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SK 증권

2018년 9월 6일

1. News Summary (3 page)

News		Conclusion
WTI comment	美열대폭풍 세력약화에 약세…WTI 1.6%↓	
Headline	사우디 증권거래소장, "아람코 IPO를 위한 준비 작업 지속중"	아람코의 SABIC 인수로 사실상 상장 없이도 NEOM 자금 조달 가능해짐
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	68.7	(1.6)	(1.1)	(0.7)	6.2	39.8
Dubai	$/bbl	75.8	(1.4)	2.0	4.4	2.8	45.4
Gasoline	$/bbl	88.0	(1.8)	2.6	4.2	3.0	24.0
Diesel	$/bbl	92.1	(2.2)	1.9	5.9	5.1	35.8
Complex margin	$/bbl	7.5	(0.8)	(0.3)	(0.3)	0.4	(3.1)
1M lagging	$/bbl	11.4	(2.6)	2.7	5.8	1.0	(1.0)
Petrochemical			%	%	%	%	%
Naphtha	$/t	681	(2.0)	2.2	2.6	3.9	39.8
Butadiene	$/t	1,690	0.0	(2.9)	(0.6)	(2.9)	24.3
HDPE	$/t	1,275	(0.4)	(1.2)	(2.3)	(6.3)	8.1
MEG	$/t	993	1.2	5.6	6.8	10.5	3.4
PX	$/t	1,315	(1.4)	(0.2)	19.5	35.7	59.3
SM	$/t	1,415	(0.1)	0.2	(1.7)	1.9	(0.5)
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.80	(1.0)	(2.4)	(5.4)	(3.8)	(4.9)
Natural rubber	$/t	1,300	0.0	(1.5)	(3.0)	(7.1)	(23.5)
Cotton	C/lbs	81.7	(1.3)	(1.5)	(6.5)	(10.2)	8.6

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	09/03	$/t	1,190	(5.2)	(4.2)	(2.9)	0.0
Propylene	09/03	$/t	1,035	(0.7)	1.5	2.0	29.4
Benzene	09/03	$/t	883	(0.6)	1.1	3.5	8.0
Toluene	09/03	$/t	830	1.8	2.5	1.8	25.8
Xylene	09/03	$/t	870	1.2	5.5	2.4	37.0
PP	09/03	$/t	1,238	0.4	1.2	(3.1)	9.8
PVC	09/03	$/t	950	0.0	0.5	3.3	1.6
ABS	09/03	$/t	1,880	(2.1)	(3.3)	(9.6)	(6.5)
SBR	09/03	$/t	1,875	0.0	6.5	(1.3)	10.9
SM	09/03	$/t	1,455	1.0	(0.7)	(3.6)	7.4
BPA	09/03	$/t	1,948	2.2	9.6	12.1	(2.3)
Caustic	09/03	$/t	400	(5.0)	8.4	(27.3)	(15.1)
2-EH	09/03	$/t	1,115	(1.3)	0.9	(4.7)	12.6
Caprolactam	09/03	$/t	2,130	(1.4)	(1.2)	1.2	22.4
Solar				%	%	%	%
Polysilicon	09/05	$/kg	11.2	(0.9)	(1.1)	(14.7)	(33.2)
Module	09/05	$/W	0.25	(0.8)	(2.4)	(13.9)	(23.2)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	81.4	1.3	0.6	1.4	0.8	5.4
Shell	EUR	2,507	(1.1)	(1.2)	(1.5)	(3.2)	17.7
Petrochina	CNY	8.20	(0.5)	0.4	7.8	2.8	1.5
Gazprom	RUB	147.1	(0.2)	(0.6)	3.3	0.7	26.8
Petrobras	BRL	18.7	0.0	(3.4)	(11.7)	12.4	29.4
Refinery							
Phillips66	USD	118.0	(0.8)	(2.0)	(3.0)	(0.7)	41.7
Valero	USD	116.9	(2.8)	(3.1)	1.3	(5.2)	72.2
JX	JPY	755.1	(1.0)	(5.7)	(7.1)	7.2	40.5
Neste Oil	EUR	71.8	(2.2)	(4.8)	1.3	1.6	99.1

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	77.4	(1.4)	(4.6)	(3.8)	(9.4)	(6.0)
DowDuPont	USD	70.1	0.5	(1.9)	4.8	3.2	7.8
SABIC	SAR	120.6	(4.4)	(5.3)	(5.9)	(6.8)	21.9
Formosa Pla.	TWD	110.5	(1.8)	(2.6)	(0.9)	0.9	15.9
Shin-Etsu	JPY	10,065	(0.6)	(5.7)	(9.7)	(10.4)	5.3
Renewable							
Wacker	EUR	118.2	(2.8)	(6.9)	(4.8)	(11.6)	7.1
First Solar	USD	51.26	(0.1)	(3.4)	(3.0)	(12.0)	7.1
GCL-Poly	HKD	0.55	(6.8)	3.8	(16.7)	(27.6)	(37.5)
Tesla Motors	USD	280.7	(2.8)	(8.0)	(19.4)	(3.6)	(19.7)

4. Coverage Summary

	09/05	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,292	(1.0)	(0.7)	0.2	(7.2)	(5.0)	(1.6)				* 추정치는 12M fwd 기준임	
KOSPI화학	5,556	(0.9)	(1.8)	(2.5)	(8.6)	(6.9)	(4.0)				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	358,000	(2.6)	(4.3)	(6.0)	(2.8)	(7.6)	(3.2)	매수	400,000	11.7	14.14	1.60
롯데케미칼	300,500	(2.6)	(6.8)	(10.2)	(19.2)	(32.7)	(26.8)	매수	400,000	33.1	9.33	0.85
한화케미칼	19,900	(1.5)	(6.6)	(5.7)	(21.3)	(35.7)	(42.8)	매수	30,000	50.8	8.94	0.49
금호석유화학	96,500	0.1	(3.5)	(5.4)	(5.9)	11.6	22.3	매수	150,000	55.4	9.00	1.25
KCC	330,000	3.4	(1.9)	(3.6)	(5.7)	(5.7)	(15.3)	매수	400,000	21.2	28.61	0.51
OCI	117,500	(1.7)	1.7	17.5	0.9	(23.2)	18.4	매수	140,000	19.1	8.94	0.85
SKC	46,450	(0.2)	(1.9)	8.7	12.3	17.7	27.4	매수	50,000	7.6	12.67	1.10
SK이노베이션	191,500	(0.8)	(1.8)	0.5	(7.9)	(6.4)	1.1	매수	230,000	20.1	11.26	0.96
S-Oil	119,000	(1.2)	(2.5)	3.0	5.3	(3.3)	(4.4)	매수	140,000	17.6	13.58	1.99
GS	51,800	(1.1)	(5.5)	(3.0)	(11.8)	(21.8)	(23.5)	매수	80,000	54.4	4.80	0.58
SK가스	88,100	0.0	2.8	4.1	(8.6)	(6.0)	(18.8)	매수	130,000	47.6	8.32	0.59
포스코대우	18,100	(0.8)	(0.5)	(2.9)	(23.5)	(7.7)	(14.4)	매수	25,000	38.1	9.49	0.71
LG상사	21,400	1.7	(3.2)	(9.3)	(21.0)	(18.2)	(24.9)	매수	38,000	77.6	7.92	0.60
한국전력	30,050	0.3	(2.4)	(3.2)	(11.5)	(5.9)	(29.4)	매수	45,000	49.8	7.27	0.24
한국가스공사	53,900	0.4	0.4	(1.1)	(15.8)	9.7	21.1	매수	75,000	39.1	8.36	0.70

