SK Energy Daily

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SK 증권

1. News Summary (3 page)

2018년 10월 2일

News		Conclusion
WTI comment	북미 새 무역협정에 급등…WTI, 4년만에 75달러 회복	
Headline	SABIC 인수 위해 아람코, 은행으로부터 $500억 조달 나서	아람코의 SABIC 인수로 국부펀드인 PIF는 NEOM을 위한 자금 조달 가능
News 1.	-	-
News 2.	-	-
News 3.	-	-
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	75.3	2.8	4.5	7.9	1.8	48.9
Dubai	$/bbl	80.0	0.0	2.0	5.5	5.9	45.1
Gasoline	$/bbl	92.9	1.1	1.8	5.2	10.1	34.2
Diesel	$/bbl	97.3	1.7	3.7	6.0	11.3	40.2
Complex margin	$/bbl	8.7	1.2	1.2	0.9	3.0	0.3
1M lagging	$/bbl	14.4	1.9	(0.4)	4.5	6.7	0.8
Petrochemical			%	%	%	%	%
Naphtha	$/t	729	1.9	4.0	7.3	10.7	38.3
Butadiene	$/t	1,345	0.0	(6.6)	(22.7)	(15.9)	(3.9)
HDPE	$/t	1,280	0.0	0.0	(0.8)	(5.2)	9.9
MEG	$/t	890	0.0	2.9	(6.5)	(1.7)	0.8
PX	$/t	1,300	(0.6)	2.6	(3.8)	33.5	56.8
SM	$/t	1,389	(0.8)	(0.8)	(1.6)	5.9	12.3
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	3.09	2.9	2.1	5.3	6.6	3.3
Natural rubber	$/t	1,320	(0.8)	0.0	1.5	0.8	(9.0)
Cotton	C/lbs	76.7	(0.1)	(2.6)	(6.8)	(9.2)	12.5

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	10/01	$/t	1,105	(4.3)	(7.1)	(12.3)	(12.0)
Propylene	10/01	$/t	1,098	1.2	6.0	12.0	31.4
Benzene	10/01	$/t	855	1.5	(3.1)	5.9	6.2
Toluene	10/01	$/t	845	0.0	1.8	7.6	20.7
Xylene	10/01	$/t	885	0.0	1.7	10.6	34.6
PP	10/01	$/t	1,248	0.0	0.8	(2.7)	6.9
PVC	10/01	$/t	880	0.6	(7.4)	(5.9)	(7.1)
ABS	10/01	$/t	1,830	0.8	(2.7)	(8.5)	(11.2)
SBR	10/01	$/t	1,645	0.0	(12.3)	(7.6)	(9.6)
SM	10/01	$/t	1,408	(0.7)	(3.3)	3.3	4.3
BPA	10/01	$/t	1,933	3.8	(0.8)	9.5	23.9
Caustic	10/01	$/t	434	1.2	8.5	(8.6)	(10.3)
2-EH	10/01	$/t	1,160	4.5	4.0	5.5	17.2
Caprolactam	10/01	$/t	2,180	0.9	2.3	2.3	19.1
Solar				%	%	%	%
Polysilicon	09/26	$/kg	10.6	(1.1)	(6.2)	(6.5)	(36.7)
Module	09/26	$/W	0.24	(1.2)	(4.4)	(11.5)	(25.3)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	85.8	0.9	(0.9)	7.0	3.7	4.7
Shell	EUR	2,649	0.5	2.1	5.9	0.7	17.8
Petrochina	CNY	9.17	0.0	4.1	14.1	18.9	14.8
Gazprom	RUB	161.9	(0.4)	1.8	8.0	14.8	32.5
Petrobras	BRL	21.0	(0.4)	5.0	9.0	22.2	37.3
Refinery							
Phillips66	USD	114.5	1.6	0.9	(3.4)	1.9	25.0
Valero	USD	113.9	0.1	(0.9)	(3.4)	2.8	48.0
JX	JPY	860.7	0.3	(4.5)	10.0	11.8	48.7
Neste Oil	EUR	71.8	0.8	(1.0)	(4.1)	6.8	94.2

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	76.7	0.4	(5.1)	(3.6)	(6.1)	(14.5)
DowDuPont	USD	64.8	0.8	(5.0)	(7.6)	(1.7)	(6.4)
SABIC	SAR	126.0	0.5	2.9	0.0	0.0	23.9
Formosa Pla.	TWD	117.5	0.4	0.0	4.4	4.4	28.0
Shin-Etsu	JPY	10,130	0.6	3.9	(2.8)	2.6	0.7
Renewable							
Wacker	EUR	110.6	2.1	(6.7)	(11.0)	(1.4)	(8.8)
First Solar	USD	48.98	1.2	(2.5)	(6.0)	(7.0)	6.8
GCL-Poly	HKD	0.55	0.0	0.0	3.8	(25.7)	(48.6)
Tesla Motors	USD	310.7	17.3	3.7	3.0	(9.4)	(8.9)

4. Coverage Summary

	10/01	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,339	(0.2)	(0.0)	0.7	2.9	(4.4)	(2.3)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,628	0.5	2.5	0.1	1.4	(7.7)	(1.2)				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	368,500	0.8	0.4	0.7	16.1	(4.4)	(6.0)	매수	400,000	8.5	16.17	1.68
롯데케미칼	273,500	(1.6)	(3.7)	(13.4)	(16.6)	(36.8)	(27.6)	매수	360,000	31.6	8.90	11.95
한화케미칼	18,900	(2.1)	1.9	(6.7)	(8.7)	(36.6)	(41.8)	매수	27,000	42.9	9.19	0.46
금호석유화학	89,000	(9.6)	(7.5)	(12.7)	(22.9)	(7.7)	23.4	매수	140,000	57.3	10.19	1.17
KCC	331,500	(2.2)	(3.2)	2.2	4.7	(4.1)	(11.5)	매수	400,000	20.7	18.64	0.55
OCI	111,000	0.9	1.4	(3.9)	12.8	(29.3)	8.3	매수	140,000	26.1	13.08	0.76
SKC	42,150	(1.2)	(2.1)	(10.4)	1.3	10.2	2.2	매수	50,000	18.6	11.67	0.99
SK이노베이션	223,000	3.7	11.2	15.5	20.9	5.7	12.1	매수	240,000	7.6	15.93	1.17
S-Oil	137,500	0.4	5.4	15.1	34.8	14.6	7.8	매수	150,000	9.1	17.24	2.27
GS	55,500	0.7	6.7	4.5	7.8	(10.6)	(15.4)	매수	80,000	44.1	5.27	0.63
SK가스	84,400	0.2	0.7	(0.9)	(6.5)	(12.1)	(10.5)	매수	120,000	42.2	6.92	0.56
포스코대우	21,600	3.1	8.0	18.4	5.1	(5.7)	11.9	매수	25,000	15.7	12.39	0.80
LG상사	21,900	(1.1)	1.2	2.8	(3.3)	(19.8)	(19.8)	매수	30,000	37.0	7.91	0.64
한국전력	29,350	0.0	2.1	(3.8)	(7.4)	(10.7)	(24.7)	매수	40,000	36.3	7.66	0.24
한국가스공사	60,500	(0.3)	3.1	15.0	1.2	24.9	43.7	매수	75,000	24.0	10.90	0.79

