



Maaden

Unrealistic market expectations

Underweight

Target Price (SR) 16.8

Current price (SR) 22.5

Stock details

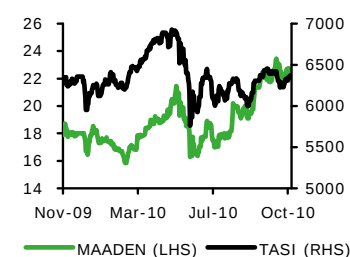
52-week range H/L (SR)	23.8/15.8		
Market cap (\$mn)	5,636		
Shares outstanding (mn)	925		
Listed on exchanges	TADAWUL		
Price perf. (%)	1M	3M	12M
Absolute	2.7	13.4	25.7
Rel. to market	3.9	12.7	24.7
Avg daily turn.(mn)	SR	US\$	
3M	84.8	22.6	
12M	100.8	26.9	
Reuters code	1211.SE		
Bloomberg code	MAADEN AB		
Website	www.maaden.com.sa		

Valuation multiples

	09	10E	11E
P/E (x)	214.7	174.1	23.5
P/B (x)	1.1	1.1	1.0
EV/EBITDA (%)	134.1	77.1	10.0
Div yield (%)	-	-	-

Source: NCBC Research estimates

Share price performance



Source: Bloomberg

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Phosphate commercial production is expected to drive strong earnings growth from 2011e, however we believe this is already priced into the stock. We believe the Aluminum business will not add value to Maaden and the future of gold production is uncertain. We maintain our Underweight rating with a price target of SR16.8 /share.

- **Phosphate JV is the key value driver...:** Trial operations are planned by the end of 2010 and commercial production is likely to begin by the end of 2Q11. We estimate the project will increase revenues by SR2.4bn in 2011e and a further SR2bn in 2012e. Given our estimates of the project's size and returns, we believe this is the key value driver of the company.
- **... But the market is pricing in unrealistic scenarios:** The stock has recently rallied as the phosphate project approaches operations implying high market expectations. As we have seen with other stocks in the market, strong expectations on the start of operations of a project could lead to disappointment when earnings visibility improves in 2011.
- **Gold is still small, in our view:** Our concerns about future gold production surfaced again in 3Q10 and unless concrete plans are announced we have little reason to believe that gold production is sustainable. Gold will account for a small portion of the company's overall operations from 2011 onwards.
- **Aluminum might not be value accretive:** While many market participants are excited about the project's cost advantage, we are more concerned about the ROIC of the project. Our model suggests that the "earning power" is not high enough to justify the planned SR40.5bn of investments; hence we estimate a negative NPV of SR3.0/share for the project.
- **Valuation:** We increase our valuation to SR16.8/share as we increase our valuation of the phosphate JV due to the recent rise in DAP prices. This was largely offset by a negative valuation of the aluminum JV (which we include for the first time). In our view, Maaden's valuation excluding the aluminum project is SR3.0/share higher than we currently suggest.

Financials

		2008	2009	2010E	2011E	2012E
Revenues	SR mn	460	634	698	3,262	5,423
EBITDA	SR mn	(0)	152	264	2,044	3,452
Net income	SR mn	203	95	117	866	913
Total debt	SR mn	820	8,783	12,613	18,979	23,039
Div per share	SR	-	-	-	-	-
EBITDA margin	%	(0.0)	23.9	37.8	62.6	63.7
Net margin	%	44.2	14.9	16.7	26.6	16.8
ROE	%	1.2	0.5	0.6	4.4	4.4
Debt-to-capital	%	4.6	32.4	40.6	49.2	52.4
EPS	SR	0.2	0.1	0.1	0.9	1.0

Source: Company, NCBC Research estimates

Please refer to the last page for important disclaimer

Investment view

We maintain our Underweight rating but increase our price target from SR15.3 to SR16.8. The bulk of our valuation is from the phosphate business (JV with SABIC) as it approaches operational stage. The stock has performed strongly over the past few months on the back of positive gold and fertilizer fundamentals. However, we believe this is more than priced into the stock, which is trading above our fair value.

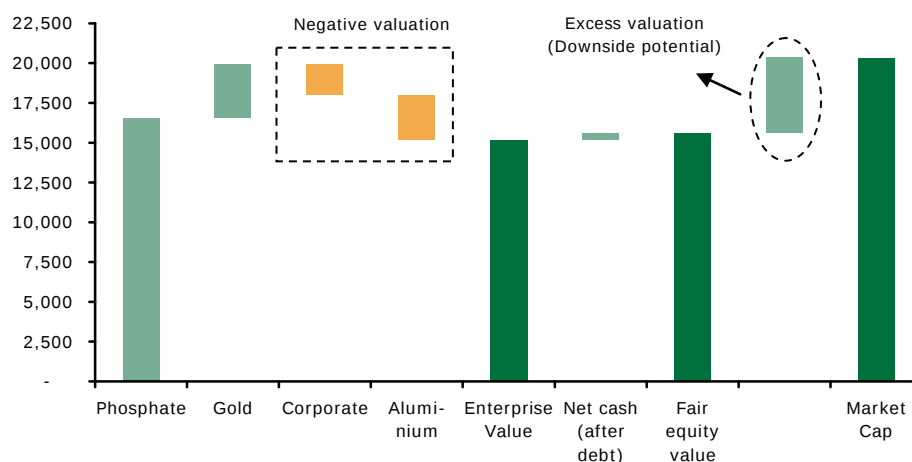
The share price rise has gone too far

We believe the market is currently focused on the phosphate business and its expected commencement of operations (trial operations by end 2010). While this could lead to further momentum over the short term, we question the sustainability of this rise. Although we agree that the economics of the phosphate business are compelling, we think the market has gone too far, creating a significant downside potential.

Our analysis suggests that the phosphate unit is the key driver of the company's valuation followed by the gold business. However, our analysis suggests the aluminium project is not value accretive.

Exhibit 1: Sum-of-the-part valuation indicates the stock is currently overvalued

SRmn



Source: NCBC Research estimates

A shift in business mix from 2011 onwards

Gold is currently the key revenue source for the company, accounting for 95% + of revenues. However, this is expected to change dramatically over the next few years. Maaden went public in 2008 and raised SR10.5bn that was intended to help finance two mega projects, namely the phosphate and the aluminium projects. These two projects are expected to transform the company's business as soon as they become operational.

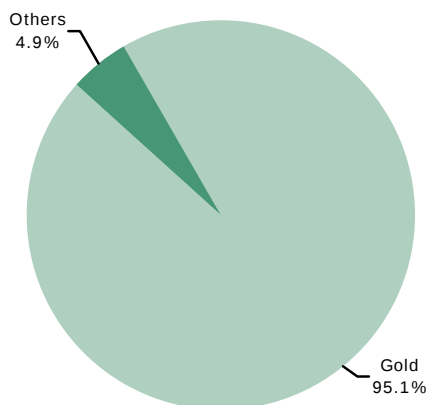
The phosphate project which is a JV with SABIC (70% Maaden, 30% SABIC) is scheduled to commence trial operations by the end of 2010 and we believe that commercial operations will begin by the end of 2Q11. This should lead to a sharp growth in revenues and earnings in 2011e and 2012e and will comprise the majority of the company's operations during that time.

The currently under construction aluminium JV (74.9% Maaden, 25.1% Alcoa) is scheduled to commence operations in 2013 (stage 1) and 2014 (stage 2). This project is expected to contribute significantly to the revenues and operating profits of the company when compared to the phosphate project.

This significant change in revenue mix will transform the stock from a gold play to one where valuation is centred on the phosphate and aluminium units.