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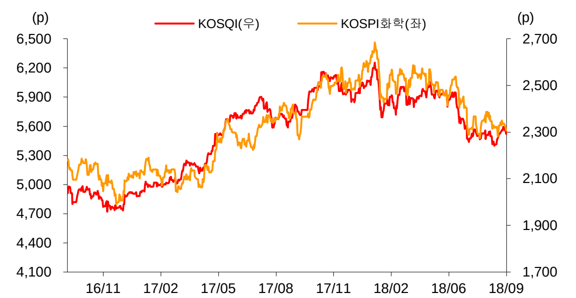
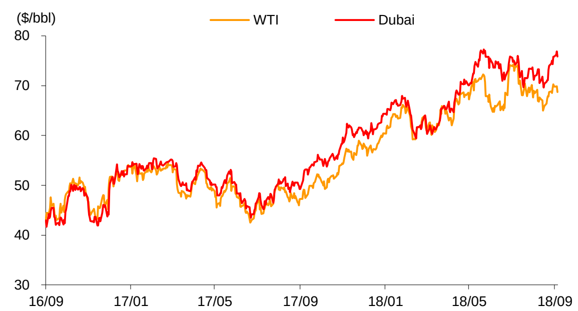
Key Chart

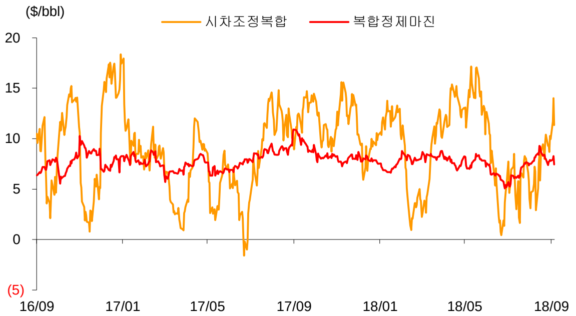
KOSPI/KOSPI화학



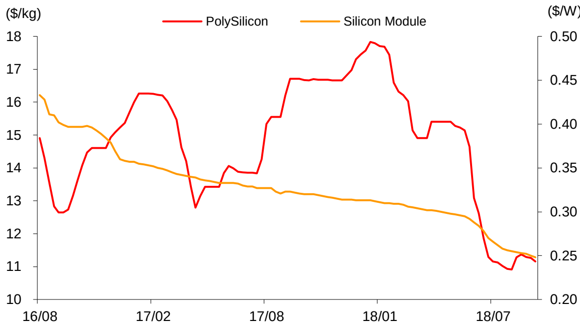
WTI/Dubai



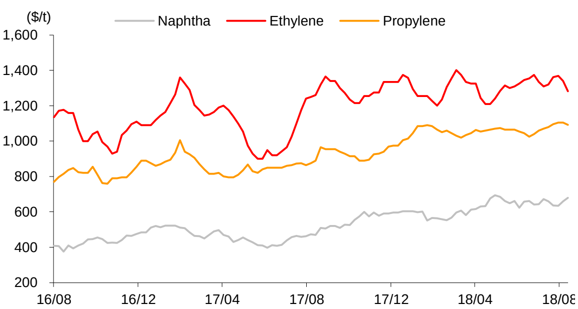
Complex & 1M lagging margin



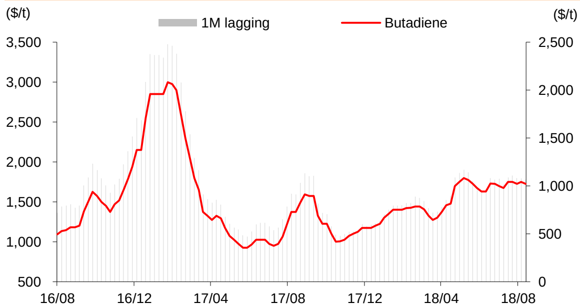
Polysilicon & Module prices



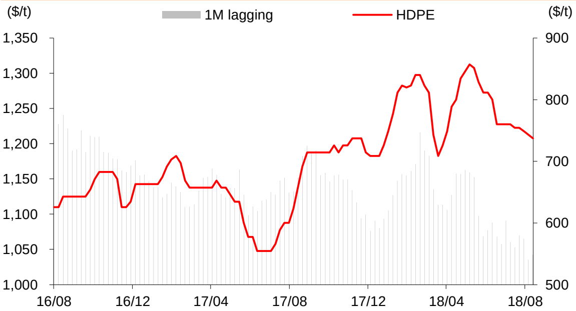
Naphtha/Ethylene/Propylene prices



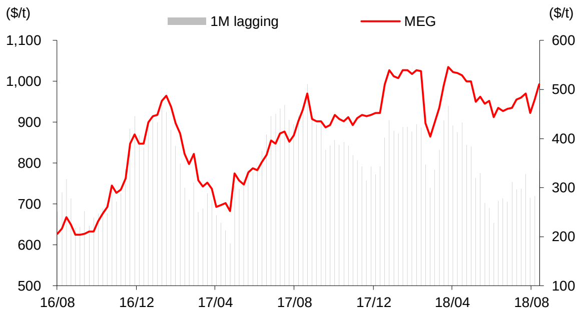
Butadiene price & 1M lagging naphtha spread



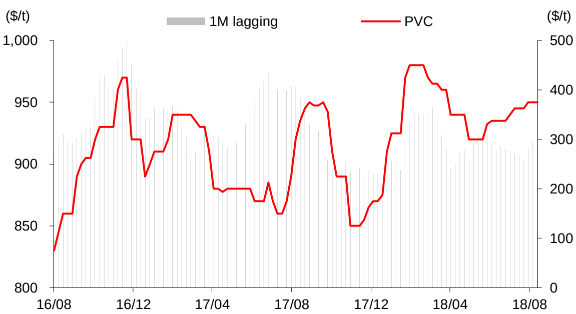
HDPE price & 1M lagging naphtha spread



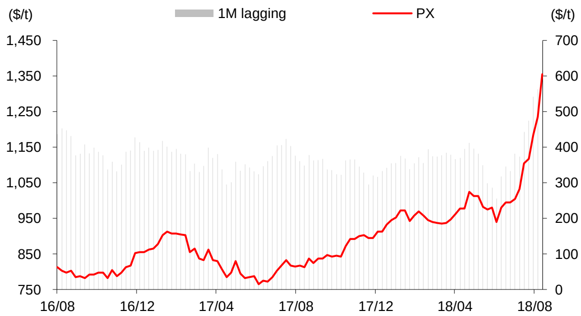
MEG price & 1M lagging naphtha spread



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: CNBC)
제목	사우디 증권거래소장, "아람코 IPO를 위한 준비 작업 지속중"
결론	아람코의 SABIC 인수로 사실상 상장 없이도 NEOM 자금 조달 가능해짐
세부	
	1) 현재 Tadawul은 아람코 상장 증시로는 유일하게 확정된 증시임
	2) 사우디는 아람코의 기업가치를 2조달러 수준으로 판단하고 있음
	3) Tadawul은 2019년 상반기에 ETD 상품을 시장에 내놓을 예정임
	4) 화요일 MSCI는 Tadawul과 함께 인덱스 출시에 합의했다고 밝혔음
	5) 아람코의 SABIC 인수로 사실상 상장 없이도 NEOM 자금 조달 가능해짐

