

19 July 2011

Produced by: RBS Equities (Australia) Limited

# Alkane Resources

## Heavy lifting

### Buy

**Target price**  
A\$3.12 (from A\$3.01)

**Price**  
A\$2.08

**Short term (0-60 days)**  
n/a

We have increased our heavy rare earth price deck on the back of our forecast of a lagged supply response. The positive impact on our valuation has been partly offset by an increase in our capex forecast. We maintain the view that the risk/reward balance for ALK remains a compelling investment proposition.

#### Key forecasts

	FY09A	FY10A	FY11F	FY12F	FY13F
EBITDA (A\$m)	2.12	7.51	-8.30	-10.0	-11.0 ▼
Reported net profit (A\$m)	11.00	7.79	-5.39	-9.46 ▼	-42.0 ▼
Normalised net profit (A\$m) <sup>1</sup>	2.30	7.79	-5.39	-9.46 ▼	-42.0 ▼
Normalised EPS (c) <sup>1</sup>	0.85	2.90	-2.00	-3.52 ▼	-15.6 ▼
Normalised EPS growth (%)	n/a	239.0	n/a	75.60	343.9
Dividend per share (c)	0.00	0.00	0.00	0.00	0.00
Dividend yield (%)	0.00	0.00	0.00	0.00	0.00
Normalised PE (x)	243.6	71.80	n/m	n/m	n/m
EV/EBITDA (x)	261.8	73.90	n/m	n/m	n/m
Price/net oper. CF (x)	-1,720	72.00	-87.6	-63.4	-20.9 ▼
ROIC (%)	5.26	13.40	-14.2	-17.7	-4.31

Use of ▲ ▼ indicates that the line item has changed by at least 5%.

year to Dec, fully diluted

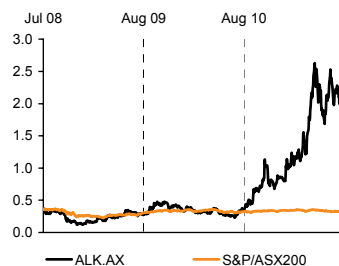
1. Pre non-recurring items and post preference dividends

Accounting standard: GAAP

Source: Company data, RBS forecasts

#### Price performance

	(1M)	(3M)	(12M)
Price (A\$)	2.40	2.26	0.33
Absolute (%)	-13.3	-8.0	530.3
Rel market (%)	-13.1	0.1	523.4
Rel sector (%)	-16.7	-1.1	354.5



#### Market capitalisation

A\$559.58m (US\$596.36m)

#### Average (12M) daily turnover

A\$2.42m (US\$2.48m)

Sector: BBG AP Mining  
RIC: ALK.AX, ALK AU  
Priced A\$2.08 at close 19 Jul 2011.  
Source: Bloomberg

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#### Heavy rare earth prices increased

We have decoupled our light and heavy rare earth price forecasts to more accurately reflect our forecast supply response. We believe heavier rare earth prices will maintain at elevated levels for longer than we previously forecast. We have also increased our long-term heavy rare earth price to US\$70/kg (from US\$50/kg), which compares with spot prices of up to US\$3500/kg for terbium and US\$1500/kg for dysprosium and US\$155/kg for yttrium.

Needless to say, we feel our new price deck remains conservative.

#### MOUs and definitive feasibility study (DFS) remain as potential near-term catalysts

We remain confident that further MOUs for off take are likely near term. This is particularly relevant for ALK as its Dubbo project has a 75-year mine life based on current resources, and is therefore able to sustain expanded production should the market be able to absorb it. We expect the DFS to be released near term, which we believe will show a robust economic argument for development.

#### Capex forecast for Dubbo Zirconia Project increased

We have increased our capex forecast substantially to A\$800m, from A\$450m. This is well in excess of the company's May guidance of A\$400m-500m. In line with capex inflation across the mining sector, we believe it is prudent to be conservative on this front. However, due to the high grade and long mine life of the DZP, such an increase does not impact the viability of the project, based on our forecasts.