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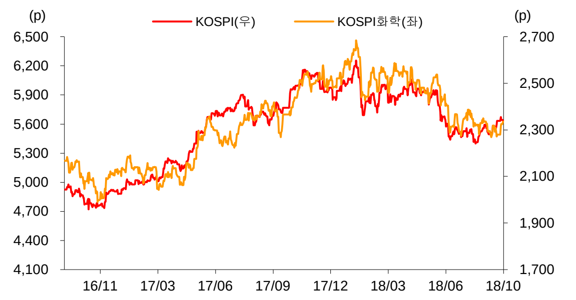
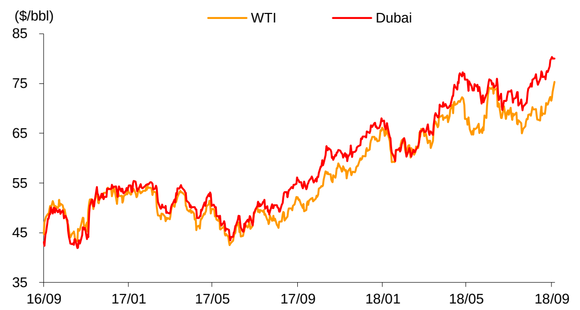
Key Chart

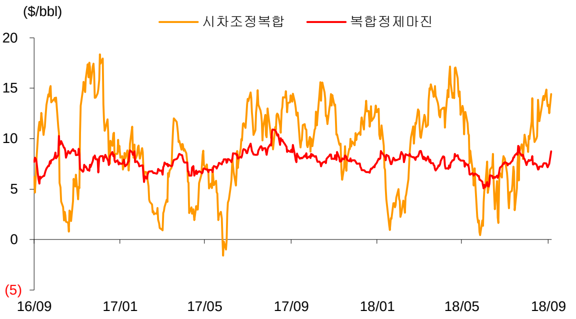
KOSPI/KOSPI화학



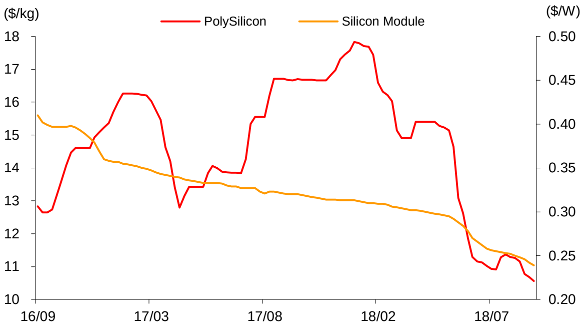
WTI/Dubai



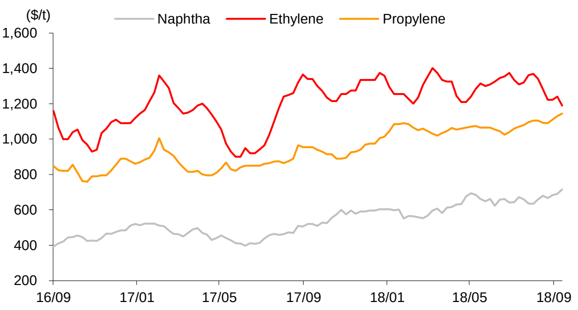
Complex & 1M lagging margin



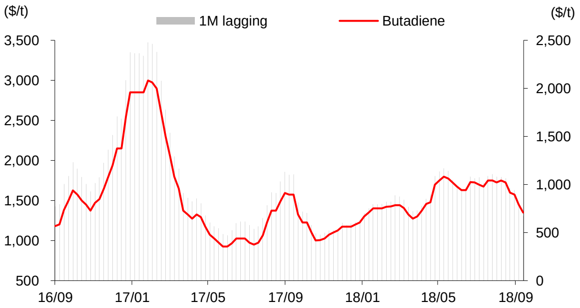
Polysilicon & Module prices



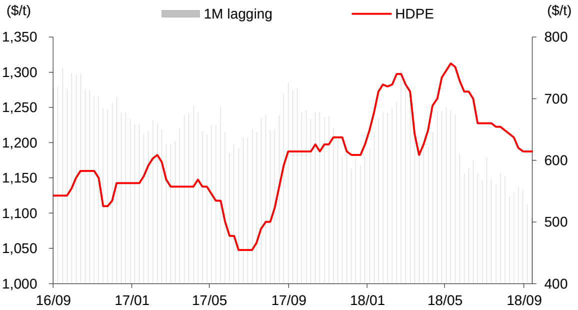
Naphtha/Ethylene/Propylene prices



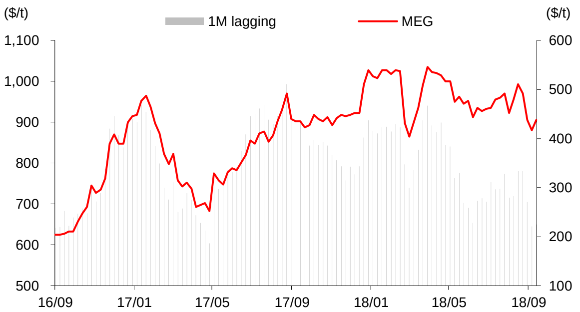
Butadiene price & 1M lagging naphtha spread



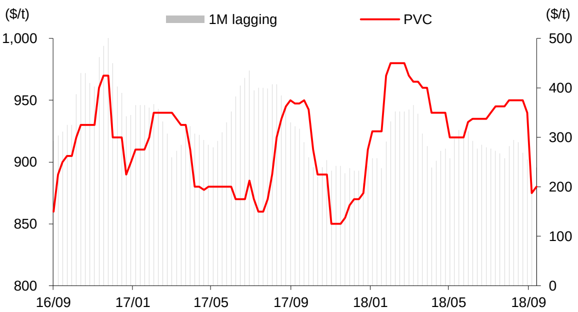
HDPE price & 1M lagging naphtha spread



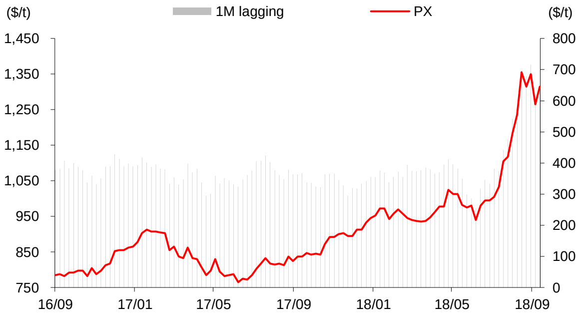
MEG price & 1M lagging naphtha spread



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: Reuters)
제목	SABIC 인수 위해 아람코, 은행으로부터 $500억 조달 나서
결론	아람코의 SABIC 인수로 국부펀드인 PIF는 NEOM을 위한 자금 조달 가능
세부	
	1) 아람코가 SABIC 인수 대금 중 $500억을 은행으로부터 조달 시도중
	2) 관계자, "Financing Package는 2019년 초 윤곽이 나올 예정"
	3) 옵션으로는 아람코의 채권 발행과 SABIC이 부채를 떠안는 LBO 거론중
	4) $200억을 아람코가 현금으로 대고 나머지 $500억을 대출로 충당 전망
	5) 아람코의 SABIC 인수로 국부펀드인 PIF는 NEOM을 위한 자금 조달 가능