WTI Comment	(출처: 연합뉴스)
제목	美열대폭풍 세력약화에 약세…WTI 1.6%↓
상승 요인	
하락 요인	열대성 폭풍 '고든'이 열대성 저기압으로 약화

Issue 1	
제목	
결론	
세부	
	1)
	2)
	3)
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	5)

Issue 2	
제목	
결론	
세부	
	1)
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Issue 3	
제목	
결론	
세부	
	1)
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Issue 4	
제목	
결론	
세부	
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Issue 5	
제목	
결론	
세부	
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Issue 6	
제목	
결론	
세부	
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Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.860	0.863	0.854	0.865	0.853	0.811	0.839	0.833	0.904	0.887	0.836
	Change, %		(0.4)	0.7	(0.5)	0.7	6.1	2.4	3.2	(4.9)	(3.0)	2.8
	USD/JPY	111.5	111.4	111.7	111.3	109.8	106.2	108.8	112.6	108.8	112.1	109.4
	Change, %		0.1	(0.1)	0.3	1.6	5.0	2.5	(1.0)	2.5	(0.5)	1.9
	USD/KRW	1,121.1	1,115.0	1,110.3	1,127.7	1,070.9	1,082.0	1,131.0	1,066.7	1,160.5	1,130.9	1,088.5
	Change, %		0.5	1.0	(0.6)	4.7	3.6	(0.9)	5.1	(3.4)	(0.9)	3.0
Agriculture	Corn	351.8	354.5	341.3	369.8	383.8	378.3	344.3	350.8	358.5	359.4	369.1
	Change, %		(0.8)	3.1	(4.9)	(8.3)	(7.0)	2.2	0.3	(1.9)	(2.1)	(4.7)
	Soybean	825.5	832.0	823.3	886.3	1,001.3	1,066.8	960.5	951.8	987.5	975.9	960.9
	Change, %		(0.8)	0.3	(6.9)	(17.6)	(22.6)	(14.1)	(13.3)	(16.4)	(15.4)	(14.1)
	Wheat	493.8	502.8	515.8	556.3	510.0	502.3	430.5	427.0	436.4	436.0	488.6
	Change, %		(1.8)	(4.3)	(11.2)	(3.2)	(1.7)	14.7	15.6	13.1	13.2	1.1
	Rice	10.7	10.9	10.8	11.5	10.9	12.3	12.5	11.7	10.3	11.1	12.0
	Change, %		(1.3)	(1.0)	(6.9)	(2.2)	(13.0)	(14.3)	(8.3)	3.5	(3.2)	(10.6)
	Oats	233.8	234.0	251.8	249.8	244.0	264.8	218.5	241.0	196.3	252.3	246.3
	Change, %		(0.1)	(7.1)	(6.4)	(4.2)	(11.7)	7.0	(3.0)	19.1	(7.3)	(5.1)
MYR/mt	Palm Oil	2,239.0	2,242.0	2,177.0	2,170.0	2,405.0	2,491.0	2,740.0	2,444.0	2,653.8	2,787.3	2,363.4
	Change, %		(0.1)	2.8	3.2	(6.9)	(10.1)	(18.3)	(8.4)	(15.6)	(19.7)	(5.3)
	Cocoa	2,314.0	2,335.0	2,336.0	2,046.0	2,289.0	2,459.0	1,974.0	1,892.0	2,854.0	2,005.2	2,362.1
	Change, %		(0.9)	(0.9)	13.1	1.1	(5.9)	17.2	22.3	(18.9)	15.4	(2.0)
	Cotton	81.7	82.8	83.0	88.7	89.8	85.4	75.3	78.6	65.6	73.5	84.1
	Change, %		(1.3)	(1.5)	(7.8)	(9.0)	(4.3)	8.6	3.9	24.6	11.1	(2.9)
	Sugar	10.9	10.6	10.4	10.9	12.0	13.6	14.0	15.2	18.2	15.8	12.2
	Change, %		2.3	5.0	0.4	(9.4)	(19.7)	(22.4)	(28.2)	(40.0)	(31.1)	(10.5)
	Coffee	100.1	97.8	98.7	107.8	119.5	119.2	126.5	126.2	136.1	133.0	115.4
	Change, %		2.4	1.5	(7.1)	(16.2)	(16.0)	(20.9)	(20.7)	(26.4)	(24.7)	(13.3)
Energy	WTI	68.7	69.9	69.5	68.5	65.5	62.6	48.7	60.4	43.4	51.0	66.5
	Change, %		(1.6)	(1.1)	0.3	4.9	9.8	41.2	13.7	58.4	34.8	3.3
	Brent	77.3	78.2	77.1	73.2	75.4	65.5	53.4	66.9	45.1	54.9	72.1
	Change, %		(1.2)	0.2	5.5	2.5	17.9	44.8	15.6	71.4	40.9	7.2
	Natural Gas	2.8	2.8	2.9	2.9	2.9	2.7	3.0	3.0	2.6	3.0	2.8
	Change, %		(1.0)	(3.5)	(2.0)	(3.3)	3.4	(6.0)	(5.4)	9.5	(7.5)	(1.7)
	Ethanol	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.3	1.5	1.5	1.4
	Change, %		(0.9)	2.6	(9.7)	(9.7)	(11.5)	(17.5)	(2.2)	(14.8)	(13.8)	(9.3)
	RBOB Gasoline	196.5	199.4	210.6	206.6	210.6	193.5	169.9	179.9	140.0	162.9	201.2
	Change, %		(1.5)	(6.7)	(4.9)	(6.7)	1.5	15.6	9.2	40.4	20.6	(2.3)
	Coal	114.8	115.4	117.7	117.5	113.0	102.0	97.8	100.8	65.5	88.2	107.2
	Change, %		(0.5)	(2.4)	(2.3)	1.6	12.5	17.4	13.9	75.4	30.2	7.1
Metal	Gold	1,197.0	1,191.6	1,206.7	1,213.7	1,296.4	1,320.1	1,339.7	1,302.6	1,248.5	1,258.6	1,290.8
	Change, %		0.5	(0.8)	(1.4)	(7.7)	(9.3)	(10.7)	(8.1)	(4.1)	(4.9)	(7.3)
	Silver	14.2	14.2	14.8	15.4	16.5	16.4	17.9	16.9	17.1	17.1	16.3
	Change, %		0.2	(3.8)	(7.9)	(14.0)	(13.6)	(20.7)	(16.3)	(17.1)	(16.9)	(12.8)
	Copper	5,871.0	5,815.0	6,086.0	6,206.0	7,099.0	6,910.0	6,900.0	7,247.0	4,872.0	6,199.4	6,728.9
	Change, %		1.0	(3.5)	(5.4)	(17.3)	(15.0)	(14.9)	(19.0)	20.5	(5.3)	(12.7)
	Nickel	894.2	891.9	944.7	926.2	1,057.3	873.0	768.2	809.1	646.4	680.2	921.2
	Change, %		0.3	(5.3)	(3.5)	(15.4)	2.4	16.4	10.5	38.3	31.5	(2.9)
	Zinc	2,419.5	2,415.5	2,512.0	2,631.0	3,199.5	3,296.0	3,140.0	3,319.0	2,097.5	2,888.5	3,056.9
	Change, %		0.2	(3.7)	(8.0)	(24.4)	(26.6)	(22.9)	(27.1)	15.4	(16.2)	(20.9)
	Lead	2,033.0	2,066.0	2,077.5	2,109.3	2,517.0	2,423.3	2,308.3	2,482.8	1,868.3	2,315.7	2,364.4
	Change, %		(1.6)	(2.1)	(3.6)	(19.2)	(16.1)	(11.9)	(18.1)	8.8	(12.2)	(14.0)
	Aluminum	14,600.0	14,715.0	14,895.0	14,325.0	14,590.0	14,150.0	16,375.0	15,020.0	12,373.5	14,556.6	14,367.3
	Change, %		(0.8)	(2.0)	1.9	0.1	3.2	(10.8)	(2.8)	18.0	0.3	1.6
	Cobalt	62,306.0	64,306.0	65,056.0	64,284.0	86,750.0	80,500.0	60,750.0	75,205.0	25,480.1	55,906.9	79,857.0
	Change, %		(3.1)	(4.2)	(3.1)	(28.2)	(22.6)	2.6	(17.2)	144.5	11.4	(22.0)
	HR Coil	863.0	860.0	863.0	894.0	913.0	830.0	644.0	662.0	519.3	620.1	838.1
	Change, %		0.3	0.0	(3.5)	(5.5)	4.0	34.0	30.4	66.2	39.2	3.0
	Scrap	379.0	379.0	376.0	392.0	400.0	389.0	372.0	367.0	275.7	344.7	388.6
	Change, %		0.0	0.8	(3.3)	(5.3)	(2.6)	1.9	3.3	37.5	9.9	(2.5)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

