

Sydney Mining Club Address
Oscar Groeneveld
The Surging Fortunes of Aluminium

Introduction

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First, let me thank the Sydney Mining Club for inviting me to talk to you today.

These are stirring times for miners; rarely has demand for so many of our minerals been so robust. For those of us who are used to the cyclical rise and fall of metal demand and prices, the current conditions are a departure from the norm.

There are two schools of thought about this; those who talk in terms of a longer term minerals supercycle powered by the engine of Chinese economic growth, and those who foresee a near-term correction as supply inevitably rises to meet demand. Given the constraints on a supply-side response for most commodities, I would suggest that a near-term correction is less likely.

In aluminium and alumina, although gains have been a little more modest than for copper and iron ore, we have not missed this surging tide. The inevitable question is, what happens when the tide recedes? What are the longer term prospects?

With that in mind, my talk today will focus on two main issues.

The first concerns the way in which Rio Tinto Aluminium is responding to the current opportunity.

The second is to look at the Aluminium equation over the longer term.

In particular, I'm going to touch on issues that I feel will determine the shape of tomorrow's aluminium industry. Then I'll describe two initiatives RTA has put in place to anticipate that future shape.

Aluminium – a recent phenomenon

Let me start with an observation – a paradox known to most of you, but not, I think, to the general public.

How is it that the second most important metal after iron and its alloys was only produced in industrial quantities in the last hundred years – long after mankind had learned how to smelt copper, iron, gold, silver, lead and zinc?

The question is all the more interesting when you remember that aluminium is the third most common element – and the most common metal – in the earth's crust.

The explanation lies in the extraordinarily strong bond that links an atom of aluminium to an atom of oxygen. It's a bond that can only be broken by a considerable amount of electricity. That is why this most plentiful of metals had to await the age of electricity before we could exploit its beauty, strength, lightness and resistance to corrosion.

Let me now give you a thumbnail sketch of Rio Tinto Aluminium and where we are going.

Rio Tinto Aluminium

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The first thing to be said is that we are part of a greater whole.

The Rio Tinto Group has six main product businesses; two of these, Aluminium and Iron Ore, have their global headquarters in Australia. Copper, Energy, Diamonds and Industrial Minerals are London-based.

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Rio Tinto has nearly 70 major operations around the world and its markets are globally diverse. As you can also see, over half of Rio Tinto's assets are in Australia and New Zealand.

RTA is similar to its parent Group in that, while it serves global markets, the bulk of its operations are in this part of the world. Like other Rio Tinto product groups, RTA is focused in the upstream side of its business, in the belief that mining, refining and smelting is what we can do best.

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Weipa bauxite

The genesis of Rio Tinto Aluminium was the discovery of the Weipa bauxite deposit on Cape York by Harry Evans, in 1955.

That remarkable discovery led to the creation of Comalco and this extraordinary deposit remains the basis for our global business. Given the extent of the reserves, I see no reason why it shouldn't continue to support a growing business for decades to come.

Today, Harry Evan's serendipitous discovery supports our interest in four smelters, and three refineries.

CAR

Last year saw the commissioning of stage one of the Comalco Alumina Refinery (CAR), and the Weipa mine was expanded to 16.5 million tonnes a year, for a combined expenditure of nearly A\$2 billion.

Weipa is currently building a new ship loader, to be commissioned next year, that will allow the port to load 25 million tonnes per annum from 2007.

CAR is the first greenfield alumina refinery to be built in Australia for many years. It was completed three months ahead of schedule and spot on its A\$1.5 billion budget.

CAR has been steadily ramping up production towards the plant's nameplate capacity of 1.4 million tonnes a year for stage one. We hope to more than double this capacity with our next project when we can justify that investment.

The new refinery is supplying alumina to the Comalco smelters and, of course, it has been commissioned at just the right time to satisfy growing Chinese demand for high quality alumina.

Here I'd like to point out that Comalco is not a newcomer to the Chinese market. We have been supplying alumina to Chinese smelters for over ten years from our share in the QAL refinery in Gladstone. We have been supplying metal for over twenty years.

The alumina market

The forecast is that world consumption of alumina is expected to grow at around 4.5 per cent over the next five years. It is probable that China will account for about half of that growth.

China currently imports about 50 per cent of the alumina needed to feed her growing number of smelters. China's alumina imports of 12 million tonnes in 2004 are forecast to increase to 20 million tonnes in 2010.

