

PETROCHEMICAL TRACKER



OIL MOVING UP, WHILE GAS PRICES DROP

Oil prices witnessed a MoM increase in the range of 1-5%, while natural gas dropped 12.8%. All of the petrochemical prices were up (except polypropylene) with benzene, polystyrene and polyethylene being the top 3 gainers. Amongst KSA petrochemical stocks, Nama Chemicals was the top performer with a gain of 42.9% this month, followed by Chemanol and SIIG.

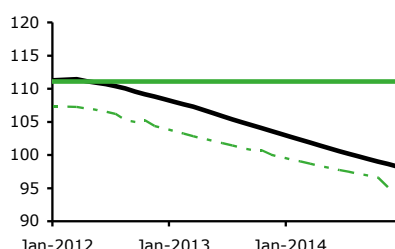
The Oil Ministry of Saudi Arabia has kept the price of natural gas unchanged at USD0.75/mmbtu for 2012 for Saudi petrochemical producers. India removed the anti-dumping charges imposed on Saudi polypropylene exports. **SABIC**, **Tasnee**, **Sipchem** and **APPC** proposed to distribute a dividend per share of SR3, SR1.5, SR1.25 and SR1, respectively. Moreover, the CMA approved **Tasnee's** bonus issue offering one share for every five shares held; this would increase its share capital by 20%. **APPC's** BoD proposed a bonus issue of 1:6.25, which is expected to raise the share capital by 16%. These proposals are approved by the Capital Market Authority (CMA) and are awaiting shareholders of the respective companies.

Key benchmark overview

Name	Latest	1M (%)	QTD (%)	YTD (%)
TASI	6,537.1	1.9	1.9	1.9
TASI Petrochem	6,163.1	(1.5)	(1.5)	(1.5)
Brent (\$/bbl)	111.1	2.2	2.2	2.2
Gold (\$/oz)	1,739.1	11.2	11.2	11.2
Natural Gas (\$/MMBtu)	2.6	(12.8)	(12.8)	(12.8)
Ethylene	1,180.0	3.5	3.5	3.5

Source: Bloomberg, NCBC Research

Crude oil futures curve* – Brent (\$/bbl)



Source: Bloomberg, NCBC Research, *updated Jul 2011

Saudi equities – performance and valuation

Name	Rating	Price Target (SR)	Price chg (%)		Valuation		Div yld 11(%)
			1M	YTD	P/E-TTM	P/BV	
Tasnee	Neutral	42.9	(4.9)	(3.7)	8.9	2.0	3.8
Sipchem	Overweight	25.3	1.8	1.8	10.4	1.3	6.2
YANSAB	Neutral	48.4	(0.9)	(0.5)	7.8	2.3	0.0
Sahara Petrochemical	Neutral	18.6	(3.2)	(2.9)	12.8	1.3	0.0
Saudi Kayan	Overweight	20.2	(6.4)	(7.2)	-	1.6	0.0
SAFCO	Overweight	210.8	2.4	1.3	10.8	5.4	7.9
Petrochem	Neutral	18.6	(1.5)	(1.5)	-	2.1	0.0
SABIC	Overweight	124.7	(3.1)	(2.3)	9.7	2.0	6.4
SIIG	NR	-	6.8	7.4	17.4	1.5	4.9
Chemanol	NR	-	11.6	11.6	23.2	1.1	0.0
Nama Chemicals	NR	-	42.9	40.7	-	1.2	0.0
Alujain	NR	-	0.0	0.9	-	2.2	0.0
APPC	NR	-	1.7	2.8	8.1	2.0	6.8
PetroRabigh	NR	-	(2.2)	(3.9)	297.1	2.4	0.0

Source: Bloomberg, NCBC Research

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An official from the KSA Oil Ministry stated that it has decided to keep the price of natural gas steady at USD0.75/mmbtu in 2012 for KSA petrochemical producers. The ministry did not mention any possible date for revision. This announcement is expected to have a positive impact on the valuation of the eight stocks under our coverage, considering that we had believed the price of natural gas paid by local petrochemical companies would increase to USD1.5/mmbtu as of the beginning of 2012. For an insight on the impact of feedstock price change on KSA petrochemical sector, please refer to our strategy piece on **'Analysis of the impact of gas price changes on KSA producers'** released on 12 December 2011.

India withdrew the anti-dumping duties levied on KSA polypropylene producers. This would positively benefit SABIC's subsidiaries (Saudi European Petrochemical Co, Saudi Yanbu Petrochemical Co, and Saudi Kayan); Sahara Petrochemical's Al-Waha Petrochemical Co; Petrochem's Saudi Polymers Co; Tasnee's Saudi Polyolefins Co; PetroRabigh and APPC. In November 2010, the Indian government imposed anti-dumping charges on PP imported from Saudi petrochemical producers for a period of five years (effective from 30 July 2009). In December 2011, the European Commission revoked anti-dumping and anti-subsidy probes against polyethylene terephthalate (PET) from Saudi Arabia.

SABIC's BoD recommended distribution of a dividend of SR3/share for 2H11. Earlier, SABIC distributed a dividend of SR2/share for 1H11 on 6 August 2011. Total dividend for 2011 would be SR5/share, higher than our estimate of SR3.5/share and the figure for 2010 (also SR3.5/share). All registered shareholders as of the date of holding the general assembly meeting scheduled in April 2012 would be eligible for the dividend. We are

currently 'Overweight' on SABIC's with a price target of SR124.7.

