



# The aluminium industry in West Africa

By Ronald W Graham

The West African aluminium industry is characterised by an extreme form of uneven development. Despite abundant natural resources no country possesses the complete production process.

In this article Ronald W Graham looks at the the historical background to this situation and outlines possible ways of creating an independent industry in the region.

Given West Africa's abundant hydro-power potential and its vast deposits of high quality bauxite scattered throughout Guinea, Ghana and Sierra Leone one would naturally expect the area to be far advanced in the development of a fully integrated and largely self-sufficient aluminium industry. One would also have assumed, given the significance of aluminium as one of a very small range of empirically verifiable industrial materials capable of acting as a catalyst of further industrial development, that the integration of the industry in these countries would have been a first priority in any strategy to escape the restrictions of mono-crop export economies. Yet neither assumption would be warranted given the existing pattern of resource exploitation, production and consumption and the inability of the West African ruling classes to transform the colonial economy inherited at the time of independence. The dynamic for the transformation of mineral-rich West African economies has thus been partially obscured by multinational dominance of the extractive sector and the absence of genuinely anti-imperialist movements to challenge this dominance.

Accordingly, the aluminium industry in West Africa today is characterised by an extreme form of uneven (and unequal) development whereby no single country possesses the complete production process from the mining of bauxite, through the production of alumina to the smelting of metal and the final fabrications of aluminium products. For example, Guinea exports bauxite and alumina but does not yet smelt aluminium; Sierra Leone exports only bauxite; Cameroon smelts aluminium but is obliged to import alumina while Ghana, with perhaps the most irrational production structure exports bauxite but imports alumina for the production of aluminium. Needless to say there are no linkages between these various countries involved in the industry. Finally, all West

African countries, with the notable exception of Cameroon, import their fabricating requirements from traditional suppliers in the West – usually the very same companies which exploit their raw materials. This uneven development of West African resources is, of course, no accident of history, but is rather the deliberate and direct consequence of the investment strategies adopted by the companies comprising the international aluminium oligopoly.

## The origins of the oligopoly

Historically, the aluminium industry first developed in the core capitalist countries of France, the US, Germany and the UK, in each case under the control of a single national monopoly. The control of technology and the profits which could be rapidly accumulated thereafter permitted these monopolies to develop large scale production processes which further lowered costs, raised profits and excluded would-be competitors. Monopoly control was quickly established over all available domestic energy sources and bauxite deposits to establish an exclusive basis for continued long-term expansion.

This situation remained basically unchanged until the Second World War created a vast new military market for the metal which the established companies could not satisfy. Rapidly rising demand accompanied by anti-trust activity by the US government, led to the emergence of several new major producers who sought and obtained state support to become independent of the major US monopoly – *Aluminium Company of America (ALCOA)*. ALCOA was subsequently forced to hive off its Canadian subsidiary – *Alcan Aluminium Ltd., (ALCAN)* – although in terms of share ownership and corporate policy the two companies adopted a complementary approach rather than one of direct competition. The emergence of *Kaiser Aluminium and Chemical Corpo-*

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### *The aluminium oligopoly*

ration and Reynolds Metals, supported by government subsidies, completed the reorganisation of the North American industry. In Europe, the French company Pechiney and the Swiss company Alusuisse proved to be the only two concerns capable of challenging North American hegemony in the international industry and by 1950 these six companies had come to dominate the production and consumption of aluminium. Today they control upwards of 60 per cent of the international market.

#### **The struggle to control bauxite deposits**

However, the artificial creation of competition and the vast expansion of capacity occasioned by the War and subsequently maintained by the development of a permanent war economy in the US, rapidly led to the exhaustion of domestic bauxite deposits and an impending shortage of cheap hydro-power for smelting at home. As the Cold War and national defence requirements came to dominate US foreign policy, one government adviser warned that:

"Aluminium has become the most important single bulk material of modern warfare... no war can be carried to a successful conclusion today without using and destroying vast quantities of aluminium... We must plan the aluminium capacity available to the whole free world of nations strictly in terms of this awful prospect."

