SK Energy Daily

에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

SK 증권

1. News Summary (3 page)

2018년 4월 12일

News		Conclusion
WTI comment	'중동 위기' 유가·금값 초강세…WTI 사흘새 5달러 급등	
Headline	미 국방장관 "시리아 응징 군사옵션 제공할 준비 돼 있다"	중동 지역의 지정학적 이슈가 불거지며 유가 강세 분위기 조성하는 것
News 1.	사우디 유가 80달러대 상승 희망…"정책자금 수요 때문"	아람코 IPO와 NEOM 신도시 프로젝트를 위해 유가 강세 기조 지속될 것
News 2.	사우디 아람코, 인도와 $440억 Mega Refinery 협정	Refinery의 capa 숏티지로 증설이 이어지며 건설업종 수혜 가능
News 3.	LG화학, 전기차 연 40만대분 코발트 확보	코발트 수급 안정화를 도모하고 원재료부터 수직계열화를 구축하게 됨
News 4.	-	-

2. Prices Summary (4~7 page)

Daily	Unit	Price	1D	1W	1M	3M	12M
Refinery			%	%	%	%	%
WTI	$/bbl	66.8	2.0	5.4	8.9	5.1	25.8
Dubai	$/bbl	67.6	1.6	4.5	9.5	1.5	23.8
Gasoline	$/bbl	80.8	0.6	3.1	7.1	2.0	15.4
Diesel	$/bbl	83.2	1.6	3.2	8.6	3.7	23.9
Complex margin	$/bbl	7.7	(0.3)	(0.3)	(0.6)	0.9	(0.0)
1M lagging	$/bbl	15.0	1.3	2.6	9.0	2.4	3.8
Petrochemical			%	%	%	%	%
Naphtha	$/t	602	1.4	1.9	8.8	(0.3)	23.0
Butadiene	$/t	1,280	0.4	(7.2)	(7.9)	8.5	(5.2)
HDPE	$/t	1,340	0.4	2.3	0.0	3.9	16.0
MEG	$/t	1,040	1.0	5.6	16.2	3.5	41.5
PX	$/t	936	0.3	0.0	0.2	(0.4)	11.7
SM	$/t	1,312	0.3	(0.2)	(1.1)	(3.4)	10.9
Commodity			%	%	%	%	%
Natural Gas	$/mmbtu	2.68	0.7	(1.6)	(3.0)	(1.3)	(6.4)
Natural rubber	$/t	1,360	0.0	2.3	(6.2)	(7.5)	(13.4)
Cotton	C/lbs	83.8	0.4	5.3	0.5	5.2	12.2

*참고: 정제마진의 변동률은 %가 아닌 $/bbl임

Weekly	Update	Unit	Price	1W	1M	3M	12M
Petrochemical				%	%	%	%
Ethylene	04/09	$/t	1,275	0.8	4.5	(4.1)	21.4
Propylene	04/09	$/t	958	1.3	(3.8)	3.0	26.0
Benzene	04/09	$/t	840	0.9	(4.8)	(6.4)	(2.6)
Toluene	04/09	$/t	735	1.4	2.1	0.0	8.9
Xylene	04/09	$/t	758	(0.7)	(1.0)	3.8	6.7
PP	04/09	$/t	1,218	(0.8)	(6.9)	2.5	12.0
PVC	04/09	$/t	960	(0.5)	(2.0)	9.7	3.2
ABS	04/09	$/t	1,980	1.0	(4.3)	(3.4)	17.2
SBR	04/09	$/t	1,650	(1.2)	(5.7)	0.0	(27.9)
SM	04/09	$/t	1,360	3.0	(2.7)	1.3	11.7
BPA	04/09	$/t	1,788	3.8	(8.9)	(16.0)	16.1
Caustic	04/09	$/t	626	(2.0)	6.1	1.8	37.3
2-EH	04/09	$/t	1,130	(5.0)	0.4	9.2	11.9
Caprolactam	04/09	$/t	2,220	0.9	3.3	9.9	0.0
Solar				%	%	%	%
Polysilicon	04/11	$/kg	15.4	0.0	3.4	(13.4)	14.8
Module	04/11	$/W	0.30	(0.3)	(1.0)	(3.5)	(11.5)

3. Global Peers Summary (8~9 page)

	Unit	Price	1D	1W	1M	3M	12M
E&P			%	%	%	%	%
ExxonMobil	USD	77.4	0.5	3.4	3.8	(10.9)	(6.5)
Shell	EUR	2,394	0.6	6.4	5.9	(6.9)	11.8
Petrochina	CNY	7.69	1.3	3.1	(4.2)	(12.2)	(4.1)
Gazprom	RUB	145.3	2.4	3.6	3.9	0.5	15.3
Petrobras	BRL	21.8	1.9	7.0	(2.6)	26.4	48.5
Refinery							
Phillips66	USD	102.6	2.3	6.8	6.9	0.2	31.7
Valero	USD	100.3	1.4	7.5	6.4	6.1	52.8
JX	JPY	683.3	4.3	9.1	5.9	(12.9)	28.3
Neste Oil	EUR	55.6	(1.9)	0.7	(6.6)	(1.5)	51.4

	Unit	Price	1D	1W	1M	3M	12M
Petrochemical			%	%	%	%	%
BASF	EUR	82.8	(1.8)	(0.1)	(2.7)	(11.8)	(9.8)
DowDuPont	USD	64.7	(1.8)	1.6	(10.4)	(13.9)	3.6
SABIC	SAR	117.5	(0.6)	2.4	8.5	15.7	15.9
Formosa Pla.	TWD	105.5	0.0	3.4	3.9	4.5	13.1
Shin-Etsu	JPY	10,960	1.3	2.7	(0.2)	(8.4)	15.9
Renewable							
Wacker	EUR	141.9	(0.8)	5.8	3.3	(15.3)	41.6
First Solar	USD	71.25	0.6	1.5	4.9	(6.6)	153.6
GCL-Poly	HKD	1.01	0.0	5.2	(17.9)	(30.8)	2.0
Tesla Motors	USD	300.9	(1.2)	4.9	(8.0)	(11.0)	(2.5)

4. Coverage Summary

	04/11	1D	1W	1M	3M	6M	12M	투자의견	TP	%	P/E	P/B
KOSPI	2,444	(0.3)	1.5	(1.6)	(1.8)	0.4	14.6				* 추정치는 12M fwd 기준임	
KOSPI화학	6,097	(0.6)	(0.8)	(1.5)	(2.5)	6.4	22.6				* 모든 coverage 업체의 실적은 연결기준임	
LG화학	367,000	(0.3)	(2.4)	(10.6)	(12.9)	(6.6)	30.6	매수	450,000	22.6	12.70	1.69
롯데케미칼	426,000	(0.9)	(1.8)	(0.6)	11.2	10.9	17.4	매수	480,000	12.7	12.30	1.20
한화케미칼	29,800	1.5	4.2	(4.9)	(9.3)	(9.7)	16.4	매수	39,000	30.9	10.61	0.76
금호석유화학	92,600	(2.3)	0.4	(1.0)	(14.7)	29.7	19.9	매수	150,000	62.0	9.01	1.39
KCC	364,000	0.6	6.7	2.8	(10.0)	(4.0)	7.2	매수	450,000	23.6	13.33	0.57
OCI	169,000	4.6	5.6	8.3	(3.4)	74.0	112.3	매수	180,000	6.5	12.60	1.13
SKC	36,800	3.4	0.5	(8.9)	(17.4)	(9.6)	26.0	매수	50,000	35.9	10.10	0.91
SK이노베이션	202,000	(0.5)	(3.8)	(5.8)	0.7	(1.2)	23.2	매수	230,000	13.9	12.33	1.02
S-Oil	114,500	(0.4)	(3.8)	(8.4)	(1.3)	(11.2)	21.4	매수	140,000	22.3	13.88	1.80
GS	61,200	0.2	0.8	(8.5)	(4.4)	(9.9)	7.2	매수	80,000	30.7	5.75	0.77
SK가스	98,400	3.0	(0.1)	1.7	4.5	1.7	(19.3)	매수	130,000	32.1	8.64	0.65
포스코대우	23,550	(0.2)	4.2	14.0	14.0	22.7	1.1	매수	25,000	6.2	12.51	1.00
LG상사	26,150	(0.8)	(1.3)	(2.6)	(14.0)	(4.4)	(14.5)	매수	38,000	45.3	8.53	0.77
한국전력	34,450	(0.7)	(1.1)	4.1	(6.1)	(9.6)	(22.7)	매수	45,000	30.6	7.58	0.27
한국가스공사	50,500	2.4	2.4	2.4	13.0	21.5	11.8	매수	60,000	18.8	8.80	0.67