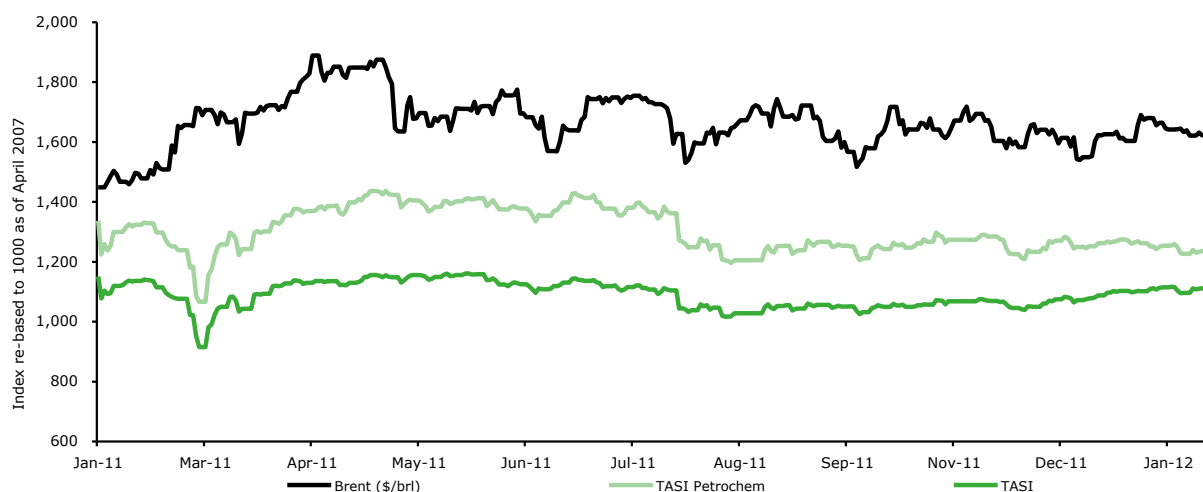
Tasnee's BoD proposed issuing a 1:5 bonus share which would increase the share count by 20% to 668.9mn, resulting in a 20% rise in share capital to SR6.69bn. The plan received CMA approval and is now awaiting approval from the company's shareholders. The exact date for the extraordinary general meeting (EGM) is yet to be released. The company expects the rise in share capital to increase the stock's liquidity. Moreover, the BoD recommended distributing a dividend per share of SR1.5 for 2011. This is higher than our assumption of SR1/share. We are currently 'Neutral' on Tasnee with a price target of SR42.9.

On 20 December 2011, three affiliates of **Tasnee** and **Sahara Petrochemical** – Saudi Acrylic Acid Company (SAAC), Saudi Acrylic Monomers Company (SAMCO) and Saudi Superabsorbent Polymers Company (SAPCO) – signed a 16-year deal of SR5.25bn (USD1.4bn) with nine Saudi banks to fund their ongoing projects.

Sipchem's BoD recommended distributing a dividend of SR1.25 per share for the full year 2011. This is higher than our expectation of SR1 per share and the figure for 2010 (also SR1 per share). All registered shareholders as of the date of holding the general assembly meeting scheduled in March 2012 would be eligible for the dividend. Sipchem's affiliate, Sipchem Marketing & Services Company (SMSC), acquired Aectra, a petrochemical trading and marketing firm based in Switzerland, to gain access to European markets. We are **Overweight** on Sipchem with a price target of SR25.3.

Exhibit 1: Index tracker

Index re-based to 1000 as of April 2007



Source: Bloomberg, NCBC Research

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Spot vs. Futures

Oil prices were up in the range of 1-5%, while natural gas prices decreased 12.8% this month reversing the gains witnessed in the last month. The WTI and Brent oil futures contracts for 2012 continue to trade broadly in line with the current levels, while the 2013 and 2014 oil futures are trading at a discount. The gold futures contracts for 2012 are also trading in line with the spot prices, while the 2013 and 2014 gold future contracts are at premium. Oil and gold futures curves shifted upward this month, while the natural gas futures curve moved downward.

Exhibit 2: Commodity futures

	Spot (\$)	Q112	Q212	Q312	Q412	2012	2013	2014	2015
WTI (\$/bbl)	Forecast	96.0	97.0	102.0	106.0	100.0	112.0	117.0	119.0
	Future	100.0	100.6	100.9	100.8	100.6	98.8	94.9	91.7
	99.6 Premium/Discount (%)	0.5	1.1	1.4	1.3	1.1	(0.7)	(4.7)	(7.9)
Brent (\$/bbl)	Forecast	105.0	106.0	111.5	114.5	108.0	115.0	119.5	125.0
	Future	111.3	110.5	109.4	108.3	109.9	105.0	99.8	95.8
	111.1 Premium/Discount (%)	0.2	(0.5)	(1.5)	(2.5)	(1.1)	(5.5)	(10.1)	(13.7)
Natural Gas Henry Hub (\$/MMBtu)	Forecast	3.5	3.6	3.8	4.0	3.8	4.4	4.9	5.2
	Future	2.8	3.0	3.1	3.5	3.1	3.8	4.1	4.3
	2.6 Premium/Discount (%)	7.3	15.8	20.0	35.4	19.6	45.0	58.1	66.9
Gold (\$/oz)	Forecast	1,700.0	1,775.0	1,840.0	1,900.0	1,821.3	1,950.0	1,600.0	1,350.0
	Future	1,710.3	1,737.6	1,741.7	1,744.8	1,733.7	1,754.9	1,779.4	1,806.3
	1,739.1 Premium/Discount (%)	(1.7)	(0.1)	0.1	0.3	(0.3)	0.9	2.3	3.9

Source: Bloomberg, NCBC Research

Futures charts

To enable a comparative analysis of the futures curves, last month's data is indicated by as a dotted line. The black line represents this month's data and the straight line represents this month's spot price.

Exhibit 3: Crude oil*

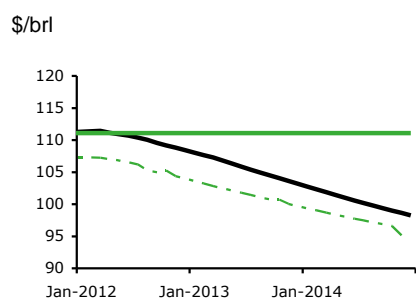
Source: Bloomberg, NCBC Research
*updated Dec 2011

Exhibit 4: Natural gas*

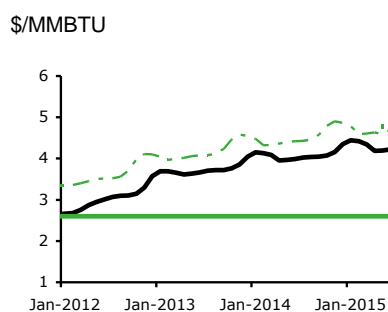
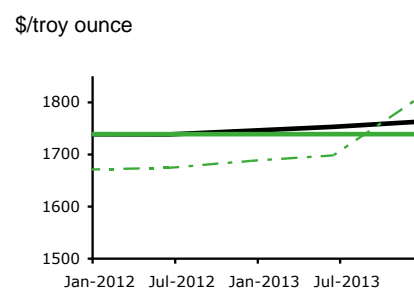
Source: Bloomberg, NCBC Research
*updated Dec 2011

Exhibit 5: Gold*

Source: Bloomberg, NCBC Research
*updated Dec 2011

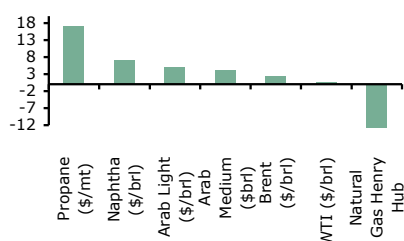
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Relative performance

Natural gas was the worst performer this month with a drop of 12.8%, while oil prices increased MoM. Propane gained 17.1% this month. Amongst petrochemical products, benzene (up 12.1%), polystyrene (up 10.3%) and polyethylene (up 8.2%) were the top 3 performers with only polypropylene declining 1.9%. All fertilizer prices dropped this month, while the base and precious metal prices witnessing a MoM growth.

