



**Name of Team: Quad Investment, SMU Team A**

**Institution represented: Singapore Management University**

**Research Coverage: China XLX**

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## China XLX Fertilizers Ltd

13<sup>th</sup> December 2007  
Singapore

### Let it Lie Fallow

#### **One of China's larger fertilizer producers**

Recently listed in July 2007, China XLX is the largest coal-based producer of urea and compound fertilizer in Henan, China's most populous and largest fertilizer consuming province, and the sixth-largest in the country.

#### **Current supply-demand imbalance belies longer term supply glut problems**

The industry currently faces a supply-demand imbalance, as local fertilizer producers fill up the gap created by the cessation of foreign imports. However, aggregate production is expected to grow rapidly at 9% pa, surpassing aggregate demand growth of 2.8%. We expect a supply glut in the near future, resulting in price pressures among industry players.

#### **Unfavorable regulatory issues lead to margin compression**

Fertiliser production requires intensive use of energy. Recent spikes in raw material prices such as coal, are likely to feed directly to XLX's costs. However, the government imposed price ceiling on urea sales prevents fertilizer producers from passing costs on to consumers. We expect this to impact gross margins across the industry.

#### **High risk to M&A strategy**

It is widely anticipated that the Chinese government will eventually allow fertilizers to trade in a free market. We can therefore expect severe price competition in this fragmented industry, consisting of 200 urea producers. While management believes this will provide the company with opportunities for M&A as smaller and less efficient players exit the market, we question management's execution ability, especially since XLX has had no prior M&A experience. Moreover, we believe that the consolidation phase will be long drawn. During this interim period, competition from local companies and foreign imports will most likely drive prices downwards to marginal cost, resulting in revenue compression across the industry.

#### **Valuation**

Based on our discounted cash flow model, we have derived a target price of \$0.80 for XLX. This represents a discount of 29% to current prices. The China fertilizer industry is one with unexciting prospects and located in an unfavorable regulatory environment. We recommend investors to SELL and look for value outside of this industry.

### SELL

**Price Target:** \$0.80

Previous Close: \$1.13

Straits Times Index: 3,549.25

#### Share Data

52-week range \$0.80 - \$1.50

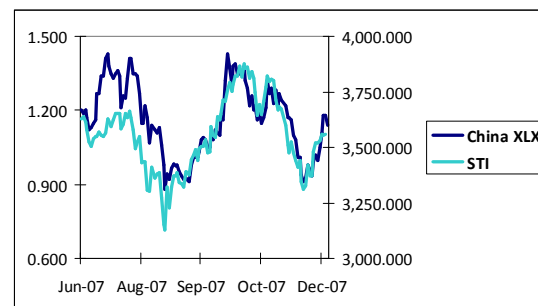
Market cap. (mil) 1.13 billion

Shares outstanding (mil) 1.0 billion

Free Float (%) 26.73%

Major shareholder Pioneer Top holdings

#### Share Price Chart



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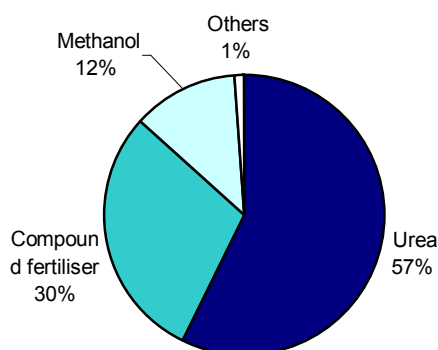
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## COMPANY DESCRIPTION

### **One of China's larger fertilizer producers**

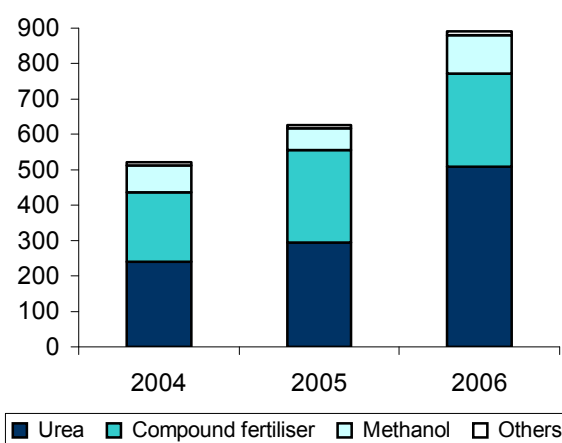
Recently listed in July 2007, China XLX is the largest coal-based producer of urea and compound fertilizer in Henan, China's most populous and largest fertilizer consuming province, and the sixth-largest in the country.

XLX's key products are urea, compound fertilizer and methanol, which together make up virtually all of the company's total revenue and gross profit.



**Figure 1.1- XLX 2006 Revenue Drivers**

*Source: Company, Quad Investment*



**Figure 1.2 - XLX Annual Revenue Breakdown**

*Source: Company, Quad Investment*

Urea is used both as a primary nitrogenous fertilizer, and a feedstock combined with potassium and phosphorous to produce compound fertilizers. Methanol has wide applications as a chemical feedstock for over 100 products, and is also an alternative energy source, where it is used as a fuel blend additive.

## BUSINESS STRATEGY

Management has adopted a two-pronged strategy to drive the company forward – low-cost differentiation and capacity expansion.

### **Low-cost differentiation**

XLX possesses geographical and logistical advantages which allow the company to save on both raw material and sales costs. Currently, XLX has two production plants which are located near coal-rich Shanxi province (150km), and are served by a comprehensive network of railways and highways, allowing for significant savings in transport costs which comprise more than a quarter of total coal purchase cost.