#### Investment view – Buy maintained

The supply/demand dynamic of ALK's key commodity exposures remain tight. This will contribute to the company achieving a favourable financing outcome towards the end of the year, which could be a key catalyst, in our view. Our valuation factors in a 30% discount for financing and development risk, which we will reassess once project capital has been raised.

Important disclosures can be found in the Disclosures Appendix.

## Changes to earnings and valuation

We have pushed back production by 3 months in recognition of a backlog of mining lease applications in NSW pending approval. We now forecast first sales occurring in 1Q14, ramping up to nameplate production over 12 months. This reduces FY13 earnings, while the impact of lower production in FY14 is offset by higher forecast heavy rare earth prices. The net impact to our valuation is a 3% increase to A\$3.12ps.

**Table 1 : Changes to earnings and valuation**

	2010A	2011F	2012F	2013F	2014F	NPV (A\$ps)
Normalised NPAT (A\$m) - revised	7.8	-5.4	-9.5	-42.0	221.1	3.12
Normalised NPAT (A\$m) - previous	7.8	-5.4	-8.9	26.4	168.8	3.01
Change (A\$m)	0.0	0.0	-0.5	-68.5	52.3	0.10
Change (%)	0%	0%	6%	-259%	31%	3%

Source: Company data, RBS forecasts

## Supply response to start with lighter rare earths

We highlight that rare earth production accounts for roughly 30% of ALK's revenues at long-term prices. The balance coming from niobium and zirconia.

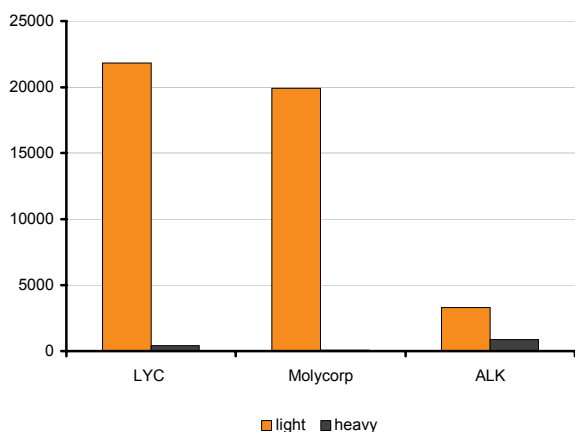
We have modelled global supply growth of the individual rare earth elements. In our view, it is clear from observation of reserves and resources of current and near-term production that the supply response will be skewed towards the lighter rare earth elements.

**Table 2 : Globally significant rare earth deposits with existing or near term production**

Company	Baiyun Obo - Inner Mongolia	Longnan Jiangxi	Mount Weld	Mountain Pass	Dubbo	
	Baotou	CMM	Lynas	Molycorp	Alkane	
<b>% of contained REO</b>						
<b>light</b>	lanthanum	23.0	1.8	25.5	33.2	19.5
	cerium	50.0	0.4	46.7	49.1	36.7
	praseodymium	6.2	0.7	5.3	4.3	4.0
	neodymium	18.5	3	18.5	12.0	14.1
<b>heavy</b>	europium	0.2	0.1	0.4	0.1	0.0
	terbium	0.1	1.3	0.1	trace	0.3
	dysprosium	0.1	6.7	0.1	trace	2.0
	yttrium	trace	65	0.3	0.1	15.8
		<b>producing</b>	<b>producing</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>