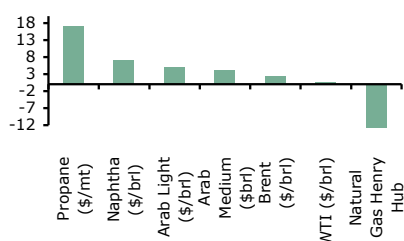
Exhibit 6: Oil and Gas

1M (%)



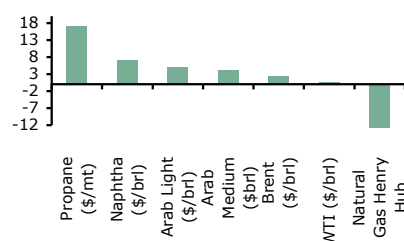
Source: Bloomberg, NCBC Research

QTD (%)



Source: Bloomberg, NCBC Research

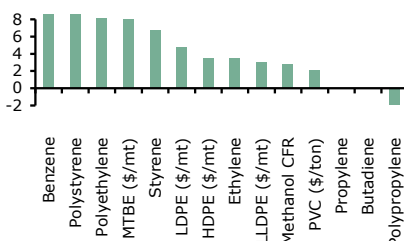
YTD (%)



Source: Bloomberg, NCBC Research

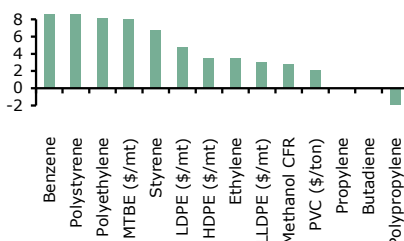
Exhibit 7: Petrochemicals

1M (%)



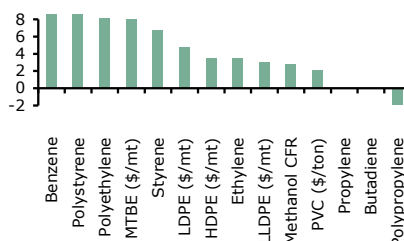
Source: Bloomberg, NCBC Research

QTD (%)



Source: Bloomberg, NCBC Research

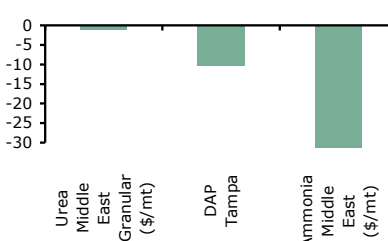
YTD (%)



Source: Bloomberg, NCBC Research

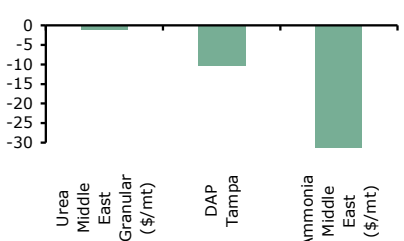
Exhibit 8: Fertilizers

1M (%)



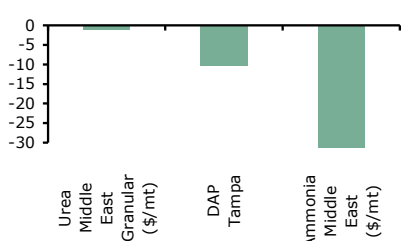
Source: Bloomberg, NCBC Research

QTD (%)



Source: Bloomberg, NCBC Research

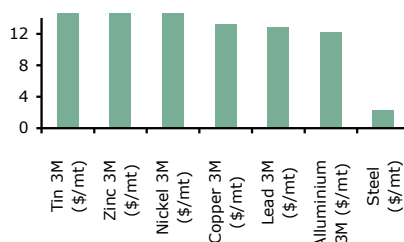
YTD (%)



Source: Bloomberg, NCBC Research

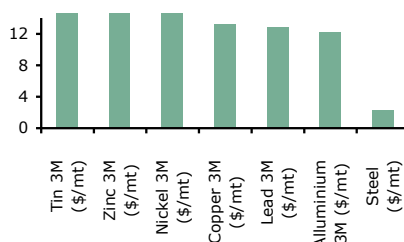
Exhibit 9: Base metals

1M (%)



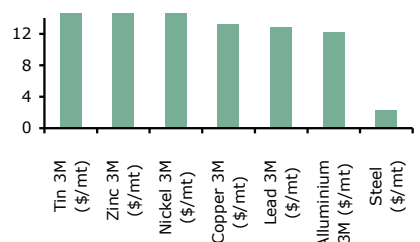
Source: Bloomberg, NCBC Research

QTD (%)



Source: Bloomberg, NCBC Research

YTD (%)