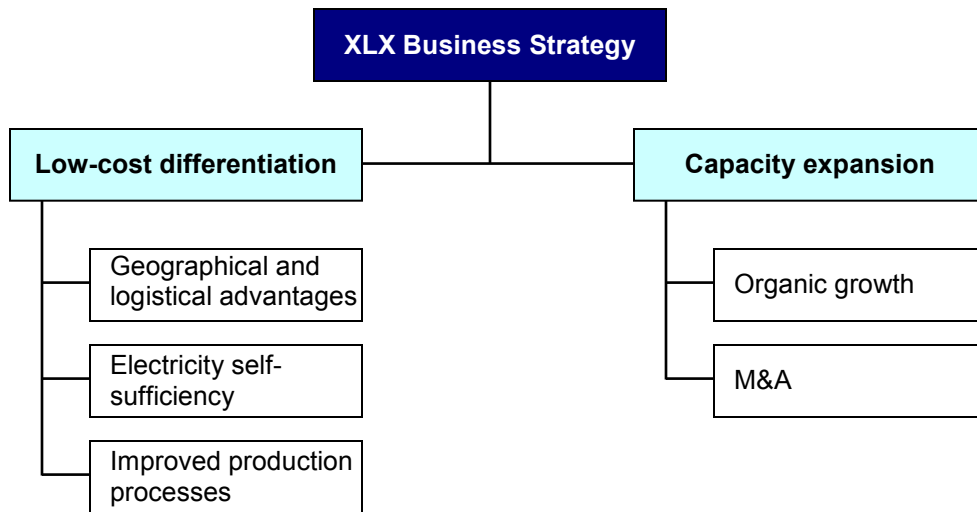
As fertilizer production is a highly energy intensive process, XLX has managed to achieve further cost savings by making the production process more efficient and moving towards electricity self-sufficiency. Internally generated power costs RMB 27-30 cents per kWh versus market rates of RMB 32-37 cents. The company intends to double its generated electricity supply from 35% to 70% of total electricity needs by 1Q08.

According to management, this has enabled XLX to maintain production cost at 23% lower than the national average, to become the lowest cost coal-based producer of urea in Henan and the fourth ranked in China.

**Capacity expansion**

XLX has rapidly expanded production capacity by doubling urea production to 680k tonnes and tripling methanol production to 100k tonnes over the past year. Going forward, the company intends to increase compound fertilizer output by 100k tonnes per year over the next three years.

However, supported with a cash horde of RMB 400m, management is prepared and willing to pursue M&A opportunities.



**Figure 2: XLX Two-Pronged Business Strategy**

## INDUSTRY OVERVIEW

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### ***Current supply-demand imbalance belies longer term supply glut problems***

While it is often reported that China faces potential agricultural output shortages, this does not necessarily lead to a burgeoning demand for fertilizers.

China's Ministry of Agriculture estimated that from 1996 to 2004, arable land dwindled from 130m ha to 122m ha, with an annual average decrease of about 1m ha. This implies less land available for fertilizer application. Moreover research<sup>1</sup> has shown that overuse of fertilizer is prevalent in 85% of household farms, with China averaging 240kg of nitrogen per ha, four times more US farms. We expect that over time, the government will take steps to discourage indiscriminate use of fertilizer to reduce associated environmental pollution. Farmers too will realize that the law of diminishing returns to productivity makes it unviable for them to use fertilizers excessively.

According to CNCIC's<sup>2</sup> Fertilizer Industry Report on China, fertilizer consumption grew at a CAGR of 2.8% from 2000 to 2006. Based on the reasons highlighted above, we therefore expect future growth of the industry to be equally lackluster.

Nevertheless, the industry currently faces a supply-demand imbalance, as local fertilizer producers were slow to fill up the gap in supply when China ceased imports of fertilizers, in a bid to become self-sufficient in this area.

Subsequently, aggregate fertilizer production has been growing by 8.9% pa from 2000-2006. We expect that this high rate of growth in supply will continue over the next few years and overshoot demand within the next few years. A quick check with the top fertilizer producers reveals that on average, each company is increasing capacity by at least 30% pa over the next three years, further reinforcing our belief that the fertilizer industry will be faced with a supply glut sooner rather than later.

Company	Product	Current Capacity (,000 tonnes)	Additional Capacity (,000 tonnes)	Completion Date	% Increase
China BlueChem	Methanol	560	1,130	End 08	201.8%
Jiutian Chemical	Methanol	0	200	Jun 08	n.m.
China Energy	Methanol	250	500	End 08	200.0%
Hanfeng Evergreen	Fertilizer	350	600	End 07	171.4%
Hubei Yihua	Synthetic ammonia	300	200	End 07	66.7%

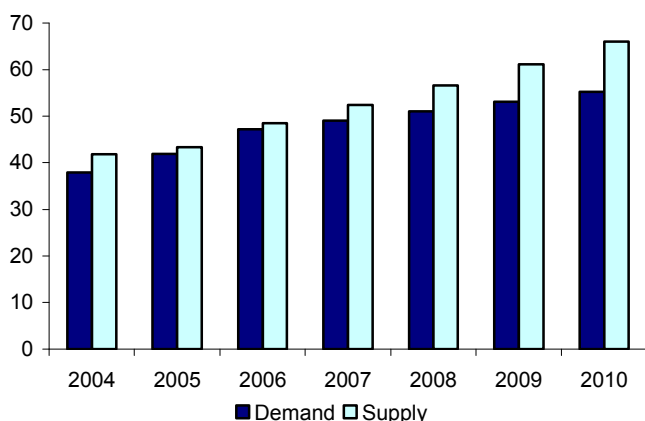
**Figure 3: Table of Capacity Expansion Plans of Selected China Fertilizer Companies**

Source: Various companies

<sup>1</sup> Conducted by Professor Tong Yanan of Yangling University

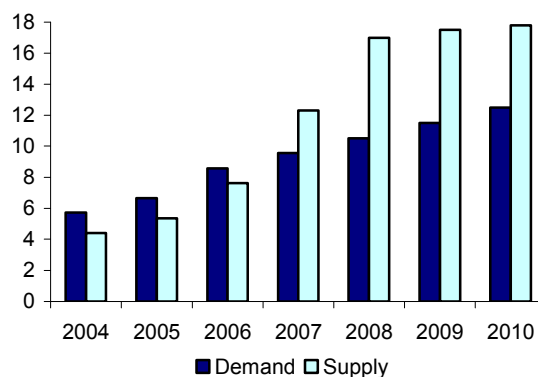
<sup>2</sup> China National Chemical Information Centre