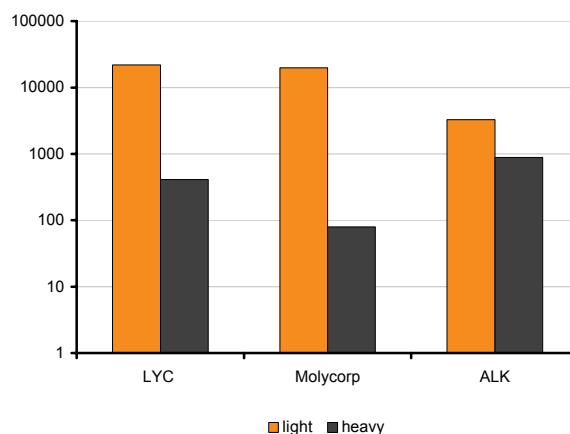
Source: Company data, IMCOA

**Chart 1 : Light and heavy rare earths at full production**



Source: RBS forecasts

**Chart 2 : Light and heavy rare earths at full production (logarithmic scale)**



Source: Company data, RBS forecasts

## China the swing factor

In our production growth forecasts below, we assume China will grow production by 7% CAGR for Inner Mongolia production (mainly light rare earths) and 5% CAGR for Ion Adsorption Clay deposits, which have a larger heavy rare earth fraction. This is in contrast to policy announcements by the Chinese statutory bodies and, in our view, suggests our Chinese supply forecasts are bullish.

### China policy suggests more constrained production growth

On 20 May, the Chinese State Council and the Commerce Ministry announced that they won't approve any new projects, or the expansion of existing ones, in rare earth separation over the next five years. Further reports suggest no new mining licences will be granted until 2012. In light of Chinese policy, it is quite possible that our global supply numbers may be too high, which suggests that prices may remain at elevated levels for longer than we have forecast.

**Table 3 : Year-on-year global production growth**

	Element	2011F	2012F	2013F	2014F	2015F	
light	lanthanum	8%	13%	26%	10%	5%	
	<b>CAGR</b>					<b>12%</b>	
	cerium	9%	14%	29%	11%	5%	
	<b>CAGR</b>					<b>13%</b>	
	praseodymium	8%	14%	28%	12%	5%	
	<b>CAGR</b>					<b>13%</b>	
	neodymium	7%	11%	19%	10%	6%	
	<b>CAGR</b>					<b>11%</b>	
	samarium	10%	24%	53%	8%	6%	
	<b>CAGR</b>					<b>19%</b>	
	heavy	europium	6%	13%	23%	12%	4%
		<b>CAGR</b>					<b>11%</b>
		gadolinium	6%	22%	39%	28%	7%
		<b>CAGR</b>					<b>20%</b>
terbium		5%	6%	7%	9%	6%	
<b>CAGR</b>						<b>7%</b>	
dysprosium		5%	5%	6%	10%	7%	
<b>CAGR</b>						<b>7%</b>	
yttrium		5%	5%	5%	10%	7%	
<b>CAGR</b>						<b>6%</b>	

Source: Company data, Chinese Society of rare earths, USGS, Lenntech, IMCOA, RBS forecasts

**Table 4 : Cumulative growth**

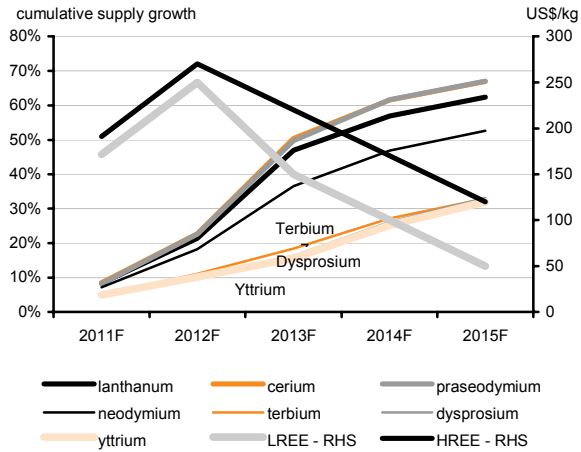
	Cumulative growth	2011F	2012F	2013F	2014F	2015F
light	lanthanum	8%	21%	48%	58%	63%
	cerium	9%	23%	51%	62%	68%
	praseodymium	8%	23%	51%	62%	68%
	neodymium	7%	18%	37%	47%	53%
	samarium	10%	34%	87%	95%	101%
heavy	europium	<b>6%</b>	<b>19%</b>	<b>42%</b>	<b>54%</b>	<b>58%</b>
	gadolinium	<b>6%</b>	<b>28%</b>	<b>67%</b>	<b>95%</b>	<b>102%</b>
	terbium	<b>5%</b>	<b>11%</b>	<b>18%</b>	<b>28%</b>	<b>33%</b>
	dysprosium	<b>5%</b>	<b>10%</b>	<b>16%</b>	<b>26%</b>	<b>33%</b>
	yttrium	<b>5%</b>	<b>10%</b>	<b>16%</b>	<b>25%</b>	<b>32%</b>