Source: Bloomberg, NCBC Research

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Exhibit 10: Precious metals

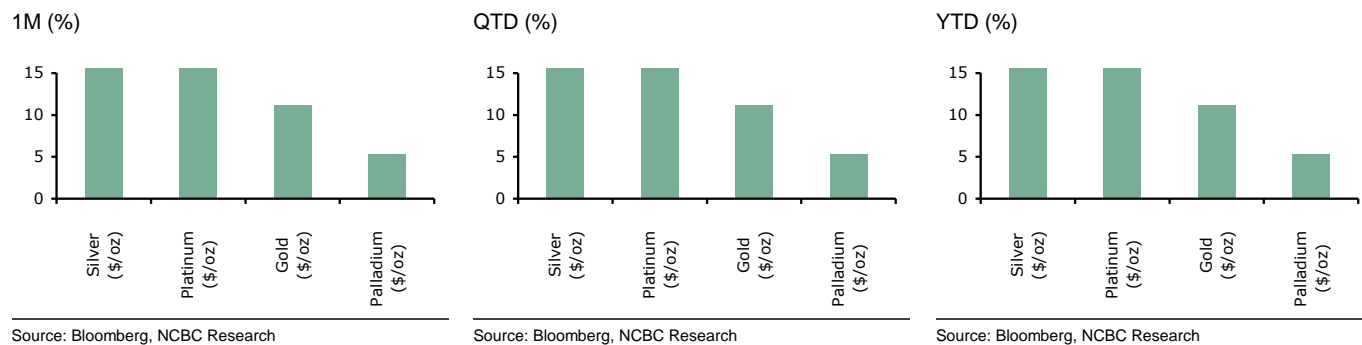


Exhibit 11: Agriculture products

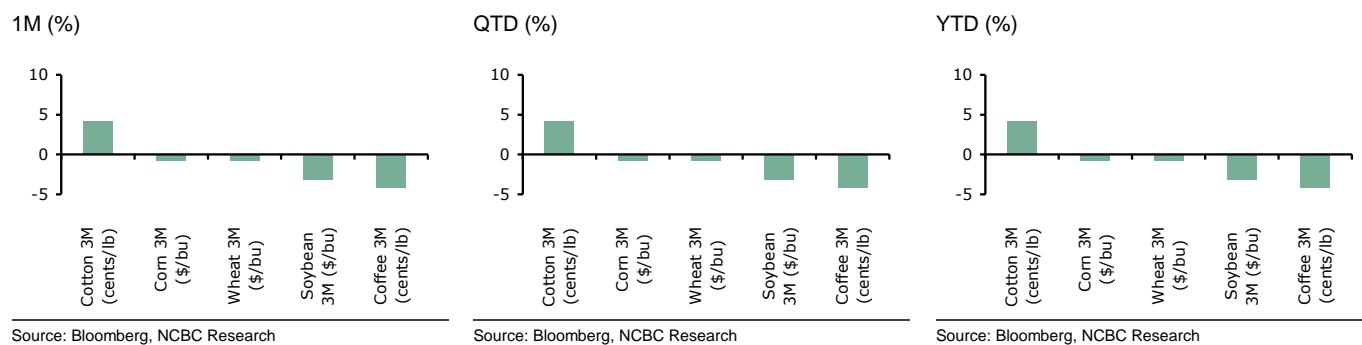
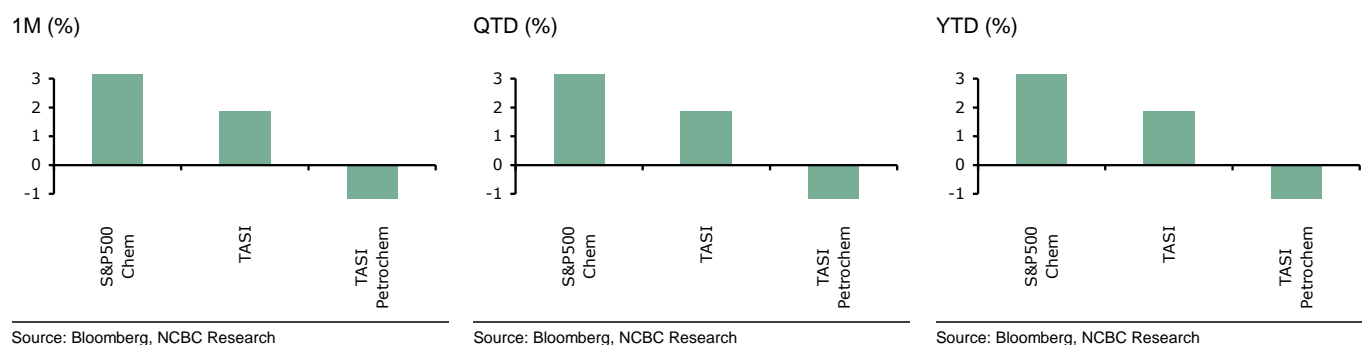


Exhibit 12: Indices



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Performance and valuation

The stock prices of Saudi petrochemical companies showed a mixed trend this month. Nama Chemicals continued the gains seen last month and increased 42.9% this month. Chemanol was the 2nd largest gainer with an increase of 11.6% followed by SIIG which was up 6.8%. Saudi Kayan was the worst performer this month as stock price dropped 6.4% due on weak 4Q11 results. On the global front, the stock price of Industries Qatar was down 3.9% this month. However, Eastman gained 28.1% followed by an increase of 16.5% in Dow Chemicals' stock price. Our ratings and price targets have been added to the table below.

Exhibit 13: Industry – performance and valuation

Name	Rating	Target price (SR)	Last traded price (LC)*	Mkt cap (SR mn)	Price chg (%)		TTM (%)		Valuation (x)			Div yld 11(%)
					1M	YTD	ROE	ROA	P/E-TTM	P/E-11E	PBV	
Saudi Arabia												
Tasnee	Neutral	42.9	39.2	21,851	(4.9)	(3.7)	24.1	6.5	8.9	13.8	2.0	3.8
Sipchem	Overweight	25.3	20.1	7,352	1.8	1.8	13.4	5.3	10.4	11.0	1.3	6.2
YANSAB	Neutral	48.4	43.8	24,638	(0.9)	(0.5)	35.6	13.8	7.8	11.3	2.3	0.0
Sahara	Neutral	18.6	15.1	6,604	(3.2)	(2.9)	9.7	5.5	12.8	12.1	1.3	0.0
Saudi Kayan	Overweight	20.2	16.2	24,225	(6.4)	(7.2)	(1.6)	(0.6)	-	13.7	1.6	0.0
SAFCO	Overweight	210.8	178.3	44,563	2.4	1.3	53.6	46.4	10.8	12.0	5.4	7.9
Petrochem	Neutral	18.6	20.2	9,696	(1.5)	(1.5)	(1.4)	(0.3)	-	-	2.1	0.0
SABIC	Overweight	124.7	94.0	282,000	(3.1)	(2.3)	22.6	9.0	9.7	-	2.0	6.4
SIIG	NR	-	20.4	9,180	6.8	7.4	9.1	2.1	17.4	-	1.5	4.9
Chemanol	NR	-	13.5	1,628	11.6	11.6	4.8	2.3	23.2	-	1.1	0.0
Nama Chemicals	NR	-	14.0	1,799	42.9	40.7	(4.8)	(3.0)	-	-	1.2	0.0
Alujain	NR	-	17.6	1,218	0.0	0.9	(1.8)	(0.3)	-	-	2.2	0.0
APPC	NR	-	29.4	4,156	1.7	2.8	26.7	15.2	8.1	-	2.0	6.8
PetroRabigh	NR	-	22.4	19,579	(2.2)	(3.9)	0.8	0.1	297.1	0.0	2.4	0.0
Global												
BASF SE	Germany		60.3	274,779	13.8	12.0	23.4	8.2	9.0	0.0	2.5	3.6
Dow Chemicals	US		127.8	148,304	16.5	(3.9)	11.5	2.9	12.0	0.0	2.0	3.0
Industries Qatar	Qatar		127.8	72,397	(3.9)	(3.9)	27.3	18.8	9.0	0.0	2.9	4.3
Sumitomo	Japan		312.0	25,255	11.8	11.0	4.5	1.0	26.6	0.0	1.0	3.8
Eastman	US		50.4	26,010	28.1	29.1	39.8	11.4	11.2	0.0	3.7	2.1

Source: Bloomberg, NCBC Research
LC = Local currency, *as of Aug 23 2011

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Product portfolio and capacities

The following section outlines product portfolios of listed petrochemical companies in the Kingdom. The planned commissioning dates are based on available information or discussions with the management. We have displayed the respective changes in commodity prices to indicate the potential impact on producers or plants yet to go on-stream.