Exhibit 2: Revenue mix 2010E (excl. minority)

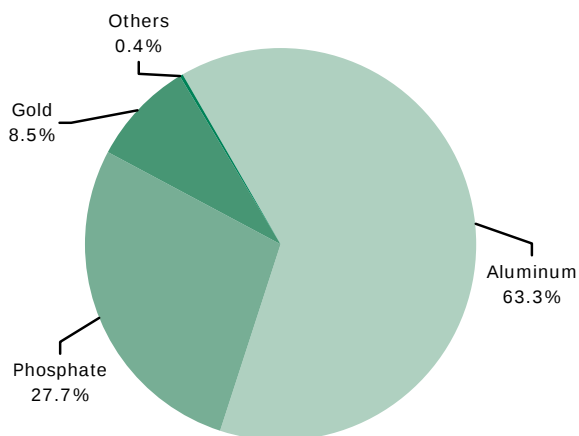
% (Proportion attributable to Maaden)



Source: NCBC Research estimates

Exhibit 3: Revenue mix 2015E (excl. minority)

% (Proportion attributable to Maaden)



Source: NCBC Research estimates

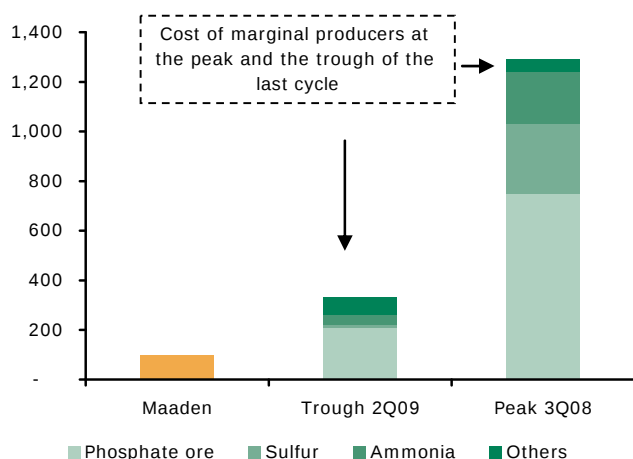
Bullish on the phosphate unit...

Maaden Phosphate Company (MPC), a JV with SABIC, is scheduled to commence trial operations by the end of the year and we believe commercial production will begin by the end of 2Q11. In our view, the project comprises the bulk of Maaden's valuation.

MPC will benefit from its integrated model leading to a cost advantage relative to non-integrated producers and will also benefit from the subsidized cost of natural gas which will give the company an absolute cost advantage over other integrated players. The company estimates cash cost of production at \$98/ton.

Exhibit 4: MPC will have a unique cost advantage

USD/ton



Source: Company, Potash Corp, NCBC Research estimates

Exhibit 5: Return analysis (consolidated figures)

SRmn (Includes the proportion contributed from/ attributable to SABIC)

	Avg 2012-16E
Revenue	4,565
Cost of sales (excl depr)	(1,151)
Gross profit (excl. depr)	3,413
Other operating costs (excl depr)	(156)
EBITDA	3,257
NOPLAT *	1,511
Free cash flows (FCFF)	3,004
Total investment	17,041
EBITDA margin %	71.3
Return on Investment (%) ^	8.9
FCFF yield on investment (%)	17.6

Source: Company, NCBC Research estimates

* NOPLAT = operating income after depreciation * (1- Zakat and tax rate)

^ NOPLAT divided by total investment.

... But we are cautious on aluminium project

The aluminium JV (74.9% Maaden, 25.1% Alcoa) is a mega project that will require SR40.5bn (\$10.8bn) of investments. Although this project, just like phosphate, will have a unique cost advantage, we believe the massive capital expenditure requirements will make the project economically unattractive from a Maaden investors' point of view. (See detailed discussion and valuation from pages 10 to 19)

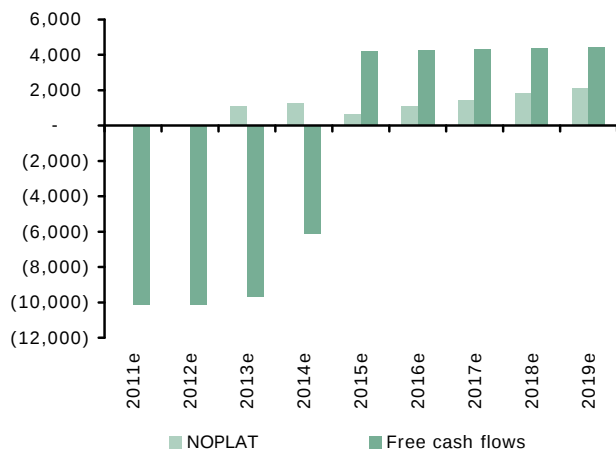
The largest cost in producing aluminium is energy, so having the project in Saudi Arabia, where energy is inexpensive is a logical choice. In the case of a rise in global energy prices, Maaden's costs will generally not be impacted, increasing its cost advantage even more.

Although the cost advantage means the company will be able to generate superior margins, our analysis suggests that the return on investment is not as compelling. From a valuation perspective, we use a straightforward DCF leading to our Net Present Value (NPV) for the project. Simply put, if the project has a positive NPV then it adds to the value of the company, but if it yields a negative NPV then the project is value destructive and clearly reduces the company's valuation.

Our estimate of NPV is a negative SR3.0/share. This, despite our generous assumptions of aluminium prices of \$2,500/ton in 2013e and annual growth of 2% over the life of the project and a sustainable cash margin above 50%.

Exhibit 6: Large initial cash outflows affect valuation

USD/ton



Source: NCBC Research estimates

Exhibit 7: Return analysis (consolidated figures)

SRmn (Includes the proportion contributed from/ attributable to Alcoa)

	Avg 2016-20E
Revenue	9,730
Cost of sales (excl depr)	(4,920)
Gross profit (excl. depr)	4,810
Other operating costs (excl depr)	(243)
EBITDA	4,567
NOPLAT *	1,800
Free cash flows (FCFF)	4,381
Total investment	40,500
EBITDA margin %	46.9
Return on Investment (%) ^	4.4
FCFF yield on investment (%)	10.8

Source: NCBC Research estimates

* NOPLAT = operating income after depreciation * (1- Zakat and tax rate)

^ NOPLAT divided by total investment.

From Exhibit 7, we expect return on investment over the initial 5 years to be very low despite the strong margins. This as we highlighted earlier is a result of the large investment requirements. Comparing the aluminum project to the phosphate project based on expected return on investment rather than margins explains why we view the impact of the two projects differently.

Exhibit 8: Comparison between phosphate and aluminum projects

	Phosphate project	Aluminum project
EBITDA Margin (%)	71.3	46.9
Initial Investment (SRmn)	17,040	40,500
Return on Investment (%) ^	8.9	4.4

Source: Company, NCBC Research estimates

^ Average of the first five years of operation

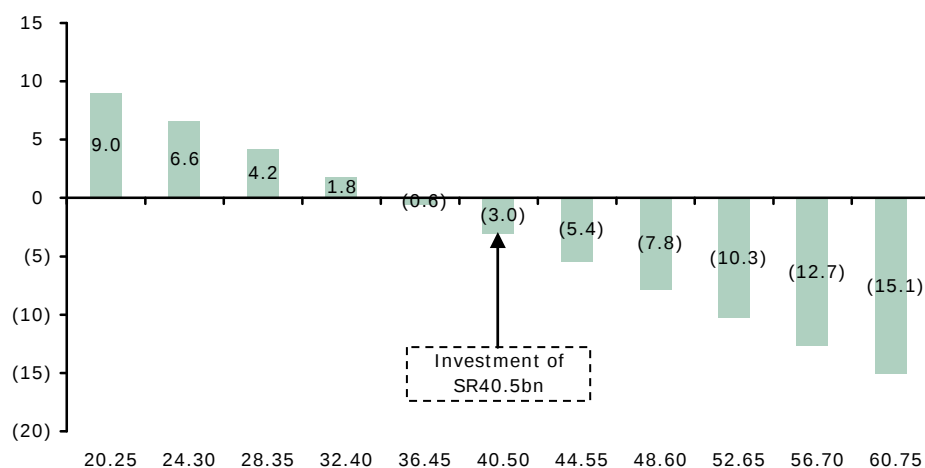
Don't forget the Capex requirements in valuation

Valuing a project based on future earning multiple implies that the project's value is independent of the required investment. Hence, a project that costs SR40.5bn to build will have an identical valuation to a project that requires half that amount or double that amount, assuming equal profits.

The exhibit below presents a valuation of the aluminum project under different required investment scenarios, while keeping all other assumptions intact. Our base case valuation is a negative NPV of SR3.0/share which is based on the announced \$10.8bn required investments.

Exhibit 9: Investment requirements have a significant impact on valuation

NPV in SR/share (y-axis), Initial investments in the project in SRbn(x-axis)



Source: NCBC Research estimates

As the chart illustrates, producing the same earnings with lower investments increases the attractiveness of the project whereas higher investments decreases the economic profitability of the project. For this reason, we are cautious on the impact of the aluminum project on valuation despite the expected rich margins.

Where could we be wrong?

As discussed earlier, our analysis suggests that the phosphate and the aluminum projects are the key businesses that will affect the valuation going forward. Hence, our view on the stock is largely influenced by our analysis of these two businesses and major changes in drivers represent the key risks to our view.