Source: Company data, Chinese Society of rare earths, USGS, Lenntech, IMCOA, RBS forecasts

## Light rare earths to decouple as new production comes on line

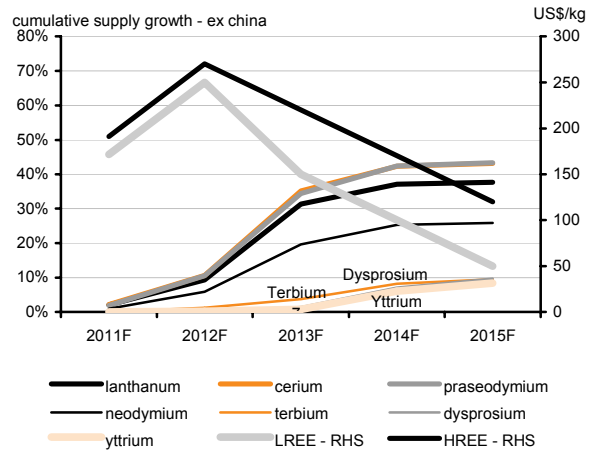
In light of new near-term production being skewed towards the lighter rare earths, we have decoupled our light and heavy rare earth price profiles to better reflect the supply response. We expect a relatively sharp correction in light rare earth prices as new supply from LYC and Molycorp comes on line over the next two years.

**Chart 3 : Supply growth vs REE price forecasts**



Source: RBS

**Chart 4 : Supply growth ex-China growth vs REE price forecasts**



Source: RBS

## Long term heavy rare earth price increased

We have increased our long term heavy rare earth price to US\$70/kg (from US\$50/kg). In modelling achieved prices for ALK, we assign separate light rare earth element (LREE) and heavy rare earth element (HREE) basket prices. The elements of each basket are as follows:

**Table 5 : RBS basket weightings**

Element	LREE weighting
lanthanum	28.7%
cerium	41.0%
praseodymium	5.6%
neodymium	23.9%
samarium	0.8%
	<b>HREE weighting</b>
europium	3.7%
gadolinium	14.2%
terbium	2.3%
dysprosium	13.9%
yttrium	65.9%

- LREE – La, Ce, Pr, Nd, Sm
- HREE – Eu, Gd, Tb, Dy, Y

It's important to note that for ALK's project, the majority of the heavy rare earth tonnage is attributable to yttrium (Y). This is consistent with heavy rare earth deposits currently producing in China. The yttrium spot price is about US\$150/kg, which is more in line with lighter rare earth spot prices of lanthanum and cerium. This, in turn, explains why our heavy rare earth price profile is more comparable to light rare earth spot prices than those of terbium and dysprosium which are trading at US\$1500/kg and US\$3500/kg respectively.

### Yttrium supply response tied to heavy rare earths

Yttrium has a chemical association with the heavier rare earth elements. In terms of future pricing, the key difference between yttrium and the lighter rare earths is in the supply response. None of the western projects approaching production near term have meaningful yttrium content. Thus, yttrium prices should be sustained at higher levels than the lighter rare earth elements, for the foreseeable future.