WTI Comment	(출처: 연합뉴스)
제목	북미 새 무역협정에 급등…WTI, 4년만에 75달러 회복
상승 요인	美가 새로운 무역협정을 멕시코에 이어 캐나다와도 타결했다는 소식
하락 요인	

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

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

Issue 4	
제목	
결론	
세부	
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Issue 5	
제목	
결론	
세부	
	1)
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Issue 6	
제목	
결론	
세부	
	1)
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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	**USD/EUR**	0.864	0.862	0.851	0.862	0.856	0.811	0.846	0.833	0.904	0.887	0.838
	Change, %		*0.2*	*1.5*	*0.2*	*0.9*	*6.4*	*2.0*	*3.7*	*(4.4)*	*(2.6)*	*3.0*
	USD/JPY	113.9	113.7	112.8	111.0	110.8	106.3	112.5	112.6	108.8	112.1	109.7
	Change, %		*0.2*	*1.0*	*2.6*	*2.9*	*7.2*	*1.3*	*1.2*	*4.8*	*1.6*	*3.9*
	USD/KRW	1,111.7	1,109.3	1,120.4	1,113.1	1,114.7	1,063.6	1,145.4	1,066.7	1,160.5	1,130.9	1,091.3
	Change, %		*0.2*	*(0.8)*	*(0.1)*	*(0.3)*	*4.5*	*(2.9)*	*4.2*	*(4.2)*	*(1.7)*	*1.9*
Agriculture	**Corn**	365.8	356.3	360.5	351.0	350.3	387.8	355.3	350.8	358.5	359.4	367.6
	Change, %		*2.7*	*1.5*	*4.2*	*4.4*	*(5.7)*	*3.0*	*4.3*	*2.0*	*1.8*	*(0.5)*
	Soybean	857.8	845.5	841.0	833.0	858.5	1,044.8	968.3	951.8	987.5	975.9	949.2
	Change, %		*1.4*	*2.0*	*3.0*	*(0.1)*	*(17.9)*	*(11.4)*	*(9.9)*	*(13.1)*	*(12.1)*	*(9.6)*
	Wheat	509.5	509.0	527.0	518.5	497.5	451.0	448.3	427.0	436.4	436.0	490.0
	Change, %		*0.1*	*(3.3)*	*(1.7)*	*2.4*	*13.0*	*13.7*	*19.3*	*16.8*	*16.8*	*4.0*
	Rice	10.1	9.8	9.8	10.8	11.6	12.4	12.0	11.7	10.3	11.1	11.8
	Change, %		*3.6*	*3.1*	*(6.4)*	*(12.7)*	*(18.0)*	*(15.5)*	*(13.2)*	*(2.0)*	*(8.4)*	*(14.2)*
	Oats	269.8	264.8	259.3	243.5	250.5	225.0	251.3	241.0	196.3	252.3	246.4
	Change, %		*1.9*	*4.1*	*10.8*	*7.7*	*19.9*	*7.4*	*11.9*	*37.4*	*6.9*	*9.5*
MYR/mt	**Palm Oil**	2,094.0	2,118.0	2,137.0	2,200.0	2,298.0	2,380.0	2,719.0	2,444.0	2,653.8	2,787.3	2,344.0
	Change, %		*(1.1)*	*(2.0)*	*(4.8)*	*(8.9)*	*(12.0)*	*(23.0)*	*(14.3)*	*(21.1)*	*(24.9)*	*(10.7)*
	Cocoa	1,990.0	2,057.0	2,235.0	2,323.0	2,476.0	2,556.0	2,043.0	1,892.0	2,854.0	2,005.2	2,346.1
	Change, %		*(3.3)*	*(11.0)*	*(14.3)*	*(19.6)*	*(22.1)*	*(2.6)*	*5.2*	*(30.3)*	*(0.8)*	*(15.2)*
	Cotton	76.7	76.8	78.7	82.3	85.4	81.5	69.1	78.6	65.6	73.5	83.7
	Change, %		*(0.1)*	*(2.6)*	*(6.8)*	*(10.2)*	*(5.8)*	*11.0*	*(2.5)*	*16.9*	*4.3*	*(8.4)*
	Sugar	11.6	10.4	10.4	10.6	11.9	12.4	13.5	15.2	18.2	15.8	12.0
	Change, %		*11.4*	*11.8*	*9.5*	*(2.1)*	*(6.0)*	*(14.3)*	*(23.4)*	*(36.0)*	*(26.6)*	*(3.6)*
	Coffee	102.2	102.5	98.5	98.1	111.5	118.2	128.1	126.2	136.1	133.0	113.8
	Change, %		*(0.2)*	*3.8*	*4.2*	*(8.3)*	*(13.5)*	*(20.2)*	*(19.0)*	*(24.9)*	*(23.1)*	*(10.2)*
Energy	**WTI**	75.3	73.3	72.1	69.8	74.2	64.9	51.7	60.4	43.4	51.0	66.9
	Change, %		*2.8*	*4.5*	*7.9*	*1.6*	*16.0*	*45.7*	*24.6*	*73.6*	*47.7*	*12.6*
	Brent	85.0	82.7	81.2	77.4	79.4	70.3	57.5	66.9	45.1	54.9	72.8
	Change, %		*2.7*	*4.7*	*9.8*	*7.0*	*20.9*	*47.7*	*27.1*	*88.5*	*54.9*	*16.7*
	Natural Gas	3.1	3.0	3.0	2.9	2.9	2.7	3.0	3.0	2.6	3.0	2.9
	Change, %		*2.9*	*1.8*	*6.1*	*5.8*	*13.2*	*2.9*	*4.8*	*21.2*	*2.4*	*8.6*
	Ethanol	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.3	1.5	1.5	1.4
	Change, %		*0.8*	*3.6*	*1.2*	*(9.1)*	*(10.9)*	*(14.0)*	*(1.9)*	*(14.5)*	*(13.5)*	*(8.1)*
	RBOB Gasoline	212.8	210.1	205.5	214.4	217.9	201.8	160.7	179.9	140.0	162.9	201.3
	Change, %		*1.3*	*3.5*	*(0.8)*	*(2.4)*	*5.4*	*32.4*	*18.2*	*52.0*	*30.6*	*5.7*
	Coal	114.6	113.9	113.8	118.0	114.4	96.4	97.3	100.8	65.5	88.2	107.8
	Change, %		*0.7*	*0.7*	*(2.9)*	*0.2*	*18.9*	*17.8*	*13.7*	*75.1*	*29.9*	*6.3*
Metal	**Gold**	1,189.0	1,192.5	1,199.1	1,201.4	1,253.2	1,325.0	1,280.2	1,302.6	1,248.5	1,258.6	1,281.9
	Change, %		*(0.3)*	*(0.8)*	*(1.0)*	*(5.1)*	*(10.3)*	*(7.1)*	*(8.7)*	*(4.8)*	*(5.5)*	*(7.2)*
	Silver	14.5	14.7	14.3	14.5	16.1	16.4	16.7	16.9	17.1	17.1	16.1
	Change, %		*(1.4)*	*1.6*	*(0.4)*	*(10.1)*	*(11.5)*	*(13.0)*	*(14.5)*	*(15.3)*	*(15.1)*	*(9.9)*
	Copper	6,249.0	6,258.0	6,353.0	5,975.0	6,626.0	6,714.0	6,481.0	7,247.0	4,872.0	6,199.4	6,672.0
	Change, %		*(0.1)*	*(1.6)*	*4.6*	*(5.7)*	*(6.9)*	*(3.6)*	*(13.8)*	*28.3*	*0.8*	*(6.3)*
	Nickel	913.8	906.2	929.8	919.9	1,022.5	841.4	678.7	809.1	646.4	680.2	920.1
	Change, %		*0.8*	*(1.7)*	*(0.7)*	*(10.6)*	*8.6*	*34.6*	*12.9*	*41.4*	*34.3*	*(0.7)*
	Zinc	2,656.0	2,612.0	2,564.0	2,457.0	2,854.0	3,274.0	3,162.0	3,319.0	2,097.5	2,888.5	3,000.6
	Change, %		*1.7*	*3.6*	*8.1*	*(6.9)*	*(18.9)*	*(16.0)*	*(20.0)*	*26.6*	*(8.0)*	*(11.5)*
	Lead	2,019.5	2,025.8	2,034.0	2,064.5	2,411.8	2,399.0	2,494.0	2,482.8	1,868.3	2,315.7	2,332.2
	Change, %		*(0.3)*	*(0.7)*	*(2.2)*	*(16.3)*	*(15.8)*	*(19.0)*	*(18.7)*	*8.1*	*(12.8)*	*(13.4)*
	Aluminum	14,310.0	14,310.0	14,680.0	14,825.0	14,065.0	13,705.0	16,235.0	15,020.0	12,373.5	14,556.6	14,380.8
	Change, %		*0.0*	*(2.5)*	*(3.5)*	*1.7*	*4.4*	*(11.9)*	*(4.7)*	*15.7*	*(1.7)*	*(0.5)*
	Cobalt	57,880.0	61,874.0	61,844.0	64,306.0	77,550.0	93,550.0	59,094.0	75,205.0	25,480.1	55,906.9	78,133.8
	Change, %		*(6.5)*	*(6.4)*	*(10.0)*	*(25.4)*	*(38.1)*	*(2.1)*	*(23.0)*	*127.2*	*3.5*	*(25.9)*
	HR Coil	841.0	841.0	867.0	865.0	910.0	859.0	599.0	662.0	519.3	620.1	839.9
	Change, %		*0.0*	*(3.0)*	*(2.8)*	*(7.6)*	*(2.1)*	*40.4*	*27.0*	*61.9*	*35.6*	*0.1*
	Scrap	389.0	386.0	386.0	376.0	400.0	400.0	340.0	367.0	275.7	344.7	388.1
	Change, %		*0.8*	*0.8*	*3.5*	*(2.8)*	*(2.8)*	*14.4*	*6.0*	*41.1*	*12.8*	*0.2*