THE PHOSPHATE BUSINESS

Our view of the phosphate project is positive, but we think the market is overvaluing its impact on the company and that the rally over the past few months could prove unsustainable.

Risk 1: In the short term, the stock could rally even higher and gain more momentum as the project becomes operational. We have seen this with other stocks in the Saudi market and a similar behavior is possible. However, as we have seen with other companies, the stock may then give up some of these gains shortly after commencement of operations and improvement of earnings visibility.

Risk 2: The more important risk factor is the DAP (Diammonium Phosphate) prices. We estimate revenue assuming a DAP price of \$450/ton in 2011e and a sustainable \$425/ton versus \$500/ton currently as we regard the factors that have led to this price as temporary in nature. If the price of DAP increases materially and sustainably above these levels, our estimate would undervalue the true worth of the project leading to an upside risk to our view.

THE ALUMINUM PROJECT

Our view of the aluminum project is negative due to the expected low return on investment despite strong margins. Our estimates, however, are based on an assumed price of aluminum of \$2,500/ton in 2013e (versus 2014 futures price of \$2,579/ton) and an average annual growth of 2% over the life of the project.

In our view, these assumptions represent the most likely scenario which is reflective of the market's view of the metal prices. However, the price of aluminum is extremely volatile and it is very difficult to predict its course over the next few months let alone several decades. *(Please see page 17)*

Our estimates suggest that the project will break-even (in NPV terms) if aluminum prices rise above \$2,700/ton in 2013e and rise at 2% thereafter. *(Please see sensitivity analysis on page 14)*

Valuation

We estimate Maaden's Enterprise value (EV) using the SOTP method and we use DCF to value each part. Please note that we include the aluminum project in our valuation for the first time.

Exhibit 10: Sum of the parts valuation

In SR millions, unless otherwise stated

	Unit	EV	% ownership	EV Maaden	EV (%)
Maaden Aluminum Company	SR mn	(3,744)	74.9	(2,804)	(18)
Maaden Phosphate Company	SR mn	23,670	70.0	16,569	109
Maaden Gold Company	SR mn	3,347	100.0	3,347	22
Maaden Corporate	SR mn	(1,915)	100.0	(1,915)	(13)
Enterprise value attributable to Maaden	SR mn			15,197	
Cash and short term investments	SR mn			10,168	
Debt outstanding (attributable to Maaden)	SR mn			(9,785)	
Maaden equity value	SR mn			15,579	
Shares outstanding	mn			925	
Fair value per share	SR			16.8	
Upside/(Downside) potential	%			(25.1)	

Source: NCBC Research estimates

A note of P/B and expected returns

A stock should only trade above its book value if and only if the company generates (or is expected to generate) returns on capital that exceed the investor's required return. As of 30 June 2010, Maaden's book value per share (excluding minority) was SR18.0/share. Hence, we should expect the stock to trade at a premium or a discount based on expected returns when projects become operational.

The following table suggests that our estimate of return on capital (equity + debt) is low relative to the risk characteristics associated with a mining group. Under that scenario, an argument for the stock to trade at a premium to book value is conceptually inaccurate. This suggests that the stock is currently overvalued.

Exhibit 11: The stock should trade at a discount to book value given low ROE

	2010E	2011E	2012E	2013E	2014E	2015E
Summary financials (SRmn)						
Revenue (before minority)	698	3,262	5,423	14,515	14,994	15,111
EBIT (net of minority)	76	795	1,201	2,356	2,594	2,081
Net income (net of minority)	117	866	913	1,209	1,361	990
Shareholder's Equity	16,699	17,566	18,479	19,688	21,049	22,039
Total Debt	12,613	18,979	23,039	31,628	34,516	30,919
Capital (debt + equity)	29,313	36,545	41,518	51,315	55,565	52,958
Profitability measures (%)						
EBITDA margin %	37.8	62.6	63.7	46.5	52.2	52.4
Operating margin %	10.7	33.0	30.0	20.0	21.1	16.8
ROE %	0.7	4.9	4.9	6.1	6.5	4.5
Per share measures						
EPS (SR)	0.1	0.9	1.0	1.3	1.5	1.1
P/E (x)	174.1	23.5	22.3	16.8	14.9	20.5
BV/share (SR)	18.1	19.0	20.0	21.3	22.8	23.8
P/B (x)	1.2	1.2	1.1	1.0	1.0	0.9

Source: NCBC Research estimates

Phosphate outlook strong

Project is 95 % complete and is approaching operations

Maaden Phosphate Co. "MPC" is Maaden's most important project, in our view, and is approaching trial operations by the end of the year and we assume commercial operations to begin by the end of 2Q11.

The project is an integrated phosphate fertilizers unit owned 70% by Maaden and 30% by SABIC. MPC will mine for phosphate rock and process it in Al Jalamid (North of Saudi) and will ship the phosphate concentrate to the chemical complex in Ras Al Zour (East of Saudi, 80km north of Jubail) by the North-South railway.

In the chemical complex, MPC will produce Ammonia (from natural gas supplied by Aramco), sulphuric acid (from molten sulphur supplied by Aramco), phosphoric acid (from the phosphate concentrate) and Diammonium Phosphate "DAP" (using all of the other products). The company will sell all of the DAP and the excess production of phosphoric acid, sulphuric acid and ammonia.

Exhibit 12: MPC announced production capacity

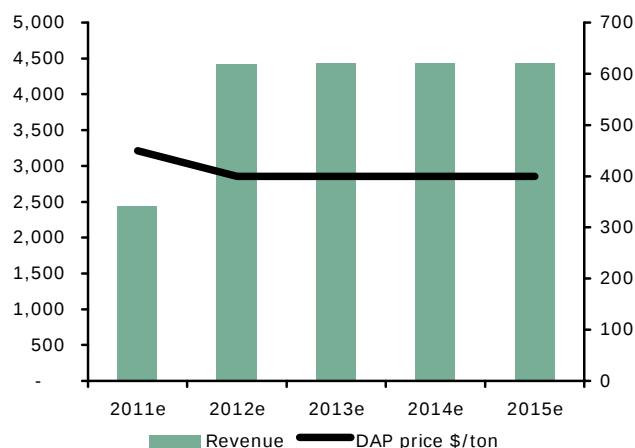
	Capacity in tons	% for internal consumption
Diammonium phosphate	2,920,000	None
Phosphoric acid	1,520,000	89.3
Ammonia	1,090,000	61.6
Sulphuric acid	4,660,000	95.1
Beneficiation capacity	5,020,000	100.0
Ore mining capacity	11,600,000	100.0

Source: Company, NCBC Research

WE EXPECT REVENUE FROM 3Q11

MPC's revenue is driven by production capacity, utilization rate and the average selling price. We assume sustainable utilization rates in line with the long term industry average at 85%. The bulk of MPC's revenue is expected to come from the DAP and we assume an average selling price of \$450/ton in 2011e and a sustainable \$425/ton. British Sulphur Consultants expect prices to range between \$380-410 per ton over March-May 2011.

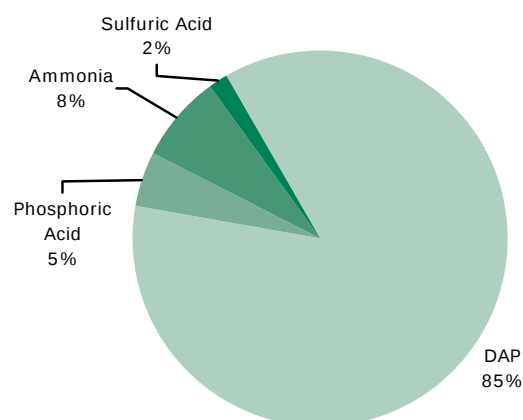
Exhibit 13: MPC consolidated revenue ^



Source: NCBC Research estimates

^ This is before minority interest. 2011e includes half year impact

Exhibit 14: Revenue mix 2012E



Source: Company, NCBC Research estimates

MARGINS EXPECTED TO BE VERY STRONG

Based on Maaden's IPO prospectus, the company expects the cash cost of production (excluding depreciation and marketing costs) of DAP to be around \$98/ton versus our estimate of the long term price of \$400/ton. This implies a gross cash margin of 75%. Although this sounds high, it is not unrealistic. Saudi Arabian Fertilizers Company (SAFCO) currently generates similar gross margins.