The leading aluminium companies spurred on by the new competitive situation in the industry and assured of a ready market by government stockpiling policies began to turn their eyes abroad. The bauxite deposits of Guyana had come under monopoly control during the First World War and in the aftermath of the Second War the British were unable to prevent American companies from bringing the deposits of Jamaica under corporate control. By the 1950s, the



companies were looking further afield – towards the rich mineral and energy resources of West Africa. At this time several strategies were open to the companies. They could either exploit bauxite for shipment back to the alumina plants of the US for smelting at home or they could import alumina from their Caribbean operations for smelting in Africa. In either case there was clearly no intention of developing a fully integrated aluminium industry in the West African countries, nor of permitting any one country to vertically integrate the industry within its national boundaries, thus violating the control relationships of corporate integration. The strategy adopted in relation to each country ultimately depended on a combination of political, economic and strategic factors which were determined in turn by the production structure of each company. As late-comers to the industry Kaiser and Reynolds required both bauxite and hydro-power whilst the older North American companies of ALCOA and ALCAN required only bauxite having previously established control over the hydro-power resources of Canada and the US. Of the two leading European companies, Pechiney required overseas smelting capacity to complement domestic bauxite resources whilst Alusuisse, with

abundant domestic hydro-power resources, concentrated on the acquisition of foreign bauxite deposits.

#### **Political decolonisation opens up Africa to US economic penetration**

The political decolonisation of the European African empires presented the ideal opportunity for American industrial and finance capital to invest in the mineral and energy resources of West Africa. The new independent countries of West Africa wanted to "develop" and the norms of modernisation theory assured them that foreign capital investment was the easiest way to do so. And it is in this unhappy coincidence of interest between the investment policies of the new ruling classes in West Africa for capitalist investment that we can situate the main dynamic of contemporary underdevelopment in West Africa.

The vast bauxite deposits and potential hydro-power of West Africa had been discovered as early as in the first decades of this century. Yet, given the reluctance of the colonial powers to invest heavily in the industrial development of the colonies nothing was done to exploit this wealth. Various

private schemes, often of a speculative nature, had attempted to develop these resources but without metropolitan government support and without the participation of the aluminium companies who, as yet, had no need to look so far afield, little was achieved other than a recognition of the significance of the resources. Throughout this period, West Africa can be characterized as at best a "reserve supplier".

## GHANA

This situation remained unchanged until the Second World War, which created a rapidly rising demand for bauxite. Two bauxite mines were indeed opened up in the Gold Coast (Ghana) to meet Anglo-American requirements. These mines were financed by the Ministry of Munitions and operated by the British Aluminium Company (BAC). They maintained a steady output of 300,000 t/year throughout the war. However, after the war the major aluminium companies took a strong interest in Gold Coast bauxite and both the BAC and ALCAN took out concessions in the colony. Even Reynolds, the new American producer, was at one stage interested in bauxite and hydro-power concessions – an interest not exactly welcomed by the British government. But the main attraction in the Gold Coast was the Volta River Project – a river dam producing hydro-power which, in conjunction with the existence of local bauxite deposits, was capable of producing relatively cheap aluminium within the sterling area thus reducing Britain's growing dollar deficit with the US.

The Colonial Office and the Colonial Government both threw their weight behind the project and tried to induce the BAC and ALCAN (two "imperial" aluminium companies) to make the necessary investment. However, this attractive project was complicated both by the nationalist agitation of 1948, which eventually swept Nkrumah to power a decade later, and the hostility of the

US companies who did not want to be excluded from such an attractive investment.

The Americans had already demanded equal access to the mineral wealth of the empire and were fully prepared to use their financial stranglehold on Britain to ensure that their companies have free access to colonial minerals as set down in the Atlantic Charter. The Nationalist movement for its part objected to yet another colonial raw materials scheme from which the country would gain little or nothing. Accordingly, despite thorough investigation in the years preceding Independence, the scheme failed to come to life. Nkrumah was secretly negotiating with leading American companies while the British industry was suffering from a fatal financial crisis which was only finally resolved by the 1957 takeover of the BAC by the Reynolds group.

Ghanaian independence was greeted by a rush of aluminium companies anxious to pick up the Volta contract. Nkrumah believed that the Americans could construct the project more efficiently than the British and hoped that the project itself would provide the catalyst for the industrial transformation of the country. The Americans, on the other hand, faced with rising energy costs in the US were more interested in acquiring overseas smelting capacity with as low a power price as possible. These objective factors of competition and expansion within the industry were comfortably complemented by broader US political and strategic interests in Ghana – namely the "containment of communism". The US began to seriously assess the scheme and came to the conclusion that a US private enterprise, again supported by US loans, should construct and operate the smelter.

