Aluminum: Quarry for Mining Companies

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Alcan South Pacific, via Associated Press - An Alcan alumina refinery in the Northern Territory of Australia. Alumina precedes aluminum.

Aluminum has always been something of an outsider in the mining industry. Its unusual cost structure leads some people to call it solidified electricity. A lightweight metal, its raw material, bauxite, is neither scarce nor particularly difficult to find and extract.

The recent offer of $38.1 billion for the aluminum giant Alcan by Rio Tinto, a British-Australian diversified mining company known for commodities like iron ore, may be a sign that aluminum is no longer an estranged cousin.

And Alcan may not be the end of the deal making. Alcoa, which was outbid by Rio Tinto and withdrew its hostile offer for Alcan, may itself become a target.

Like almost everything related to commodities, the possibility that North America's two large aluminum producers may enter the fold of mainstream mining is largely a result of China's voracious appetite for metals. But the story for aluminum may not be one in which China-based producers emerge triumphant.

In the short term, the boom in commodities has left diversified mining companies with an embarrassment of cash and market valuations that dwarf those of aluminum producers. The market capitalization of the Australian mining giant BHP Billiton is $197 billion, slightly more than five times Alcoa's current value.

If, or when, the current commodities rush wanes, aluminum may get its revenge on traditional mining. Over time, the highly concentrated aluminum industry has been much more successful at maintaining stable prices than markets for commodities like copper, currently trading at high levels. While that means that Alcan and Alcoa have missed the bonanza enjoyed by other metals producer, it also suggests that aluminum prices are unlikely to crash in a downturn.

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John Meyer, the head of mining equities at Numis Securities in London, said that for diversified mining companies, aluminum offered a form of insurance. "The hope is that there will be growth in the business," Mr. Meyer said, "and that growth will be a little more consistent and predictable than other metals."

Some in the mining industry maintain that BHP is the only company with the means to buy Alcoa, probably in the $50 billion price range, given Rio Tinto's offer for Alcan.

Mr. Meyer, however, said it might be possible that two other huge companies — Anglo American, the diverse South African-founded conglomerate now based in London, or Companhia Vale do Rio Doce of Brazil, which bought the Canadian nickel company Inco last year — may also have designs on Alcoa.

On Monday, the Brazilian company announced plans to build an alumina refinery in the northern part of the country with Hydro, a leading Norwegian producer of aluminum. It said in a statement that it had "strategic focus on bauxite and alumina."

Representatives of Alcoa and BHP both declined to comment, although reports last week from Australia suggested that BHP was not interested in bidding for Alcoa.

But an executive with knowledge of Alcoa's strategy, who spoke on condition of anonymity, said the company expected to receive a buyout offer, most likely from BHP.

The timing remains the unknown. Although there is no reason for BHP to be in a hurry to follow Rio Tinto's lead, a prolonged delay in making a bid for Alcoa would give other would-be purchasers time to organize financing. Coming up with cash is less of an issue for BHP, which posted earnings of $12.3 billion in the last 12 months.

Rio Tinto, if it acquires Alcan, and any mining company that buys Alcoa, will find themselves in some unfamiliar territory. On many levels, aluminum companies have much more in common with steel makers.

Across the industry, aluminum companies have three significant costs: bauxite, the raw ore that is refined into alumina; electricity, which smelters use to turn alumina into aluminum; and capital, used mostly to build smelters.

Like steel makers, but unlike most mining companies, Alcan and Alcoa also run large research and development operations to create products for customers including the automotive and aerospace industries. Even more distant from mining, the two aluminum companies manufacture and market products including packaging, truck wheels and aluminum foil.

China is the one country where aluminum production is not consolidated into a small number of large companies. Alcoa, Alcan and United Company Rusal of Moscow dominate the rest of the market. But China has become a major aluminum producer and is rapidly increasing production.

According to the International Aluminum Institute, 5.29 million tons of aluminum were produced in China in the first five months of the year compared with 3.86 million in the similar period of 2006. Global production in that time was over 11 million tons.

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Unlike in some other industries, China has only one advantage when it comes to making aluminum: its low capital requirements. A new smelter can be built in China for about a third the cost of one in North America.

Once a smelter is up and running everything changes. China relies mainly on high-cost, coal-burning power stations for its smelters' electricity. Alcan, by contrast, gets about half its power from low-cost hydroelectric dams.

In the current period of high prices and high demand for aluminum, China's power costs are not particularly problematic. But Mr. Meyer said that could quickly change if demand fell and China had surplus production.

"The cost of aluminum is really the cost of electricity," he said. "That's the reason why China is our friend."

In hard times, China's power costs make it among the highest-cost producers of aluminum. That, Mr. Meyer said, would make it hard for China to sell surplus aluminum on the world market. Nor, he added, is it likely to divert inexpensive hydroelectric resources to aluminum production when its electricity systems struggle to keep up with the needs of higher-value industries, like the Chinese aerospace companies that use aluminum from Alcoa to fabricate components for Boeing 737s.

In Mr. Meyer's view, the Chinese are much more likely to reduce the production of aluminum and import it in a slowdown. If he is correct, hard times for industry could mean even better times for Alcan, Alcoa and anyone who acquires them today.