The company's cost of production, similar to that of SAFCO, is significantly lower than the average producer as a result of several cost advantages. MPC will be an integrated producer by mining for phosphate and will receive natural gas and sulphur at subsidized prices. This is expected to result in a cost structure superior to other global producers.

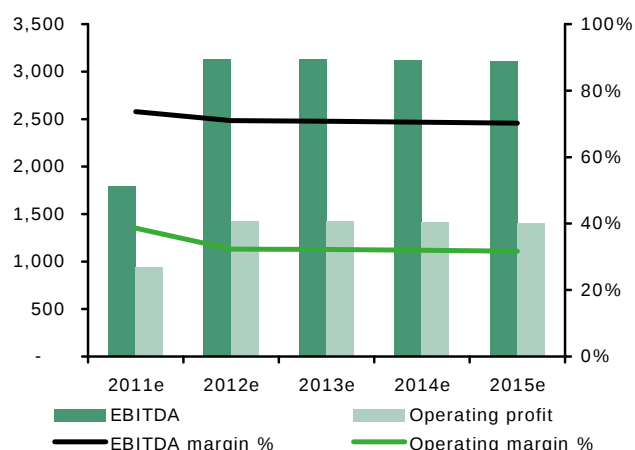
In 2007 and early 2008, the rise in raw material costs led to increasing fertilizer prices. This increased both the revenue and cost of most global producers. However, the increase only affected SAFCO's revenue (positively) resulting in EBITDA margins rising above 80% for 2008. Once prices collapsed (by more than 70%), SAFCO's profits declined sharply due to the decline in revenues. However, due to the significant cost advantage, the company has been able to keep margins well above 60% while other global producers were often running operating losses.

In our view, we believe MPC will have a similar cost advantage allowing the company to benefit from cyclical rises without a proportionate rise in costs and to remain competitive in down cycles.

At the bottom of the 2009 cycle, we estimated Maaden's production cost to be around a third of marginal producers. In a commodity-like business, marginal producers create the pricing floor. When prices decline sharply under recessionary pressures (like in 2008-09); less cost-efficient producers will exit the market and this should restore the demand-supply balance, which in turn supports prices.

Exhibit 15: Consolidated Profit and margin ^

SRmn (LHS), % (RHS)

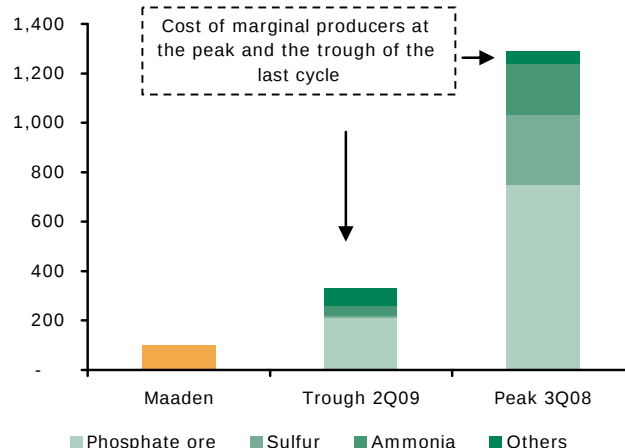


Source: NCBC Research estimates

^ Before minority interest. Operating profit is after depreciation and marketing costs

Exhibit 16: Maaden will have a cost advantage

USD/ton



Source: Company, Potash Corp, NCBC Research estimates

Questions on Aluminium

A negative valuation on the project

In this section, we provide a comprehensive description and analysis of the aluminium project and the logic behind our analysis. We also highlight the key assumptions we have used in our valuation in addition to scenario analysis to account for the many uncertainties associated with a project of this scale.

Project description

Maaden announced on December 20, 2009 an agreement with Alcoa to build a SR40.5bn (\$10.8bn) aluminum project. The project will be 74.9% owned by Maaden and 25.1% owned by Alcoa.

The project was part of the company's original expansion plan, but was planned to be a 51:49 JV between Maaden and Rio Tinto Alcan. In December 2008 Rio Tinto Alcan announced that due to the economic crisis, they would not go ahead with the project. In December 2009, Maaden announced that Alcoa would be the new partner.

According to Maaden's announcement, the project will be split into two stages. Stage 1, expected to come on stream in 2013, consists of an aluminium smelter with capacity of 740,000 tons/year and an aluminium rolling mill with an initial capacity of 380,000 tons/year.

Stage 2, expected to come on stream a year after stage 1, consists of a Bauxite mine with annual capacity of 4mn tons and an alumina refinery with an annual capacity of 1.8mn tons. This means that until the alumina refinery and bauxite mine come on stream in 2014, the company will have to purchase alumina from the market for a year in order to produce aluminium. The table below presents expected capacities and production levels (assuming all plants are fully operational).

Exhibit 17: Capacity, production and sales to third parties

In '000 tons (Production and sales to third parties assumes utilization rate of 90%)

	Expected completion	Planned capacity	Expected production	Sales to third parties
Bauxite mine	2014	4,000	3,600	-
Alumina Refinery	2014	1,800	1,620	288
Aluminum smelter*	2013	750	666	466
Rolling mill	2013	380	342	342

Source: Company, NCBC Research estimates

* We understand that 70% of aluminium production will be sold to third parties and 30% to be consumed internally

We understand that the mix of debt to equity financing that will be used to finance the project is 60%-40% debt-to-equity. Based on the latest announcements, Maaden was able to raise all necessary financing for phase 1 (aluminium smelter and rolling mill); although we understand that the final agreements have not been signed.

The project is to be completed in 2 stages through 2013-2014

The logic: Look for value not margins

Given the very long term nature of the project and the fact that we will not see revenues for another 3 to 4 years, any analysis of industry factors over the next 5 or even 10 years will be of limited value. As a result, our analysis will be focused on the potential of value generation (or destruction) using our base case scenario (which is the bases of our valuation) and other key scenarios in order to take into account the uncertainty of such a long term project.

THINK ABOUT RETURNS ...

From our discussions with many market participants, we have noticed that investors tend to divert their focus from “return on investment” to “lower costs” and “higher margins” as key criteria to their analysis. We believe that tomorrow’s expected cash flows generated from today’s investment is the only appropriate method to measure value.

Double your income by doubling your investment..... But where is the value?

To explain our approach, think about any investment the way you think about your saving account. You can easily quadruple you interest income by simply quadrupling the amount you have in your saving account. If you do that; can you claim that you have found a gold mine? In other words; were you able to generate superior returns? Unfortunately, the answer is no.

Now, in our case, the question becomes: Is the aluminium project going to generate sufficient returns on the SR40.5bn (\$10.8bn) that will be invested over the next 3 to 4 year?

... AFTER ADJUSTING FOR RISKS, CORRECTLY

After discussions with many market participants we realized that many market participants assume that higher debt levels results in lower cost of capital. This is only correct under the assumption that the cost of equity remains flat irrespective of the debt level employed. This is a conceptually flawed assumption as it completely ignores the impact of leverage on the project’s risk profile.

Cost of equity rises with higher debt-to-equity level

We adjust our cost of equity to different levels of debt over the life of the project by adjusting our estimate of Beta to reflect debt-to-equity levels. This results in almost constant weighted average cost of capital. The only reason that cost of capital declines at higher debt is the interest tax shield. In our case here, we estimate Zakat and tax rate to be around 6.9% (due to the mixed ownership – Saudi and foreigner - of the project).

We believe many market participants have not yet fully factored in the actual cost of capital and are currently applying unrealistically low required return for an aluminium project.

Our approach: Discounted cash flows

To value Maaden's aluminium project, we use the discounted cash flows "DCF" approach. We basically discount estimated future free cash flows (operating cash flows less required investments) at the weighted average cost of capital.