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Refining Price Data

Daily Price		09/05	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	68.7	69.9	69.5	69.2	64.7	61.2	49.2	53.7	43.4	50.9	66.5
	Change, %		(1.6)	(1.1)	(0.7)	6.2	12.4	39.8	27.9	58.5	35.0	3.4
	Dubai	75.8	76.9	74.3	72.7	73.8	61.6	52.1	53.8	41.3	53.1	69.4
	Change, %		(1.4)	2.0	4.4	2.8	23.1	45.4	40.9	83.6	42.8	9.2
Crude Oil Product	**Gasoline(휘발유)**	88.0	89.6	85.8	84.5	85.4	75.9	71.0	69.8	56.3	68.0	81.9
	Change, %		(1.8)	2.6	4.2	3.0	16.0	24.0	26.0	56.4	29.4	7.4
	Kerosene(등유)	90.9	92.6	89.2	87.7	87.1	78.7	66.7	66.4	52.9	65.2	84.8
	Change, %		(1.8)	2.0	3.7	4.4	15.5	36.4	36.9	72.0	39.4	7.3
	Diesel(경유)	92.1	94.2	90.4	87.0	87.6	75.8	67.8	65.5	52.1	65.6	83.9
	Change, %		(2.2)	1.9	5.9	5.1	21.5	35.8	40.6	76.8	40.4	9.8
	Bunker-C	68.2	70.1	69.2	69.8	69.6	56.2	49.4	52.1	35.5	49.7	64.0
	Change, %		(2.8)	(1.5)	(2.3)	(2.1)	21.2	38.0	31.0	91.9	37.3	6.5
	Naphtha	74.1	75.7	72.6	71.7	71.4	61.5	53.3	53.5	42.6	53.7	68.5
	Change, %		(2.2)	2.0	3.3	3.8	20.5	39.0	38.6	73.9	37.8	8.1
Dubai Spread	**Gasoline(휘발유)**	12.2	12.7	11.4	11.8	11.7	14.3	18.8	16.0	14.9	14.9	12.5
	Change		(0.5)	0.7	0.3	0.5	(2.1)	(6.7)	(3.8)	(2.8)	(2.7)	(0.3)
	Kerosene(등유)	15.1	15.7	14.9	15.0	13.4	17.1	14.6	12.6	11.6	12.1	15.3
	Change		(0.6)	0.3	0.1	1.8	(2.0)	0.6	2.5	3.5	3.0	(0.2)
	Diesel(경유)	16.3	17.4	16.1	14.4	13.9	14.2	15.7	11.7	10.8	12.5	14.5
	Change		(1.1)	0.2	1.9	2.4	2.1	0.6	4.6	5.5	3.8	1.8
	Bunker-C	(7.6)	(6.8)	(5.1)	(2.9)	(4.1)	(5.4)	(2.7)	(1.8)	(5.8)	(3.4)	(5.4)
	Change		(0.9)	(2.5)	(4.8)	(3.5)	(2.3)	(4.9)	(5.9)	(1.9)	(4.2)	(2.3)
	Naphtha	(1.8)	(1.2)	(1.7)	(1.0)	(2.4)	(0.1)	1.1	(0.4)	1.3	0.6	(0.9)
	Change		(0.6)	(0.1)	(0.8)	0.6	(1.6)	(2.9)	(1.4)	(3.0)	(2.4)	(0.8)
Refining Margin	**Simple(단순)**	1.4	2.2	2.4	3.2	2.2	2.8	5.0	3.8	1.9	3.2	2.3
	Change		(0.8)	(1.0)	(1.8)	(0.8)	(1.4)	(3.6)	(2.4)	(0.5)	(1.8)	(0.9)
	Complex(복합)	7.5	8.3	7.8	7.8	7.1	8.1	10.5	8.3	7.0	8.0	7.5
	Change		(0.8)	(0.3)	(0.3)	0.4	(0.6)	(3.1)	(0.8)	0.5	(0.5)	(0.0)
	Complex(lagging)	11.4	14.0	8.7	5.5	10.4	2.7	12.3	18.0	8.5	8.9	9.0
	Change		(2.6)	2.7	5.8	1.0	8.7	(1.0)	(6.6)	2.9	2.4	2.4