In particular, production volume of urea has exceeded domestic consumption since 2003 and we expect an over-supply of methanol by end 2007. As such, we have factored less optimistic estimates of terminal ASPs for urea and methanol at RMB 1,550/tonne and RMB 2,502/tonne respectively



**Figure 4.1- PRC Urea Supply and Demand (Mil Ton)**

Source: CNCIC, Company, Quad Investment

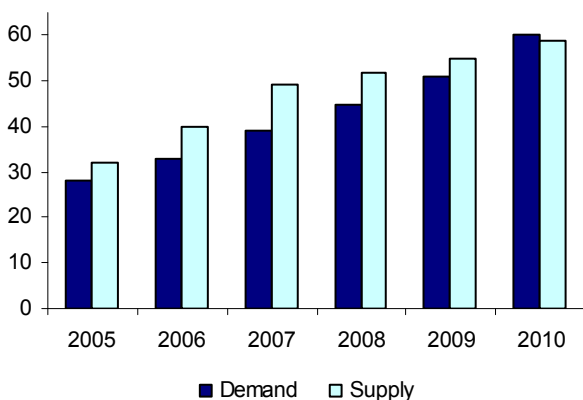


**Figure 4.2 – PRC Methanol Supply and Demand (Mil Ton)**

Source: CNCIC, Company, Quad Investment

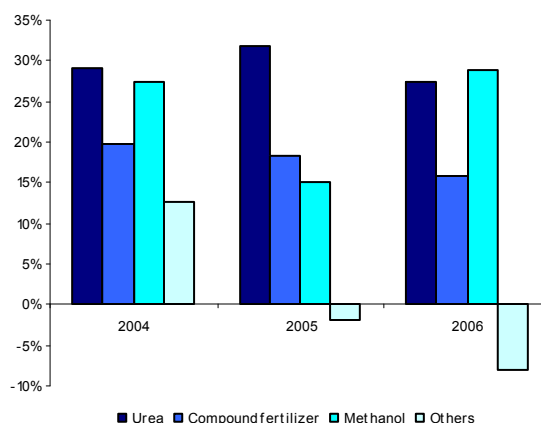
The compound fertilizer industry however, appears to be growing quite solidly, with consumption growing at a CAGR of 16.4% from 2001 to 2005, and the industry still being quite far away from self-sufficiency. Compound fertilizer currently makes up 30% of China’s total fertilizer usage, compared to 80% in developed Western countries, but is likely to gain popularity as a more effective substitute for traditional fertilizer. We believe there is ample room for expansion in this segment, which explains why management intends to double production capacity to 600k tonnes over the next three years.

Nevertheless, gross margins for compound fertilizers are half that of urea and methanol currently and this shift in product mix will further crimp XLX’s gross margins.



**Figure 5.1- PRC Compound Fertilizer Supply and Demand**

Source: CNCIC, Company, Quad Investment



**Figure 5.2 – XLX 2006 Product Gross margins**

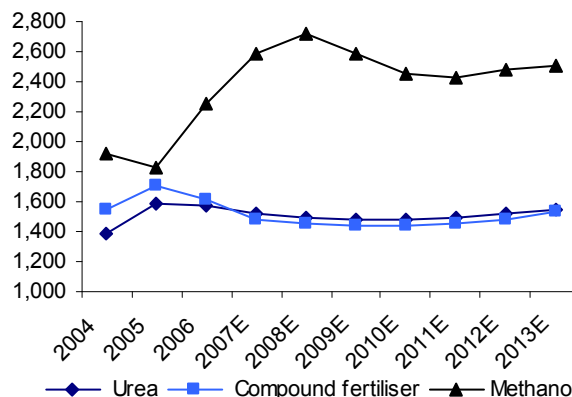
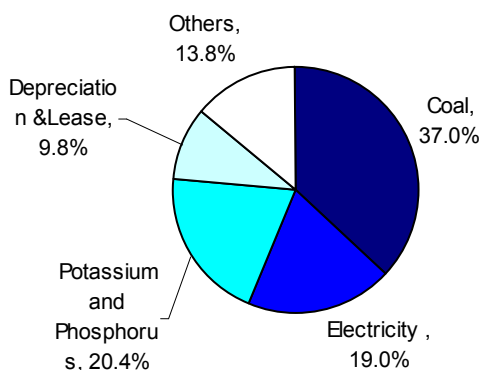
Source: Company, Quad Investment

**Unfavorable regulatory issues lead to margin compression**

As a form of assistance to the agricultural community, the Chinese government has imposed a price ceiling of RMB 1,725 / tonne on the selling price of urea, the most commonly used fertilizer. To reduce the impact on fertilizer producers, preferential policies such as VAT exemptions and rebates, and electricity subsidies ranging from 20% to 25%, are extended to them.

However, fertilizer production is a highly energy intensive process, requiring huge amounts of coal as both raw material and electricity generation. Coal prices have risen in tandem with soaring crude oil prices, and as XLX purchases coal at spot, we expect higher coal prices to translate directly to increased costs.

Prices of other raw materials such as potassium and phosphorous have increased as well, leading to a jump of 4.7% in cost of production of compound fertilizer.