KEY VALUATION ASSUMPTIONS

Based on publically available information, our analysis and discussion with management; we have based our valuation on the following key assumptions:

Exhibit 18: Key valuation assumptions for the aluminum project

Basic assumptions:		
Required initial Capex	SR'000	40,500,000
Construction period	Years	4.0
Maintenance Capex as % of initial Capex	%	0.60
Rolling mill capacity - 2013e	tons	380,000
Aluminum capacity - 2013e	tons	740,000
Alumina capacity - 2014e	tons	1,800,000
Bauxite mine capacity - 2014e	tons	4,000,000
Initial debt-to-capital %	%	60.0
Maaden's stake %	%	74.9
Alcoa's stake %	%	25.1
Revenue assumptions:		
Utilization rate %	%	90.0
Flat rolled products sales to third parties	tons	342,000
Aluminum sales to third parties	tons	466,200
Alumina sales to third parties	tons	288,000
Aluminum price in 2013e	USD/ton	2,500
Annual growth in aluminum 2014-30e	%	2.0
Alumina price as % of aluminum	%	14.0
Flat rolled products markup on cost	USD/ton	1,102
Cost assumptions:		
Aluminum smelter cost	USD/ton	1,100
Alumina refinery cost	USD/ton	160
Rolling mill cost	USD/ton	2,102
G&A of revenue	%	2.5
Financing cost, pre Zakat and tax	%	4.0
Zakat on Maaden	%	2.5
Tax on Alcoa	%	20.0
Effective Zakat and tax	%	6.9

Source: Company, NCBC Research estimates

The above assumptions were based on information we have about the project and other market driven assumptions that we took based on our analysis of the industry. It is important to note that our valuation model **does not assume a terminal value** as our DCF model is extended to 2060e. Using a terminal value does not make sense for mining projects due to their finite life.

We also make three key simplifying assumptions:

- We do not assume full replacement of plants or expansions over 2014-60e (our forecast horizon). We only assume a certain maintenance capex over the period. We tried to be optimistic and assume maintenance capex at a relatively low level compared to the depreciation cost over the long term.

- We do not factor any cost of terminating the project or any potential salvage value after shutdown
- We allocate the initial capital expenditure equally over 2011-14e and we do not assume any pre-operating costs.

In addition to the above assumptions, we estimate our discount rate (the weighted average cost of capital "WACC") using our estimate of cost of equity (using CAPM) and an assumed cost of debt. Our unlevered cost of equity comes out to 12.3% while our net cost of debt is 3.7%. Our end discount rate varies from 12.08% to 12.3% depending on the debt levels, and is high versus the cost of debt as the levered cost of equity of course rises as debt levels increase.

Exhibit 19: Key WACC calculation assumptions

Equity market premium	(%)
U.S risk-free rate	3.50
U.S market risk premium	6.00
Country risk premium	2.00
Saudi market risk premium	8.00
Unlevered beta	1.1
Cost of equity (unlevered)	12.3
Cost of debt, before Zakat and tax	4.0
Effective Zakat and tax	6.9
Cost of debt, net	3.7

Source: Company, NCBC Research estimates

Combining the above assumptions and others, we estimate our free cash flows to the firm (FCFF) and discount every year using an estimated discount rate in order to arrive at an estimate of the net present value "NPV" of the project. A negative NPV would indicate that the project will not add value to the company.

VALUATION RESULTS

We calculate the FCFF using NOPLAT (net operating profit less adjusted tax rate) then add depreciation charges and capital expenditure and change in working capital. Here we present a portion of our model which extends to 2060e.

We then adjust the estimated NPV for Maaden's stake in the project (74.9%) and this amount is divided by Maaden's outstanding shares to estimate the impact on Maaden's value on a per share basis.

Exhibit 20: Discounted free cash flows (DCF)

In SRmn, unless otherwise stated

	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	...	2060E
NOPLAT	-	-	1,112	1,284	685	1,095	1,474	1,825	...	5,372
Depreciation costs	-	-	2,025	2,835	3,564	3,210	2,891	2,605	...	150
Operating cash flows	-	-	3,137	4,119	4,249	4,305	4,366	4,430	...	5,522
Working capital	-	-	(2,697)	(113)	(26)	(27)	(27)	(28)	...	-
Capex	(10,125)	(10,125)	(10,125)	(10,125)	(24)	(24)	(24)	(28)	...	(134)
Free cash flows to firm (FCFF)	(10,125)	(10,125)	(9,685)	(6,119)	4,198	4,254	4,314	4,374	...	5,388
Net Present Value (NPV)	(3,744)									
Project IRR %	10.9									
NPV attributable to Maaden	(2,804)									
Per share impact (SR)	(3.03)									

Source: NCBC Research estimates

The table suggests that the aluminium project will return 10.9% on the invested capital which is below the required return from such an investment. This means the project has a negative NPV which negatively impacts Maaden's valuation by an estimated SR3.0/share. In simple words, every SR1 spent on the project will return SR0.98 (an economic, not accounting, loss of SR0.02 on every riyal).

However, it is important to keep in mind that this is only true under the assumptions that were laid out earlier. A key assumption that affects our valuation is the discount rate. We believe the key variables that affect our discount rate are beta and market risk premium. Below we present our valuation under different scenarios.

Exhibit 21: Beta and market risk premium scenarios and impact on valuation

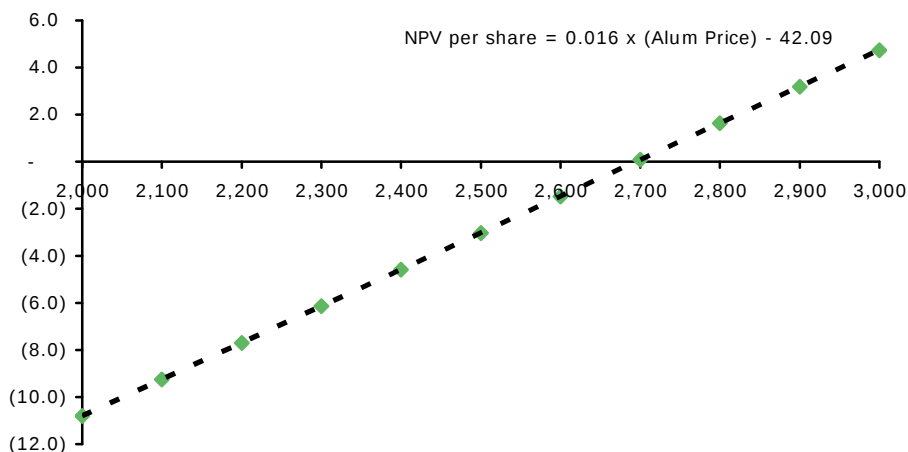
U.S market premium	Unlevered Beta scenarios					
	0.8	0.9	1.0	1.1	1.2	1.30
4%	9.1	6.5	4.2	2.3	0.6	(0.9)
5.0%	5.7	3.2	1.1	(0.7)	(2.2)	(3.6)
6.0 %	2.9	0.6	(1.4)	(3.0)	(4.4)	(5.6)
7.0%	0.6	(1.6)	(3.4)	(4.9)	(6.1)	(7.2)
8.0%	(1.4)	(3.4)	(5.0)	(6.4)	(7.5)	(8.4)

Source: NCBC Research estimates

Another important assumption that can have a significant impact on the project's valuation is the aluminium price. To account for price uncertainty, we present the impact on NPV of the project on a per share basis for a change to the \$2,500/ton price (which we use as a base for our valuation).

Exhibit 22: Sensitivity of NPV per share to aluminium price

Aluminium price in USD/ton (x-axis), NPV per share in SR (y-axis)



Source: NCBC Research estimates

From the above chart, it is clear that the project's NPV is highly sensitive to our initial aluminium price assumption. Based on the above chart (and cost assumptions), we can say that for the project to breakeven in NPV terms, the initial aluminium price should be around \$2,700/ton.

Rational behind key assumptions

In order to understand some of the characteristics of the aluminium market that will affect Maaden's project, we will highlight some of the key issues that should help in understanding our valuation model and the assumptions that we used.

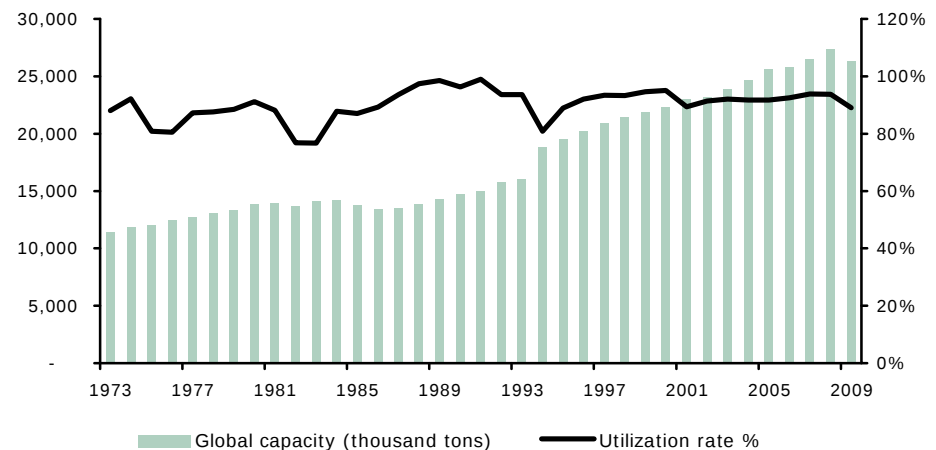
This is by no means intended to be an analysis of the aluminium industry and will not help in forming a view on the sector's direction over the next few years. As a matter of fact, we do not think that the analysis of the sector forces over the next 5 years will add important insights into the analysis of the feasibility of the project as it will start operations 4 years from now.