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

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Petrochemical Price Data

Daily Price			09/05	09/04	09/03	08/31	08/30	08/29	08/28	08/27	08/24	08/23
Spot Price	**Naphtha**	CFR Japan	681.0	695.0	680.1	680.1	679.6	666.5	667.0	659.5	660.0	655.6
	Ethylene	CFR SE Asia	1,230.0	1,230.0	1,230.0	1,230.0	1,240.0	1,270.0	1,270.0	1,270.0	1,270.0	1,270.0
	Propylene	FOB Korea	1,085.0	1,085.0	1,085.0	1,090.0	1,090.0	1,090.0	1,090.0	1,095.0	1,095.0	1,100.0
	Butadiene	FOB Korea	1,690.0	1,690.0	1,720.0	1,730.0	1,740.0	1,740.0	1,740.0	1,750.0	1,750.0	1,750.0
	HDPE	CFR FE Asia	1,275.0	1,280.0	1,285.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0	1,290.0
	LDPE	CFR FE Asia	1,110.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,130.0
	LLDPE	CFR FE Asia	1,095.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0	1,100.0
	MEG	CFR China	993.0	981.0	983.0	977.0	952.0	940.0	940.0	935.0	939.0	936.0
	PP	CFR FE Asia	1,215.0	1,205.0	1,205.0	1,210.0	1,210.0	1,220.0	1,210.0	1,210.0	1,210.0	1,220.0
	PX	CFR China	1,315.3	1,334.3	1,348.7	1,351.7	1,352.0	1,317.7	1,303.3	1,250.7	1,226.7	1,220.0
	PTA	CFR China	1,065.0	1,065.0	1,065.0	1,065.0	1,050.0	1,050.0	1,050.0	990.0	990.0	985.0
	Benzene	FOB Korea	868.7	869.7	875.0	877.7	881.7	881.0	882.7	883.7	887.0	881.3
	Toluene	FOB Korea	821.0	826.0	821.0	819.5	814.5	804.5	804.5	795.5	793.5	788.5
	Xylene	FOB Korea	908.0	908.0	908.0	911.5	930.5	930.5	945.5	945.5	945.5	949.5
	SM	FOB Korea	1,415.0	1,417.0	1,414.0	1,422.0	1,412.0	1,412.0	1,405.0	1,392.0	1,396.0	1,408.0

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	680.0	659.0	659.0	662.0	633.0	470.0	484.5	399.5	493.5	624.1
	Change, %			*3.2*	*3.2*	*2.7*	*7.4*	*44.7*	*40.4*	*70.2*	*37.8*	*9.0*
	Ethylene	CFR SE Asia	1,190.0	1,255.0	1,242.5	1,225.0	1,182.5	1,190.0	990.0	1,040.9	1,090.9	1,239.6
	Change, %			*(5.2)*	*(4.2)*	*(2.9)*	*0.6*	*0.0*	*20.2*	*14.3*	*9.1*	*(4.0)*
	Propylene	CFR SE Asia	1,035.0	1,042.5	1,020.0	1,015.0	1,017.5	800.0	815.0	705.7	823.6	1,060.4
	Change, %			*(0.7)*	*1.5*	*2.0*	*1.7*	*29.4*	*27.0*	*46.7*	*25.7*	*(2.4)*
	Butadiene	CFR SE Asia	1,675.0	1,700.0	1,700.0	1,725.0	1,430.0	1,325.0	2,100.0	1,116.8	1,481.1	1,488.1
	Change, %			*(1.5)*	*(1.5)*	*(2.9)*	*17.1*	*26.4*	*(20.2)*	*50.0*	*13.1*	*12.6*
	Benzene	CFR SE Asia	882.5	887.5	872.5	852.5	835.0	817.5	822.5	646.7	838.8	868.4
	Change, %			*(0.6)*	*1.1*	*3.5*	*5.7*	*8.0*	*7.3*	*36.5*	*5.2*	*1.6*
	Toluene	CFR SE Asia	830.0	815.0	810.0	815.0	775.0	660.0	690.0	630.5	689.5	777.1
	Change, %			*1.8*	*2.5*	*1.8*	*7.1*	*25.8*	*20.3*	*31.6*	*20.4*	*6.8*
	Xylene	CFR SE Asia	870.0	860.0	825.0	850.0	772.5	635.0	675.0	627.7	668.8	793.8
	Change, %			*1.2*	*5.5*	*2.4*	*12.6*	*37.0*	*28.9*	*38.6*	*30.1*	*9.6*
Spread	**Ethylene**	-Naphtha	510.0	596.0	583.5	563.0	549.5	720.0	505.5	641.4	597.4	615.4
	Change, %			*(14.4)*	*(12.6)*	*(9.4)*	*(7.2)*	*(29.2)*	*0.9*	*(20.5)*	*(14.6)*	*(17.1)*
	Propylene	-Naphtha	355.0	383.5	361.0	353.0	384.5	330.0	330.5	306.2	330.1	436.3
	Change, %			*(7.4)*	*(1.7)*	*0.6*	*(7.7)*	*7.6*	*7.4*	*16.0*	*7.6*	*(18.6)*
	Butadiene	-Naphtha	995.0	1,041.0	1,041.0	1,063.0	797.0	855.0	1,615.5	717.3	987.6	864.0
	Change, %			*(4.4)*	*(4.4)*	*(6.4)*	*24.8*	*16.4*	*(38.4)*	*38.7*	*0.8*	*15.2*
	Benzene	-Naphtha	202.5	228.5	213.5	190.5	202.0	347.5	338.0	247.2	345.3	244.2
	Change, %			*(11.4)*	*(5.2)*	*6.3*	*0.2*	*(41.7)*	*(40.1)*	*(18.1)*	*(41.4)*	*(17.1)*
	Toluene	-Naphtha	150.0	156.0	151.0	153.0	142.0	190.0	205.5	231.0	196.0	153.0
	Change, %			*(3.8)*	*(0.7)*	*(2.0)*	*5.6*	*(21.1)*	*(27.0)*	*(35.1)*	*(23.5)*	*(2.0)*
	Xylene	-Naphtha	190.0	201.0	166.0	188.0	139.5	165.0	190.5	228.2	175.3	169.7
	Change, %			*(5.5)*	*14.5*	*1.1*	*36.2*	*15.2*	*(0.3)*	*(16.7)*	*8.4*	*12.0*