에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
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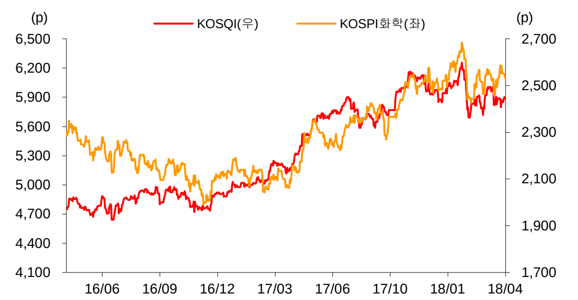
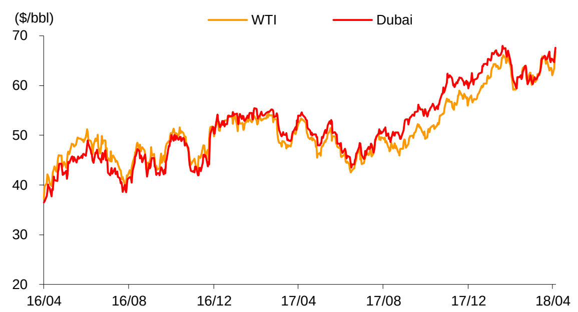
Key Chart

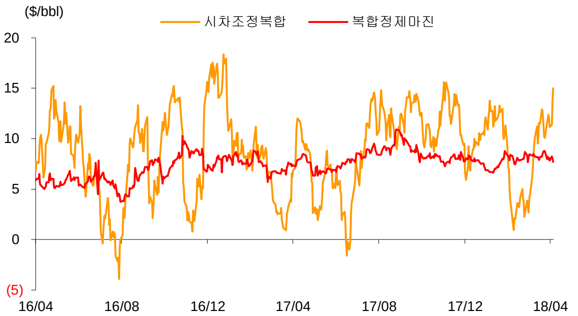
KOSPI/KOSPI화학



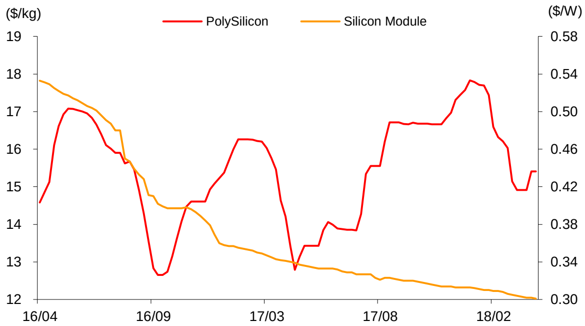
WTI/Dubai



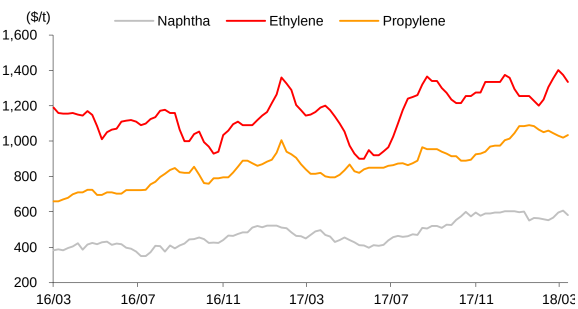
Complex & 1M lagging margin



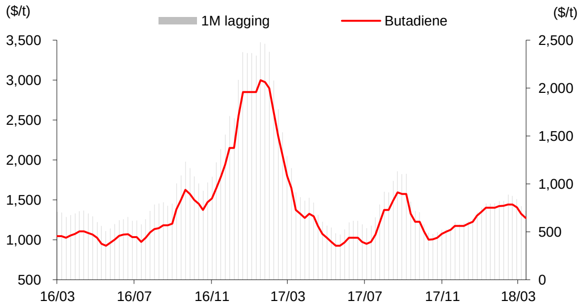
Polysilicon & Module prices



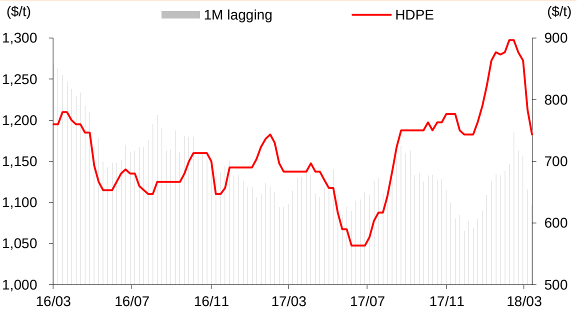
Naphtha/Ethylene/Propylene prices



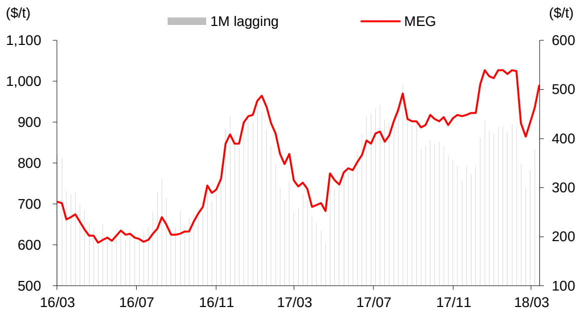
Butadiene price & 1M lagging naphtha spread



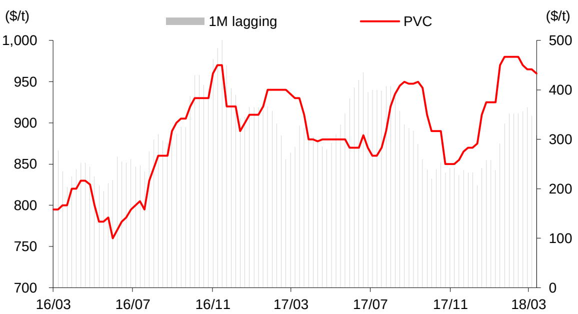
HDPE price & 1M lagging naphtha spread



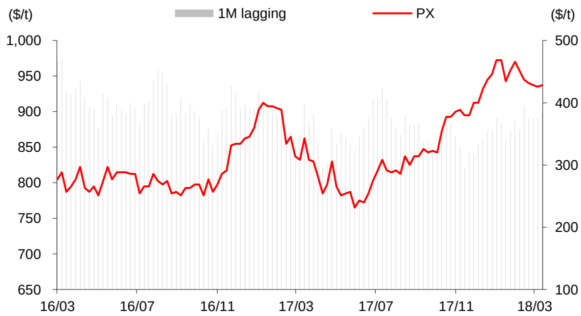
MEG price & 1M lagging naphtha spread



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

에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

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News Comment

Headline	(출처: 연합뉴스)
제목	미 국방장관 "시리아 응징 군사옵션 제공할 준비 돼 있다"
결론	중동 지역의 지정학적 이슈가 불거지며 유가 강세 분위기 조성하는 것
세부	
	1) 매티스 美 국방장관, "시리아 응징 군사옵션 제공 준비 돼 있다"
	2) 시리아 배후 증거 있는지 묻자 "동맹국과 함께 정보 평가 중"
	3) 트럼프, "멋지고 새로운, 스마트한 미사일이 갈테니 러시아는 준비하라"
	4) 미국은 이번 화학무기 공격 배후로 시리아, 러시아, 이란을 배후로 봄
	5) 중동 지역의 지정학적 이슈가 불거지며 유가 강세 분위기 조성하는 것

WTI Comment	(출처: 연합뉴스)
제목	'중동 위기' 유가·금값 초강세…WTI 사흘새 5달러 급등
상승	무역전쟁 우려는 잦아든 반면, 시리아를 둘러싼 군사적 위기가 높아짐
요인	트럼프 美 대통령은 트위터를 통해 對 시리아 미사일 공습을 예고
하락	
요인	