**Table 6 : ALK rare earth basket (spot prices)**

Element	% of REO	spot price (2Q11)	weighted basket value (US\$/kg)
La	19.5	153	30
Ce	36.7	159	58
Pr	4.1	250	10
Nd	14.1	320	45
Sm	2.2	130	3
Eu	0.1	5880	4
Gd	2.2	180	4
Tb	0.3	4520	15
Dy	2.1	2850	58
Ho, Er, Yb, Lu	2.9		
Y	15.8	155	25
<b>Total</b>	<b>100</b>		<b>253</b>
<b>LREE basket value</b>			<b>146</b>
<b>% of total REO basket</b>			<b>77%</b>
<b>HREE basket value</b>			<b>106</b>
<b>% of total REO basket</b>			<b>18%</b>

Source: Company data, Industrial minerals,

### Environmental obligations to result in structurally higher costs

The Chinese State Council, in association with the Commerce Ministry announced in May, that it was state policy to consolidate 80% the rare earth industry into the hands of the three largest players in the Chinese domestic market, being Baotou, China Nonferrous Metal Mining Group and China Minmetals. The two key reasons for consolidation are:

- better regulation of production through stamping out illegal mining
- enforce improved environmental practices and regulations

Industry commentary suggests as much as 50% of the world's heavy rare earth production was sourced from illegal mining prior to 2008. The extraction method commonly used in the heavy rare earth rich regions in Southern China is insitu acid leach. In instances where environmental contingencies have been completely overlooked, mining has had a devastating effect on the environment. We believe the implementation and enforcement of environmental protocols will result in significantly higher operating costs for the sector relative to recent history. We have increased on heavy rare prices on this basis.

### Valuation and target price

Our DCF valuation for ALK has increased to A\$3.12ps from A\$3.01ps. We base our valuation on developing a 1Mtpa operation at the DZP and first production by 2014. We apply a 30% discount to our DZP valuation to reflect development risk. We do not factor in the development of the Tomingley or McPhillamy gold deposits, and we apply nominal option values for these. Upside risks to our valuation include lower capex and operating costs than we have forecast and higher commodity prices. Downside risks include delays in the finalisation of the DFS, securing project finance and lower commodity prices than we forecast.