Exhibit 14: Portfolio product and capacities

Company	Product	Capacity (mn mt)	Planned Commissioning of Capacity	Price MoM (%)	Price YTD (%)
SABIC (Saudi Basic Industries Corporation)					
	Ethylene	7.185	on-stream	3.5	3.5
	Methanol	4.129	on-stream	2.7	2.7
	Gases	4.100	on-stream		
	Polyethylene	4.095	on-stream	8.2	8.2
	Monoethylene Glycol (MEG)	3.505	on-stream		
	Methyl Tertiary Butyl Ether (MTBE)	3.308	on-stream	8.0	8.0
	Urea	3.105	on-stream	(1.2)	(1.2)
	Long Steel	2.702	on-stream		
	Ammonia	2.451	on-stream	(31.9)	(31.9)
	Flat Steel	1.154	on-stream		
	Styrene	1.074	on-stream	6.7	6.7
	Propylene	0.870	on-stream	-	-
	Ethylene Dichloride (EDC)	0.827	on-stream		
	Polypropylene	0.774	on-stream	(1.9)	(1.9)
	Caustic Soda (NaOH)	0.632	on-stream		
	Vinyl Chloride Monomer (VCM)	0.434	on-stream		
	Polyvinyl Chloride (PVC)	0.415	on-stream	2.1	2.1
	Benzene	0.374	on-stream	12.1	12.1
	Di Ethylene Glycol (DEG)	0.332	on-stream		
	Purified Terephthalic Acid (PTA)	0.298	on-stream		
	Phosphate, compound and liquid	0.256	on-stream		
	Paraxylene	0.252	on-stream		
	Polystyrene (PS)	0.174	on-stream	10.3	10.3
	2-Ethylene Hexanol (2EH)	0.166	on-stream		
	Butene	0.151	on-stream		
	Butadiene	0.121	on-stream	-	-
	Pyrolysis Gasoline	0.117	on-stream		
	Sulphuric Acid	0.097	on-stream		
	Polyethylene Terephthalate (PET) Resin	0.079	on-stream		
	CIE (crude industrial ethanol)	0.070	on-stream		
	Textile Chips	0.051	on-stream		
	Dioctyle Phthalate (DOP)	0.029	on-stream		
	Melamine	0.021	on-stream		
	Tri Ethylene Glycol (TEG)	0.018	on-stream		
	Urea Formaldehyde	0.013	on-stream		
	Polyester Fibres	0.008	on-stream		
	LDPE	0.400	on-stream	4.7	4.7
	Methyl methacrylate	0.250	2013		
	Polymethyl methacrylate	0.030	2013		
PetroRabigh (Rabigh Refining and Petrochemical Company)					
	Petroleum Products	17.300	on-stream		
	Ethylene	1.250	on-stream	3.5	3.5
	Propylene	0.900	on-stream	-	-
	LDPE	0.350	on-stream	4.7	4.7
	LLDPE	0.250	on-stream	3.0	3.0
	HDPE	0.300	on-stream	3.5	3.5
	Mono Ethylene Glycol	0.600	on-stream		
	Polypropylene	0.700	on-stream	(1.9)	(1.9)
	Polypropylene Oxide	0.200	on-stream		

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Exhibit 14: Portfolio product and capacities

Company	Product	Capacity (mn mt)	Planned Commissioning of Capacity	Price MoM (%)	Price YTD (%)
SAFCO (Saudi Arabian Fertilizer Company)					
	Urea	2.270	on-stream	(1.2)	(1.2)
	Ammonia	2.098	on-stream	(31.9)	(31.9)
	Sulphuric Acid	0.130	on-stream		
	Urea	1.100	2014	(1.2)	(1.2)
Saudi Kayan (Saudi Kayan Petrochemical Company)					
	Ethylene	1.478	on-stream	3.5	3.5
	Propylene	0.630	on-stream	-	-
	LDPE	0.300	2H-12	4.7	4.7
	HDPE	0.400	on-stream	8.2	8.2
	Ethylene Oxide	0.550	on-stream		
	Ethylene Glycols	0.609	on-stream	(1.9)	(1.9)
	Polypropylene	0.350	on-stream		
	Polycarbonate	0.260	on-stream		
	Acetone	0.135	on-stream	12.1	12.1
	Benzene	0.109	on-stream	3.5	3.5
	Bisphenol A	0.240	on-stream		
	Phenol	0.220	on-stream		
	Cumene	0.290	on-stream		
	Ethanolamines	0.100	2H-12		
	n-Butanol	0.110	2H-13		
	Ethoxylates	0.040	1H-12		
	Synthetic/Natural Alcohol- Detergent grade	0.050	NA		
	Iso-Butanol	0.004	NA		
Yansab (Yanbu National Petrochemicals Company)					
	Ethylene	1.300	on-stream	3.5	3.5
	Propylene	0.400	on-stream	-	-
	Mono Ethylene Glycol (MEG)	0.700	on-stream		
	Di Ethylene Glycol (DEG)	0.065	on-stream		
	Tri Ethylene Glycol (TEG)	0.005	on-stream		
	Polypropylene	0.400	on-stream	(1.9)	(1.9)
	HDPE	0.400	on-stream	3.5	3.5
	LDPE	0.400	on-stream	4.7	4.7
	Benzene	0.170	on-stream	12.1	12.1
	Butene	0.115	on-stream		
	Benzene-Toulene and Xylene (BTX)	0.070	on-stream		
	Methyl Tertiary Butyl Ether (MTBE)	0.020	on-stream	8.0	8.0
Sipchem (Saudi International Petrochemical Company)					
	Methanol	1.000	on-stream	2.7	2.7
	Carbon Monoxide	0.345	on-stream		
	Butanediol	0.075	on-stream		
	Acetic Acid	0.460	on-stream		
	Vinyl Acetate Monomer (VAM)	0.300	on-stream		
	Ethylene Vinyl Acetate	0.200	2H-13		
	Ethyl Acetate and Polybutylene Terephthalate	0.110	2H-13		
	Wire and Cable project	0.025	2H-13		
SIIG (Saudi Industrial Investment Group)					
	Styrene	0.750	on-stream	6.7	6.7
	Propylene	0.145	on-stream	-	-
	Ethylene	1.165	1Q-12	3.5	3.5
	HDPE/LLDPE	1.100	1Q-12	3.5	3.5
	Propylene	0.445	1Q-12	-	-
	Polypropylene	0.400	1Q-12	(1.9)	(1.9)
	Polystyrene	0.200	1Q-12	10.3	10.3
	1-Hexene	0.100	1Q-12		
Tasnee (Tasnee and Sahara Olefins Company)					
	Ethylene	1.000	on-stream	3.5	3.5
	Titanium Dioxide	0.790	on-stream		
	Polypropylene	0.450	on-stream	(1.9)	(1.9)
	HDPE	0.400	on-stream	3.5	3.5
	LDPE	0.400	on-stream	4.7	4.7
	Propylene	0.285	on-stream	-	-
	Polyether polyol	0.120	4Q-13		
	Acrylic acid	0.240	2Q-13		