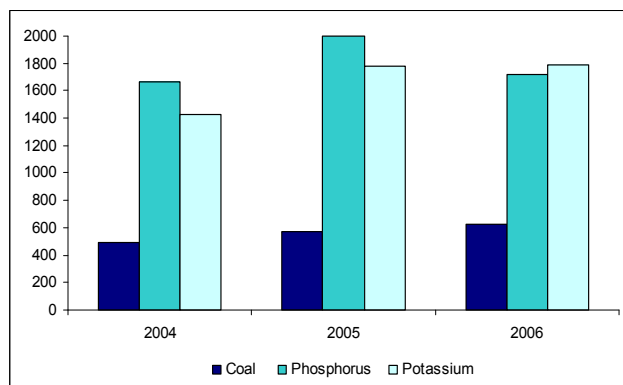


**Figure 6.1- XLX 2006 Cost drivers**

Source: Company, Quad Investment

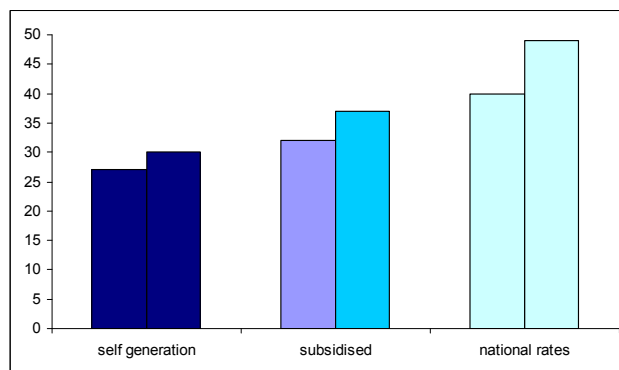
**Figure 6.2 – Product Average Selling Price (RMB per ton)**

Source: CNCIC, Company, Quad Investment Estimates



**Figure 7.1- XLX Raw Material Costs (RMB per ton)**

Source: Company, Quad Investment



**Figure 7.2 – XLX Electricity Costs (RMB per kwh)**

Source: CNCIC, Company, Quad Investment Estimates

We believe that urea producers are disadvantaged as they are unable to pass on the cost increases to their customers. Since 2006, both the price ceiling and financial incentives have remained constant, and are likely to change only marginally in the near term. Therefore, we forecast lower gross margins for urea during our forecast horizon.

***High risk to M&A strategy***

It is widely anticipated that the Chinese government will eventually allow fertilizers to trade in a free market for the following reasons:

- a) WTO commitments to allow foreign companies to participate in the selling and distribution of fertilizers
- b) Complaints from fertilizer producers on the unfairness of price ceilings
- c) Current efforts to subsidize farmers fertilizer purchases directly

If, and when the government decides to lift regulation, both the price ceiling and subsidies will be removed. We can therefore expect severe price competition in this fragmented industry, consisting of 200 urea producers. While management believes this will provide the company with opportunities for M&A as smaller and less efficient players exit the market, we question management's execution ability. XLX's competitive advantages lie in its favorable geographical location with close proximity to raw material sources and customers, while its logistical networks are specially designed to increase transportation convenience. These may not be easily replicated for newly acquired companies, especially since XLX has had no prior M&A experience.

Moreover, we believe that the consolidation phase will be long drawn as the concentration of market share among the top players is low – the top ten companies only have less than 30% market share. During this interim period, competition from local companies and foreign imports will most likely drive prices downwards to marginal cost, resulting in revenue compression across the industry.

## COMPANY ANALYSIS

### ***Just another fertilizer company***

While XLX claims to have a low cost structure compared to national average, the company does not fare much better vis-à-vis its listed peers in Hong Kong and China, when compared with both coal-based and gas-based urea producers. Gross margin and pretax net margin at about 26% and 17% respectively, are comparable with the average of listed peers, indicating that such cost efficiencies can be easily replicated by larger companies which have economies of scale.

### ***Peer comparison***

We find it curious that China fertilizer companies are trading at such high forward PE multiples of 30.4x given the unexciting growth of the industry. However, comparing them to the broader A-share market, we note that they are trading at a steep discount of 20% compared to the average PE multiple of the market. Given that the Chinese market as a whole is currently recognized as having lofty valuations, this explains the supposed high PE multiple for fertilizer companies. Applying the same discount of China fertilizer companies to the broad market in the context of China XLX to the Singapore market, we find that it is actually quite expensive, trading at a significant premium to the average market PE of just 12.9x.

	Market Cap (S\$)	2006 P/E	2007F P/E	2008F P/E	ROE	Gross Margin (%)	Pretax Profit Margin (%)
<b>Coal-based urea producers in China</b>							
Hubei-Yihua Ch-A	1,969	56.2	32.1	21.2	16.0	19.4	10.8
Shandong Hualu-A	2,403	43.2	36.9	25.3	17.7	20.8	16.4
Shandong Luxi-A	1,246	19.4	-	-	8.6	12.6	5.9
Shanxi Lanhua-A	3,710	32.8	31.0	25.9	27.0	51.0	36.4
Guangxi Hechi-A	527	46.3	-	-	5.2	12.2	3.6
<b>Gas-based urea producers in China</b>							
China Bluechem-H	4,194	14.9	15.9	17.2	31.4	37.6	21.4
Sichuan Lut-A	2,019	21.2	18.7	16.3	20.6	23.9	13.1
Liaoning Huaji-A	1,483	-	-	-	5.2	20.3	5.2
Sichuan Meifen-A	1,194	17.6	18.9	16.4	20.9	28.7	22.5
Sichuan Chemical	1,204	15.0	-	-	8.3	29.1	11.1
Yunnan Yuntian-A	5,174	42.8	39.9	30.0	21.4	28.1	17.1
Guizhou Chitia-A	742	9.4	-	-	15.5	34.6	23.7
Hebei Cangzhou-A	1,199	-	56.3	21.1	160.0	21.8	12.4
Liuzhou Chemical	937	32.1	23.8	19.2	15.1	22.2	13.7
<b>Average</b>		29.3	30.4	21.4	26.6	25.9	15.2
<b>China XLX Fertilizer</b>	1,130	44.8	32.0	34.3	35.2	23.8	17.1

**Figure 8: Peer Comparisons**

Source: Various Companies, Quad Investment

### ***Risks***

Since XLX does not participate in exports, an appreciation in RMB should translate directly to an increase in the value of the firm, in Singapore dollars. We estimate that every 1% appreciation of the RMB to our forecast terminal value raises our firm value by 1 cent.