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	1,207.5	1,212.5	1,222.5	1,307.5	1,262.5	1,137.5	1,142.5	1,134.6	1,142.5	1,249.6
	Change, %			(0.4)	(1.2)	(7.6)	(4.4)	6.2	5.7	6.4	5.7	(3.4)
	MEG	CFR SE Asia	992.5	955.0	960.0	962.5	1,015.0	930.0	847.5	660.8	850.6	972.9
	Change, %			3.9	3.4	3.1	(2.2)	6.7	17.1	50.2	16.7	2.0
	PVC	CFR SE Asia	950.0	950.0	945.0	920.0	940.0	935.0	920.0	823.4	899.9	943.1
	Change, %			0.0	0.5	3.3	1.1	1.6	3.3	15.4	5.6	0.7
	PP	CFR SE Asia	1,237.5	1,232.5	1,222.5	1,277.5	1,242.5	1,127.5	1,032.5	978.4	1,099.6	1,255.7
	Change, %			0.4	1.2	(3.1)	(0.4)	9.8	19.9	26.5	12.5	(1.5)
	2-EH	CFR Korea	1,115.0	1,130.0	1,105.0	1,170.0	1,145.0	990.0	865.0	772.4	970.0	1,116.4
	Change, %			(1.3)	0.9	(4.7)	(2.6)	12.6	28.9	44.4	14.9	(0.1)
	ABS	CFR SE Asia	1,880.0	1,920.0	1,945.0	2,080.0	2,010.0	2,010.0	1,635.0	1,347.1	1,844.7	2,008.1
	Change, %			(2.1)	(3.3)	(9.6)	(6.5)	(6.5)	15.0	39.6	1.9	(6.4)
	SBR	CFR SE Asia	1,875.0	1,875.0	1,760.0	1,900.0	1,750.0	1,690.0	2,000.0	1,483.0	1,980.5	1,766.7
	Change, %			0.0	6.5	(1.3)	7.1	10.9	(6.3)	26.4	(5.3)	6.1
	SM	CFR SE Asia	1,455.0	1,440.0	1,465.0	1,510.0	1,405.0	1,355.0	1,205.0	1,064.6	1,253.8	1,408.9
	Change, %			1.0	(0.7)	(3.6)	3.6	7.4	20.7	36.7	16.1	3.3
	Caustic	FOB NEA	400.0	421.0	369.0	550.0	598.0	471.0	422.5	316.6	491.2	533.6
	Change, %			(5.0)	8.4	(27.3)	(33.1)	(15.1)	(5.3)	26.4	(18.6)	(25.0)
	PX	CFR SE Asia	1,355.0	1,235.0	1,105.0	982.5	977.5	812.5	855.0	790.4	844.4	1,002.7
	Change, %			9.7	22.6	37.9	38.6	66.8	58.5	71.4	60.5	35.1
	PO	CFR China	1,947.5	1,905.0	1,777.5	1,737.5	2,007.5	1,992.5	1,562.5	1,396.8	1,601.2	1,868.6
	Change, %			2.2	9.6	12.1	(3.0)	(2.3)	24.6	39.4	21.6	4.2
	Caprolactam	CFR SE Asia	2,130.0	2,160.0	2,155.0	2,105.0	2,170.0	1,740.0	1,850.0	1,344.9	1,936.4	2,127.3
	Change, %			(1.4)	(1.2)	1.2	(1.8)	22.4	15.1	58.4	10.0	0.1
	PTA	CFR SE Asia	1,075.0	990.0	882.5	857.5	820.0	657.5	642.5	613.7	667.8	832.2
	Change, %			8.6	21.8	25.4	31.1	63.5	67.3	75.2	61.0	29.2
Spread	**HDPE**		527.5	553.5	563.5	645.5	629.5	667.5	658.0	735.1	649.0	625.4
	Change, %			(4.7)	(6.4)	(18.3)	(16.2)	(21.0)	(19.8)	(28.2)	(18.7)	(15.7)
	MEG		312.5	296.0	301.0	300.5	382.0	460.0	363.0	261.3	357.1	348.8
	Change, %			5.6	3.8	4.0	(18.2)	(32.1)	(13.9)	19.6	(12.5)	(10.4)
	PVC		270.0	291.0	286.0	258.0	307.0	465.0	435.5	423.9	406.4	318.9
	Change, %			(7.2)	(5.6)	4.7	(12.1)	(41.9)	(38.0)	(36.3)	(33.6)	(15.3)
	PP		557.5	573.5	563.5	615.5	609.5	657.5	548.0	578.9	606.1	631.6
	Change, %			(2.8)	(1.1)	(9.4)	(8.5)	(15.2)	1.7	(3.7)	(8.0)	(11.7)
	2-EH		435.0	471.0	446.0	508.0	512.0	520.0	380.5	372.9	476.5	492.3
	Change, %			(7.6)	(2.5)	(14.4)	(15.0)	(16.3)	14.3	16.7	(8.7)	(11.6)
	ABS		1,200.0	1,261.0	1,286.0	1,418.0	1,377.0	1,540.0	1,150.5	947.6	1,351.2	1,384.0
	Change, %			(4.8)	(6.7)	(15.4)	(12.9)	(22.1)	4.3	26.6	(11.2)	(13.3)
	SBR	BD spread	200.0	175.0	60.0	175.0	320.0	365.0	(100.0)	366.2	499.4	278.6
	Change, %			14.3	233.3	14.3	(37.5)	(45.2)	(300.0)	(45.4)	(60.0)	(28.2)
	SM		775.0	781.0	806.0	848.0	772.0	885.0	720.5	665.1	760.3	784.7
	Change, %			(0.8)	(3.8)	(8.6)	0.4	(12.4)	7.6	16.5	1.9	(1.2)
	Caustic											
	Change, %											
	PX		675.0	576.0	446.0	320.5	344.5	342.5	370.5	390.9	351.0	378.6
	Change, %			17.2	51.3	110.6	95.9	97.1	82.2	72.7	92.3	78.3
	PO	propylene sprea	912.5	862.5	757.5	722.5	990.0	1,192.5	747.5	691.1	777.6	808.2
	Change, %			5.8	20.5	26.3	(7.8)	(23.5)	22.1	32.0	17.3	12.9
	Caprolactam	benzene spread	1,247.5	1,272.5	1,282.5	1,252.5	1,335.0	922.5	1,027.5	698.2	1,097.6	1,258.9
	Change, %			(2.0)	(2.7)	(0.4)	(6.6)	35.2	21.4	78.7	13.7	(0.9)
	PTA	px spread	126.5	125.5	109.0	169.8	135.8	88.8	44.0	60.4	76.7	130.3
	Change, %			0.8	16.1	(25.5)	(6.8)	42.5	187.5	109.4	64.9	(2.9)