### The oligopoly dictate

Kaiser presented a blueprint along these lines but by this time the concept had changed from a multipurpose river pro-

ject to that of an aluminium scheme. Kaiser argued that to keep the costs down, only the most essential components of the project should be included. Thus the alumina plant was deferred and no account was taken of Ghana's own bauxite deposits. Finally, the very idea that Ghana should hold 40 per cent of the equity of the smelting company was rejected by the Americans. Nkrumah had hoped to play one company off against the other to maximise Ghana's returns from the project but instead the opposite had happened. The aluminium companies and the international lending agencies closed ranks and played off Ghana against other mineral rich countries wanting foreign investment and industrial development. A consortium of aluminium companies was formed in 1959 involving Kaiser, Reynolds, ALCOA and ALCAN and feasibility studies were prepared. However, as Nkrumah began to exercise his "left option" in 1961, doubts about the wisdom of investing over 100 M USD in Ghana grew. Gradually, the more timid members of the consortium withdrew until only Kaiser, with 90 per cent of the shares and Reynolds, with 10 per cent remained. Kaiser, in particular, still saw the possibility of vast profits. As one Kaiser official phrased it at the time:

"Where else could we have owned a 120,000 ton smelter, costing 150 M USD of which 85 per cent was supported by debt and 90 per cent of that was covered by the American government."

As it turned out, the two companies eventually invested only 22 M USD of their own money in the project. Obviously, the benefits and assurances which could be gained from acting in the interest of US foreign policy had not escaped Kaiser. American pressure on Nkrumah and domestic pressure to get the scheme started led Nkrumah to sign the Master Agreement early in 1962 although he clearly recognized that the

*The Akosombo dam has provided the US-based transnationals Kaiser Aluminum and Reynolds Metals with very cheap hydro-electric power, which has made their smelter near Tema in Ghana their most profitable smelting operation world-wide.*

scheme as then constituted was a far cry from Ghana's original hopes.

### **The Volta Project — as example of TNC strategy**

The Volta Project is thus, in many respects, a classic example of capital systematically searching out and exploiting the most favourable conditions for its own reproduction. Nkrumah, while initially hostile to British capital, later consummated an alliance with American monopoly capital in a mistaken attempt to transform the dependent economy. Unfortunately, the Volta Scheme could not satisfy the objective requirements of both the multinational corporations and Ghanaian development planning. A month after the inauguration of the Akosombo Dam, Nkrumah's one party state was overthrown by an American backed military coup and the ambitious seven year plan, of which the Volta Project was the cornerstone, was scrapped in favour of a western type model of industrial development. Since then, Ghana's attempts to integrate the industry within the country have met with no success. By the late seventies, and contrary to all expectations, *Ghana was running dangerously short of power and was faced with the possibility of importing power from neighbouring Ivory Coast!* Combining the myth of cheap and abundant power with the myth of Ghana possessing an integrated aluminium industry has led many observers to conclude that the Volta Scheme has been a tremendous success, or at least, that Ghana is better off with it than without it. As we shall see, neither conclusion is justified.

The possibility of an independent industrialisation process in Ghana has been severely compromised by the shortage of power, due to the high demand of the foreign owned smelter, and the uneven development of the productive forces, due to the unwillingness of Kaiser and Reynolds to integrate back-



wards to the mining and beneficiation stages. The Volta Scheme, through the extraction of surplus and the accumulation of debts, has thus intensified rather than relieved the structural dependence of the economy as a whole on foreign capital. The capital and technological inputs into the smelter in no way correspond to Ghana's internally determined development process. As such it can be characterized as "perverse growth", that is growth which undermines rather than enhances the potentialities of the economy for sustained long-term growth.

### **VALCO — a state within the state**

Since the opening of the smelter in 1967, VALCO has taken pride of place in Kaiser's "off-shore" operations. The company enjoyed a ten year tax holiday; has benefitted to an unusual extent from other fiscal concessions; faces no restrictions on the import of materials, the export of ingot metal and the repatriation of profits; it now supplies nearly 20 per cent of the company's ingot metal; is the company's (if not the industry's) lowest cost producer; is guaranteed power at pre-fixed rates (set in 1961); and until this year has been in little danger of expropriation by compli-

ant pro-US military and civilian regimes. In fact, the only danger to the continued prosperity of the company appears to lie in the imminent collapse of Ghana's infrastructure, as the country staggers from one foreign exchange crisis to the next. The interruption in power supply has already led to the temporary closure of the plant on at least two occasions. The first blackout was described by VALCO management as "... a heavy industrial disaster never before experienced in any part of the world". We can easily see why any interruption to the VALCO power supply is considered so serious.