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Exhibit 14: Portfolio product and capacities

Company	Product	Capacity (mn mt)	Planned Commissioning of Capacity	Price MoM (%)	Price YTD (%)
Sahara Petrochemicals (Sahara Petrochemical Company)					
	Ethylene	1.000	on-stream	3.5	3.5
	Polyethylene	0.800	on-stream	8.2	8.2
	Propylene	0.460	on-stream	-	-
	Polypropylene	0.450	on-stream	(1.9)	(1.9)
	Caustic Soda	0.250	4Q-12		
	Ethylene Dichloride (EDC)	0.245	4Q-12		
	Acrylates	0.240	3Q-13		
	Superabsorbent Polymers	0.080	3Q-13		
APPC (Advanced Petrochemicals Company)					
	Propylene	0.455	on-stream	-	-
	Polypropylene	0.450	on-stream	(1.9)	(1.9)
Chemanol (Methanol Chemicals Company)					
	Methanol	0.231	on-stream	2.7	2.7
	Pentaerythritol	0.020	on-stream		
	Dimethylformaldehyde (DMF)	0.060	on-stream		
	Methylamines	0.050	2010		
	Carbon Monoxide	0.033	2010		
	Acetaldehyde	0.012	2010		
	Formaldehyde	0.215	2010		
	Paraformaldehyde	0.014	2010		
	Resins	0.014	2010		
	Hexamine	0.011	2010		
Alujain (Alujain Corporation)					
	Polypropylene	0.400	on-stream	(1.9)	(1.9)
Nama Chemicals					
	Epoxy resins	0.060	4Q-11		