Issue 1	(출처: 연합뉴스)
제목	사우디 유가 80달러대 상승 희망…"정책자금 수요 때문"
결론	아람코 IPO와 NEOM 신도시 프로젝트를 위해 유가 강세 기조 지속될 것
세부	
	1) 블룸버그, "사우디가 정책 비용 조달과 아람코 IPO를 위해 $80/b 희망"
	2) MBS는 타임과 가진 인터뷰에서 국제 유가가 더욱 오를 것으로 전망함
	3) MBS, "내년에도 유가가 상승하리라 믿으며 IPO 시기를 조율할 것임"
	4) OPEC 일각 '더 오르면 美 증산 촉발' 우려…러시아 협조도 관건
	5) 아람코 IPO와 NEOM 신도시 프로젝트를 위해 유가 강세 기조 지속될 것

Issue 2	(출처: Platts)
제목	사우디 아람코, 인도와 $440억 Mega Refinery 협정
결론	Refinery의 capa 숏티지로 증설이 이어지며 건설업종 수혜 가능
세부	
	1) 인도 서쪽 해안에 $440억 규모의 정유, 석유화학단지 조성 계획에 싸인
	2) 인도 국영 정유사들과 아람코가 합작하며 규모는 120만b/d 규모일 것
	3) 아람코가 지분 50%를 가지며 인도 국영 정유 3사가 나머지 50% 보유
	4) 2025년 완공 예정이며 사명은 'Ratnagiri Refinery and Petrochemicals'
	5) Refinery의 capa 숏티지로 증설이 이어지며 건설업종 수혜 가능

Issue 3	(출처: 중앙일보)
제목	LG화학, 전기차 연 40만대분 코발트 확보
결론	코발트 수급 안정화를 도모하고 원재료부터 수직계열화를 구축하게 됨
세부	
	1) LG화학, "中 화유코발트와 전구체·양극재 합작 생산법인 설립 계약"
	2) 화유코발트는 세계 1위 코발트 생산 업체로 지난해 생산량은 2만t
	3) '20년까지 총 2,394억원을 출자해 전구체·양극재 합작 생산법인 설립
	4) 합작 법인에서 생산하는 전구체와 양극재를 중국, 폴란드 공장에서 사용
	5) 코발트 수급 안정화를 도모하고 원재료부터 수직계열화를 구축하게 됨

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)

에너지/Commodity/정유화학. 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

Commodity Price Data

Daily Price		Today	1D	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
F/X	USD/EUR	0.809	0.809	0.815	0.813	0.831	0.843	0.943	0.833	0.904	0.887	0.814
	Change, %		(0.1)	(0.7)	(0.5)	(2.7)	(4.1)	(14.3)	(2.9)	(10.5)	(8.8)	(0.6)
	USD/JPY	106.8	107.2	106.8	106.8	111.3	112.5	109.6	112.6	108.8	112.1	108.1
	Change, %		(0.4)	0.0	(0.0)	(4.0)	(5.1)	(2.6)	(5.2)	(1.8)	(4.8)	(1.2)
	USD/KRW	1,066.4	1,066.5	1,059.7	1,069.8	1,072.2	1,135.3	1,145.9	1,066.7	1,160.5	1,130.9	1,071.4
	Change, %		(0.0)	0.6	(0.3)	(0.5)	(6.1)	(6.9)	(0.0)	(8.1)	(5.7)	(0.5)
Agriculture	Corn	387.0	389.3	381.0	383.0	348.8	346.0	366.5	350.8	358.5	359.4	368.4
	Change, %		(0.6)	1.6	1.0	11.0	11.8	5.6	10.3	7.9	7.7	5.1
	Soybean	1,047.8	1,050.0	1,015.3	1,029.3	940.5	965.3	939.3	951.8	987.5	975.9	1,009.4
	Change, %		(0.2)	3.2	1.8	11.4	8.5	11.6	10.1	6.1	7.4	3.8
	Wheat	487.3	492.0	455.8	489.0	433.3	433.3	433.3	427.0	436.4	436.0	454.8
	Change, %		(1.0)	6.9	(0.4)	12.5	12.5	12.5	14.1	11.7	11.7	7.1
	Rice	12.8	12.8	12.4	12.2	11.5	12.0	10.3	11.7	10.3	11.1	12.2
	Change, %		0.2	3.1	5.3	11.2	6.4	24.7	9.6	23.8	15.8	5.1
	Oats	237.5	236.5	230.0	259.5	250.5	252.8	219.8	241.0	196.3	252.3	252.9
	Change, %		0.4	3.3	(8.5)	(5.2)	(6.0)	8.1	(1.5)	21.0	(5.9)	(6.1)
MYR/mt	Palm Oil	2,399.0	2,403.0	2,428.0	2,398.0	2,509.0	2,700.0	2,838.0	2,444.0	2,653.8	2,787.3	2,475.8
	Change, %		(0.2)	(1.2)	0.0	(4.4)	(11.1)	(15.5)	(1.8)	(9.6)	(13.9)	(3.1)
	Cocoa	2,547.0	2,489.0	2,475.0	2,478.0	1,928.0	2,097.0	1,972.0	1,892.0	2,854.0	2,005.2	2,218.9
	Change, %		2.3	2.9	2.8	32.1	21.5	29.2	34.6	(10.8)	27.0	14.8
	Cotton	83.8	83.5	79.6	84.5	82.7	68.7	75.0	78.6	65.6	73.5	80.6
	Change, %		0.4	5.3	(0.8)	1.4	22.0	11.8	6.6	27.8	14.0	4.0
	Sugar	12.1	12.1	12.3	12.8	14.2	14.3	16.7	15.2	18.2	15.8	13.3
	Change, %		(0.6)	(1.7)	(6.1)	(15.0)	(15.7)	(27.9)	(20.4)	(33.6)	(23.8)	(9.6)
	Coffee	118.2	117.6	116.9	118.9	122.8	126.8	140.2	126.2	136.1	133.0	120.7
	Change, %		0.5	1.1	(0.6)	(3.8)	(6.8)	(15.7)	(6.4)	(13.2)	(11.2)	(2.1)
Energy	WTI	66.8	65.5	63.4	62.0	63.8	51.3	53.4	60.4	43.4	51.0	63.0
	Change, %		2.0	5.4	7.7	4.7	30.3	25.1	10.6	54.0	31.1	6.0
	Brent	72.1	71.0	68.0	65.5	69.3	56.9	56.2	66.9	45.1	54.9	67.4
	Change, %		1.4	5.9	10.0	4.0	26.6	28.2	7.8	59.9	31.4	6.8
	Natural Gas	2.7	2.7	2.7	2.7	3.1	2.9	3.2	3.0	2.6	3.0	2.8
	Change, %		0.7	(1.6)	(2.1)	(13.3)	(7.4)	(15.1)	(9.4)	4.8	(11.5)	(5.4)
	Ethanol	1.5	1.5	1.4	1.5	1.3	1.4	1.7	1.3	1.5	1.5	1.4
	Change, %		1.5	5.8	(1.5)	10.4	4.4	(9.9)	12.7	(1.8)	(0.7)	4.3
	RBOB Gasoline	206.8	204.1	197.7	190.4	183.7	160.9	175.8	179.9	140.0	162.9	187.8
	Change, %		1.3	4.6	8.6	12.6	28.5	17.6	14.9	47.7	26.9	10.1
	Coal	93.7	93.5	93.6	99.4	106.1	96.1	84.9	100.8	65.5	88.2	101.8
	Change, %		0.2	0.1	(5.8)	(11.7)	(2.5)	10.4	(7.1)	43.1	6.2	(8.0)
Metal	Gold	1,353.4	1,339.5	1,333.3	1,323.3	1,322.4	1,291.7	1,274.6	1,302.6	1,248.5	1,258.6	1,330.5
	Change, %		1.0	1.5	2.3	2.3	4.8	6.2	3.9	8.4	7.5	1.7
	Silver	16.7	16.6	16.3	16.6	17.0	17.2	18.3	16.9	17.1	17.1	16.7
	Change, %		0.6	2.2	0.5	(1.9)	(2.9)	(9.1)	(1.6)	(2.5)	(2.3)	(0.3)
	Copper	6,950.0	6,945.0	6,724.0	6,962.0	7,140.5	6,800.0	5,767.0	7,247.0	4,872.0	6,199.4	6,970.9
	Change, %		0.1	3.4	(0.2)	(2.7)	2.2	20.5	(4.1)	42.7	12.1	(0.3)
	Nickel	898.8	889.3	856.0	896.7	802.8	727.9	638.1	809.1	646.4	680.2	855.8
	Change, %		1.1	5.0	0.2	12.0	23.5	40.9	11.1	39.1	32.1	5.0
	Zinc	3,238.0	3,243.0	3,258.0	3,277.0	3,386.0	3,219.0	2,570.0	3,319.0	2,097.5	2,888.5	3,372.0
	Change, %		(0.2)	(0.6)	(1.2)	(4.4)	0.6	26.0	(2.4)	54.4	12.1	(4.0)
	Lead	2,409.5	2,394.3	2,375.3	2,376.8	2,549.3	2,554.8	2,252.3	2,482.8	1,868.3	2,315.7	2,503.3
	Change, %		0.6	1.4	1.4	(5.5)	(5.7)	7.0	(3.0)	29.0	4.1	(3.7)
	Aluminum	14,310.0	14,280.0	13,990.0	14,035.0	14,995.0	16,215.0	13,835.0	15,020.0	12,373.5	14,556.6	14,269.2
	Change, %		0.2	2.3	2.0	(4.6)	(11.7)	3.4	(4.7)	15.7	(1.7)	0.3
	Cobalt	91,250.0	91,250.0	89,050.0	84,020.0	75,092.0	59,542.5	55,750.0	75,205.0	25,480.1	55,906.9	83,003.3
	Change, %		0.0	2.5	8.6	21.5	53.3	63.7	21.3	258.1	63.2	9.9
	HR Coil	862.0	868.0	862.0	820.0	666.0	595.0	655.0	662.0	519.3	620.1	760.4
	Change, %		(0.7)	0.0	5.1	29.4	44.9	31.6	30.2	66.0	39.0	13.4
	Scrap	385.0	384.4	400.0	400.0	384.0	330.0	350.0	367.0	275.7	344.7	386.1
	Change, %		0.1	(3.8)	(3.8)	0.3	16.7	10.0	4.9	39.7	11.7	(0.3)