Capacity and utilization

Looking at a very long time horizon is very important in assessing a very long term project. Historically, the global aluminium industry has been able to maintain an average of 90% utilization rate over the long term (a decade or more).

Exhibit 23: Global aluminium capacity and utilization

'000 tons (LHS), capacity utilization % (RHS)



Source: International Aluminium Institute, NCBC Research estimates

We also note that the differences in utilization rates among the different regions in 1970s and 1980s were relatively high, but this has since almost disappeared. From this we can assume that global utilization rates of the different regions should be relatively similar. Hence, we used 90% as our long term utilization assumption for Maaden's project.

Please see Appendix on page 20 for global capacity, production and utilization details by region.

Aluminium pricing and consumption

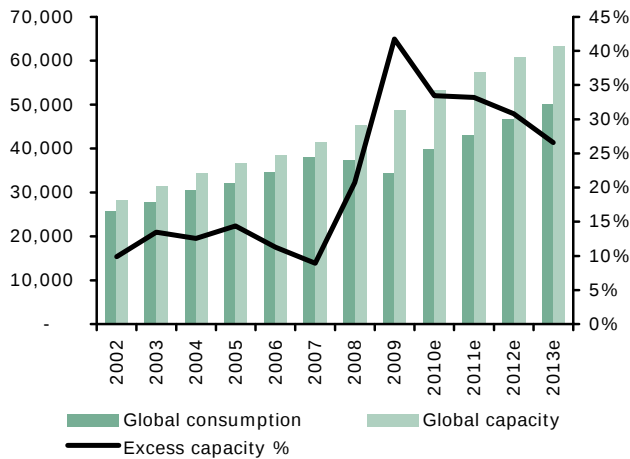
The most challenging part in valuing the aluminium project is the pricing assumptions. We believe that any attempt to forecast prices over a long term horizon is nothing but a guessing exercise, at best. Knowing this limitation is even more relevant for a project that will commission 4 years from now.

Historically, the aluminium price movement has been very volatile. Prices fluctuated due to changes in the global economic picture and sector specific factors that are both unpredictable and highly volatile. Additionally, although Maaden's project is

not going to start operations for another 4 years (which minimizes the relevance of any industry analysis), we think it is worthwhile to mention that the aluminium industry, globally, is facing rising risk of excess supply.

Exhibit 24: Global Aluminum supply-demand

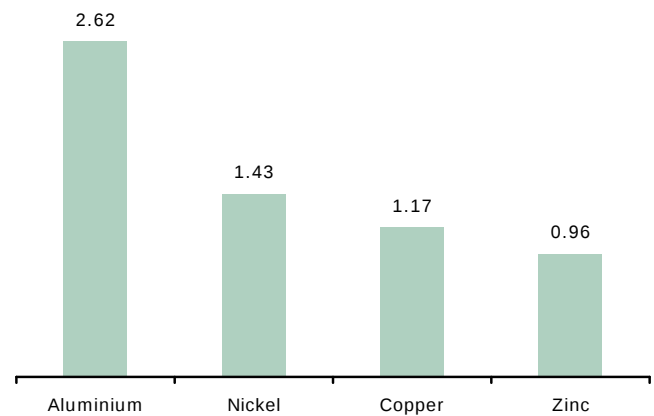
'000 tons (LHS), % (RHS)



Source: Alba prospectus 2010, NCBC Research estimates

Exhibit 25: Consumption sensitivity to world GDP

Beta: metals consumption to world GDP, 1990-2009



Source: Alba prospectus 2010, NCBC Research

Dubai and Alba are currently in the lead in terms of the region's capacity with Emal and Qatalum adding 780,000 and 895,000 tons of capacity over 2010-12e. This will increase the Middle Eastern capacity from 2.9mn tons in 2009 to 4.6mn tons over 2009-13e.

Moreover, we expect Maaden to add 740,000 tons in 2014, which will add 16.5% to Middle East capacity and 1.2% to global capacity. MENA's future consumption is estimated at 2.04mn tons, 40% of the region's capacity, any additional capacity will be exported to other regions. Given the absolute cost advantage, we think Middle Eastern players can maintain higher utilization rates compared to other producers.

Exhibit 26: Middles East capacity and consumption

Thousand tons

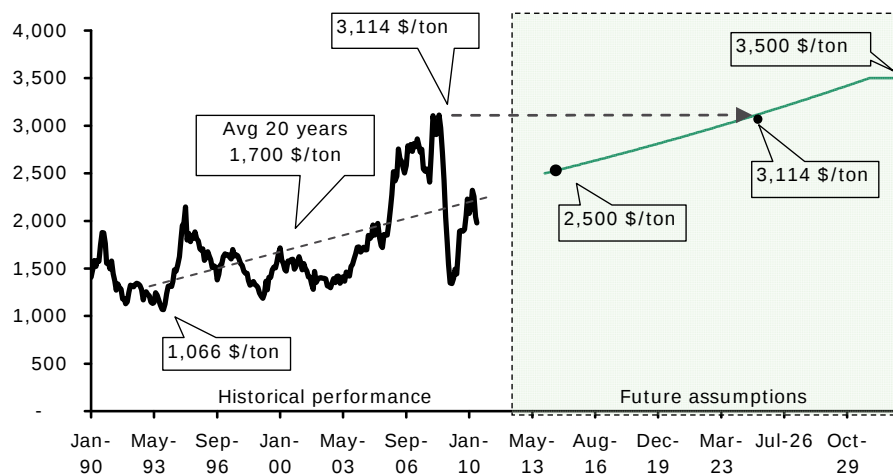
		Incremental capacity				Production capacity		
		2010E	2011E	2012E	2013E	2009	2013E	Increase
Abu Dhabi	EMAL	457	313	-	-	10	780	770
Dubai	Dubai	23	28	-	-	975	1,026	51
Bahrain	Alba	-	-	-	-	870	870	-
Oman	Sohar	7				360	367	7
Qatar	Qatalum	379	198	12	-	9	598	589
GCC capacity		866	539	12	-	2,224	3,641	1,417
Iran	Iralco	28	-	-	-	172	200	28
	Almahdi	-	-	-	-	110	110	-
	Hormozal	94	43	-	-	10	147	137
	Salco-Asalouyeh	-	-	76	27	-	103	103
Egypt	Egyptalum	-	-	-	-	285	285	-
Turkey	Eti Aluminium Co.	-	-	-	-	65	65	-
Middle East - Ex-GCC		122	43	76	27	642	910	268
Middle East Capacity		988	582	88	27	2,866	4,551	1,685
MENA consumption						1,523	2,142	619

Source: Alba Prospectus 2010, NCBC Research estimates

In our future assumptions, as the project becomes operational; we assume the aluminium price to be at \$2,500/ton in 2014e, and further assume an annual increase of 2% until 2030e (the average annual increase over 1990-2010 was 1.8%). The average price over the past 20 years was \$1,700/ton but ranged from almost \$1,000/ton in 1993 to above \$3,000 /ton at the peak of the cycle in 2008.

Exhibit 27: Aluminium price (historical vs. our future assumptions)

USD per ton (LME monthly data)



Source: Bloomberg, NCBC Research estimates

Although there is no guarantee that our assumption will turn out to be correct, we think the numbers used are a fair representation of market expectations. Today, aluminium 2014 futures are trading at around \$2,500/ton.

Beta estimate

Beta is a key input that we used to calculate the discount rate and is a proxy to how sensitive a stock is to the overall market. The mining industry, in general, is a highly volatile one due to its sensitivity to changes in the overall economic performance. This alone should keep the sector's beta above the average.

In our valuation model, we use an unlevered beta of 1.1 which is below the estimated beta of most other mining companies. We think this is appropriate as Maaden's cost advantage should make investors more comfortable investing in the company versus other mining groups.