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

SK Energy Daily

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Refining Price Data

Daily Price		10/01	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	75.3	73.3	72.1	69.8	73.9	63.0	50.6	53.7	43.4	50.9	66.8
	Change, %		*2.8*	*4.5*	*7.9*	*1.8*	*19.5*	*48.9*	*40.2*	*73.7*	*47.9*	*12.6*
	Dubai	80.0	80.0	78.5	75.9	75.6	66.8	55.2	53.8	41.3	53.1	70.2
	Change, %		*0.0*	*2.0*	*5.5*	*5.9*	*19.8*	*45.1*	*48.7*	*93.8*	*50.7*	*14.0*
Crude Oil	**Gasoline(휘발유)**	92.9	91.9	91.2	88.3	84.3	80.8	69.2	69.8	56.3	68.0	82.6
Product	*Change, %*		*1.1*	*1.8*	*5.2*	*10.1*	*14.9*	*34.2*	*33.0*	*65.1*	*36.5*	*12.4*
	Kerosene(등유)	94.9	94.0	92.4	90.3	88.7	83.3	69.0	66.4	52.9	65.2	85.4
	Change, %		*1.1*	*2.8*	*5.1*	*7.1*	*14.0*	*37.6*	*42.9*	*79.5*	*45.5*	*11.2*
	Diesel(경유)	97.3	95.7	93.9	91.8	87.5	82.8	69.4	65.5	52.1	65.6	84.8
	Change, %		*1.7*	*3.7*	*6.0*	*11.3*	*17.6*	*40.2*	*48.6*	*86.7*	*48.3*	*14.8*
	Bunker-C	75.3	74.5	72.4	70.2	72.4	58.6	51.4	52.1	35.5	49.7	64.7
	Change, %		*1.1*	*4.0*	*7.4*	*4.0*	*28.5*	*46.4*	*44.7*	*112.0*	*51.7*	*16.4*
	Naphtha	79.8	78.3	76.4	74.1	72.6	66.8	56.2	53.5	42.6	53.7	69.1
	Change, %		*2.0*	*4.5*	*7.7*	*10.0*	*19.5*	*42.1*	*49.4*	*87.5*	*48.6*	*15.5*
Dubai	**Gasoline(휘발유)**	12.8	11.8	12.7	12.4	8.8	14.0	14.0	16.0	14.9	14.9	12.5
Spread	*Change*		*1.0*	*0.1*	*0.4*	*4.1*	*(1.2)*	*(1.2)*	*(3.2)*	*(2.1)*	*(2.1)*	*0.4*
	Kerosene(등유)	14.9	13.9	13.9	14.5	13.1	16.5	13.8	12.6	11.6	12.1	15.2
	Change		*1.0*	*1.0*	*0.4*	*1.8*	*(1.6)*	*1.1*	*2.3*	*3.3*	*2.8*	*(0.3)*
	Diesel(경유)	17.3	15.7	15.4	15.9	11.9	16.0	14.2	11.7	10.8	12.5	14.6
	Change		*1.6*	*1.9*	*1.4*	*5.4*	*1.3*	*3.0*	*5.6*	*6.5*	*4.8*	*2.7*
	Bunker-C	(4.7)	(5.5)	(6.1)	(5.7)	(3.1)	(8.2)	(3.7)	(1.8)	(5.8)	(3.4)	(5.5)
	Change		*0.8*	*1.3*	*1.0*	*(1.6)*	*3.5*	*(1.0)*	*(3.0)*	*1.1*	*(1.3)*	*0.8*
	Naphtha	(0.2)	(1.8)	(2.1)	(1.7)	(3.0)	0.0	1.0	(0.4)	1.3	0.6	(1.0)
	Change		*1.6*	*1.9*	*1.5*	*2.8*	*(0.2)*	*(1.2)*	*0.2*	*(1.5)*	*(0.8)*	*0.8*
Refining	**Simple(단순)**	3.0	2.0	1.8	2.2	1.8	1.7	3.5	3.8	1.9	3.2	2.2
Margin	*Change*		*1.1*	*1.2*	*0.9*	*1.3*	*1.3*	*(0.4)*	*(0.8)*	*1.1*	*(0.1)*	*0.8*
	Complex(복합)	8.7	7.5	7.5	7.8	5.7	8.0	8.4	8.3	7.0	8.0	7.5
	Change		*1.2*	*1.2*	*0.9*	*3.0*	*0.7*	*0.3*	*0.5*	*1.8*	*0.8*	*1.2*
	Complex(lagging)	14.4	12.5	14.9	10.0	7.7	11.6	13.7	18.0	8.5	8.9	9.3
	Change		*1.9*	*(0.4)*	*4.5*	*6.7*	*2.9*	*0.8*	*(3.5)*	*5.9*	*5.5*	*5.1*