VALCO's first expansion — the construction of the fourth potline — was completed in 1972 to take advantage of the installation of two additional generators at Akosombo. The second expansion — the installation of the fifth potline, raising capacity to 220,000 t/year — took place in 1977 in the expectation of further power from Ghana's recently constructed second hydro-power project at Kpong. In both cases, the provision of extra power to VALCO has meant additional investment by Ghana in power facilities. Yet, even today, power intensive heavy industries in Ghana remain on the drawing board for lack of power.

Of the power produced in Ghana, approximately 750 MW, over 60 per cent goes straight to VALCO, while Ghana requires an additional 1,200 MW for her own development plans. Meanwhile, in an entirely separate operation, Ghana continues to export an average of 300,000 tons of bauxite per annum to the BAC alumina plant in Scotland. However, while Ghana has exhibited the most irrational production structure of the alumina industry in West Africa, the other countries involved have similarly not realised the full potential benefit of their natural resource base. Of course the fact that bauxite is the most common mineral ore on the surface of the earth has further weakened the bargaining position of these countries.

## GUINEA

The most notable characteristic of the Guinean bauxite industry has been on the one hand the high level of government participation in the various mining ventures and on the other, the high level of cooperation between the world's largest bauxite mining companies in the exploitation of Guinean ore. Both characteristics stem from the well attested radical tendencies of the Guinean leadership. Indeed, in the late fifties and sixties, doubts about the direction in which Guinea would move stimulated a remarkable closing of ranks by the companies to spread the investment risk. Guinea's response to this new corporate strategy was to insist on at least a 49 per cent shareholding in mining projects. That the companies were prepared to accept this simply indicates the potential value of Guinea's huge deposits and the desire of every company not to be excluded from their exploitation. Guinea has also been able to exploit effectively east-west conflict and has encouraged Soviet and Yugoslavian state concerns to invest in Guinean bauxite.

By the 1950's and 1960's the leading aluminium companies were increasing-

ly coming into conflict with each other for access to and monopoly control over new and reliable sources of bauxite. Kaiser, Reynolds and ALCAN had all shared in the exploitation of Jamaican bauxite (one reason why these very companies were in no hurry to develop Ghanaian deposits), from which ALCOA as well as the leading European producers had been excluded. Meanwhile, on the other side of the world, survey work was only just beginning on the massive Australian deposits. Guinea, with the world's largest deposits seemed to be the ideal place from which to take incremental supplies. Indeed, the speed and level of the extraction of Guinean ore indicated a strong corporate desire to maximise the exploitation of the ore, minimise the political risks while simultaneously looking for alternative sources. The production statistics for Guinea presented below indicate these propositions.

During this period, Guinea came to supply 75 per cent of France's bauxite requirements and in 1976 surpassed Guyana as ALCAN's main supplier. In response the Guineans cast the investment net a bit wider to incorporate Arab interests in the hope that *world* dependence on Guinean bauxite would enable the country to press for the full integration of the industry.

ALCAN had taken an early lead in the development of Guinean bauxite taking out large concessions during the period of French colonialism. By the late 1950's ALCAN hoped to develop Guinean bauxite to supply the Volta aluminium smelter in Ghana. The companies did not want to integrate the in-

dustry in one country although, as we have seen, both Ghana and Guinea were perfectly capable, indeed were eminently suited, to developing an indigenous integrated industry. However, it was only the emergence of Sékou Toure as a radical leader in the mould of Nkrumah which finally dashed ALCAN's plans. By 1958, ALCAN had started preliminary work on the Sangaredi bauxite deposit but Independence the same year brought a sudden reversal to ALCAN's fortunes. "The new leadership was determined that the country should own part of any future mining operation and a substantial proportion of any supporting infrastructure... ALCAN departed temporarily from the scene."

