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SURVEY OF THE FINANCIAL SITUATION OF  
THE THIRD WORLD'S ALUMINIUM INDUSTRY

Magnus Ericsson, Raw Materials Group 87 09 27

Survey of the financial situation of the Third world's  
aluminium industry

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## SOUTH AMERICA

The growth of the South American bauxite-, alumina- and aluminium industry is likely to continue during the end of the 1980s. There are major project planned and underway in Venezuela, Brazil and Surinam. Bauxite capacity is projected to reach 17 Mt/year in 1990 and the smelter capacity could exceed 2Mt annually.

### Venezuela

The aluminium industry of Venezuela was originally set up in the late 1960s to use the cheap electric power available. When the Pijiguas bauxite mine will be opened in 1988 the local industry will comprise the complete production chain from bauxite to extrusion and foil plants. The most important companies are:

CVG Bauxita Venezolana CA (Bauxiven)

Interamericana de Alumina CA (Interalumina)

Aluminio del Caroni SA (Alcasa)

Venezolana de Aluminio CA (Venalum)

### Ownership

The industry is almost completely state controlled through the stateowned Corporacion Venezolana de Guyana (CVG) and the Venezuelan Investment Fund , Fondo de Inversiones de Venezuela (FIV). It is only in the newly formed Alusur, which the government do not have a majority share. Foreign minority interests are established in all companies except Bauxiven. Also in this respect Alusur is an exception in that the Austrian interest control as much as 49 per cent of the shares. See table 1.

### Bauxiven

The Pijiguaos bauxite project close to the Colombian and Brazilian borders expects to start mining 1 Mt annually in 1988 and reach its design capacity of 3 Mt in 1990. The 360 MUSD project is partly financed by a loan from the IADB. For details see table 2.

### Interalumina

Interalumina started producing alumina in 1983. It reached its installed capacity already the same year and plans to invest 300 MUSD to increase capacity from 1 Mt to 1.3 Mt/year. No details of how this project will be financed are known.

### Alcasa

Alcasa plans to invest 421 MUSD to construct a new potline and increase its aluminium capacity by 100 kt to 220 kt/year.<sup>1,9</sup> Banque Indosuez of France has already in 1986 granted a 110 MUSD loan guaranteed by the French export credit agency (Coface).<sup>2</sup> This credit has later been increased to 172 MUSD of which Banque Indosuez heads a consortium that gives a 30 30 MUSD unconditional loan.<sup>3</sup>

Reynolds has invested between 13-15 MUSD as its share of the project.<sup>4</sup> Local banks have supplied loans amounting to 520 M bolivars (70 MUSD).<sup>5</sup>

### Venalum

A capacity expansion is also planned for the Venalum smelter in Ciudad Guyana, which would add 140 kt and double its present capacity. The estimated total investment is a little less than 600 MUSD. The Venalum project is not yet finalized. The financing of the two projects, Alcasa and Venalum will, according to company sources, get the same type of financing. A third will be funded by FJV and/or CVG, the second third by the companies themselves and the final third by foreign capital.<sup>6</sup> Considering the balance sheet, which according to the Venalum president is one of the strongest in the industry, with long term debt of 72 MUSD in foreign currency and 600 M in local bolivars (app. 80 MUSD) and a LTD/E ratio of 0.88,

it should be possible to attract the foreign currency loans, which are necessary.<sup>7</sup>

#### Alusur

A project to construct a green field smelter has also been started. It is the Alusur venture which plans to invest 300 MUSD in a smelter to be completed in 1989.<sup>8</sup> The capacity is planned to be 120 kt annually. Pechiney has refused to participate with equity in the project.

#### Summary

If all these plans are realized Venezuela will become one of the most important aluminium producers in the world with a total capacity between 1-2 Mt towards the end of the century and after investing around 15 billion dollars (GUSD).

1. Engineering and Mining Journal May 1986
2. Mining Journal 86 10 24
3. Mining Journal
4. Mining Journal 86 03 21
5. Mining Journal 86 07 11
6. Mining Journal 86 05 16
7. Mining Magazine December 1986
8. Mining Journal 86 12 12
9. IBA Review, Vol 12 No 3 1987

Brazil<sup>1</sup>

The last ten years have been a period of quick growth for the Brazilian bauxite/alumina/aluminium industry. In the middle of the 1970s the idea of an integrated aluminium production in the Amazonas region of Brazil was launched. The project was based on:

- + Bauxite reserves in Trombetas
- + Hydroelectric power from the Tucuruí power plant
- + River transport

This grand project which is not yet completed has had an important influence on the development of the whole Brazilian aluminium industry.