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			10/01	09/28	09/27	09/26	09/25	09/24	09/21	09/20	09/19	09/18
Spot Price	**Naphtha**	CFR Japan	729.3	715.8	716.5	710.5	709.1	701.5	690.3	693.3	689.8	682.5
	Ethylene	CFR SE Asia	1,120.0	1,130.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,160.0	1,130.0	1,160.0
	Propylene	FOB Korea	1,135.0	1,135.0	1,135.0	1,135.0	1,135.0	1,135.0	1,135.0	1,130.0	1,130.0	1,120.0
	Butadiene	FOB Korea	1,345.0	1,345.0	1,350.0	1,440.0	1,440.0	1,440.0	1,440.0	1,475.0	1,515.0	1,515.0
	HDPE	CFR FE Asia	1,280.0	1,280.0	1,280.0	1,280.0	1,280.0	1,280.0	1,280.0	1,270.0	1,270.0	1,270.0
	LDPE	CFR FE Asia	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,110.0	1,110.0	1,115.0
	LLDPE	CFR FE Asia	1,110.0	1,110.0	1,110.0	1,110.0	1,110.0	1,100.0	1,100.0	1,090.0	1,090.0	1,090.0
	MEG	CFR China	890.0	890.0	881.0	882.0	872.0	865.0	865.0	870.0	875.0	880.0
	PP	CFR FE Asia	1,240.0	1,240.0	1,240.0	1,240.0	1,235.0	1,230.0	1,230.0	1,229.0	1,230.0	1,225.0
	PX	CFR China	1,300.3	1,308.7	1,301.3	1,288.7	1,279.0	1,267.7	1,256.0	1,243.7	1,247.7	1,285.0
	PTA	CFR China	1,020.0	1,020.0	1,020.0	1,020.0	1,020.0	1,025.0	1,025.0	1,020.0	1,020.0	1,040.0
	Benzene	FOB Korea	869.0	862.3	858.3	854.3	848.7	842.7	838.0	842.7	841.3	843.0
	Toluene	FOB Korea	806.0	806.5	806.5	806.5	807.0	807.0	807.0	807.0	807.0	807.0
	Xylene	FOB Korea	922.0	919.0	910.0	906.0	910.5	898.5	895.5	902.5	907.5	907.5
	SM	FOB Korea	1,389.0	1,399.5	1,397.5	1,406.5	1,405.5	1,400.5	1,400.5	1,405.5	1,400.5	1,389.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	715.5	691.0	680.0	658.5	662.0	520.5	484.5	399.5	493.5	630.8
	Change, %			*3.5*	*5.2*	*8.7*	*8.1*	*37.5*	*47.7*	*79.1*	*45.0*	*13.4*
	Ethylene	CFR SE Asia	1,105.0	1,155.0	1,190.0	1,260.0	1,225.0	1,255.0	990.0	1,040.9	1,090.9	1,228.7
	Change, %			*(4.3)*	*(7.1)*	*(12.3)*	*(9.8)*	*(12.0)*	*11.6*	*6.2*	*1.3*	*(10.1)*
	Propylene	CFR SE Asia	1,097.5	1,085.0	1,035.0	980.0	1,015.0	835.0	815.0	705.7	823.6	1,066.4
	Change, %			*1.2*	*6.0*	*12.0*	*8.1*	*31.4*	*34.7*	*55.5*	*33.3*	*2.9*
	Butadiene	CFR SE Asia	1,300.0	1,400.0	1,675.0	1,580.0	1,725.0	1,525.0	2,100.0	1,116.8	1,481.1	1,483.6
	Change, %			*(7.1)*	*(22.4)*	*(17.7)*	*(24.6)*	*(14.8)*	*(38.1)*	*16.4*	*(12.2)*	*(12.4)*
	Benzene	CFR SE Asia	855.0	842.5	882.5	807.5	852.5	805.0	822.5	646.7	838.8	866.9
	Change, %			*1.5*	*(3.1)*	*5.9*	*0.3*	*6.2*	*4.0*	*32.2*	*1.9*	*(1.4)*
	Toluene	CFR SE Asia	845.0	845.0	830.0	785.0	815.0	700.0	690.0	630.5	689.5	783.8
	Change, %			*0.0*	*1.8*	*7.6*	*3.7*	*20.7*	*22.5*	*34.0*	*22.6*	*7.8*
	Xylene	CFR SE Asia	885.0	885.0	870.0	800.0	850.0	657.5	675.0	627.7	668.8	802.8
	Change, %			*0.0*	*1.7*	*10.6*	*4.1*	*34.6*	*31.1*	*41.0*	*32.3*	*10.2*
Spread	**Ethylene**	-Naphtha	389.5	464.0	510.0	601.5	563.0	734.5	505.5	641.4	597.4	597.9
	Change, %			*(16.1)*	*(23.6)*	*(35.2)*	*(30.8)*	*(47.0)*	*(22.9)*	*(39.3)*	*(34.8)*	*(34.9)*
	Propylene	-Naphtha	382.0	394.0	355.0	321.5	353.0	314.5	330.5	306.2	330.1	435.6
	Change, %			*(3.0)*	*7.6*	*18.8*	*8.2*	*21.5*	*15.6*	*24.8*	*15.7*	*(12.3)*
	Butadiene	-Naphtha	584.5	709.0	995.0	921.5	1,063.0	1,004.5	1,615.5	717.3	987.6	852.8
	Change, %			*(17.6)*	*(41.3)*	*(36.6)*	*(45.0)*	*(41.8)*	*(63.8)*	*(18.5)*	*(40.8)*	*(31.5)*
	Benzene	-Naphtha	139.5	151.5	202.5	149.0	190.5	284.5	338.0	247.2	345.3	236.1
	Change, %			*(7.9)*	*(31.1)*	*(6.4)*	*(26.8)*	*(51.0)*	*(58.7)*	*(43.6)*	*(59.6)*	*(40.9)*
	Toluene	-Naphtha	129.5	154.0	150.0	126.5	153.0	179.5	205.5	231.0	196.0	153.1
	Change, %			*(15.9)*	*(13.7)*	*2.4*	*(15.4)*	*(27.9)*	*(37.0)*	*(43.9)*	*(33.9)*	*(15.4)*
	Xylene	-Naphtha	169.5	194.0	190.0	141.5	188.0	137.0	190.5	228.2	175.3	172.0
	Change, %			*(12.6)*	*(10.8)*	*19.8*	*(9.8)*	*23.7*	*(11.0)*	*(25.7)*	*(3.3)*	*(1.4)*