자료: Bloomberg

참고) NYMEX, ICE, LME 중 대표지수를 사용

에너지/Commodity/정유화학. 손지우 l 3773-8827, jwshon@sk.com
R.A. 유승우 l 3773-9180, yswbest@sk.com

SK 증권

Refining Price Data

Daily Price		04/11	1D	1W	1M	3M	6M	12M	YTD	2015avg.	2016avg.	2017acc.
Crude Oil	**WTI**	66.8	65.5	63.4	61.4	63.6	51.3	53.1	53.7	43.4	50.9	63.0
	Change, %		*2.0*	*5.4*	*8.9*	*5.1*	*30.3*	*25.8*	*24.4*	*54.1*	*31.3*	*6.0*
	Dubai	67.6	66.5	64.7	61.7	66.6	54.8	54.6	53.8	41.3	53.1	64.2
	Change, %		*1.6*	*4.5*	*9.5*	*1.5*	*23.4*	*23.8*	*25.5*	*63.6*	*27.3*	*5.3*
Crude Oil Product	**Gasoline(휘발유)**	80.8	80.3	78.4	75.4	79.2	69.3	70.1	69.8	56.3	68.0	77.9
	Change, %		*0.6*	*3.1*	*7.1*	*2.0*	*16.6*	*15.4*	*15.7*	*43.7*	*18.8*	*3.8*
	Kerosene(등유)	85.0	83.2	75.7	77.6	80.7	67.1	66.5	66.4	52.9	65.2	80.2
	Change, %		*2.1*	*12.2*	*9.5*	*5.3*	*26.7*	*27.8*	*27.9*	*60.6*	*30.2*	*5.9*
	Diesel(경유)	83.2	81.9	80.6	76.6	80.2	68.0	67.1	65.5	52.1	65.6	79.0
	Change, %		*1.6*	*3.2*	*8.6*	*3.7*	*22.4*	*23.9*	*27.0*	*59.6*	*26.8*	*5.3*
	Bunker-C	60.0	60.1	57.8	57.1	58.7	51.0	49.9	52.1	35.5	49.7	57.8
	Change, %		*(0.2)*	*3.8*	*5.0*	*2.3*	*17.7*	*20.2*	*15.2*	*68.8*	*20.8*	*3.8*
	Naphtha	66.2	65.3	64.6	61.6	67.6	56.4	54.0	53.5	42.6	53.7	63.7
	Change, %		*1.4*	*2.5*	*7.5*	*(2.1)*	*17.4*	*22.5*	*23.9*	*55.4*	*23.2*	*3.9*
Dubai Spread	**Gasoline(휘발유)**	13.2	13.8	13.7	13.7	12.7	14.5	15.4	16.0	14.9	14.9	13.7
	Change		*(0.6)*	*(0.5)*	*(0.5)*	*0.6*	*(1.3)*	*(2.2)*	*(2.8)*	*(1.7)*	*(1.7)*	*(0.5)*
	Kerosene(등유)	17.4	16.7	11.0	15.9	14.1	12.3	11.9	12.6	11.6	12.1	16.0
	Change		*0.7*	*6.4*	*1.5*	*3.3*	*5.1*	*5.5*	*4.8*	*5.8*	*5.2*	*1.3*
	Diesel(경유)	15.6	15.4	15.9	14.9	13.6	13.2	12.5	11.7	10.8	12.5	14.9
	Change		*0.2*	*(0.3)*	*0.7*	*2.0*	*2.4*	*3.1*	*3.9*	*4.8*	*3.1*	*0.8*
	Bunker-C	(7.6)	(6.4)	(6.9)	(4.6)	(7.9)	(3.8)	(4.7)	(1.8)	(5.8)	(3.4)	(6.4)
	Change		*(1.2)*	*(0.7)*	*(3.0)*	*0.3*	*(3.8)*	*(2.9)*	*(5.8)*	*(1.8)*	*(4.2)*	*(1.2)*
	Naphtha	(1.4)	(1.2)	(0.1)	(0.1)	1.0	1.6	(0.6)	(0.4)	1.3	0.6	(0.4)
	Change		*(0.1)*	*(1.2)*	*(1.3)*	*(2.4)*	*(3.0)*	*(0.8)*	*(1.0)*	*(2.7)*	*(2.0)*	*(0.9)*
Refining Margin	**Simple(단순)**	1.8	2.4	1.8	3.2	0.9	3.1	2.5	3.8	1.9	3.2	2.3
	Change		*(0.5)*	*0.1*	*(1.3)*	*0.9*	*(1.3)*	*(0.7)*	*(2.0)*	*(0.1)*	*(1.3)*	*(0.4)*
	Complex(복합)	7.7	8.0	8.0	8.3	6.8	8.1	7.7	8.3	7.0	8.0	7.9
	Change		*(0.3)*	*(0.3)*	*(0.6)*	*0.9*	*(0.4)*	*(0.0)*	*(0.6)*	*0.7*	*(0.3)*	*(0.2)*
	Complex(lagging)	15.0	13.7	12.4	6.0	12.6	9.7	11.2	18.0	8.5	8.9	8.8
	Change		*1.3*	*2.6*	*9.0*	*2.4*	*5.3*	*3.8*	*(3.0)*	*6.5*	*6.1*	*6.2*

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

에너지/Commodity/정유화학, 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com
SK 증권