## ALK – financial summary

Number of shares (m)	269	Dec Year End	2009A	2010A	2011F	2012F	2013F	2014F	2015F
Market capitalisation (A\$m)	565	NPAT Reported (A\$m)	11.0	7.8	-5.4	-9.5	-42.0	221.1	265.9
Enterprise value (A\$m)	546	NPAT Normalised (A\$m)	2.3	7.8	-5.4	-9.5	-42.0	221.1	265.9
Enterprise value (US\$m)	551	EPS (A¢)	0.9	2.9	-2.0	-3.5	-15.6	82.2	98.8
		CFPS (A¢)	-0.2	-0.8	-2.4	-114.8	-197.3	109.1	111.7
		DPS (A¢)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		P/E (x)	245.9	72.5	-104.8	-59.7	-13.4	2.6	2.1
		P/CF (x)	-1274.0	-252.9	-88.4	-1.8	-1.1	1.9	1.9
		EV/EBITDA (x)	260.2	73.4	-66.4	-55.1	-50.1	1.5	1.3
		EPS Growth	n/m	n/m	-169%	76%	344%	-626%	20%
		Yield (%)	0%	0%	0%	0%	0%	0%	0%
		<b>Production</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		Zirconia (kt)	0.00	0.00	0.00	0.00	0.00	9.26	13.72
		LREO (kt)	0.00	0.00	0.00	0.00	0.00	2.23	3.30
		HREO (kt)	0.00	0.00	0.00	0.00	0.00	0.68	1.00
		FeNb (kt)	0.00	0.00	0.00	0.00	0.00	2.17	3.22
		Total (kt)	0.00	0.00	0.00	0.00	0.00	14.34	21.24
		<b>Costs</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		DZP cash cost (A\$/t)	0	0	0	0	0	153	147
		DZP cash cost (US\$/t)	0	0	0	0	0	132	116
		<b>Assumptions</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		Zirconia (US\$/kg)	0.0	3.6	7.6	11.8	12.0	11.2	10.4
		LREO (US\$/kg)	0	28	171	250	150	100	50
		HREO (US\$/kg)	0	56	191	270	220	170	120
		FeNb (US\$/kg)	0	35	35	35	35	35	35
		AUD/USD	0.79	0.92	1.03	1.00	0.94	0.86	0.79
		<b>Profit &amp; Loss (A\$m)</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		Sales revenue	0	0	0	0	0	488	579
		Other revenue	4	10	0	0	0	0	0
		Total revenue	4	10	0	0	0	488	579
		Operating costs	-2	-2	-8	-10	-11	-113	-157
		EBITDA	2	8	-8	-10	-11	375	422
		Depreciation	0	0	0	0	-10	-21	-21
		EBIT	2	7	-8	-10	-21	353	400
		Net interest benefit / (expense)	0	0	1	-4	-39	-37	-21
		Pre-tax profit	2	8	-8	-14	-60	316	380
		Tax benefit / (expense)	0	0	2	4	18	-95	-114
		Profit after tax	2	8	-5	-9	-42	221	266
		Minorities	0	0	0	0	0	0	0
		NPAT (underlying)	2	8	-5	-9	-42	221	266
		Significant items	9	0	0	0	0	0	0
		NPAT (reported)	11	8	-5	-9	-42	221	266
		<b>Profitability Analysis (%)</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		EBIT margin	n/m	n/m	n/m	n/m	n/m	72%	69%
		EBITDA margin	n/m	n/m	n/m	n/m	n/m	77%	73%
		Effective tax rate	0%	0%	-30%	-30%	-30%	-30%	-30%
		ROA - EBIT / (total assets - cash)	5%	18%	-20%	-3%	-2%	42%	48%
		ROE - NPAT / equity	5%	17%	-9%	-19%	-125%	71%	44%
		<b>Cashflow</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		EBITDA	2	8	-8	-10	-11	375	422
		Operating cashflow	0	-1	-6	-9	-27	301	308
		Capex	-1	0	0	-300	-504	-8	-8
		Free cashflow	-1	-1	-6	-309	-531	293	300
		Investing cashflow	-5	1	0	-300	-504	-8	-8
		Financing cashflow	2	0	21	450	0	-200	-150
		Net Change in cash	-3	0	15	141	-531	93	150
		<b>Balance Sheet Analysis</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		Debt	0	0	0	450	450	250	100
		Equity	44	46	59	50	34	313	602
		Assets	45	47	61	503	486	566	703
		Cash	5	5	19	160	-370	-277	-127
		Net debt	-5	-5	-19	290	820	527	227
		<b>Gearing - net debt/equity</b>	<b>2009A</b>	<b>2010A</b>	<b>2011F</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>	<b>2015F</b>
		Gearing - net debt/ (net debt + equity)	-12%	-11%	-48%	85%	96%	63%	27%
		Net debt / EBITDA	-228%	-61%	231%	-2897%	-7458%	141%	54%
		EBIT / net interest	9	23	-14	3	1	-9	-20
		EBITDA / net interest	9	23	-14	3	0	-10	-21

Source: Company data, RBS forecasts

## Recommendation structure

Absolute performance, short term (trading) recommendation: A Trading Buy recommendation implies upside of 5% or more and a Trading Sell indicates downside of 5% or more. The trading recommendation time horizon is 0-60 days. For Australian coverage, a Trading Buy recommendation implies upside of 5% or more from the suggested entry price range, and a Trading Sell recommendation implies downside of 5% or more from the suggested entry price range. The trading recommendation time horizon is 0-60 days.