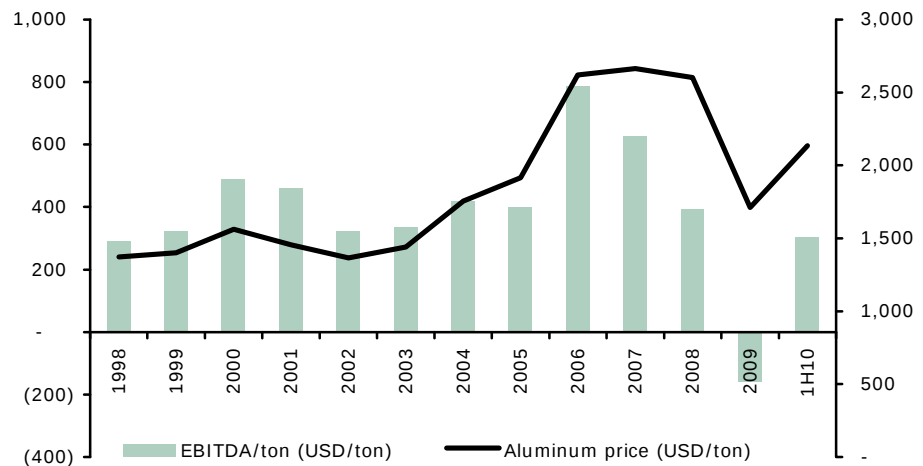
Although we use a flat unlevered beta of 1.1, our levered beta changes every year with the debt-to-equity level. This increases the cost of equity sharply at the early years of development before declining towards 1.1 as the company pays off debt. The impact of this rising beta is mostly offset by the increasing proportion of cheap debt which results in an almost flat weighted average cost of capital.

The margins issue

Maaden will have a cost advantage over all other global and regional producers as a result of the low cost of energy (electricity is by far the largest cost component in aluminium production) and the integrated model (from mine to metal) will give Maaden an advantage over the other regional/global producers.

Exhibit 28: Alcoa's EBITDA/ton (primary aluminium) vs. aluminium price

In USD/ton



Source: Alcoa, NCBC Research

For Alcoa, the direction of EBITDA per ton is determined by the changes in aluminium price; however, the magnitude of change is much higher (in both directions). This is basically the impact of the operating leverage driven by the fixed cost components.

From 1998-2008, Alcoa's EBITDA/ton (for the primary aluminium segment only) averaged around \$440. Factoring the impact of the global crisis by adding 2009 and 2010, this goes down to \$383/ton resulting in an average operating margin of 8.9% over 1998-2009. We think Maaden should face a similar pattern; although EBITDA/ton should be a lot higher due to its cost advantage

It should not be a surprise to know that Maaden will be able to generate substantially higher margins compared to other aluminium producers. Our cost assumptions imply a sustainably high EBITDA margin around 50% which is a sharp contrast to what Alcoa (or any other producer) has been, or will be able, to generate.

The return on investment story

Despite the expected high margins of the project, the project does not sound as compelling to equity investors when returns are considered. As we highlighted earlier in the "The logic" section, we believe returns not margins are the key value drivers for this type of project.

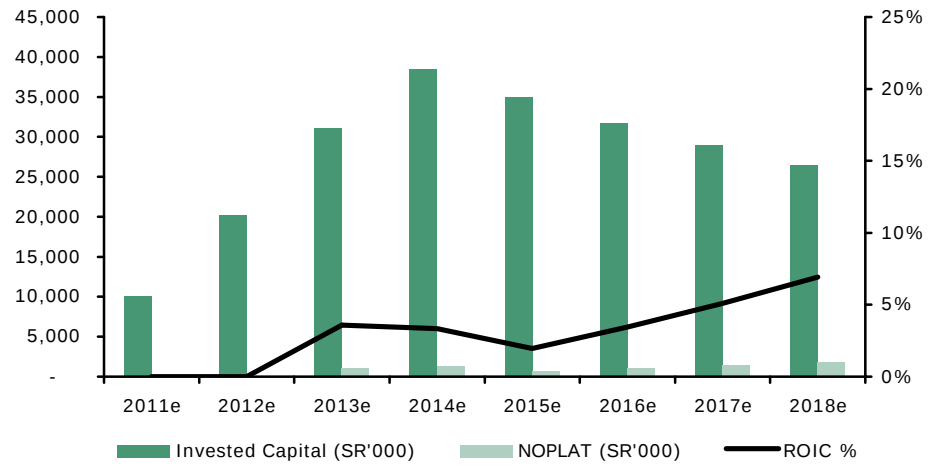
Maaden (and Alcoa) will have to invest SR40.5bn in order to benefit from the potentially high margins. For investors, the key question should be: what is the expected return on that? We think the answer is not much given the risk profile.

From the chart below, it is clear that NOPLAT (net operating profit less adjusted tax) is going to be small relative to the required invested capital, despite the very

high margins. This low return is our source of concern when it comes to the economic profitability of the project.

Exhibit 29: We estimate return on investment to be low, despite high margins

SR'000 (LHS), % (RHS)



Source: NCBC Research estimates

It might also be beneficial to present the company's own estimate of NPV of the original project (from the IPO prospectus in 2008). According to the below table, the project is only economically feasible if the required rate of return is below 8.0%. We think this is a low required return for a sector with such high volatility.

Exhibit 30: Maaden's estimate of NPV of the original aluminium project

Discount rate %	NPV (USD mn)	NPV (SR mn)	NPV / share (SR)
9.0	- 690	- 2,588	- 2.80
8.0	-113	- 424	- 0.46
7.0	+ 614	+ 2,303	+ 2.49
6.0	+1538	+ 5,768	+ 6.24
5.0	+2721	+ 10,204	+ 11.03

Source: Maaden IPO prospectus (2008), NCBC Research

However, it is also important to note that the current project should be more profitable than the original detailed in the IPO prospectus (and detailed above) as the amount that was going to be invested in building the power plant (not a revenue source) is going to be used now in building a rolling mill (a revenue source). This should improve the economics of the business. However, we still think the impact of that change is not large enough to provide an acceptable return on investment.

Appendix

Exhibit 31: Aluminum industry data

	2002	2003	2004	2005	2006	2007	2008	2009	2010E	2011E	2012E	2013E
Historical consumption of primary aluminum, '000 tones												
North America	6,437	6,504	7,169	7,146	7,190	6,483	5,991	4,546	5,132	5,514	5,872	6,176
C&S America	904	941	1,087	1,185	1,231	1,402	1,533	1,424	1,559	1,673	1,789	1,898
Europe	7,498	7,923	8,304	8,503	8,949	9,449	8,812	6,466	7,234	7,549	7,961	8,356
Asia	10,044	11,581	13,083	14,350	16,275	19,759	20,163	21,039	24,971	27,356	29,918	32,468
Africa	372	382	391	426	495	519	573	497	565	613	655	701
Australasia	345	398	408	358	358	374	348	321	334	344	352	361
Total	25,600	27,729	30,442	31,968	34,498	37,986	37,420	34,293	39,795	43,049	46,547	49,960
Regional primary aluminum smelter production, '000 tones												
North America	5,452	5,514	5,110	5,382	5,333	5,642	5,783	4,759	4,702	4,543	4,496	4,620
C&S America	2,191	2,257	2,357	2,391	2,494	2,556	2,660	2,507	2,274	2,222	2,287	2,375
Europe	8,068	8,426	8,819	8,980	8,866	9,217	9,757	8,144	8,295	8,117	8,244	8,438
Asia	6,523	8,194	9,641	11,213	13,082	16,572	17,920	18,368	23,387	26,033	28,489	30,705
Africa	1,372	1,428	1,710	1,753	1,864	1,815	1,715	1,681	1,713	1,552	1,588	1,656
Australasia	2,170	2,198	2,246	2,252	2,274	2,315	2,296	2,211	2,267	2,290	2,294	2,294
Unallocated creep									(151)	(300)	(5)	124
Total	25,776	28,017	29,883	31,971	33,913	38,117	40,131	37,670	42,487	44,457	47,393	50,212
Regional primary aluminum smelter capacity, '000 tones												
North America	7,017	7,048	6,523	6,734	6,733	6,684	6,756	6,745	6,782	6,601	6,411	6,439
C&S America	2,239	2,324	2,372	2,425	2,529	2,604	2,757	2,773	2,741	2,764	2,768	2,768
Europe	8,164	8,542	8,962	9,158	9,277	9,515	10,099	10,286	10,312	10,319	10,512	10,741
Asia	6,947	9,617	12,134	13,899	15,429	18,098	21,077	24,305	28,742	33,109	36,356	38,396
Africa	1,611	1,759	2,024	2,073	2,113	2,150	2,158	2,165	2,165	2,177	2,181	2,204
Australasia	2,159	2,172	2,243	2,280	2,308	2,324	2,332	2,344	2,366	2,366	2,366	2,366
Unallocated creep											295	324
Total	28,137	31,462	34,258	36,569	38,389	41,375	45,179	48,618	53,108	57,336	60,889	63,238
Regional primary aluminum smelter utilization rate %												
North America	77.7	78.2	78.3	79.9	79.2	84.4	85.6	70.6	69.3	68.8	70.1	71.8
C&S America	97.9	97.1	99.4	98.6	98.6	98.2	96.5	90.4	83.0	80.4	82.6	85.8
Europe	98.8	98.6	98.4	98.1	95.6	96.9	96.6	79.2	80.4	78.7	78.4	78.6
Asia	93.9	85.2	79.5	80.7	84.8	91.6	85.0	75.6	81.4	78.6	78.4	80.0
Africa	85.2	81.2	84.5	84.6	88.2	84.4	79.5	77.6	79.1	71.3	72.8	75.1
Australasia	100.5	101.2	100.1	98.8	98.5	99.6	98.5	94.3	95.8	96.8	97.0	97.0
Total	91.6	89.1	87.2	87.4	88.3	92.1	88.8	77.5	80.0	77.5	77.8	79.4