Petrochemical Price Data

Daily Price			04/11	04/10	04/09	04/06	04/05	04/04	04/03	04/02	03/30	03/29
Spot Price	**Naphtha**	CFR Japan	602.0	593.8	577.5	582.8	595.0	590.8	596.8	609.8	606.3	606.3
	Ethylene	CFR SE Asia	1,275.0	1,260.0	1,260.0	1,260.0	1,275.0	1,280.0	1,285.0	1,285.0	1,285.0	1,285.0
	Propylene	FOB Korea	1,030.0	1,030.0	1,030.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0
	Butadiene	FOB Korea	1,280.0	1,275.0	1,300.0	1,380.0	1,380.0	1,380.0	1,380.0	1,380.0	1,380.0	1,380.0
	HDPE	CFR FE Asia	1,340.0	1,335.0	1,335.0	1,310.0	1,310.0	1,310.0	1,310.0	1,310.0	1,320.0	1,320.0
	LDPE	CFR FE Asia	1,220.0	1,220.0	1,220.0	1,200.0	1,200.0	1,200.0	1,190.0	1,190.0	1,190.0	1,190.0
	LLDPE	CFR FE Asia	1,180.0	1,170.0	1,170.0	1,160.0	1,160.0	1,160.0	1,170.0	1,160.0	1,160.0	1,160.0
	MEG	CFR China	1,040.0	1,030.0	1,000.0	985.0	985.0	985.0	960.0	950.0	930.0	930.0
	PP	CFR FE Asia	1,200.0	1,200.0	1,195.0	1,210.0	1,210.0	1,210.0	1,190.0	1,185.0	1,185.0	1,185.0
	PX	CFR China	936.3	933.2	925.3	928.7	931.0	936.2	936.5	934.7	926.0	926.0
	PTA	CFR China	775.0	765.0	763.0	765.0	760.0	760.0	763.0	765.0	760.0	760.0
	Benzene	FOB Korea	831.0	829.0	824.7	832.7	835.0	834.3	836.7	841.0	826.0	826.0
	Toluene	FOB Korea	709.0	703.0	696.0	696.0	696.0	696.0	696.0	696.0	683.0	683.0
	Xylene	FOB Korea	746.0	743.0	745.0	746.0	746.0	744.0	744.0	744.0	737.0	737.0
	SM	FOB Korea	1,312.0	1,308.0	1,310.0	1,319.0	1,315.0	1,315.0	1,315.0	1,310.0	1,267.5	1,267.5

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**Naphtha**	CFR Japan	582.5	607.0	553.0	604.0	590.5	490.0	484.5	399.5	493.5	582.4
	Change, %			*(4.0)*	*5.3*	*(3.6)*	*(1.4)*	*18.9*	*20.2*	*45.8*	*18.0*	*0.0*
	Ethylene	CFR SE Asia	1,275.0	1,265.0	1,220.0	1,330.0	1,212.5	1,050.0	990.0	1,040.9	1,090.9	1,245.9
	Change, %			*0.8*	*4.5*	*(4.1)*	*5.2*	*21.4*	*28.8*	*22.5*	*16.9*	*2.3*
	Propylene	CFR SE Asia	957.5	945.0	995.0	930.0	850.0	760.0	815.0	705.7	823.6	1,051.1
	Change, %			*1.3*	*(3.8)*	*3.0*	*12.6*	*26.0*	*17.5*	*35.7*	*16.3*	*(8.9)*
	Butadiene	CFR SE Asia	1,225.0	1,275.0	1,390.0	1,150.0	1,075.0	1,325.0	2,100.0	1,116.8	1,481.1	1,307.5
	Change, %			*(3.9)*	*(11.9)*	*6.5*	*14.0*	*(7.5)*	*(41.7)*	*9.7*	*(17.3)*	*(6.3)*
	Benzene	CFR SE Asia	840.0	832.5	882.5	897.5	905.0	862.5	822.5	646.7	838.8	898.4
	Change, %			*0.9*	*(4.8)*	*(6.4)*	*(7.2)*	*(2.6)*	*2.1*	*29.9*	*0.1*	*(6.5)*
	Toluene	CFR SE Asia	735.0	725.0	720.0	735.0	720.0	675.0	690.0	630.5	689.5	742.5
	Change, %			*1.4*	*2.1*	*0.0*	*2.1*	*8.9*	*6.5*	*16.6*	*6.6*	*(1.0)*
	Xylene	CFR SE Asia	757.5	762.5	765.0	730.0	695.0	710.0	675.0	627.7	668.8	755.7
	Change, %			*(0.7)*	*(1.0)*	*3.8*	*9.0*	*6.7*	*12.2*	*20.7*	*13.3*	*0.2*
Spread	**Ethylene**	-Naphtha	692.5	658.0	667.0	726.0	622.0	560.0	505.5	641.4	597.4	663.5
	Change, %			*5.2*	*3.8*	*(4.6)*	*11.3*	*23.7*	*37.0*	*8.0*	*15.9*	*4.4*
	Propylene	-Naphtha	375.0	338.0	442.0	326.0	259.5	270.0	330.5	306.2	330.1	468.6
	Change, %			*10.9*	*(15.2)*	*15.0*	*44.5*	*38.9*	*13.5*	*22.5*	*13.6*	*(20.0)*
	Butadiene	-Naphtha	642.5	668.0	837.0	546.0	484.5	835.0	1,615.5	717.3	987.6	725.1
	Change, %			*(3.8)*	*(23.2)*	*17.7*	*32.6*	*(23.1)*	*(60.2)*	*(10.4)*	*(34.9)*	*(11.4)*
	Benzene	-Naphtha	257.5	225.5	329.5	293.5	314.5	372.5	338.0	247.2	345.3	316.0
	Change, %			*14.2*	*(21.9)*	*(12.3)*	*(18.1)*	*(30.9)*	*(23.8)*	*4.2*	*(25.4)*	*(18.5)*
	Toluene	-Naphtha	152.5	118.0	167.0	131.0	129.5	185.0	205.5	231.0	196.0	160.1
	Change, %			*29.2*	*(8.7)*	*16.4*	*17.8*	*(17.6)*	*(25.8)*	*(34.0)*	*(22.2)*	*(4.7)*
	Xylene	-Naphtha	175.0	155.5	212.0	126.0	104.5	220.0	190.5	228.2	175.3	173.3
	Change, %			*12.5*	*(17.5)*	*38.9*	*67.5*	*(20.5)*	*(8.1)*	*(23.3)*	*(0.2)*	*1.0*