Absolute performance, long term (fundamental) recommendation: The recommendation is based on implied upside/downside for the stock from the target price and, except as follows, only reflects capital appreciation. A Buy/Sell implies upside/downside of 10% or more and a Hold less than 10%. For UK-based Investment Funds research, the recommendation structure is not based on upside/downside to the target price. Rather it is the subjective view of the analyst based on an assessment of the resources and track record of the fund management company. For research on Australian listed property trusts (LPT) or real estate investment trusts (REIT), the recommendation is based upon total return, ie, the estimated total return of capital gain, dividends and distributions received for any particular stock over the investment horizon.

Performance parameters and horizon: Given the volatility of share prices and our pre-disposition not to change recommendations frequently, these performance parameters should be interpreted flexibly. Performance in this context only reflects capital appreciation and the horizon is 12 months.

Market or sector view: This view is the responsibility of the strategy team and a relative call on the performance of the market/sector relative to the region. Overweight/Underweight implies upside/downside of 10% or more and Neutral implies less than 10% upside/downside.

Target price: The target price is the level the stock should currently trade at if the market were to accept the analyst's view of the stock and if the necessary catalysts were in place to effect this change in perception within the performance horizon. In this way, therefore, the target price abstracts from the need to take a view on the market or sector. If it is felt that the catalysts are not fully in place to effect a re-rating of the stock to its warranted value, the target price will differ from 'fair' value.

## Distribution of recommendations

The tables below show the distribution of recommendations (both long term and trading). The first column displays the distribution of recommendations globally and the second column shows the distribution for the region. Numbers in brackets show the percentage for each category where there is an investment banking relationship. These numbers include recommendations produced by third parties with which RBS has joint ventures or strategic alliances.

Long term recommendations (as at 19 Jul 2011)		
	Global total (IB%)	Asia Pacific total (IB%)
Buy	819 (13)	535 (4)
Hold	417 (8)	227 (4)
Sell	84 (5)	51 (0)
Total (IB%)	1320 (11)	813 (4)

Source: RBS

Trading recommendations (as at 19 Jul 2011)		
	Global total (IB%)	Asia Pacific total (IB%)
Trading Buy	1 (0)	1 (0)
Trading Sell	1 (0)	1 (0)
Total (IB%)	2 (0)	2 (0)

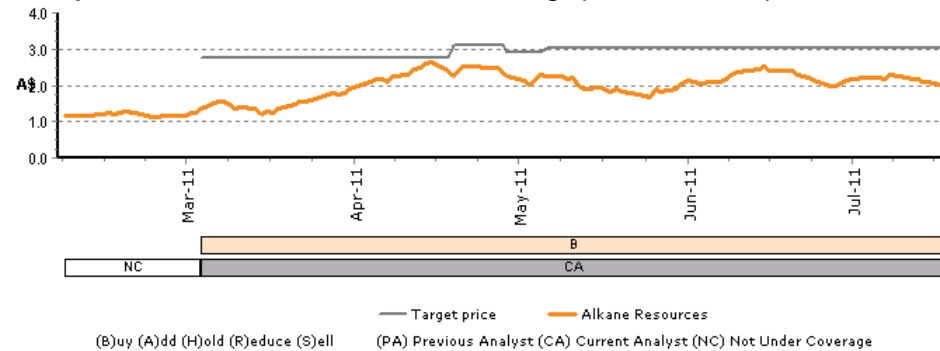
Source: RBS

## Valuation and risks to target price

**Alkane Resources (RIC: ALK.AX, Rec: Buy, CP: A\$2.08, TP: A\$3.12):** We value ALK using a DCF methodology. Upside risks to our target price include production and commodity prices exceeding our expectations. Downside risks include higher-than-forecast capex, commissioning and development delays, and lower-than-forecast commodity prices.

## Alkane Resources coverage data

### Stock performance, recommendations and coverage (as at 18 Jul 2011)



### Trading recommendation history (as at 19 Jul 2011)

Date	Rec	Analyst
	n/a	

Source: RBS

Sam Berridge started covering this stock on 3 Mar 11. New recommendation structure from 7 November 2005. Source: RBS

## Regulatory disclosures



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