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

SK Energy Daily

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SK 증권

Global peers

	Currency	09/05	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	70.1	0.5	(1.9)	4.8	3.2	0.6	7.8	(1.6)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	97.8	1.2	(0.9)	(4.1)	(8.1)	(5.2)	14.7	5.6	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	77.4	(1.4)	(4.6)	(3.8)	(9.4)	(8.5)	(6.0)	(15.7)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	80.6	0.7	(1.5)	0.3	6.0	2.9	2.9	10.4	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	104.3	(1.2)	(3.6)	(4.0)	0.5	(1.9)	11.8	2.7	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	65.4	(1.8)	(6.5)	(3.0)	(5.0)	(1.1)	5.7	(1.4)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	612	0.2	(5.3)	(5.6)	(7.8)	0.3	(5.0)	(24.4)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	971	(0.3)	(4.7)	(2.1)	(1.8)	(5.6)	(3.0)	(21.5)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,065	(0.6)	(5.7)	(9.7)	(10.4)	(4.8)	5.3	(12.1)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,578	(0.5)	(3.4)	0.9	4.2	22.4	23.7	8.6	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,078	(1.8)	(5.9)	(1.2)	(2.1)	(14.6)	0.3	(6.3)	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,290	(0.6)	(4.2)	(2.8)	(7.0)	(0.1)	(11.8)	(17.2)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	120.6	(4.4)	(5.3)	(5.9)	(6.8)	14.8	21.9	18.9	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	71.2	(3.7)	(0.3)	(3.7)	(4.7)	5.0	26.3	20.7	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	110.5	(1.8)	(2.6)	(0.9)	0.9	9.4	15.9	12.0	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	120.0	(1.2)	(1.6)	1.3	3.9	14.3	25.7	16.5	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	83.5	(1.2)	(2.2)	(0.4)	(3.5)	6.9	10.9	7.2	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.63	(0.9)	2.9	7.4	(1.6)	(3.8)	(12.0)	(11.1)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	1.97	(0.5)	(0.5)	4.8	(4.8)	(13.2)	(38.4)	(26.2)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	1,227	(1.2)	(5.2)	4.3	29.5	32.8	50.3	34.9	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	124.0	0.0	0.0	(0.7)	12.7	29.2	36.3	27.8	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	78.8	(1.9)	(5.4)	(6.8)	(10.8)	(17.1)	3.3	(7.4)	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	9.4	(0.6)	(1.5)	4.4	13.6	18.3	29.2	22.5	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	358,000	(2.6)	(4.3)	(8.4)	(1.5)	(4.5)	(2.2)	(11.6)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	300,500	(2.6)	(6.8)	(9.2)	(19.3)	(33.5)	(27.0)	(18.3)	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	19,900	(1.5)	(6.6)	(8.5)	(21.3)	(35.4)	(42.0)	(37.0)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	96,500	0.1	(3.5)	(12.7)	(7.2)	15.6	22.5	(3.0)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	46,450	(0.2)	(1.9)	6.9	13.6	21.4	29.7	(1.2)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	56,900	(1.0)	(2.4)	(3.1)	(16.3)	(6.0)	12.0	(9.8)	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	6,630	(1.8)	(1.8)	5.6	(14.0)	(28.6)	(3.4)	(12.5)	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(1.1)**	**(3.2)**	**(1.9)**	**(2.5)**	**0.3**	**6.8**	**(1.7)**							
Refinery																
Valero	USD	116.9	(2.8)	(3.1)	1.3	(5.2)	27.7	72.2	27.2	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	73.0	(0.2)	(0.7)	2.4	8.1	35.2	64.5	33.0	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	124.0	(2.0)	(3.1)	2.5	2.1	11.2	14.8	7.4	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	155.5	(0.3)	0.0	5.6	5.9	64.6	56.4	36.0	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	83.9	(0.4)	0.3	6.1	4.5	26.9	62.1	27.2	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	41.7	(1.5)	(2.9)	(3.1)	6.1	30.3	29.8	0.7	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	73.8	(3.1)	(1.1)	9.2	(6.6)	66.2	141.1	44.2	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	118.0	(0.8)	(2.0)	(3.0)	(0.7)	26.8	41.7	16.6	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	30.4	1.0	(2.9)	(8.2)	(5.9)	14.9	29.2	(2.2)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	755.1	(1.0)	(5.7)	(7.1)	7.2	19.0	40.5	3.9	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	5,560.0	(1.1)	(1.2)	10.8	51.5	40.6	103.1	22.9	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	71.8	(2.2)	(4.8)	1.3	1.6	21.8	99.1	34.6	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	84.3	0.6	(0.4)	(0.7)	5.4	16.8	37.3	18.4	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	48.8	(1.8)	(3.8)	(0.8)	6.6	3.8	2.9	10.2	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	191,500	(0.8)	(1.8)	1.3	(7.0)	(8.2)	2.4	(6.4)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	119,000	(1.2)	(2.5)	3.0	8.7	(4.4)	(2.1)	1.7	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	51,800	(1.1)	(5.5)	(2.3)	(11.0)	(21.9)	(22.3)	(16.7)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**(1.1)**	**(2.4)**	**1.1**	**4.2**	**21.8**	**45.4**	**15.2**							