Opportunities for M&A and the successful integration of acquired companies may allow XLX to ramp up capacity, and drive growth.

Demand for fertilizers may surprise on the upside, thereby absorbing the potential supply that is slated to come on stream.

### **VALUATION**

Based on our discounted cash flow model, we have derived a target price of \$0.80 for XLX. This represents a discount of 29% to current prices. The China fertilizer industry is one with unexciting prospects and located in an unfavorable regulatory environment. We recommend investors to SELL and look for value outside of this industry.

China XLX Fertilizer Limited Cost Drivers										
	2004	2005	2006	2007E	2008E	2009E	2010E	2011E	2012E	2013E
<b>COGS (RMB m)</b>	391	475	679	1,202	1,303	1,423	1,469	1,516	1,565	1,617
Identifiable costs as % of total COGS	82.2%	83.7%	87.6%	88.0%	89.0%	90.0%	90.0%	90.0%	90.0%	90.0%
<b>Identifiable costs</b>	<b>337</b>	<b>409</b>	<b>585</b>	<b>1,058</b>	<b>1,160</b>	<b>1,281</b>	<b>1,322</b>	<b>1,364</b>	<b>1,409</b>	<b>1,455</b>
coal	145	176	251	462	486	510	535	562	590	620
electricity	74	90	129	194	182	182	182	182	182	182
phosphorus	53	64	92	164	210	257	263	269	275	281
potassium	27	33	47	117	150	186	191	196	201	207
depreciation	31	38	54	98	108	119	123	127	131	135
yoy change		21.4%	42.9%	80.9%	9.6%	10.4%	3.2%	3.2%	3.3%	3.3%
lease rental	7	9	12	22	24	27	28	28	29	30
yoy change		21.4%	42.9%	80.9%	9.6%	10.4%	3.2%	3.2%	3.3%	3.3%

Raw material cost (RMB per ton)										
average coal prices	490	577	629	661	694	728	765	803	843	885
average phosphorus prices	1,665	1,996	1,719	1,727	1,736	1,744	1,753	1,762	1,771	1,780
average potassium prices	1,427	1,781	1,791	1,809	1,827	1,845	1,864	1,882	1,901	1,920
electricity costs (govt) per kWh	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345	0.345
electricity costs (self generate) per kWh	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285

Quantity of raw material used (,000 ton)										
volume of coal used	296	305	399	700	700	700	700	700	700	700
volume of phosphorus used	45	45	75	95	121	147	150	153	155	158
volume of potassium used	37	36	51	65	82	101	102	104	106	108
electricity used govt (m kWh)	149	181	258	390	190	190	190	190	190	190
electricity used self-generated (m kWh)	80	97	139	210	410	410	410	410	410	410

Source: Company, Quad estimates

China XLX Fertilizer Limited Revenue Drivers										
	2004	2005	2006	2007E	2008E	2009E	2010E	2011E	2012E	2013E
<b>Revenue (RMB m)</b>										
Urea	240	293	509	910	897	893	898	912	935	959
Compound fertiliser	196	262	263	311	387	468	477	490	508	532
Methanol	76	61	107	234	248	239	229	229	237	242
Others	10	9	11	11	11	11	11	11	11	11
<b>Total</b>	<b>522</b>	<b>626</b>	<b>890</b>	<b>1,465</b>	<b>1,543</b>	<b>1,610</b>	<b>1,614</b>	<b>1,642</b>	<b>1,690</b>	<b>1,743</b>

\* Revenue = Ave selling price x Ave sales vol

Production Capacity (,000 ton)										
Urea	230	250	315	680	680	680	680	680	680	680
Compound fertiliser	180	260	300	400	500	600	600	600	600	600
Methanol	35	35	35	100	100	100	100	100	100	100

Production Volume (,000 ton)										
Urea	229	250	297	598	602	605	609	612	615	619
Compound fertiliser	142	161	174	220	280	342	348	354	360	366
Methanol	39	33	34	86	87	88	89	90	91	92

Utilisation rate of plant (%)										
Urea	99.6%	100.0%	94.3%	88.0%	88.5%	89.0%	89.5%	90.0%	90.5%	91.0%
Compound fertiliser	78.9%	61.9%	58.0%	55.0%	56.0%	57.0%	58.0%	59.0%	60.0%	61.0%
Methanol	111.4%	94.3%	97.1%	86.0%	87.0%	88.0%	89.0%	90.0%	91.0%	92.0%

Average sales volume (,000 ton)										
Urea	174	184	325	598	602	605	609	612	615	619
Compound fertiliser	127	153	163	209	266	325	331	336	342	348
Methanol	39	33	48	90	91	92	93	95	96	97

Average selling price (RMB per ton)										
Urea	1,383	1,592	1,567	1,520	1,490	1,475	1,475	1,490	1,519	1,550
Compound fertiliser	1,545	1,712	1,615	1,486	1,456	1,442	1,442	1,456	1,485	1,530
Methanol	1,921	1,832	2,251	2,588	2,718	2,582	2,453	2,428	2,477	2,502