With alumina spot prices currently at \$600 a tonne, there would seem to be every incentive to enter the alumina business.

However, despite this inducement, we are seeing a cautious approach to adding new refining capacity by both existing and new players, other than in China, where several expansions are coming on line this year.

I think this hesitation has a lot to do with construction costs having increased substantially as a result of the current boom. This, plus material and labour shortages, has caused project planners to revisit their costings and schedules.

The aluminium market

How let's turn to the metal. The availability of electricity and its cost will determine which existing aluminium smelters remain competitive and where new smelters are built.

In the short to medium term, China will not affect global aluminium markets in the same way that it has for alumina. With ample smelting capacity, China is now meeting domestic markets for its metal and recent policy changes have deliberately discouraged aluminium exports.

In just a few years, that may well change as an increasingly urbanised China counts the energy and environmental costs of being self-sufficient. When that time comes, I think it quite likely that we shall see a long term shift to increasing imports of aluminium.

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In the meantime, demand is likely to increase roughly in line with global GDP, but that does not imply stability for the international smelting industry. Rising power costs are continuing to drive a historic trend for the smelter industry to migrate from OECD economies to developing economies that welcome industrialisation, and to locations that can supply competitively priced energy.

This scenario is currently being played out in Europe and North America where a number of smelter closures are planned or underway.

This retirement of older, higher cost smelters and the underlying growth in global demand is an opportunity for RTA. We are working hard to incrementally increase our capacity at low cost, through a series of technical upgrade projects at existing smelters.

Growth

You will not be surprised to learn, that we are also seeking to build new smelters – and that we are in the early stage of negotiation with potential hosts and partners. I'd like to tell you more about these projects – yes, I used the plural – but, for commercial reasons, I will not - at this stage of negotiations.

Needless to say the cost of energy will be a central consideration in any decision we make.

Summing this up, RTA is selling all the alumina and aluminium that its refineries and smelters can produce into a very strong market. Moreover, it is squeezing those assets for every extra tonne and planning to increase their output through production 'creep', and through brownfield and greenfield growth.

Sustainable development

Now, for the longer term.

I think that history will say that the global mining industry underwent a 'road to Damascus' experience in the latter years of the 20th century.

There was growing recognition that the public was disenchanted with mining and miners. Transnational companies in particular, were being blamed for every negative aspect – real or imagined – of globalisation.

A jointly funded international research programme, the Mining, Minerals and Sustainability Project, gave shape and substance to these fears. It seemed quite likely that hostility to mineral exploration and to mining would severely constrain the future of the industry.

Having identified the problem, the global industry collaborated, in what was an unprecedented way, to find ways to restore its damaged credibility through improved performance and more effective communication. An immediate outcome was representation at the UN Conference on Environment and Development, held in Johannesburg in 2002. Here, it was acknowledged that responsible resources development was vital to raising global living standards. How true that is today as we see the

commodities intensive mid-stage industrialisation of China with India to follow. Without resource developments the existing supply would be a serious constraint on future growth in these economies.

An outcome of the industry's examination of its role in society was the formation of the International Council for Mining and Metals (ICMM). One task of the ICMM is to represent the industry at the highest levels in the sustainable development debate. Another is to help its members share best practice in adapting to a world that wants business to demonstrate that economic progress does reflect cultural, social or environmental values.

Rio Tinto was a leader in this movement from its start. Our spread of operations and the variety of our products had brought us face to face with most of the issues that are covered by the concept 'sustainable development'.

Each Rio Tinto product group works to ensure our operations and products contribute to the global transition to sustainable development.

We need to be able to provide facts that support this. Let me give you an example.

Climate change

The world appreciates aluminium for its many virtues, it must do because each year we sell more of it.

However, the world is increasingly concerned about climate change and global warming. The latter, is being boosted by rising emissions of greenhouse gases. A sizeable proportion of these gases come from industry and in particular from electrical power stations that burn fossil fuels.

Somebody once described aluminium as ‘congealed electricity’.

So, despite the fact that only about one per cent of global emissions of GHGs can be attributed directly to the aluminium industry – and most of this to the smelting process - we do have a case to answer.

We can answer that case convincingly; but I will let you be the judge.

Improving Aluminium's environmental reputation

There is a fourfold path to reducing the GHG effects of manufacturing aluminium.

The first path has to do with the reduction of emissions. This we have addressed vigorously, to the extent that RTA's on-site emissions have fallen by 30 per cent since 1990 – and we are investing in resources to ensure that the downward trend continues.