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

에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

Weekly Price			Last Week	1W	1M	3M	6M	12M	YTD	2016avg.	2017avg.	2018acc.
Spot Price	**HDPE**	CFR SE Asia	1,182.5	1,212.5	1,297.5	1,182.5	1,207.5	1,137.5	1,142.5	1,134.6	1,142.5	1,250.2
	Change, %			*(2.5)*	*(8.9)*	*0.0*	*(2.1)*	*4.0*	*3.5*	*4.2*	*3.5*	*(5.4)*
	MEG	CFR SE Asia	990.0	935.0	897.5	992.5	915.0	752.5	847.5	660.8	850.6	982.3
	Change, %			*5.9*	*10.3*	*(0.3)*	*8.2*	*31.6*	*16.8*	*49.8*	*16.4*	*0.8*
	PVC	CFR SE Asia	960.0	965.0	980.0	875.0	855.0	930.0	920.0	823.4	899.9	950.7
	Change, %			*(0.5)*	*(2.0)*	*9.7*	*12.3*	*3.2*	*4.3*	*16.6*	*6.7*	*1.0*
	PP	CFR SE Asia	1,217.5	1,227.5	1,307.5	1,187.5	1,157.5	1,087.5	1,032.5	978.4	1,099.6	1,253.5
	Change, %			*(0.8)*	*(6.9)*	*2.5*	*5.2*	*12.0*	*17.9*	*24.4*	*10.7*	*(2.9)*
	2-EH	CFR Korea	1,130.0	1,190.0	1,125.0	1,035.0	1,020.0	1,010.0	865.0	772.4	970.0	1,097.1
	Change, %			*(5.0)*	*0.4*	*9.2*	*10.8*	*11.9*	*30.6*	*46.3*	*16.5*	*3.0*
	ABS	CFR SE Asia	1,980.0	1,960.0	2,070.0	2,050.0	2,030.0	1,690.0	1,635.0	1,347.1	1,844.7	2,032.1
	Change, %			*1.0*	*(4.3)*	*(3.4)*	*(2.5)*	*17.2*	*21.1*	*47.0*	*7.3*	*(2.6)*
	SBR	CFR SE Asia	1,650.0	1,670.0	1,750.0	1,650.0	1,650.0	2,290.0	2,000.0	1,483.0	1,980.5	1,717.1
	Change, %			*(1.2)*	*(5.7)*	*0.0*	*0.0*	*(27.9)*	*(17.5)*	*11.3*	*(16.7)*	*(3.9)*
	SM	CFR SE Asia	1,360.0	1,320.0	1,397.5	1,342.5	1,352.5	1,217.5	1,205.0	1,064.6	1,253.8	1,386.6
	Change, %			*3.0*	*(2.7)*	*1.3*	*0.6*	*11.7*	*12.9*	*27.7*	*8.5*	*(1.9)*
	Caustic	FOB NEA	626.0	639.0	590.0	615.0	699.5	456.0	422.5	316.6	491.2	590.6
	Change, %			*(2.0)*	*6.1*	*1.8*	*(10.5)*	*37.3*	*48.2*	*97.7*	*27.4*	*6.0*
	PX	CFR SE Asia	937.5	935.0	945.0	932.5	895.0	862.5	855.0	790.4	844.4	949.8
	Change, %			*0.3*	*(0.8)*	*0.5*	*4.7*	*8.7*	*9.6*	*18.6*	*11.0*	*(1.3)*
	PO	CFR China	1,787.5	1,722.5	1,962.5	2,127.5	1,765.0	1,540.0	1,562.5	1,396.8	1,601.2	1,901.8
	Change, %			*3.8*	*(8.9)*	*(16.0)*	*1.3*	*16.1*	*14.4*	*28.0*	*11.6*	*(6.0)*
	Caprolactam	CFR SE Asia	2,220.0	2,200.0	2,150.0	2,020.0	2,050.0	2,220.0	1,850.0	1,344.9	1,936.4	2,102.1
	Change, %			*0.9*	*3.3*	*9.9*	*8.3*	*0.0*	*20.0*	*65.1*	*14.6*	*5.6*
	PTA	CFR SE Asia	777.5	772.5	810.0	737.5	725.0	667.5	642.5	613.7	667.8	773.9
	Change, %			*0.6*	*(4.0)*	*5.4*	*7.2*	*16.5*	*21.0*	*26.7*	*16.4*	*0.5*
Spread	**HDPE**		600.0	605.5	744.5	578.5	617.0	647.5	658.0	735.1	649.0	667.8
	Change, %			*(0.9)*	*(19.4)*	*3.7*	*(2.8)*	*(7.3)*	*(8.8)*	*(18.4)*	*(7.6)*	*(10.1)*
	MEG		407.5	328.0	344.5	388.5	324.5	262.5	363.0	261.3	357.1	399.9
	Change, %			*24.2*	*18.3*	*4.9*	*25.6*	*55.2*	*12.3*	*56.0*	*14.1*	*1.9*
	PVC		377.5	358.0	427.0	271.0	264.5	440.0	435.5	423.9	406.4	368.3
	Change, %			*5.4*	*(11.6)*	*39.3*	*42.7*	*(14.2)*	*(13.3)*	*(10.9)*	*(7.1)*	*2.5*
	PP		635.0	620.5	754.5	583.5	567.0	597.5	548.0	578.9	606.1	671.0
	Change, %			*2.3*	*(15.8)*	*8.8*	*12.0*	*6.3*	*15.9*	*9.7*	*4.8*	*(5.4)*
	2-EH		547.5	583.0	572.0	431.0	429.5	520.0	380.5	372.9	476.5	514.7
	Change, %			*(6.1)*	*(4.3)*	*27.0*	*27.5*	*5.3*	*43.9*	*46.8*	*14.9*	*6.4*
	ABS		1,397.5	1,353.0	1,517.0	1,446.0	1,439.5	1,200.0	1,150.5	947.6	1,351.2	1,449.7
	Change, %			*3.3*	*(7.9)*	*(3.4)*	*(2.9)*	*16.5*	*21.5*	*47.5*	*3.4*	*(3.6)*
	SBR	BD spread	425.0	395.0	360.0	500.0	575.0	965.0	(100.0)	366.2	499.4	409.6
	Change, %			*7.6*	*18.1*	*(15.0)*	*(26.1)*	*(56.0)*	*(525.0)*	*16.1*	*(14.9)*	*3.7*
	SM		777.5	713.0	844.5	738.5	762.0	727.5	720.5	665.1	760.3	804.2
	Change, %			*9.0*	*(7.9)*	*5.3*	*2.0*	*6.9*	*7.9*	*16.9*	*2.3*	*(3.3)*
	Caustic											
	Change, %											
	PX		355.0	328.0	392.0	328.5	304.5	372.5	370.5	390.9	351.0	367.4
	Change, %			*8.2*	*(9.4)*	*8.1*	*16.6*	*(4.7)*	*(4.2)*	*(9.2)*	*1.2*	*(3.4)*
	PO	propylene sprea	830.0	777.5	967.5	1,197.5	915.0	780.0	747.5	691.1	777.6	850.7
	Change, %			*6.8*	*(14.2)*	*(30.7)*	*(9.3)*	*6.4*	*11.0*	*20.1*	*6.7*	*(2.4)*
	Caprolactam	benzene spreac	1,380.0	1,367.5	1,267.5	1,122.5	1,145.0	1,357.5	1,027.5	698.2	1,097.6	1,203.8
	Change, %			*0.9*	*8.9*	*22.9*	*20.5*	*1.7*	*34.3*	*97.7*	*25.7*	*14.6*
	PTA	px spread	121.3	118.0	148.5	84.8	98.5	63.8	44.0	60.4	76.7	109.1
	Change, %			*2.8*	*(18.4)*	*43.1*	*23.1*	*90.2*	*175.6*	*100.7*	*58.1*	*11.2*

자료 : Cischem, Platts, SK증권

참고 : Spread는 Naphtha spread로 일괄적용

에너지/Commodity/정유화학. 손지우 | 3773-8827, jwshon@sk.com
R.A. 유승우 | 3773-9180, yswbest@sk.com