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	1,187.5	1,187.5	1,207.5	1,262.5	1,307.5	1,187.5	1,142.5	1,134.6	1,142.5	1,243.3
	Change, %			0.0	(1.7)	(5.9)	(9.2)	0.0	3.9	4.7	3.9	(4.5)
	MEG	CFR SE Asia	905.0	880.0	992.5	935.0	962.5	902.5	847.5	660.8	850.6	967.0
	Change, %			2.8	(8.8)	(3.2)	(6.0)	0.3	6.8	37.0	6.4	(6.4)
	PVC	CFR SE Asia	880.0	875.0	950.0	935.0	920.0	947.5	920.0	823.4	899.9	939.8
	Change, %			0.6	(7.4)	(5.9)	(4.3)	(7.1)	(4.3)	6.9	(2.2)	(6.4)
	PP	CFR SE Asia	1,247.5	1,247.5	1,237.5	1,282.5	1,277.5	1,167.5	1,032.5	978.4	1,099.6	1,254.6
	Change, %			0.0	0.8	(2.7)	(2.3)	6.9	20.8	27.5	13.5	(0.6)
	2-EH	CFR Korea	1,160.0	1,110.0	1,115.0	1,100.0	1,170.0	990.0	865.0	772.4	970.0	1,117.6
	Change, %			4.5	4.0	5.5	(0.9)	17.2	34.1	50.2	19.6	3.8
	ABS	CFR SE Asia	1,830.0	1,815.0	1,880.0	2,000.0	2,080.0	2,060.0	1,635.0	1,347.1	1,844.7	1,991.8
	Change, %			0.8	(2.7)	(8.5)	(12.0)	(11.2)	11.9	35.8	(0.8)	(8.1)
	SBR	CFR SE Asia	1,645.0	1,645.0	1,875.0	1,780.0	1,900.0	1,820.0	2,000.0	1,483.0	1,980.5	1,762.7
	Change, %			0.0	(12.3)	(7.6)	(13.4)	(9.6)	(17.8)	10.9	(16.9)	(6.7)
	SM	CFR SE Asia	1,407.5	1,417.5	1,455.0	1,362.5	1,510.0	1,350.0	1,205.0	1,064.6	1,253.8	1,410.4
	Change, %			(0.7)	(3.3)	3.3	(6.8)	4.3	16.8	32.2	12.3	(0.2)
	Caustic	FOB NEA	434.0	429.0	400.0	475.0	550.0	484.0	422.5	316.6	491.2	523.3
	Change, %			1.2	8.5	(8.6)	(21.1)	(10.3)	2.7	37.1	(11.6)	(17.1)
	PX	CFR SE Asia	1,315.0	1,265.0	1,355.0	980.0	982.5	837.5	855.0	790.4	844.4	1,034.4
	Change, %			4.0	(3.0)	34.2	33.8	57.0	53.8	66.4	55.7	27.1
	PO	CFR China	1,932.5	1,862.5	1,947.5	1,765.0	1,737.5	1,560.0	1,562.5	1,396.8	1,601.2	1,872.3
	Change, %			3.8	(0.8)	9.5	11.2	23.9	23.7	38.4	20.7	3.2
	Caprolactam	CFR SE Asia	2,180.0	2,160.0	2,130.0	2,130.0	2,105.0	1,830.0	1,850.0	1,344.9	1,936.4	2,130.4
	Change, %			0.9	2.3	2.3	3.6	19.1	17.8	62.1	12.6	2.3
	PTA	CFR SE Asia	1,030.0	1,035.0	1,075.0	860.0	857.5	667.5	642.5	613.7	667.8	855.3
	Change, %			(0.5)	(4.2)	19.8	20.1	54.3	60.3	67.8	54.2	20.4
Spread	HDPE		472.0	496.5	527.5	604.0	645.5	667.0	658.0	735.1	649.0	612.5
	Change, %			(4.9)	(10.5)	(21.9)	(26.9)	(29.2)	(28.3)	(35.8)	(27.3)	(22.9)
	MEG		189.5	189.0	312.5	276.5	300.5	382.0	363.0	261.3	357.1	336.2
	Change, %			0.3	(39.4)	(31.5)	(36.9)	(50.4)	(47.8)	(27.5)	(46.9)	(43.6)
	PVC		164.5	184.0	270.0	276.5	258.0	427.0	435.5	423.9	406.4	309.0
	Change, %			(10.6)	(39.1)	(40.5)	(36.2)	(61.5)	(62.2)	(61.2)	(59.5)	(46.8)
	PP		532.0	556.5	557.5	624.0	615.5	647.0	548.0	578.9	606.1	623.8
	Change, %			(4.4)	(4.6)	(14.7)	(13.6)	(17.8)	(2.9)	(8.1)	(12.2)	(14.7)
	2-EH		444.5	419.0	435.0	441.5	508.0	469.5	380.5	372.9	476.5	486.8
	Change, %			6.1	2.2	0.7	(12.5)	(5.3)	16.8	19.2	(6.7)	(8.7)
	ABS		1,114.5	1,124.0	1,200.0	1,341.5	1,418.0	1,539.5	1,150.5	947.6	1,351.2	1,361.0
	Change, %			(0.8)	(7.1)	(16.9)	(21.4)	(27.6)	(3.1)	17.6	(17.5)	(18.1)
	SBR	BD spread	345.0	245.0	200.0	200.0	175.0	295.0	(100.0)	366.2	499.4	279.1
	Change, %			40.8	72.5	72.5	97.1	16.9	(445.0)	(5.8)	(30.9)	23.6
	SM		692.0	726.5	775.0	704.0	848.0	829.5	720.5	665.1	760.3	779.7
	Change, %			(4.7)	(10.7)	(1.7)	(18.4)	(16.6)	(4.0)	4.0	(9.0)	(11.2)
	Caustic											
	Change, %											
	PX		599.5	574.0	675.0	321.5	320.5	317.0	370.5	390.9	351.0	403.6
	Change, %			4.4	(11.2)	86.5	87.1	89.1	61.8	53.4	70.8	48.6
	PO	propylene sprea	835.0	777.5	912.5	785.0	722.5	725.0	747.5	691.1	777.6	805.9
	Change, %			7.4	(8.5)	6.4	15.6	15.2	11.7	20.8	7.4	3.6
	Caprolactam	benzene spread	1,325.0	1,317.5	1,247.5	1,322.5	1,252.5	1,025.0	1,027.5	698.2	1,097.6	1,263.5
	Change, %			0.6	6.2	0.2	5.8	29.3	29.0	89.8	20.7	4.9
	PTA	px spread	109.5	149.5	126.5	174.0	169.8	81.3	44.0	60.4	76.7	131.3
	Change, %			(26.8)	(13.4)	(37.1)	(35.5)	34.8	148.9	81.2	42.8	(16.6)