As the accompanying slide shows, we were joined in this endeavour by others in the world aluminium industry.

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The second path involves increasing our energy efficiency. We can do this in various ways. One way is to reduce electricity consumption by designing a better cell for converting alumina into molten aluminium. Comalco's extensive research into drained cathode cell technology aims to do just that.

Thirdly, we collaborate with our colleagues in Rio Tinto Energy who are part of the fossil fuels industry's research into zero emissions technology. This won't happen overnight, but I'm sure that it will happen.

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The fourth pathway is to recycle aluminium – over and over again. Recycled, or secondary aluminium, needs about one twentieth of the energy that is required to produce primary aluminium. About 33 per cent of the aluminium products being produced today started as scrap metal. By 2020 that figure should rise to 40 per cent.

It is an interesting fact that over 500 million tonnes of the 700 million tonnes of aluminium produced since the start of commercial smelting in the 1880s remains in existence and use today. An enormous store of energy being constantly recycled.

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These pathways combine to address the impact that the production of aluminium has on our environment.

Aluminium's outstanding quality is the way it can be used to make a positive contribution to a more sustainable lifestyle. Its strength to weight ratio makes it a substitute for heavier materials. The subsequent savings in energy and transport emissions make aluminium an appropriate material for this emissions conscious age. It is estimated that the light-weighting of transport vehicles will provide enough fuel savings to make aluminium production "self-funding" in terms of emissions within 15 years.

The simple point I want to make is that a material that ultimately saves more energy than is used in its production has a great future.

Corporate Social Responsibility

We used to think that the mining industry's role in national economic development would earn it a respectful hearing. As I said earlier, we have learned that this is a dangerous fallacy.

Any business that invests on the scale of Rio Tinto knows that it must be able to demonstrate that it can meet community expectations of responsible behaviour in social, cultural and environmental areas – as well as create wealth for its owners.

The only way to resolve this is to demonstrate a business case for supporting such initiatives. I am going to mention two very different examples where RTA has entered into arrangements that provide no immediate economic return, but where I think that there is an obvious long term benefit to the company and to society.

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My first example of planning for a sustainable future has to do with strengthening relationships with Aboriginal communities. In particular, those communities from whose traditional territory Comalco obtains its bauxite.

Rio Tinto's policy is to recognise and engage with Aboriginal communities. Back when Weipa was discovered, there was a more paternalistic attitude to Indigenous Australians and native title was officially extinct. Cape York people had little say in how their land was used.

The Western Cape Communities Co-existence Agreement (WCCCA) was signed in March 2001. It saw the company voluntarily assume responsibilities for the promotion of regional development, local employment, training and youth education, cultural recognition and the return of rehabilitated land.

This agreement with traditional groups on Cape York was an expression of respect and trust as well as hope for the future. It was also a hard headed acknowledgement that our success could not be sustained without sharing it. A business that cannot devise a mutually beneficial relationship with its local community is thinking short term.

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Future Reef

My second example centres around the location of our operations near the Great Barrier Reef.

A good deal of RTA's research is driven, ultimately, by concern for climate change. Yet, it is generally acknowledged that the causes and the consequences of global warming are imperfectly understood.

For instance, we know relatively little about the way in which rising levels of CO₂ in the atmosphere will affect the oceans and marine life.

We do know that when carbon dioxide is absorbed in seawater, carbonic acid is formed and that this increases the acidity of the oceans. So it seems likely that there will be consequences. What will they be?

RTA entered into the Future Reef partnership with the University of Queensland's Centre for Marine Studies because the immediate focus of their Ocean Acidification Research Programme was the Great Barrier Reef. The company's bauxite carriers commute regularly between Weipa and Gladstone along the Reef. The vessels that take our alumina and aluminium to global markets cross the same waters. The health of the Reef matters to us, and we would like to help policy makers develop fact-based management practices that protect the reef. We are prepared to invest our money and our time in achieving that objective.

Perhaps the best way to tell you more is to show you a very short video that explains what the partnership brings to the reef, to RTA and to our employees.

[Run CD: "Future Reef"]

Conclusion

In conclusion, let me summarise my talk.

Aluminium and alumina prices have surged as a result of global and particularly Chinese economic growth.

RTA has profited from the current market. We are seeking growth opportunities to reinvest in value creating projects.

There are sound reasons for believing in the future of a metal that has so much to offer a world seriously concerned about the climate change impact of our emissions on this finite planet.

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