Global peers

	Currency	04/11	1D	1W	1M	3M	6M	12M	YTD	MKT CAP	PER		PBR		EV/EBITDA	
										(mil USD)	18E	19E	18E	19E	18E	19E
Petrochemical																
DowDuPont	USD	64.7	(1.8)	1.6	(10.4)	(13.9)	(9.6)	3.6	(9.1)	168,245	17.7	14.9	1.8	1.7	10.2	9.2
Eastman	USD	105.1	(1.1)	1.4	(3.8)	7.8	19.3	31.1	13.5	13,550	11.6	10.7	2.5	2.2	8.7	8.1
BASF	EUR	82.8	(1.8)	(0.1)	(2.7)	(11.8)	(7.1)	(9.8)	(9.8)	101,214	14.6	13.6	2.4	2.2	7.8	7.4
Akzo Nobel	EUR	77.9	(1.5)	2.4	(3.3)	2.5	(1.0)	(1.5)	6.7	22,073	17.0	15.8	3.0	2.8	9.3	8.8
Arkema	EUR	105.6	(0.6)	1.5	(2.9)	2.2	1.7	11.9	3.9	9,270	13.2	12.2	1.7	1.6	6.3	6.0
Lanxess	EUR	61.6	(0.4)	1.8	(10.7)	(10.7)	(7.0)	(3.9)	(7.1)	7,282	15.5	13.1	2.1	1.9	9.3	8.2
Sumitomo Chemical	JPY	621	(0.6)	4.2	0.6	(27.7)	(11.0)	1.1	(23.3)	11,911	10.1	10.5	1.3	1.2	7.4	8.0
Mitsubishi Chemical	JPY	1,022	0.0	2.8	(1.7)	(20.7)	(8.0)	21.8	(17.4)	16,544	9.2	8.7	1.3	1.2	6.3	6.1
Shin-Etsu Chemical	JPY	10,960	1.3	2.7	(0.2)	(8.4)	8.6	15.9	(4.3)	43,948	18.5	16.6	1.9	1.8	8.1	7.4
Asahi Kasei	JPY	1,422	(0.3)	1.5	4.8	(6.1)	1.4	36.7	(2.2)	18,109	14.4	13.6	1.5	1.4	7.4	7.0
JSR	JPY	2,377	(0.6)	2.1	(5.0)	3.5	14.4	26.9	7.2	4,455	14.5	13.4	1.2	1.1	7.7	7.2
Nitto Denko	JPY	8,217	(0.5)	4.3	(4.7)	(20.8)	(13.7)	(1.9)	(17.9)	15,450	15.7	14.6	2.1	1.9	7.3	7.0
SABIC	SAR	117.5	(0.6)	2.4	8.5	15.7	19.7	15.9	15.8	80,773	14.2	13.7	1.7	1.7	7.3	7.1
Yansab	SAR	71.7	(0.9)	(0.2)	4.1	16.6	25.6	18.8	21.5	8,861	13.7	13.9	2.2	1.9	9.0	8.9
Formosa Plastics	TWD	105.5	0.0	3.4	3.9	4.5	11.8	13.1	6.9	21,114	14.4	13.9	1.8	1.8	18.9	19.2
Formosa Fiber	TWD	111.5	(0.9)	3.7	5.7	2.3	18.1	18.0	8.3	20,511	13.7	13.4	1.7	1.7	11.6	11.5
Nan Ya Plastics	TWD	83.9	0.1	3.2	5.8	2.3	12.2	16.5	7.7	20,648	14.8	15.3	1.7	1.7	16.2	16.4
Sinopec Shanghai	CNY	5.92	0.9	2.8	0.0	(13.8)	(5.7)	(11.5)	(6.5)	9,462	12.0	12.6	2.2	2.0	6.8	7.3
Sinopec Yizheng(Fibe	CNY	2.04	1.5	1.5	(12.1)	(29.7)	(35.4)	(46.0)	(23.6)	5,394	50.4	66.3	5.3	5.0	13.9	10.3
Reliance	INR	931	1.5	4.0	1.9	(0.7)	10.8	35.7	2.3	93,404	14.4	12.9	1.7	1.5	9.4	8.7
Industries Qatar	QAR	114.3	(0.2)	4.9	22.9	7.8	16.7	3.0	17.8	16,144	14.5	13.9	1.6	1.5	46.4	27.2
PTT Chemical	THB	96.3	0.8	3.8	1.3	3.8	16.3	31.8	13.2	11,766	10.7	10.4	1.4	1.3	5.5	5.4
Petronas	MYR	8.5	0.7	4.2	6.6	5.5	16.3	11.5	10.5	15,624	16.1	15.5	2.0	1.9	9.2	8.9
LG화학	KRW	367,000	(0.3)	(2.4)	(9.7)	(12.9)	(4.7)	30.8	(9.4)	27,313	13.8	12.8	1.8	1.6	6.5	6.1
롯데케미칼	KRW	426,000	(0.9)	(1.8)	(0.8)	11.2	13.0	18.7	15.8	11,632	5.5	5.2	0.9	0.8	3.6	3.3
한화케미칼	KRW	29,800	1.5	4.2	(4.8)	(9.3)	(8.6)	14.2	(5.7)	5,050	5.7	5.5	0.8	0.7	6.7	6.5
금호석유	KRW	92,600	(2.3)	0.4	2.2	(14.7)	29.5	14.6	(6.9)	2,969	14.1	11.9	1.6	1.5	9.3	8.4
SKC	KRW	36,800	3.4	0.5	(6.6)	(17.4)	(9.6)	25.8	(21.7)	1,643	9.9	8.7	1.1	1.0	8.8	7.9
국도화학	KRW	60,900	0.3	2.7	2.9	(5.9)	8.9	26.0	(3.5)	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	9,090	1.7	(6.5)	(5.0)	10.9	34.9	12.4	19.9	4,595	8.2	7.3	1.1	1.0	7.2	6.8
Average			**(0.0)**	**1.9**	**(0.4)**	**(4.3)**	**5.3**	**12.7**	**0.1**							
Refinery																
Valero	USD	100.3	1.4	7.5	6.4	6.1	28.7	52.8	9.1	40,608	14.1	13.4	2.0	2.0	6.9	6.9
Conoco Phillips	USD	63.2	1.4	6.2	14.8	6.8	27.5	26.1	15.2	66,136	34.0	25.9	2.2	2.2	7.2	6.7
Formosa Petrochemic	TWD	119.5	1.7	3.0	5.3	0.0	11.7	9.1	3.5	37,040	18.2	18.7	3.2	3.2	11.7	12.1
Andeavor	USD	113.1	2.6	8.6	10.7	(3.7)	6.3	38.2	(1.1)	17,904	12.9	11.4	1.8	1.7	7.3	7.1
Marathon Petroleum	USD	74.0	0.4	2.0	5.4	5.4	31.7	46.8	12.2	32,812	15.0	12.8	2.6	2.7	7.7	7.5
Devon Energy	USD	33.7	0.4	7.7	3.1	(21.7)	(6.5)	(20.6)	(18.5)	22,192	17.5	14.0	2.7	2.3	8.4	7.4
Hollyfrontier	USD	54.6	1.1	7.2	17.3	6.0	49.4	95.9	6.5	9,094	16.8	15.2	1.8	1.8	8.0	8.0
Phillips 66	USD	102.6	2.3	6.8	6.9	0.2	9.5	31.7	1.4	51,561	15.6	14.5	2.3	2.2	9.0	8.8
Murphy Oil	USD	28.7	1.7	10.1	13.2	(16.4)	11.3	1.0	(7.7)	5,548	162.4	113.2	1.2	1.1	4.9	4.5
JX Holdings	JPY	683.3	4.3	9.1	5.9	(12.9)	20.9	28.3	(6.0)	22,130	8.8	8.0	0.9	0.9	7.0	6.6
Idemitsu	JPY	3,880.0	1.8	1.6	(4.3)	(13.4)	20.5	(1.1)	(14.3)	8,360	7.9	7.5	1.0	0.9	6.8	6.8
Nesteoil	EUR	55.6	(1.9)	0.7	(6.6)	(1.5)	40.9	51.4	4.2	16,473	16.7	16.7	2.9	2.7	10.2	10.3
Ashland	USD	69.5	(0.1)	0.4	(4.3)	(5.8)	5.3	12.6	(2.4)	4,550	21.6	18.7	1.3	1.3	10.2	9.6
Fuchs Petrolub	EUR	43.0	(0.9)	1.2	(10.1)	(2.7)	(13.9)	(6.7)	(2.9)	7,127	22.1	20.9	4.1	3.7	13.0	12.3
SK이노베이션	KRW	202,000	(0.5)	(3.8)	(1.2)	0.7	(0.2)	24.7	(1.2)	17,975	7.9	7.7	0.9	0.9	4.9	4.8
S-Oil	KRW	114,500	(0.4)	(3.8)	(6.1)	(1.3)	(11.2)	21.5	(2.1)	12,400	9.3	8.1	1.8	1.6	7.6	6.6
GS	KRW	61,200	0.2	0.8	(7.0)	(4.4)	(7.0)	5.5	(1.6)	5,467	6.0	5.5	0.7	0.6	6.9	6.3
Average			**0.9**	**3.8**	**2.9**	**(3.4)**	**13.2**	**24.5**	**(0.3)**							

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

SK Energy Daily

에너지/Commodity/정유화학. 손지우 I 3773-8827, jwshon@sk.com
R.A. 유승우 I 3773-9180, yswbest@sk.com