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

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Global peers

	Currency	10/01	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	64.8	0.8	(5.0)	(7.6)	(1.7)	1.7	(6.4)	(9.0)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	96.9	1.2	(2.1)	(0.2)	(3.1)	(8.2)	7.1	4.6	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	76.7	0.4	(5.1)	(3.6)	(6.1)	(7.0)	(14.5)	(16.4)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	79.5	(1.3)	(2.2)	(1.2)	8.5	3.6	1.8	8.9	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	108.0	1.2	(2.3)	0.0	6.5	1.8	4.0	6.3	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	63.7	1.0	(3.5)	(5.9)	(4.7)	2.4	(4.6)	(3.9)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	669	0.6	1.2	6.0	6.5	7.9	(4.8)	(17.4)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,094	0.6	7.8	9.8	17.9	6.1	2.0	(11.6)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,130	0.6	3.9	(2.8)	2.6	(8.0)	0.7	(11.5)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,730	0.4	3.7	6.1	22.9	23.7	24.9	19.0	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,116	(0.2)	(0.5)	(1.9)	12.2	(11.6)	(1.0)	(4.6)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,657	1.7	2.1	0.3	3.3	8.5	(7.7)	(13.5)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	126.0	0.5	2.9	0.0	0.0	8.7	23.9	24.2	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	70.6	(0.4)	(0.8)	(1.5)	(6.7)	(2.5)	21.1	19.7	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	117.5	0.4	0.0	4.4	4.4	13.0	28.0	19.0	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	128.5	0.4	0.4	4.5	5.8	18.4	39.5	24.8	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	85.0	0.2	(0.6)	(0.5)	(2.5)	4.2	13.3	9.1	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.86	0.0	1.2	6.5	3.0	(1.8)	(7.1)	(7.4)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.08	0.0	3.5	5.6	8.3	2.5	(34.0)	(22.1)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,232	(2.1)	(0.0)	(0.8)	26.7	39.5	57.7	35.4	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	127.2	(0.2)	4.0	2.6	15.6	17.6	36.9	31.1	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	81.8	0.6	2.5	0.0	12.0	(13.5)	6.2	(3.8)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	9.4	0.5	(0.5)	(0.5)	11.9	13.9	29.1	22.2	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	368,500	0.8	0.4	0.7	10.5	(4.4)	(6.0)	(9.0)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	273,500	(1.6)	(3.7)	(13.4)	(21.4)	(36.8)	(27.6)	(25.7)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	18,900	(2.1)	1.9	(6.7)	(13.5)	(36.6)	(41.8)	(40.2)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	89,000	(9.6)	(7.5)	(12.7)	(23.6)	(7.7)	23.4	(10.6)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	42,150	(1.2)	(2.1)	(10.4)	(2.3)	10.2	2.2	(10.3)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	53,800	(1.1)	(0.4)	(8.3)	(12.5)	(10.2)	(2.5)	(14.7)	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	6,360	(1.9)	0.5	(4.6)	(2.2)	(35.1)	(4.4)	(16.1)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(0.3)**	**(0.0)**	**(1.2)**	**2.6**	**0.0**	**5.3**	**(0.8)**							
Refinery																
Valero	USD	113.9	0.1	(0.9)	(3.4)	2.8	22.8	48.0	23.9	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	79.9	3.2	3.7	8.8	14.8	34.7	59.6	45.5	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	148.5	0.3	1.0	17.9	21.2	25.3	40.1	28.6	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	153.5	0.0	(3.4)	0.5	17.0	52.6	48.8	34.2	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	82.4	3.1	(3.9)	0.2	17.5	12.7	47.0	24.9	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	40.2	0.7	(3.2)	(6.4)	(8.6)	26.5	9.5	(2.9)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	69.6	(0.5)	(0.0)	(6.7)	1.7	42.4	93.4	35.8	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	114.5	1.6	0.9	(3.4)	1.9	19.3	25.0	13.2	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	33.9	1.7	3.5	10.0	0.4	31.2	27.6	9.2	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	860.7	0.3	(4.5)	10.0	11.8	33.7	48.7	18.4	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	6,120.0	1.8	2.5	9.1	54.9	51.3	92.8	35.2	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	71.8	0.8	(1.0)	(4.1)	6.8	26.8	94.2	34.5	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	84.2	0.4	(1.3)	0.0	7.7	20.7	28.8	18.3	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	49.0	1.8	2.5	(2.9)	16.0	11.1	(2.2)	10.7	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	223,000	3.7	11.2	15.5	10.4	5.7	12.1	9.0	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	137,500	0.4	5.4	15.1	25.6	14.6	7.8	17.5	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	55,500	0.7	6.7	4.5	2.0	(10.6)	(15.4)	(10.8)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**1.2**	**1.1**	**3.8**	**12.0**	**24.8**	**39.2**	**20.3**							