Source: Company, Quad estimates

## APPENDIX

China XLX Fertilizer Limited Profit and loss statement RMB m										
	2004	2005	2006	2007E	2008E	2009E	2010E	2011E	2012E	2013E
<b>Revenue</b>	<b>522</b>	<b>626</b>	<b>890</b>	<b>1,465</b>	<b>1,543</b>	<b>1,610</b>	<b>1,614</b>	<b>1,642</b>	<b>1,690</b>	<b>1,743</b>
Cost of sales	(391)	(475)	(679)	(1,202)	(1,303)	(1,423)	(1,469)	(1,516)	(1,565)	(1,617)
<b>Gross profit</b>	<b>131</b>	<b>151</b>	<b>212</b>	<b>263</b>	<b>240</b>	<b>187</b>	<b>146</b>	<b>125</b>	<b>125</b>	<b>127</b>
Other operating income	2	9	10	6	6	7	7	7	7	7
Selling and distribution expenses	(8)	(9)	(10)	(15)	(15)	(16)	(16)	(16)	(17)	(17)
General and administrative expenses	(30)	(35)	(41)	(66)	(65)	(64)	(61)	(59)	(57)	(59)
<b>Profit from operations</b>	<b>95</b>	<b>116</b>	<b>171</b>	<b>188</b>	<b>166</b>	<b>113</b>	<b>75</b>	<b>57</b>	<b>57</b>	<b>57</b>
Interest income	3	5	3	7	11	11	9	8	7	7
Interest expense	(15)	(20)	(21)	(14)	(8)	(6)	(5)	(3)	(1)	(1)
<b>Profit before tax</b>	<b>83</b>	<b>100</b>	<b>152</b>	<b>181</b>	<b>169</b>	<b>118</b>	<b>79</b>	<b>62</b>	<b>64</b>	<b>62</b>
Income tax	(13)	(32)	(23)	-	-	(18)	(12)	(9)	(19)	(19)
<b>Net profit attributable to SH</b>	<b>69</b>	<b>69</b>	<b>129</b>	<b>181</b>	<b>169</b>	<b>101</b>	<b>67</b>	<b>52</b>	<b>45</b>	<b>44</b>
<b>EBITDA</b>	<b>135</b>	<b>158</b>	<b>214</b>	<b>267</b>	<b>274</b>	<b>239</b>	<b>185</b>	<b>167</b>	<b>168</b>	<b>169</b>
<b>EPS (RMB cts)</b>	<b>8.6</b>	<b>8.6</b>	<b>16.1</b>	<b>22.6</b>	<b>21.1</b>	<b>12.6</b>	<b>8.4</b>	<b>6.5</b>	<b>5.6</b>	<b>5.5</b>
<b>EPS adjusted for offering (RMB cts)</b>	<b>6.9</b>	<b>6.9</b>	<b>12.9</b>	<b>18.1</b>	<b>16.9</b>	<b>10.1</b>	<b>6.7</b>	<b>5.2</b>	<b>4.5</b>	<b>4.4</b>
<b>Growth (% YoY)</b>										
Sales	19.8%	42.3%	64.5%	5.3%	4.4%	0.2%	1.7%	3.0%	3.1%	
OP	22.4%	47.1%	10.1%	-11.8%	-31.6%	-34.2%	-24.2%	1.2%	-1.1%	
EBITDA	17.4%	35.6%	24.5%	2.5%	-12.7%	-22.7%	-9.6%	0.8%	0.1%	
NP	-0.8%	88.2%	39.8%	-6.6%	-40.4%	-33.3%	-21.9%	-14.6%	-2.4%	
EPS	-0.8%	88.2%	39.8%	-6.6%	-40.4%	-33.3%	-21.9%	-14.6%	-2.4%	
<b>Profitability (%)</b>										
Gross margin	25.0%	24.1%	23.8%	17.9%	15.5%	11.6%	9.0%	7.6%	7.4%	7.3%
Operating margin	18.2%	18.6%	19.2%	12.8%	10.7%	7.0%	4.6%	3.4%	3.4%	3.3%
EBITDA margin	25.8%	25.3%	24.1%	18.2%	17.7%	14.8%	11.4%	10.2%	10.0%	9.7%
Net Profit margin	13.2%	11.0%	14.5%	12.3%	10.9%	6.2%	4.2%	3.2%	2.6%	2.5%
ROA		11.4%	19.7%	14.8%	9.1%	5.5%	3.8%	3.2%	2.7%	2.8%
ROE		44.4%	102.9%	35.2%	17.2%	10.4%	7.3%	5.9%	5.1%	5.0%
<b>Stability</b>										
Gross debt/equity (%)	1.7	1.7	3.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Net debt/equity (%)	1.3	1.3	1.4	(0.3)	(0.3)	(0.3)	(0.2)	(0.3)	(0.2)	(0.2)
Int. coverage (X)	4.7	3.3	6.0	12.5	20.3	16.8	14.0	18.7	56.5	55.3
Int. & ST debt coverage (X)	8.5	7.1	13.2	37.5	70.2	74.0	62.1	102.8	300.2	238.4
Cash flow int. coverage (X)	0.9	1.0	5.2	14.1	6.4	(11.7)	(23.4)	1.6	(53.1)	(61.5)
Current ratio (X)	0.8	1.3	0.9	3.2	2.5	2.2	2.4	2.6	2.7	2.5
Quick ratio (X)	0.7	1.1	0.6	2.7	2.0	1.7	1.8	2.0	2.1	1.9
Net debt (\$m)	160	244	96	(241)	(324)	(283)	(171)	(225)	(183)	(135)
<b>Dividends</b>										
Dividend payout ratio	16.7%	13.4%	9.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dividends (RMB m)	12	9	13	-	-	-	-	-	-	-
Dividends per share (RMB cts)	1.15	0.92	1.26	-	-	-	-	-	-	-
<b>Efficiency Ratios</b>										
Inventory Turnover	14.0	8.5	7.4	7.2	5.6	5.3	5.0	4.8	4.8	4.8
Inventory days	26.0	43.0	49.4	50.8	65.0	68.3	73.7	75.4	75.4	75.4
Fixed Asset Turnover	2.0	2.2	3.5	4.4	3.0	2.7	3.3	5.3	8.3	17.8
Total Asset Turnover	1.1	1.0	1.4	1.2	0.8	0.9	0.9	1.0	1.0	1.1