Source: Company, NCBC Research

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Appendix

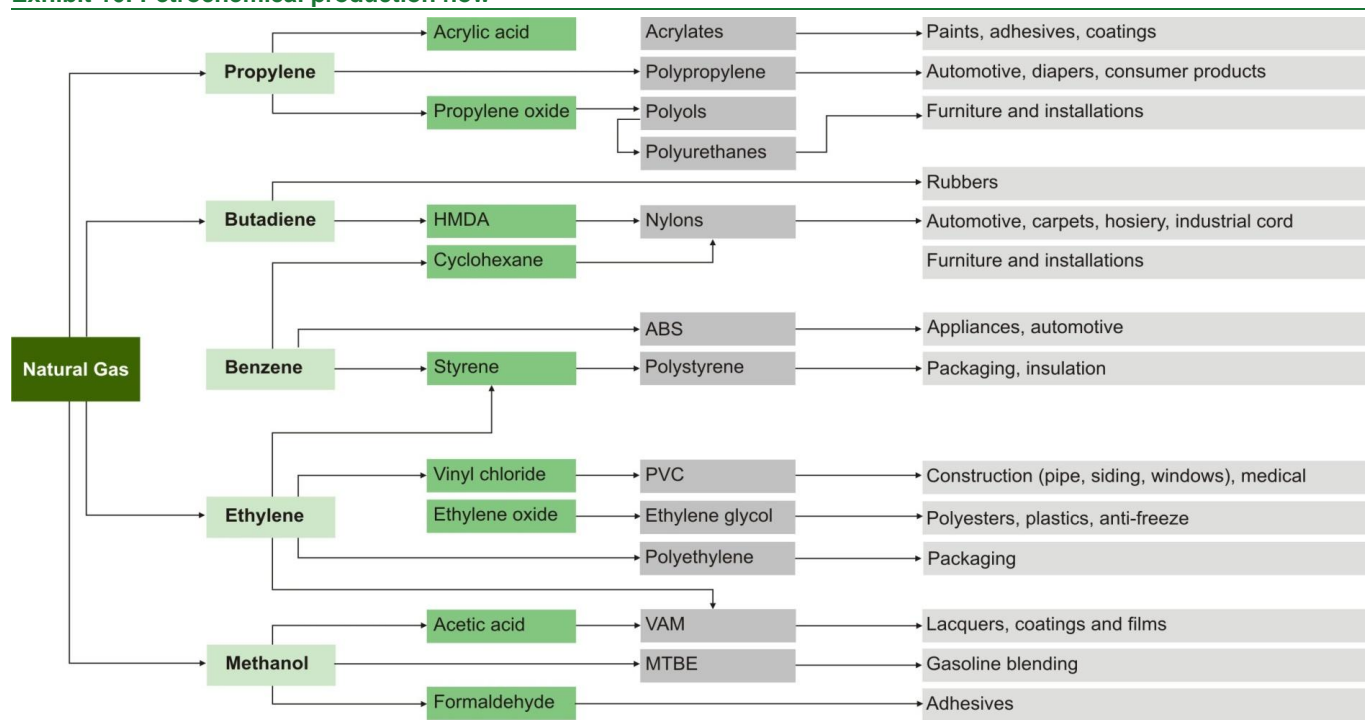
Exhibit 15: Commodity wrap-up

Name	Latest	1 wk (%)	1M (%)	QTD (%)	YTD (%)	TTM (%)	5yr high	5yr low
Oil and Gas								
WTI (\$/bbl)	99.56	1.1	0.7	0.7	0.7	11.4	145.3	31.4
Brent (\$/bbl)	111.07	1.1	2.2	2.2	2.2	13.1	145.9	33.8
Arab Light (\$/bbl)	115.05	1.6	5.1	5.1	5.1	19.2	143.0	32.7
Arab Medium (\$/bbl)	106.03	1.6	4.1	4.1	4.1	13.6	137.6	30.5
Natural Gas Henry Hub (\$/MMBtu)	2.60	15.6	(12.8)	(12.8)	(12.8)	(39.4)	13.3	1.9
Naphtha (\$/bbl)	106.40	0.9	6.9	6.9	6.9	14.1	135.5	25.3
Propane (\$/mt)	1,004.00	7.3	17.1	17.1	17.1	24.9	1,004.0	320.5
Petrochemicals								
Methanol CFR China (\$/ton)	375.0	0.0	2.7	2.7	2.7	8.7	580.0	165.0
MTBE (\$/mt)	1,167.0	3.5	8.0	8.0	8.0	20.8	1,360.0	439.0
Benzene (\$/gallon)	415.5	0.0	12.1	12.1	12.1	(5.7)	457.5	82.5
Ethylene (\$/mt)	1,180.0	0.0	3.5	3.5	3.5	(5.2)	1,670.0	330.0
Polystyrene (\$/mt)	1,602.5	0.0	10.3	10.3	10.3	4.6	2,137.5	837.5
Polyethylene (\$/mt)	1,392.5	3.1	8.2	8.2	8.2	9.6	1,887.5	612.5
Polypropylene (\$/mt)	1,402.5	0.0	(1.9)	(1.9)	(1.9)	0.0	2,162.5	587.5
Propylene (\$/lb)	56.5	0.0	0.0	0.0	0.0	(24.2)	92.5	14.5
PVC (\$/ton)	970.0	0.0	2.1	2.1	2.1	(4.9)	1,325.0	580.0
Butadiene (\$/lb)	122.5	0.0	0.0	0.0	0.0	35.4	175.0	14.5
Styrene (\$/lb)	63.5	0.0	6.7	6.7	6.7	(1.6)	82.5	22.5
LDPE (\$/mt)	1,335.0	0.0	4.7	4.7	4.7	(21.9)	1,950.0	810.0
LLDPE (\$/mt)	1,200.0	0.0	3.0	3.0	3.0	(14.0)	1,860.0	710.0
HDPE (\$/mt)	1,325.0	0.0	3.5	3.5	3.5	1.1	1,830.0	750.0
Fertilizers								
Ammonia Middle East (\$/mt)	395.0	0.0	(31.9)	(31.9)	(31.9)	(6.0)	930.0	140.0
DAP Tampa	512.5	0.0	(10.5)	(10.5)	(10.5)	n/a	1,220.0	265.0
Urea Middle East Granular (\$/mt)	420.0	(2.3)	(1.2)	(1.2)	(1.2)	7.7	870.0	235.0
Base Metals								
Steel (\$/mt)	680.0	0.0	2.3	2.3	2.3	(2.8)	1,530.0	393.8
Alluminium 3M (\$/mt)	2,266.0	2.2	12.2	12.2	12.2	(8.3)	3,317.0	1,288.0
Copper 3M (\$/mt)	388.9	3.8	13.2	13.2	13.2	(10.1)	459.1	282.9
Lead 3M (\$/mt)	2,295.0	5.1	12.8	12.8	12.8	(5.8)	3,890.0	850.0
Nickel 3M (\$/mt)	21,700.0	6.1	16.0	16.0	16.0	(18.5)	51,600.0	9,050.0
Tin 3M (\$/mt)	24,400.0	11.7	27.1	27.1	27.1	(17.7)	33,300.0	9,775.0
Zinc 3M (\$/mt)	2,150.0	6.8	16.5	16.5	16.5	(8.7)	4,250.0	1,065.0
Precious metals								
Gold (\$/oz)	1,739.1	4.3	11.2	11.2	11.2	30.1	1,900.2	607.4
Silver (\$/oz)	33.9	5.4	21.8	21.8	21.8	21.2	48.4	9.0
Platinum (\$/oz)	1,620.8	5.6	15.7	15.7	15.7	(9.8)	2,250.5	771.0
Palladium (\$/oz)	690.3	1.8	5.3	5.3	5.3	(15.4)	858.5	164.5
Agricultural products								
Corn 3M (\$/bu)	641.8	4.9	(0.7)	(0.7)	(0.7)	9.8	787.3	393.5
Soybean 3M (\$/bu)	1,160.0	0.0	(3.2)	(3.2)	(3.2)	(12.5)	1,467.3	918.0
Wheat 3M (\$/bu)	647.3	6.0	(0.8)	(0.8)	(0.8)	(29.4)	992.8	579.3
Cotton 3M (cents/lb)	95.6	(3.0)	4.2	4.2	4.2	(9.0)	132.5	69.4
Coffee 3M (cents/lb)	217.4	(3.6)	(4.2)	(4.2)	(4.2)	(9.1)	312.1	136.8
Indices								
TASI Petrochem	6,163.1	1.3	(1.5)	(1.5)	(1.5)	2.5	10,675.0	2,600.0
TASI	6,537.1	1.1	1.9	1.9	1.9	4.3	11,697.0	4,130.0
S&P500 Chem	328.8	0.6	10.1	10.1	10.1	6.6	348.5	153.6

Source: NCBC Research

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Exhibit 16: Petrochemical production flow