The project was then picked up by one of the smaller US companies - Harvey Aluminium - but it was quickly realized that if economies of scale were to be realized other companies would have to be brought in. Guinea then reserved a 49 per cent interest in the company while the rest of the shares were distributed between ALCOA and ALCAN 27 per cent each, and Harvey, Pechiney, Vereinigte Aluminium Werke and Montecatini taking the rest. The companies then arranged a five year standby credit of 75 M USD from a consortium of banks headed by the Bank of America. Mining finally started in 1973, by which time the cost of the project had leapt to 400 M USD with the scale of production at nine million tons a year. With such a huge investment, backed by the full weight of international capital it was clear that the aluminium industry had taken over the dominant position in the Guine-

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### Production of bauxite and alumina in Guinea 1966-1976 (in kt)

	1966	1968	1970	1972	1974	1976
<b>Bauxite</b>	1,608	2,117	2,490	2,600	7,600	11,361
<b>Alumina</b>	523	540	610	663	636	562

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*The President of Guinea, Sekou Toure, inviting foreign investors to exploit the country's large bauxite deposits, at a meeting arranged by Chase Manhattan Bank in New York, July 1982.*

*Guinean bauxite exported by ALCAN. Below.*

an political economy. Yet, this scheme was only one of Guinea's operational mines. The other major mining venture at FRIA had an equally chequered career from the initial signing in 1958. The FRIA investment also brought together a remarkable coalition of aluminium companies this time including Pechiney, Alusuisse, Olin VAW and the BAC.

Mining started in 1960 and the venture quickly became the largest industrial undertaking in the country. Yet as a private investment the venture remained outside government regulation and could not therefore be incorporated in the government's development plan. It was estimated that only 12 per cent of the original investment was of any direct benefit to the country. On the other hand, the character of this new dependency was illustrated by the fact that the mine provided between 40 per cent and 60 per cent of Guinea's total exports in the early years. Suret-Canale referred to the scheme as a:

"... good example of an 'economic enclave'; with its own railways and port, FRIA lives, orientated to the outside world depending closely on the mother enterprises of Europe and America but totally independent of the African context".

Guinea, of course, started from a very small industrial base, yet the rapid development of the mining sector of the economy cannot be viewed as an example of self-sustaining industrial development. It was these typical features of underdevelopment which encouraged the Guinean leadership to attempt to alter the terms of the agreement. Not surprisingly, the negotiations were long and arduous and it was not until 1973 that Guinea was able to partially nationalize the FRIA operations. Indeed, it was only the size and quality of the depo-



sits and the determination of the leadership which enabled the Guineans to insist on 49 per cent ownership and 65 per cent of the profits. Nevertheless, despite becoming one of the world's largest exporters of bauxite, Guinea has so far been unable to complete the integration of the industry within the country.

### CAMEROON

Cameroon opened up the first West African aluminium smelter in 1957 at Edea, with ownership in the hands of Pechiney. Utilizing local hydro-power and alumina imported from France and later Guinea, the company, ALUCAM, increased production steadily to a maxim-

um output of 53,000 tons in 1963. Unlike the vast aluminium smelters of the North Americans, producing hundreds of thousands of tons of metal per year, this venture was much smaller in scale. It was first aimed towards the Cameroonian market and, secondly the wider West African market. Accordingly, with access to local metal, the Cameroonian fabricating industry developed eventually consuming up to two thirds of locally produced metal. This experience is in contrast to the historical experience of the Ghanaian fabricating industry. The Ghanaian industry had developed steadily until the overthrow of Nkrumah in 1966 saw the collapse of Ghana's industrialization plans and with them, the local fabricating industry. Production of consumer goods rapidly declined and has still not recovered to pre-1966 levels. VALCO, is of course not yet prepared to supply local fabricators with metal produced in Ghana.

### SIERRA LEONE

In the last West African country involved in the international aluminium industry – Sierra Leone – we find a similar combination of factors undermining the full development of the industry. During 1977, the Sierra Leone and Metal Company shipped a total of 846,000 tons of bauxite to the parent company, Alusuisse. Alusuisse is currently negotiating with the Government of Sierra Leone for a new mine in the north of the country at Port Lokko where approximately 100,000,000 tons of bauxite have been proved. In conjunction with this Alusuisse is also planning an alumina plant at Pepel. However, the terms of the two projects are strikingly different. Alusuisse has offered the government of Sierra Leone 50 per cent participation in the mine, whereas the alumina plant will be financed by an international consortium of companies led by Alusuisse. Clearly, the rules have not changed. ■