China XLX Fertilizer Limited										
Balance sheet										
RMB m										
	2004	2005	2006	2007E	2008E	2009E	2010E	2011E	2012E	2013E
<b>Non current assets</b>	<b>261</b>	<b>297</b>	<b>217</b>	<b>448</b>	<b>580</b>	<b>602</b>	<b>363</b>	<b>256</b>	<b>151</b>	<b>45</b>
PPE	243	278	217	448	580	602	363	256	151	45
Intangible	15	15	-	-	-	-	-	-	-	-
Other investments	3	4	-	-	-	-	-	-	-	-
<b>Current assets</b>	<b>212</b>	<b>433</b>	<b>362</b>	<b>1,407</b>	<b>1,259</b>	<b>1,202</b>	<b>1,323</b>	<b>1,379</b>	<b>1,503</b>	<b>1,415</b>
Inventories	46	66	118	216	248	285	308	318	329	340
Trade Receivables	7	5	14	29	34	39	32	30	27	24
Bills receivable from banks	-	6	10	22	23	24	24	25	25	26
Prepayment and other receivables	70	198	38	146	154	129	129	98	101	105
ST investments	1	3	-	-	-	-	-	-	-	-
Due from related parties	18	60	12	-	-	-	-	-	-	-
Fixed deposits	16	21	16	176	185	193	194	197	203	209
Cash and bank balances	55	75	155	361	414	343	231	235	193	145
excess cash	-	-	-	456	201	189	405	476	625	566
<b>TOTAL ASSETS</b>	<b>473</b>	<b>730</b>	<b>579</b>	<b>1,855</b>	<b>1,839</b>	<b>1,803</b>	<b>1,687</b>	<b>1,635</b>	<b>1,654</b>	<b>1,460</b>
<b>Current liabilities</b>	<b>250</b>	<b>330</b>	<b>392</b>	<b>445</b>	<b>512</b>	<b>544</b>	<b>561</b>	<b>525</b>	<b>551</b>	<b>568</b>
Trade payables	13	12	29	60	65	71	59	61	63	65
other payables and accruals	96	144	198	361	391	427	411	425	438	453
Bills payable to banks	16	39	18	24	26	28	29	30	31	32
Deferred grants	-	5	-	-	-	-	-	-	-	-
Interest bearing loans and borrowings	115	114	130	-	30	-	50	-	-	-
Income tax payable	10	15	17	-	-	18	12	9	19	19
excess debt	-	-	-	-	-	-	-	-	-	-
<b>Net current assets/(liabilities)</b>	<b>(38)</b>	<b>103</b>	<b>(30)</b>	<b>962</b>	<b>747</b>	<b>657</b>	<b>762</b>	<b>854</b>	<b>952</b>	<b>846</b>
<b>Non-current liabilities</b>	<b>99</b>	<b>216</b>	<b>120</b>	<b>450</b>	<b>330</b>	<b>330</b>	<b>230</b>	<b>230</b>	<b>230</b>	<b>20</b>
Deferred grants	-	11	-	-	-	-	-	-	-	-
Interest bearing loans & borrowings	99	205	120	120	60	60	10	10	10	10
Due to related parties	-	-	-	210	210	210	210	210	210	-
<b>TOTAL LIABILITES</b>	<b>349</b>	<b>546</b>	<b>512</b>	<b>895</b>	<b>842</b>	<b>874</b>	<b>791</b>	<b>755</b>	<b>781</b>	<b>588</b>
<b>NET ASSETS</b>	<b>125</b>	<b>184</b>	<b>67</b>	<b>960</b>	<b>997</b>	<b>929</b>	<b>896</b>	<b>881</b>	<b>873</b>	<b>872</b>
<b>Equity</b>										
Share capital	46	46	0	0	0	0	0	0	0	0
Accumulated profits	72	124	60	181	169	101	67	52	45	44
Reserve fund	7	14	7	7	7	7	7	7	7	7
Issuance of new ordinary shares pursuant to conversion of pre IPO convertible loan	-	-	-	58	58	58	58	58	58	58
Issue of ordinary shares pursuant to IPO	-	-	-	764	764	764	764	764	764	764
Share issue expenses	-	-	-	(49)	(49)	(49)	(49)	(49)	(49)	(49)
<b>TOTAL SH EQUITY</b>	<b>125</b>	<b>184</b>	<b>67</b>	<b>960</b>	<b>997</b>	<b>929</b>	<b>896</b>	<b>881</b>	<b>873</b>	<b>872</b>