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

SK Energy Daily

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SK증권

Global peers

	Currency	10/01	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	86	0.9	(0.9)	7.0	3.7	15.0	4.7	2.6	363,303	18.4	15.3	1.9	1.8	8.2	7.1
BP	GBP	595	1.0	4.4	8.8	2.9	24.2	24.7	13.9	155,645	14.0	12.5	1.5	1.5	5.3	4.9
Shell	EUR	2,649	0.5	2.1	5.9	0.7	18.6	17.8	6.8	288,822	12.7	10.7	1.4	1.4	5.9	5.5
Chevron	USD	124	1.7	1.4	5.0	(1.6)	9.1	5.9	(0.6)	238,350	15.6	13.4	1.6	1.5	6.3	5.6
Total	EUR	56	0.9	1.5	4.6	8.0	22.2	24.0	22.4	173,874	12.3	10.9	1.4	1.3	5.9	5.2
Sinopec	CNY	7	0.0	2.4	4.1	9.7	9.9	20.7	16.2	124,609	10.8	10.4	1.1	1.1	4.1	4.0
Petrochina	CNY	9	0.0	4.1	14.1	18.9	20.0	14.8	13.3	233,254	28.6	23.3	1.4	1.3	5.9	5.7
CNOOC	CNY	11	0.0	0.8	11.4	20.2	1.6	1.1	8.6	88,433	10.8	9.8	1.5	1.4	4.3	4.1
Gazprom	RUB	162	(0.4)	1.8	8.0	14.8	13.7	32.5	24.1	58,724	3.1	3.0	0.3	0.3	2.5	2.5
Rosneft	RUB	494	0.2	10.5	13.4	24.7	57.4	54.9	69.5	80,230	8.2	7.2	1.2	1.1	4.8	4.5
Anadarko	USD	69	2.0	4.1	6.7	(6.2)	13.8	40.7	28.2	35,200	23.7	16.5	2.8	2.4	6.7	5.7
Petrobras	BRL	21	(0.4)	5.0	9.0	22.2	(1.9)	37.3	30.4	74,109	6.8	5.7	0.7	0.6	4.7	4.2
Lukoil	USD	5,016	(0.1)	4.9	6.7	15.3	26.6	63.7	50.4	65,221	5.8	5.9	0.9	0.8	N/A	N/A
Kinder	USD	18	2.5	1.6	2.7	2.9	20.7	(5.2)	0.6	47,497	21.0	18.2	1.2	1.2	10.7	10.5
Equinor ASA	NOK	231	0.4	2.4	7.2	6.5	24.8	44.7	31.6	94,315	14.2	12.9	2.2	2.0	3.7	3.4
BHP	AUD	35	(0.1)	2.3	4.2	2.1	22.7	34.3	17.0	126,220	14.2	15.6	2.4	2.4	6.3	6.6
PTT E&P	THB	160	3.2	3.6	12.3	13.9	39.7	78.8	60.0	19,675	15.1	13.6	1.6	1.5	4.9	4.5
Petronas gas	MYR	19	0.4	(0.5)	1.5	9.7	6.4	6.0	8.6	9,072	19.8	19.7	2.9	2.8	10.8	10.8
Chesapeake	USD	5	2.0	(1.9)	3.4	(12.6)	51.7	6.5	15.7	4,178	5.9	5.8	#N/A N/A	7.4	6.7	6.5
Noble Energy	USD	32	1.8	2.7	6.9	(10.0)	4.8	12.0	9.0	15,344	31.7	23.5	1.4	1.4	7.4	6.4
Average		**0**	**0.8**	**2.6**	**7.1**	**7.3**	**20.1**	**26.0**	**21.4**							
PV																
WACKER	EUR	110.6	2.1	(6.7)	(11.0)	(1.4)	(17.1)	(8.8)	(31.8)	6,673	15.6	14.1	1.7	1.6	5.9	5.7
GCL-Poly	HKD	0.6	0.0	0.0	3.8	(25.7)	(43.3)	(48.6)	(60.7)	1,288	9.3	6.9	0.4	0.4	7.2	6.4
SunPower	USD	7.1	(2.6)	(8.6)	5.8	(7.3)	(10.9)	(2.5)	(15.7)	1,002	#N/A N/A	#N/A N/A	6.9	6.3	16.8	9.3
Canadian Solar	USD	14.4	(0.7)	(2.8)	0.3	17.6	(11.5)	(14.5)	(14.6)	844	10.1	10.1	0.8	0.8	6.7	7.5
JA Solar	USD	7.5	0.0	0.0	0.0	10.0	14.2	(1.7)	0.4	356	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Yingli	USD	0.3	7.7	(6.7)	0.0	(80.4)	(83.3)	(87.7)	(83.4)	5	#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	49.0	1.2	(2.5)	(6.0)	(7.0)	(31.0)	6.8	(27.5)	5,133	30.3	16.3	0.9	0.9	7.6	4.0
한화큐셀	USD	8.1	(1.2)	(6.5)	(3.8)	25.5	7.0	(1.2)	15.5	675	14.5	30.0	#N/A N/A	#N/A N/A	8.7	9.0
OCI	KRW	111,000	0.9	1.4	(3.9)	7.8	(29.3)	8.3	(18.4)	2,379	0.0	13.5	0.0	0.8	0.0	5.6
웅진에너지	KRW	2,330	(4.3)	(4.9)	(21.7)	(34.2)	(65.8)	(69.1)	(71.7)	62	N/A	0.0	0.8	0.0	5.6	0.0
신성솔라에너지	KRW	1,305	(1.1)	(0.8)	(5.8)	(9.4)	(25.2)	(27.5)	(31.9)	203	N/A	0.8	0.0	5.6	0.0	2.4
Average			**0.2**	**(3.5)**	**(3.8)**	**(9.5)**	**(26.9)**	**(22.4)**	**(30.9)**							
Gas Company																
Towngas China	HKD	6.9	0.0	(1.0)	(5.3)	(10.0)	0.3	25.0	9.1	2,460	13.2	11.9	1.1	1.0	12.3	11.1
Kulun	HKD	9.1	0.0	3.2	11.1	32.6	34.6	19.4	11.9	9,397	11.6	10.2	1.5	1.4	5.8	5.3
Beijing Enterprise	HKD	43.9	0.0	4.0	16.6	14.9	7.1	4.5	(5.4)	7,080	7.4	6.7	0.8	0.7	14.0	13.2
ENN Energy	HKD	68.0	0.0	(4.8)	(4.9)	(11.9)	(3.0)	20.1	22.0	9,779	15.4	13.2	3.2	2.7	9.7	8.4
China Resources Gas	HKD	31.9	0.0	(5.2)	(10.9)	(6.3)	16.9	17.1	12.3	9,052	15.6	13.9	2.8	2.4	8.7	7.9
China Gas Holdings	HKD	22.2	0.0	(3.7)	(11.2)	(29.8)	(22.4)	(5.3)	2.5	14,383	14.1	12.0	3.2	2.7	11.7	10.0
Shenzen Gas	HKD	16.2	0.0	1.8	9.8	(0.5)	(5.9)	10.1	8.6	4,363	10.5	8.7	1.2	1.1	7.6	7.1
Shann Xi	CNY	7.8	0.0	0.6	8.7	11.0	11.8	(6.2)	(7.9)	1,258	18.7	16.4	1.5	1.4	#N/A N/A	#N/A N/A
Suntien	HKD	2.2	0.0	5.8	(7.6)	(3.5)	(0.9)	12.4	5.3	1,035	5.7	4.9	0.7	0.7	8.5	7.3
China Oil & Gas	HKD	0.6	0.0	(1.7)	(6.6)	(6.6)	(9.5)	7.5	(32.9)	425	#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			**0.0**	**(0.1)**	**(0.0)**	**(1.0)**	**2.9**	**10.5**	**2.6**							
EV																
LG화학	KRW	368,500	0.8	0.4	0.7	10.5	(4.4)	(6.0)	(9.0)	23,381	14.4	12.9	1.6	1.5	6.9	6.1
삼성SDI	KRW	252,500	(2.3)	(1.4)	7.0	18.0	31.2	27.2	23.5	15,606	22.9	16.1	1.5	1.3	14.5	11.1
Panasonic	JPY	1335.5	0.9	(2.2)	2.0	(10.6)	(12.2)	(18.1)	(19.0)	28,742	12.2	10.8	1.7	1.5	4.9	4.5
GS Yuasa	JPY	2722.0	(2.7)	(4.0)	(0.7)	7.8	(6.1)	(7.9)	(3.0)	1,975	16.4	15.1	1.2	1.1	7.3	6.7
NEC	JPY	3105.0	(1.1)	2.1	1.1	2.1	3.8	1.8	2.1	7,096	23.4	13.0	0.9	0.9	8.0	5.9
BYD Auto	CNY	49.1	0.0	4.4	10.4	3.0	(12.8)	(28.1)	(24.5)	19,531	32.0	23.8	2.3	2.2	13.7	11.9
Tesla Motors	USD	310.7	17.3	3.7	3.0	(9.4)	16.7	(8.9)	(0.2)	53,003	#N/A N/A	108.4	9.5	8.9	40.2	18.2
Kandi Technologies	USD	5.1	4.7	(3.2)	22.4	19.5	4.7	(11.7)	(25.3)	261	#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			**2.2**	**(0.0)**	**5.8**	**5.1**	**2.6**	**(6.5)**	**(6.9)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임