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

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Global peers

	Currency	09/05	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
E&P/Shale																
Exxon Mobil	USD	81	1.3	0.6	1.4	0.8	6.7	5.4	(2.7)	344,463	17.5	14.8	1.8	1.7	7.9	6.9
BP	GBP	546	(1.2)	(1.5)	(2.5)	(5.3)	16.2	22.3	4.5	140,807	12.7	11.5	1.4	1.3	5.0	4.6
Shell	EUR	2,507	(1.1)	(1.2)	(1.5)	(3.2)	10.6	17.7	1.1	270,832	11.9	10.2	1.3	1.3	5.6	5.2
Chevron	USD	119	0.0	(1.1)	(4.1)	(3.1)	5.1	8.7	(5.0)	227,868	14.9	13.4	1.5	1.5	6.1	5.6
Total	EUR	53	(2.1)	(4.2)	(4.1)	0.4	14.3	19.7	14.1	162,748	11.3	10.3	1.3	1.2	5.6	5.1
Sinopec	CNY	7	(2.8)	(2.3)	1.8	1.8	4.9	12.6	9.3	117,827	10.2	9.9	1.1	1.0	3.9	3.8
Petrochina	CNY	8	(0.5)	0.4	7.8	2.8	2.4	1.5	1.4	209,419	25.2	21.0	1.2	1.2	5.4	5.3
CNOOC	CNY	11	1.3	2.6	20.0	2.7	0.2	(3.6)	2.3	76,333	9.3	8.7	1.3	1.2	3.7	3.6
Gazprom	RUB	147	(0.2)	(0.6)	3.3	0.7	3.9	26.8	12.7	50,993	3.0	3.1	0.2	0.2	2.4	2.4
Rosneft	RUB	435	(1.1)	(1.4)	5.7	13.8	35.6	43.5	49.1	67,449	8.1	6.6	1.0	0.9	4.6	4.3
Anadarko	USD	64	0.7	(0.9)	(5.7)	(7.0)	9.2	55.2	20.0	32,973	22.2	15.8	2.7	2.3	6.4	5.5
Petrobras	BRL	19	0.0	(3.4)	(11.7)	12.4	(15.7)	29.4	15.8	64,475	6.7	5.5	0.7	0.6	4.5	4.1
Lukoil	USD	4,637	(1.7)	(0.0)	3.1	8.4	24.3	60.8	39.1	57,736	5.6	5.7	0.8	0.7	N/A	N/A
Kinder	USD	18	1.0	(0.5)	1.0	5.6	9.7	(8.1)	(1.5)	47,497	22.6	18.1	1.2	1.2	10.6	10.4
Equinor ASA	NOK	210	(2.6)	(4.0)	(2.6)	(1.0)	18.7	40.6	19.9	83,448	12.7	11.6	1.9	1.7	3.3	3.1
BHP	AUD	32	(2.7)	(4.8)	(3.5)	(1.6)	10.6	16.6	8.9	118,440	13.1	14.5	2.2	2.1	5.9	6.2
PTT E&P	THB	139	(2.5)	(2.8)	(1.1)	2.2	24.7	58.4	39.0	16,822	13.4	12.2	1.4	1.3	4.3	3.9
Petronas gas	MYR	19	0.8	(0.2)	(1.7)	3.6	6.5	2.1	7.3	8,938	19.5	19.5	2.8	2.7	10.7	10.7
Chesapeake	USD	4	0.0	(4.2)	(3.4)	(0.2)	38.1	16.5	8.8	3,932	5.5	5.5	#N/A N/A	7.0	6.5	6.4
Noble Energy	USD	30	2.4	(1.5)	(9.3)	(13.4)	(3.6)	22.5	2.4	14,411	28.9	22.5	1.3	1.3	7.1	6.2
Average		**0**	**(0.5)**	**(1.5)**	**(0.4)**	**1.0**	**11.1**	**22.4**	**12.3**							
PV																
WACKER	EUR	118.2	(2.8)	(6.9)	(4.8)	(11.6)	(11.4)	7.1	(27.2)	7,161	16.8	15.1	1.8	1.7	6.3	6.1
GCL-Poly	HKD	0.6	(6.8)	3.8	(16.7)	(27.6)	(54.9)	(37.5)	(60.7)	1,284	7.8	6.1	0.4	0.4	7.1	6.4
SunPower	USD	6.7	(0.1)	(3.7)	(8.1)	(14.7)	(7.4)	(26.9)	(20.4)	946	#N/A N/A	#N/A N/A	95.9	958.6	16.5	10.4
Canadian Solar	USD	14.4	(0.6)	(2.6)	5.1	10.2	(11.2)	(9.9)	(14.5)	845	10.1	10.1	0.8	0.8	6.7	7.5
JA Solar	USD	7.5	0.0	0.0	0.0	5.0	0.7	9.5	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	20.4	(0.5)	(19.7)	(80.2)	(82.3)	(86.9)	(82.2)	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	51.3	(0.1)	(3.4)	(3.0)	(12.0)	(22.4)	7.1	(24.1)	5,372	31.5	16.6	1.0	0.9	7.5	4.0
한화큐셀	USD	8.4	(0.9)	(0.1)	1.1	22.9	(1.4)	13.7	19.1	696	14.9	31.0	#N/A N/A	#N/A N/A	8.8	9.1
OCI	KRW	117,500	(1.7)	1.7	16.9	(2.5)	(22.7)	18.4	(13.6)	2,499	0.0	13.2	0.0	0.8	0.0	5.7
웅진에너지	KRW	2,905	1.0	(4.6)	(9.8)	(44.7)	(58.5)	(68.9)	(64.7)	77	N/A	0.0	0.8	0.0	5.7	0.0
신성솔라에너지	KRW	1,385	(1.1)	(0.7)	1.8	(18.8)	(22.4)	(31.9)	(27.7)	214	N/A	0.8	0.0	5.7	0.0	2.3
Average			**0.7**	**(1.6)**	**(3.4)**	**(15.8)**	**(26.7)**	**(18.7)**	**(28.7)**							
Gas Company																
Towngas China	HKD	7.2	(0.7)	(0.8)	(5.5)	(4.1)	17.0	37.5	15.0	2,585	14.1	12.5	1.2	1.1	12.7	11.4
Kulun	HKD	8.4	0.7	5.0	20.3	14.4	21.0	13.8	3.3	8,649	11.2	9.8	1.4	1.3	5.7	5.2
Beijing Enterprise	HKD	37.5	(1.6)	1.5	1.4	(13.0)	(10.1)	(10.3)	(19.3)	6,021	6.4	5.8	0.6	0.6	13.0	12.2
ENN Energy	HKD	73.0	(1.4)	(0.2)	(6.4)	(10.5)	24.1	41.3	30.9	10,466	16.4	14.1	3.4	2.9	10.2	8.9
China Resources Gas	HKD	36.8	(1.3)	2.5	1.7	23.3	43.3	34.6	29.6	10,413	18.1	16.0	3.2	2.8	9.9	8.9
China Gas Holdings	HKD	24.9	(1.6)	(3.3)	(19.3)	(32.0)	7.3	30.0	15.3	16,110	15.8	13.5	3.6	3.1	12.9	10.9
Shenzen Gas	HKD	14.4	(4.1)	(3.6)	3.2	(17.8)	(7.5)	1.4	(3.4)	3,868	8.9	7.5	1.1	1.0	7.4	6.6
Shann Xi	CNY	7.0	(1.7)	(3.0)	(7.7)	(14.2)	(4.9)	(19.8)	(17.1)	1,139	16.9	14.8	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.2	(5.5)	(6.7)	(5.1)	(17.5)	20.0	33.7	7.2	1,051	5.8	5.0	0.7	0.7	8.1	7.0
China Oil & Gas	HKD	0.6	(1.7)	(4.9)	(7.9)	(7.9)	(15.9)	5.5	(31.8)	431	#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			**(1.9)**	**(1.4)**	**(2.5)**	**(7.9)**	**9.4**	**16.8**	**3.0**							
EV																
LG화학	KRW	358,000	(2.6)	(4.3)	(8.4)	(1.5)	(4.5)	(2.2)	(11.6)	22,538	13.7	12.3	1.5	1.4	6.6	6.0
삼성SDI	KRW	242,500	(1.0)	3.0	5.0	12.8	42.6	27.3	18.6	14,871	22.6	15.9	1.4	1.3	14.2	11.1
Panasonic	JPY	1313.5	0.5	(3.6)	(10.6)	(13.7)	(18.2)	(9.3)	(20.4)	28,900	12.0	10.6	1.6	1.5	4.8	4.4
GS Yuasa	JPY	527.0	(0.2)	(1.3)	(1.1)	(0.2)	(4.7)	(1.1)	(6.1)	1,955	16.0	14.7	1.2	1.1	7.1	6.6
NEC	JPY	3070.0	0.8	1.2	1.8	0.7	(3.3)	5.9	1.0	7,172	22.7	12.6	0.9	0.8	7.6	5.5
BYD Auto	CNY	42.5	(4.5)	(8.2)	10.9	(17.0)	(34.7)	(13.1)	(34.7)	16,616	27.6	20.6	2.0	1.9	12.3	10.7
Tesla Motors	USD	280.7	(2.8)	(8.0)	(19.4)	(3.6)	(15.8)	(19.7)	(9.8)	47,892	#N/A N/A	88.3	8.5	8.0	36.8	16.7
Kandi Technologies	USD	4.1	(3.5)	1.2	0.0	(6.3)	(19.6)	2.5	(39.7)	211	#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			**(1.7)**	**(2.5)**	**(2.7)**	**(3.6)**	**(7.3)**	**(1.2)**	**(12.8)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임