Source: NCBC Research

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Glossary - Industry

AA (Acetic Acid)	An organic intermediate used in the preparation of metal acetates that are used in printing processes, Acetates including vinyl acetate and acetic anhydride)
AAC	Arabian Amines Company
ABS	Acrylonitrile-Butadiene-Styrene Terpolymer, has a glossy surface and is an engineering plastic with thermal, chemical and impact resistance
Acrylic Acid	Acrylic acid, along with the basic alkyl esters (methyl, ethyl and butyl esters). An important monomer for manufacturing of adhesives, detergents, varnishes, and plastics
Adhesives	A sticky substance used to bond two solids
Aromatics	An organic compound containing a hexagonal ring of carbon atoms (eg. Benzene)
Base Chemical	A chemical building block early in the supply chain from which downstream products are produced (eg. Ethylene and Benzene)
Benzene	A colorless liquid which occurs naturally in fossil raw materials such as crude oil and coal. Among the most important feedstock for the chemical industry and is not used directly by end consumers
Bn	Billion
Borouge	Abu Dhabi Polymers Company
Brl	Barrel
Bu	Bushel
CO2	Carbon Dioxide
Commodity Chemicals	Chemicals that are mostly sold in bulk and generally at lower margins relative to more downstream products. Market share, economies of scale, feedstock cost can lead to competitive advantage
Crackers	This is the name given to the production facilities that manufacture vast volumes of petrochemicals from oil or gas feedstock
Cracking	A process when long chains of organic molecules are split into small ones (i.e. naphtha into ethylene)
DAP	Di-Ammonia Phosphate
Derivative	A chemical compound derived (made) from other chemicals. Polystyrene is a derivative of styrene
De-Stocking	The sellers of the products are reducing their inventory levels
DETA	Di-Ethylenetriamine
DME	Di-methyl Ether
Downstream Activities	Processing of hydrocarbons like oil and natural gas into compounds that can be used in usable products
EDA	Ethylene Di-Amine
EDC	Ethylene Di-Chloride
EG (Ethylene Glycol)	A colorless, oily, odorless, toxic liquid. Commercially produced from ethylene oxide. Used widely as an anti-freeze in automobile cooling systems and in the manufacturing of man-made fibers and brake fluids
EO (Ethylene oxide)	An industrial chemical primarily used in sterilizing medical equipment. In its pure form it is a colorless gas
EO/EG	Ethylene Oxide/Ethylene Glycol
Eols	Expressions of Interest
EPC	Engineering, Procurement and Construction
EPCM	Engineering, Procurement and Construction Management
Ethane	The second most important constituent of natural gas, a major raw material for the production of polyethylene plastic, ethylene glycol and ethyl alcohol
FEED	Front-end Engineering and Design
Fertil	Ruwais Fertilizer Company
GTO	Gas-to-Olefins
HDPE (High Density Polyethylene)	A thermoplastic resin made from ethylene. It is mostly used in the manufacturing of grocery bags and milk jugs
HoA	Heads of Agreement
Hol	House of Invention
Hydrocarbon	These are compounds that contain only hydrogen and carbon atoms. They are the basic materials in oil, gas and the chemical industries
In-organic chemicals	Inorganic chemicals are all substances encompassing the other 91 naturally occurring elements as well as those that contain carbon that doesn't covalently bonded to itself or hydrogen. Inorganic chemicals are used in agriculture and also as pigments, coatings, additives etc
ITB	invitation to bid
Ib	Pound
LDPE (Low Density Polyethylene)	Similar to HDPE, it is a thermoplastic resin made from ethylene. It is mostly used in the manufacturing of food packaging and coatings.
LLDPE (Linear Low Density Polyethylene)	A thermoplastic resin made from ethylene. It is mostly used in the manufacturing of shrink wrap and packaging
LoI	Letter of Intent
LPG (Liquefied petroleum gas)	Obtained from the fractional distillation of crude oil, it is a primary feedstock for a cracker
LSTK	Lump-sum turnkey
LTP	Last traded price
Maaden	Saudi Arabian Mining Company
MDI	Methylene Di-Phenyl Di-Isocyanate
MEG (Mono Ethylene Glycol)	see Ethylene Glycol
Methanol	The simplest form of alcohol, used as a feedstock for many downstream products including formaldehyde, MTBE and acetic acid

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mt	Metric tons
Mm BTU	One million British Thermal Units
Monomer	A base unit in a polymer. Ethylene is a monomer, which among other polymers, goes into polyethylene
MoU	Memorandum of Understanding
MTBE (Methyl tertiary butyl ether)	Is a gasoline additive, used as an oxygenate in fuels to reduce vehicle exhaust emissions
Naphtha	This is an important primary feedstock and is obtained by fractional distillation of crude oil
Natural Gas	Along with crude oil and naphtha, natural gas is the pillar stone of the chemical industry. It is a colorless and highly flammable gas. Primarily consisting of methane, ethane and small amounts of propane. Ethane and propane, also known as Natural Gas Liquids, are converted into ethylene and propylene by steam cracking
NCP	National Chevron Phillips Company
O&U	Off sites and Utilities
OCU	Olefins Conversion Unit
Olefin	A product with a straight chain of hydrocarbons that may have one or more double bonds conferring reactivity
OPIC	Oman Petrochemical Industries Company
Organic chemicals	Organic chemicals relate to compounds containing carbon and are mostly produced from fossil fuels. These chemicals produced from oil, gas and coal are by far the most significant to the chemical industry as they form the feedstock of upstream products like ethylene, propylene and benzene towards downstream compounds such as paints and plastics
Oxidation	A form of reaction when electrons are removed from a molecule, or where oxygen atoms are added to a molecule
Oz	Ounce
PDH	Propane Dehydrogenation
PE (Polyethylene)	A polymer of ethylene and is used in the production of packaging and insulation
Petrochemical	Any chemical derived from crude oil or natural gas
Petrokemya	Arabian Petrochemical Company
PMC	Project Management Consultancy
PMS	Project Management Services
Polymer	A hydrocarbon chain made by the repetition monomers. Polyethylene is a polymer made by ethylene as a repetitive unit, or monomer
Polystyrene	A solid plastic produced from polymerized styrene. It has many everyday uses including coffee cups and CD jewel boxes
PP	Polypropylene
Propylene	Also known as Propene, is a flammable colorless gas. It is used in manufacturing of resins, fibers and plastics
Propylene Oxide	Used as a monomer in polymer production and as a chemical intermediate in the manufacturing of polyurethane foam
PVC	Polyvinyl Chloride
PVC (Polyvinyl Chloride)	A polymer of vinyl chloride and used to make a variety of cost-effective products. PVC products include medical tubing, blood bags, footwear, electrical cables, stationary and toys
QAFCO	Qatar Fertilizer Company
QAPCO	Qatar Petrochemical Company
QP	Qatar Petroleum
Styrene	A clear, colorless liquid which is a derivative of natural gas by-products. Styrene can also be extracted naturally from the sap of styrax trees. It is generally used to create plastic materials for a wide range of strong, flexible and lightweight products. (eg. food containers, cars and computers)
t/d	tons a day
t/y	tons a year
TDI	Toluene Di-Isocyanate
TEPA	Tetraethylenepentamine
TETA	Tri-Ethylenetetramine
(VAM) Vinyl Acetate Monomer	A colorless and liquid organic chemical used in the production of plastics
(VCM) Vinyl Chloride Monomer	A colorless and flammable gas primarily used in the production of polyvinyl chloride; it finds use in the construction (windows, pipe and siding) and medical industries

Source: Company, NCBC Research

Other

Chg	Change	P/E	Price to earnings
Div yld	Dividend yield	QoQ	Quarter on quarter
EBITDA	Earnings before interest, tax, depreciation, and amortization	QTD	Quarter to date
EV	Enterprise value	RoA	Return on assets
M-Cap	Market capitalization	RoE	Return on equity
MoM	Month on month	SR	Saudi Riyal
na	Not Available	YoY	Year on year
nm	Not meaningful	YTD	Year to date
P/BV	Price to book value	1M	1 Month (Last 30 days)

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