8	11,082	17.8	14.9	3.6	3.1	10.4	9.2
China Resources Gas	HKD	33.6	(0.1)	(0.7)	11.4	19.4	36.0	19.1	18.5	9,521	17.6	15.8	3.0	2.6	9.7	8.8
China Gas Holdings	HKD	31.9	(3.6)	2.1	(5.3)	11.8	53.1	83.7	47.5	20,163	20.6	17.3	4.8	4.0	15.6	13.2
Shenzen Gas	HKD	15.1	3.0	(0.8)	(10.4)	(11.5)	(5.3)	10.2	1.5	4,057	9.2	8.0	1.2	1.1	5.8	5.1
Shann Xi	CNY	7.2	1.6	3.0	(10.3)	2.4	(19.7)	(17.7)	(14.9)	1,197	16.5	14.4	1.4	1.3	#N/A N/A	#N/A N/A
Suntien	HKD	2.3	0.0	5.5	(13.2)	(1.3)	12.7	51.3	11.1	1,089	6.0	5.3	0.8	0.7	8.3	7.2
China Oil & Gas	HKD	0.6	(3.2)	1.7	(3.2)	1.7	(25.6)	15.1	(28.2)	454	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**(0.4)**	**1.2**	**(3.9)**	**4.1**	**10.5**	**25.9**	**6.8**							
EV																
LG화학	KRW	325,500	0.9	2.5	(13.3)	(11.5)	(21.8)	11.7	(19.6)	20,617	12.2	11.1	1.4	1.3	5.7	5.2
삼성SDI	KRW	228,500	(1.7)	7.5	1.3	22.8	7.0	29.8	11.7	14,098	21.3	15.4	1.3	1.2	14.8	11.5
Panasonic	JPY	1404.0	0.0	(3.9)	(9.9)	(8.9)	(19.2)	(5.9)	(14.9)	30,953	12.8	11.3	1.8	1.6	4.7	4.3
GS Yuasa	JPY	503.0	1.6	0.8	(3.5)	(12.4)	(13.4)	2.0	(10.3)	1,870	14.5	13.4	1.1	1.1	6.7	6.3
NEC	JPY	2997.0	0.4	0.4	(2.1)	1.9	(4.6)	1.6	(1.4)	7,016	22.8	12.8	0.9	0.8	7.1	5.5
BYD Auto	CNY	46.6	0.2	2.8	(7.0)	(17.7)	(29.0)	(6.8)	(28.3)	18,200	27.3	20.5	2.2	2.0	12.2	10.4
Tesla Motors	USD	322.5	1.2	3.7	1.5	5.8	(3.7)	2.0	3.6	54,753	#N/A N/A	138.8	10.8	9.9	63.3	20.4
Kandi Technologies	USD	4.3	(1.1)	(1.1)	1.2	(16.5)	(40.1)	(2.3)	(36.8)	219	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**0.2**	**1.6**	**(4.0)**	**(4.6)**	**(15.6)**	**4.0**	**(12.0)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임