Source: Alba prospectus 2010, NCBC Research estimates

Financials

Exhibit 32: Income statement

In SR millions, unless otherwise stated

	2009	2010E	2011E	2012E	2013E	2014E
Total sales	634	698	3,262	5,423	14,515	14,994
% change	37.9	10.1	367.3	66.2	167.6	3.3
Cost of sales	(306)	(302)	(1,740)	(3,226)	(8,791)	(8,181)
Gross profit	328	396	1,522	2,198	5,724	6,813
Other operating costs	(284)	(321)	(446)	(568)	(2,825)	(3,655)
Operating profit	44	75	1,076	1,630	2,899	3,159
Dep. & Amortization	108	189	967	1,823	3,851	4,662
EBITDA	152	264	2,044	3,452	6,750	7,821
Murabaha Income	314	175	225	206	148	183
Interest expense	-	-	-	(445)	(1,265)	(1,381)
Minority interest	5	2	(282)	(429)	(543)	(565)
EBT	363	252	1,019	961	1,240	1,396
Tax (Zakat)	(269)	(135)	(153)	(48)	(31)	(35)
Normalized net income	95	117	866	913	1,209	1,361
Non-recurring items	300	-	-	-	-	-
Reported net income	395	117	866	913	1,209	1,361
% change	-53.4	23.3%	641.3	5.4	32.3	12.6

Source: Company, NCBC Research estimates

Exhibit 33: Balance sheet

In SR millions, unless otherwise stated

	2009	2010E	2011E	2012E	2013E	2014E
Cash	3,371	2,535	2,034	1,305	1,610	1,506
Short term investments	8,148	10,142	8,134	5,221	6,441	6,025
Accounts receivable	32	71	106	171	444	458
Inventory	206	227	1,305	2,419	6,593	6,136
Other current assets	375	394	407	423	442	462
Current assets	12,131	13,369	11,986	9,539	15,531	14,587
Non-current assets	17,098	19,555	28,927	37,287	43,618	49,138
Total assets	29,230	32,924	40,913	46,826	59,149	63,726
Accounts payable	623	616	975	1,347	2,739	2,586
Other current liabilities	1,282	1,017	1,137	1,265	1,843	1,743
Current liabilities	1,906	1,633	2,113	2,612	4,581	4,329
Total debt	8,783	12,613	18,979	23,039	31,628	34,516
Other liabilities	176	198	193	205	217	232
Total liabilities	10,865	14,444	21,285	25,856	36,427	39,077
Share capital	9,250	9,250	9,250	9,250	9,250	9,250
Additional paid in capital	5,250	5,250	5,250	5,250	5,250	5,250
Minority interest	1,782	1,781	2,063	2,492	3,034	3,600
Reserves & surplus	2,082	2,199	3,066	3,979	5,188	6,549
Shareholders' equity	18,365	18,480	19,628	20,971	22,722	24,648
Total equity & liab	29,230	32,924	40,913	46,826	59,149	63,726

Source: Company, NCBC Research estimates

^ We assume 0% dividends payout. However, as capex requirements decline over the years, we would expect the company to pay dividends which will result in a decline in excess cash balances.

Exhibit 34: Cash flow statement

In SR millions, unless otherwise stated

	2009	2010E	2011E	2012E	2013E	2014E
EBITDA	152	264	2,044	3,007	5,485	6,440
Extra ordinary items	300	-	-	-	-	-
EOSB	13	21	11	12	13	14
Severance fees	(17)	-	-	-	-	-
Accounts receivable	(11)	(40)	(35)	(65)	(273)	(14)
Inventory	(36)	(21)	(1,078)	(1,114)	(4,174)	458
Prepayments	508	(51)	(18)	(19)	(20)	(22)
Accounts payable	(658)	(8)	360	372	1,392	(152)
Accrued expenses	(114)	(131)	120	127	578	(100)
Zakat payable	-	(269)	(153)	(48)	(31)	(35)
Others	(0)	0	(15)	-	-	-
Operating cash flows	138	(234)	1,235	2,271	2,969	6,589
Additions to PPE	(7,166)	(1,626)	(10,340)	(10,182)	(10,182)	(10,182)
Additions to pre-operating exp.	(1,136)	(1,010)	-	-	-	-
Received income from invest.	386	184	230	209	150	184
Investing cash flows	(7,903)	(2,452)	(10,110)	(9,973)	(10,032)	(9,998)
IPO proceeds	-	-	-	-	-	-
Dividends	-	-	-	-	-	-
Change in debt	7,963	3,830	6,366	4,060	8,588	2,888
Change in minority interest	-	-	-	-	-	-
Financing cash flows	7,963	3,830	6,366	4,060	8,588	2,888
Net cash flows	197	1,145	(2,509)	(3,642)	1,526	(521)
Opening balance	11,335	11,532	12,677	10,168	6,526	8,052
Cash transfers from MPC	-	-	-	-	-	-
Closing balance	11,532	12,677	10,168	6,526	8,052	7,531

Source: Company, NCBC Research estimates

^We treat short term investments as cash from a cash flow perspective, although they are separate on the balance sheet.

Exhibit 35: Key ratios

In SR millions, unless otherwise stated

	2009	2010E	2011E	2012E	2013E	2014E
Per share ratios(SR)						
Shares outstanding	925	925	925	925	925	925
Reported EPS	0.4	0.1	0.9	1.0	1.3	1.5
Normalized EPS	0.1	0.1	0.9	1.0	1.3	1.5
FCF per share	(8.40)	(2.90)	(9.59)	(8.33)	(7.64)	(3.69)
Div per share	-	-	-	-	-	-
Book value per share	19.9	20.0	21.2	22.7	24.6	26.6
Valuation ratios(x)						
P/E	214.7	174.1	23.5	22.3	16.8	14.9
Implied P/E	164.4	133.3	18.0	17.1	12.9	11.4
P/FCF	(2.6)	(7.6)	(2.3)	(2.6)	(2.9)	(6.0)
P/BV	1.1	1.1	1.0	1.0	0.9	0.8
EV/sales	32.1	29.1	6.2	3.8	1.4	1.4
EV/EBITDA	134.1	77.1	10.0	5.9	3.0	2.6
Div yield (%)	-	-	-	-	-	-
Profitability ratios (%)						
Gross margins	51.7	56.7	46.7	40.5	39.4	45.4
Operating margin	7.0	10.7	33.0	30.0	20.0	21.1
EBITDA margins	23.9	37.8	62.6	63.7	46.5	52.2
Net profit margins	14.9	16.7	26.6	16.8	8.3	9.1
ROE	0.5	0.6	4.4	4.4	5.3	5.5
ROA	0.3	0.4	2.1	2.0	2.0	2.1

Source: Company, NCBC Research estimates



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Overweight:	Target price represents expected returns in excess of 15% in the next 12 months
Neutral:	Target price represents expected returns between -10% and +15% in the next 12 months
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Price Target:	Analysts set share price targets for individual companies based on a 12 month horizon. These share price targets are subject to a range of company specific and market risks. Target prices are based on a methodology chosen by the analyst as the best predictor of the share price over the 12 month horizon

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