SK 증권

Global peers

	Currency	04/11	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	77	0.5	3.4	3.8	(10.9)	(6.3)	(6.5)	(7.4)	328,107	16.5	16.3	1.7	1.7	7.6	7.3
BP	GBP	506	0.1	5.0	5.8	(5.1)	3.5	7.5	(3.2)	143,095	15.7	14.9	1.4	1.4	5.5	5.3
Shell	EUR	2,394	0.6	6.4	5.9	(6.9)	3.9	11.8	(3.5)	285,224	14.1	13.1	1.4	1.4	6.0	5.9
Chevron	USD	119	0.3	4.2	1.7	(10.0)	(0.1)	9.4	(4.7)	227,882	19.2	18.7	1.5	1.5	6.7	6.5
Total	EUR	49	0.1	3.3	5.2	1.5	6.6	0.3	6.1	160,179	12.4	12.1	1.3	1.2	5.5	5.2
Sinopec	CNY	7	1.8	7.2	7.8	(2.7)	17.6	16.0	12.4	129,179	12.0	11.3	1.1	1.0	4.1	4.0
Petrochina	CNY	8	1.3	3.1	(4.2)	(12.2)	(3.9)	(4.1)	(4.9)	213,685	25.7	22.2	1.1	1.1	5.6	5.5
CNOOC	CNY	12	2.2	2.7	7.2	(0.2)	1.5	(10.4)	10.3	68,366	9.4	9.2	1.1	1.0	3.7	3.6
Gazprom	RUB	145	2.4	3.6	3.9	0.5	15.3	15.3	11.3	54,793	3.9	4.0	0.3	0.2	3.6	3.6
Rosneft	RUB	324	4.9	1.4	3.4	(0.3)	1.1	(2.0)	11.1	54,710	7.8	6.7	0.8	0.7	4.9	4.5
Anadarko	USD	63	2.2	7.0	8.9	8.0	30.6	0.5	17.8	32,569	39.7	38.5	2.7	2.5	6.4	5.9
Petrobras	BRL	22	1.9	7.0	(2.6)	26.4	35.6	48.5	35.4	89,536	10.5	8.7	0.9	0.8	5.5	5.2
Lukoil	USD	4,070	4.4	3.3	7.4	10.4	33.9	37.1	22.1	53,585	6.2	6.3	0.8	0.7	N/A	N/A
Kinder	USD	15	(1.7)	1.3	(6.0)	(20.1)	(19.4)	(29.0)	(15.1)	47,497	18.7	16.7	1.0	1.0	9.8	9.5
Statoil	NOK	200	1.4	7.9	11.9	7.5	25.0	34.3	13.9	85,887	16.8	16.3	2.0	1.9	3.8	3.7
BHP	AUD	29	1.9	2.5	4.0	(4.5)	10.6	15.9	(0.4)	116,758	15.5	16.3	2.0	1.9	6.0	6.1
PTT E&P	THB	116	0.9	3.6	2.2	6.9	26.4	17.8	16.0	14,790	13.1	12.5	1.2	1.1	3.7	3.6
Petronas gas	MYR	18	(0.6)	0.6	3.4	(2.7)	(2.7)	(8.5)	3.0	9,200	18.9	18.6	2.7	2.6	10.5	10.3
Chesapeake	USD	3	3.2	9.6	2.9	(23.9)	(19.2)	(48.4)	(19.4)	2,909	4.2	4.4	#N/A N/A	5.2	6.0	5.9
Noble Energy	USD	31	0.9	5.8	1.1	(2.2)	13.1	(10.8)	7.9	15,470	39.4	26.9	1.5	1.4	7.7	6.5
Average		**0**	**1.4**	**4.4**	**3.7**	**(2.0)**	**8.6**	**4.7**	**5.4**							
PV																
WACKER	EUR	141.9	(0.8)	5.8	3.3	(15.3)	19.4	41.6	(12.5)	9,155	20.7	17.4	2.1	2.0	7.1	6.8
GCL-Poly	HKD	1.0	0.0	5.2	(17.9)	(30.8)	(9.0)	2.0	(27.9)	2,392	6.3	5.6	0.6	0.5	6.2	5.7
SunPower	USD	8.0	(4.2)	3.8	11.0	(16.1)	15.9	18.7	(5.7)	1,120	#N/A N/A	248.4	4.6	4.1	13.3	9.0
Canadian Solar	USD	16.1	0.5	0.9	(0.4)	(6.8)	2.4	23.3	(4.3)	936	12.9	10.4	0.9	0.9	9.0	8.9
JA Solar	USD	7.0	(0.6)	(2.4)	(5.7)	(5.9)	(3.2)	0.4	(6.0)	334	13.2	11.0	1.5	1.5	3.9	3.6
Yingli	USD	1.7	1.2	(0.6)	(1.8)	(18.0)	(27.9)	(40.4)	(0.6)	31	#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	71.3	0.6	1.5	4.9	(6.6)	51.0	153.6	5.5	7,464	42.9	21.6	1.4	1.3	13.3	7.6
한화큐셀	USD	7.3	(4.4)	(0.7)	(8.5)	(1.5)	(9.2)	4.2	4.4	610	33.3	23.6	#N/A N/A	#N/A N/A	8.1	7.3
OCI	KRW	169,000	4.6	5.6	8.7	(3.4)	73.7	111.3	24.3	3,775	0.0	15.1	0.0	1.1	0.0	7.0
웅진에너지	KRW	6,520	3.8	(1.2)	(9.3)	(21.4)	(13.4)	28.1	(20.7)	181	N/A	0.0	1.1	0.0	7.0	0.0
신성솔라에너지	KRW	1,600	1.9	0.0	(10.9)	(21.2)	(9.9)	(14.0)	(16.4)	259	N/A	1.1	0.0	7.0	0.0	8.4
Average			**0.3**	**1.6**	**(2.4)**	**(13.4)**	**8.2**	**29.9**	**(5.5)**							
Gas Company																
Towngas China	HKD	7.2	0.4	0.7	15.5	20.5	28.8	56.3	14.0	2,525	14.2	12.7	1.2	1.1	12.3	11.2
Kulun	HKD	6.9	1.5	1.8	(4.1)	(16.1)	(6.8)	(9.7)	(15.8)	7,044	9.2	8.0	1.0	1.0	5.5	5.0
Beijing Enterprise	HKD	41.5	1.7	(0.2)	(5.4)	(7.8)	(9.0)	3.9	(10.6)	6,672	7.3	6.6	0.7	0.7	12.3	11.8
ENN Energy	HKD	71.9	2.9	(0.8)	17.1	36.0	24.5	55.9	28.9	9,927	15.5	13.3	3.0	2.6	9.3	8.3
China Resources Gas	HKD	28.4	0.9	1.8	8.6	16.6	4.4	5.2	0.2	8,046	15.2	13.8	2.5	2.2	8.5	7.8
China Gas Holdings	HKD	28.5	0.0	(0.2)	20.0	34.4	18.8	118.2	31.9	18,039	19.4	16.5	4.7	4.0	14.8	12.8
Shenzen Gas	HKD	17.0	(0.2)	2.7	9.7	7.9	9.0	36.4	14.4	4,411	11.3	9.6	1.4	1.3	7.5	6.6
Shann Xi	CNY	7.0	0.1	0.3	(6.1)	(18.9)	(16.9)	(27.6)	(16.8)	1,247	14.1	15.1	1.3	1.2	#N/A N/A	#N/A N/A
Suntien	HKD	2.5	6.0	11.3	25.4	19.3	19.3	47.0	19.3	1,169	6.6	5.8	0.8	0.7	8.0	6.9
China Oil & Gas	HKD	0.6	0.0	(3.2)	(10.4)	(24.1)	9.1	3.4	(29.4)	445	9.2	8.0	#N/A N/A	#N/A N/A	#N/A N/A	#N/A N/A
Average			**1.3**	**1.4**	**7.0**	**6.8**	**8.1**	**28.9**	**3.6**							
EV																
LG화학	KRW	367,000	(0.3)	(2.4)	(9.7)	(12.9)	(4.7)	30.8	(9.4)	24,267	13.1	12.0	1.6	1.4	5.9	5.4
삼성SDI	KRW	187,000	0.5	(1.3)	(4.8)	(12.8)	(13.8)	37.5	(8.6)	12,045	15.6	11.2	1.1	1.0	11.8	9.5
Panasonic	JPY	1535.5	(0.4)	0.4	(6.1)	(11.2)	(7.0)	21.3	(6.9)	35,245	14.5	12.6	1.9	1.7	5.6	5.2
GS Yuasa	JPY	575.0	0.2	1.2	0.0	(5.7)	(1.2)	16.6	2.5	2,225	15.6	14.2	1.3	1.2	7.2	6.8
NEC	JPY	2928.0	(0.5)	0.7	(8.6)	(7.0)	(4.8)	10.1	(3.7)	7,136	20.4	13.4	0.8	0.8	6.7	5.7
BYD Auto	CNY	56.1	(0.9)	2.4	(14.4)	(14.2)	(18.2)	5.9	(13.7)	23,547	25.6	20.2	2.5	2.3	12.3	10.8
Tesla Motors	USD	300.9	(1.2)	4.9	(8.0)	(11.0)	(15.1)	(2.5)	(3.3)	50,833	#N/A N/A	136.4	10.8	9.8	45.4	17.4
Kandi Technologies	USD	5.1	(1.0)	6.3	(3.3)	(30.1)	(38.2)	22.9	(25.0)	275	#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)**	**1.5**	**(6.9)**	**(13.1)**	**(12.9)**	**17.8**	**(8.5)**							

* Bloomberg 기준 / valuation multiple 또한 Bloomberg consensus 기준임