China XLX Fertilizer Limited										
Cashflow statement										
RMB m										
	2004	2005	2006	2007E	2008E	2009E	2010E	2011E	2012E	2013E
profit before tax	83	100	152	181	169	118	79	62	64	62
depreciation of PPE	40	46	46	79	108	125	110	110	111	112
amortisation of deferred grants	-	(4)	(3)	-	-	-	-	-	-	-
loss(gain) on disposal of PPE	(0)	0	(1)							
dividend income from other investments	-	(1)	(1)							
interest income	(3)	(5)	(3)	(7)	(11)	(11)	(9)	(8)	(7)	(7)
interest expense	15	20	21	14	8	6	5	3	1	1
operating profit before working capital changes	135	158	213	267	274	239	185	167	168	169
<u>Decrease (increase) in</u>										
Inventories	(38)	(19)	(52)	(98)	(31)	(37)	(24)	(10)	(10)	(11)
Trade & bills receivables	10	(4)	(13)	(15)	(5)	(5)	6	3	3	3
Prepayment and other receivables	9	6	(4)	(108)	(8)	25	(0)	31	(3)	(3)
Due from related parties	(2)	(42)	29	12	-	-	-	-	-	-
<u>Increase (decrease) in</u>										
Trade & bills payable	(19)	23	35	31	5	6	(12)	2	2	2
Prepayment and other receivables	32	56	86	163	30	36	(16)	13	14	14
CF generated from operations	127	176	292	251	265	265	139	206	173	174
grants received	-	20	-	-	-	-	-	-	-	-
interest received	3	5	3	7	11	11	9	8	7	7
interest paid	(15)	(20)	(20)	(14)	(8)	(6)	(5)	(3)	(1)	(1)
tax paid	(6)	(26)	(23)	-	-	(18)	(12)	(9)	(19)	(19)
<b>NCF Operations</b>	<b>109</b>	<b>154</b>	<b>252</b>	<b>244</b>	<b>268</b>	<b>252</b>	<b>131</b>	<b>201</b>	<b>161</b>	<b>161</b>
purchase of PPE	(101)	(226)	(248)	(176)	(185)	(322)	(194)	(197)	(203)	(209)
proceeds from disposal of PPE	9	3	2	-	-	-	-	-	-	-
purchase of intangible assets	(2)	-	-	-	-	-	-	-	-	-
purchase of other investments	(0)	(1)	(10)	-	-	-	-	-	-	-
dividend income from other investents	-	1	1	-	-	-	-	-	-	-
purchase of ST investment	(1)	(2)	-	-	-	-	-	-	-	-
proceeds from disposal of ST investments	-	-	2	-	-	-	-	-	-	-
<b>NCF Investing</b>	<b>(95)</b>	<b>(225)</b>	<b>(253)</b>	<b>(176)</b>	<b>(185)</b>	<b>(322)</b>	<b>(194)</b>	<b>(197)</b>	<b>(203)</b>	<b>(209)</b>
proceeds from issuance of shares	13	0	0	-	-	-	-	-	-	-
proceeds from loans and borrowings	144	216	335	-	-	-	-	-	-	-
increased due to related parties	-	-	-	210	-	-	-	-	-	-
repayment of loans and borrowings	(138)	(111)	(84)	(75)	(30)	-	(50)	-	-	-
Incr (dcr) in fixed deposits pledged	(9)	(5)	(19)	-	-	-	-	-	-	-
dividends paid	(12)	(9)	(13)	-	-	-	-	-	-	-
consideration for acquisition of subsidiary pursuant to restructuring exercise	-	-	(108)	-	-	-	-	-	-	-
<b>NCF financing</b>	<b>(1)</b>	<b>91</b>	<b>112</b>	<b>135</b>	<b>(30)</b>	<b>-</b>	<b>(50)</b>	<b>-</b>	<b>-</b>	<b>-</b>
Net incr in cash & cash equivalents	13	20	111	203	53	(70)	(112)	4	(42)	(49)
cash and cash equivalents not transferred	-	-	(29)	-	-	-	-	-	-	-
cash and cash equivalents at start of year	42	55	75	158	361	414	343	231	235	193
cash and cash equivalents at end of year	55	75	158	361	414	343	231	235	193	145

China XLX Fertilizer Limited FCFF Valuation						
RMB m	2008	2009	2010	2011	2012	Terminal 2013
	1	2	3	4	5	6
EBIT	166	113	75	57	57	57
Less: taxes	0	(18)	(12)	(9)	(19)	(19)
After- tax EBIT	166	96	63	47	38	38
Add:						
<i>Depreciation</i>	108	125	110	110	111	112
Less:						
<i>Increase in working capital</i>	(268)	(19)	217	88	140	(57)
<i>Capex</i>	185	322	194	197	203	209
<b>Free cash flow</b>	191	524	584	443	492	302
Terminal value						3,609
NPV	173	428	428	292	293	180
Discount Factor	1.00	0.90	0.82	0.73	0.66	0.60
WACC	10.5%	10.7%	10.6%	10.9%	10.9%	10.9%
Discounted NPV Value	1,613					
NPV of terminal value	2,149					
<b>Enterprise Value (Total PV)</b>	<b>3,763</b>					
Add:						
Net cash/(debt)	324					
<b>Equity Value</b>	<b>4,086</b>					
Per share value (RMB)	<b>4.09</b>					
<b>Pershare value (SGD)</b>	<b>\$ 0.80</b>					

**Initial WACC Calculation****Valuation: Inputs**

Risk-free rate	2.80%
Equity Risk Premium (Rm-Rf)	5.06%
Cost of Debt	7.90%
Debt/ Firm Value	8.28%
Corporate Tax Rate	30.00%
Terminal Growth Rate	2.00%

**Valuation: Outputs**

Debt / Equity	9%
Beta	1.62
Cost of Equity (levered)	11.0%
<b>(WACC)</b>	<b>10.53%</b>

Source: Industry, Quad estimates

**Sensitivity Analysis Table 1**

		Terminal Growth					
		0.0%	0.5%	1.5%	2.0%	2.5%	
WACC	8.00%	\$ 0.82	\$ 0.85	\$ 0.93	\$ 0.98	\$ 1.03	
	9.00%	\$ 0.77	\$ 0.79	\$ 0.85	\$ 0.89	\$ 0.93	
	10.00%	\$ 0.73	\$ 0.75	\$ 0.80	\$ 0.83	\$ 0.86	
	11.00%	\$ 0.70	\$ 0.71	\$ 0.75	\$ 0.78	\$ 0.80	
	12.00%	\$ 0.67	\$ 0.69	\$ 0.72	\$ 0.74	\$ 0.76	

Source: Company data

**Sensitivity Analysis Table 2**

		Terminal Growth					
		0.0%	0.5%	1.5%	2.0%	2.5%	
Risk free rate	2.00%	\$ 0.74	\$ 0.76	\$ 0.81	\$ 0.84	\$ 0.87	
	3.00%	\$ 0.71	\$ 0.72	\$ 0.77	\$ 0.79	\$ 0.82	
	4.00%	\$ 0.68	\$ 0.70	\$ 0.73	\$ 0.75	\$ 0.77	
	5.00%	\$ 0.66	\$ 0.67	\$ 0.70	\$ 0.72	\$ 0.74	
	6.00%	\$ 0.64	\$ 0.65	\$ 0.68	\$ 0.69	\$ 0.71	

Source: Company data

**Sensitivity Analysis Table 3**

		WACC	year
Debt / firm value	11.12%	10.38%	2007
	8.28%	10.53%	2008
	6.07%	10.65%	2009
	6.27%	10.64%	2010
	1.11%	10.92%	2011
	1.12%	10.92%	2012
	1.12%	10.92%	2013

Source: Company data