The project was called Albras/Alunorte where the Albras part is the aluminium electrolytic plant and Alunorte the alumina plant. Before the construction of this giant complex was started two smaller projects Valesul and Alumar were completed. Of these two projects at least the Valesul can be seen as a pilot project for the Brazilian partner, CVRD, to gain technological experience and train professionals for the future Amazon project.

Valesul

In 1974 the initial plans for an aluminium smelter in Rio de Janeiro was presented by Reynolds. The Brazilian government demanded that CVRD would participate as the majority shareholder. The Valesul state company was founded with instructions to get three main capital sources: national public, national private and international private. The owners of the existing aluminium plant in Brazil, Cia Brasileira de Alumínio (CBA), viewed Valesul as a potential competitor and were reluctant to participate.

1. This section is based primarily on two reports prepared by Isabel Marques in February 1987, Valesul and Albras-Alunorte. Isabel Marques has also together with Paulo Sá published two important articles in Brasil Mineral, No 35,36 1986 about the Brazilian aluminium industry.

Cia Brasileira de Alumínio (CBA), viewed Valesul as a potential competitor and were reluctant to participate. CVRD also studied the possibility to issue convertible bonds and approached Brazilian banks in both cases without success partially due to pressure from CBA. National producers using and transforming aluminium were contacted by CVRD to participate in the project. Year long efforts by CVRD were put into convincing the organizations of national consumers of aluminium such as Association of Brazilian Non-ferrous producers (Abranfe) and Alumínio Nacional Participações (Analc) to participate with equity in Valesul. These producers and transformers of aluminium imported most of their aluminium metal input. In 1980 the Abranfe organization announced their intention to acquire 12 per cent of the Valesul shares equal to 21 per cent of the capital. However all these efforts failed after the 1982 economic crisis when Brazil became a net exporter of aluminium.

Instead Shell Brasil which had entered the project in 1978 with 35 per cent of the capital, increased its holding to 44 per cent. Reynolds share was only 4 % equal to its profit from the sale of proprietary technology to the project in its initial stage. It was not possible to follow through the original principles of financing with three roughly equal partners. It should also be noted that even if CVRD holds 52 % of the shares the statutes of Valesul stipulates that a 73% majority is needed for major decisions, which means that Shell and CVRD has to agree.

For details see table

Production started in 1982 and the present capacity is 86 kt/year.

In summary CVRD gained experience of the aluminium industry. This was also an important motive for Shell since Valesul and the parallel Trombetas bauxite project was its first aluminium investment. Both Shell and Reynolds were able to participate with very limited risks, 14 and 1.6 % of the total capital respectively. It was instead CVRD and the



Brazilian government which had to stand most of the investment risks. The government guaranteed all CVRDs engagements.

See Table 3.

#### Alumar

After entering into the Valesul project Shell together with Alcoa continued in the aluminium branch and built the Alumar alumina and aluminium complex. Alcoa holds 60 % and Shell 40%. It is the largest private investment in Brazil and started production in 1984. Capacity is 200 kt alumina and 30-40 kt of aluminum in the present stage. Total investment cost 1.2 (billion GUSD).<sup>1</sup> Of this amount 450 MUSD was supplied by a consortium of 15 banks lead by Lloyds Bank International. The loan was guaranteed by Royal Dutch/Shell.<sup>2</sup>

#### Alunorte/Albras

The combined alumina/aluminium project in the Amazonas region went on stream in 1985 when the first quarter of the aluminium smelter (Albras) was inaugurated. Production capacity was at that time 80 kt/year. A second stage of another 80 kt is scheduled to be finished in 1987. The alumina plant (Alunorte) is not yet operating.

All from the beginning the project has been a joint Japanese/Brazilian venture. The Japanese partner is a consortium of companies, both private and state controlled, called Nippon Aluminium Amazon Co Ltd (NAAC). Originally it was Mitsui Aluminium, Nippon Light Metal, Sumitomo Aluminium Smelting, Mitsubishi Light Metal Industries and Showa Aluminium Industrial. Later on the group was enlarged to comprise 10 trading houses, 16 aluminium transformers and consumers, 1 bank and the governmental Overseas Export Cooperation Fund (OECF).

1. Engineering and Mining Journal September 1984

2. Chemical Week 1982 03 24

The project has been discussed and negotiated since 1972 and of its many different phases only a few aspects will be highlighted:

One of the main difficulties throughout the project has been the refusal of the Japanese government, which participated through OECF, to guarantee any of the loans. It has been the Brazilian government which has had to take the full economic responsibility also for the Japanese part of the project. Financing of the necessary hydro electric powerstation Tucuruí was also carried out without any support from Albras. It was instead financed by suppliers' credits given by French banks. The Japanese partners even have the right to leave the project if there is any rise in the cost of electricity. The price of electricity has been kept very low in spite of the financing problems. The price of the power supplied to Albras is 1/3 of the Brazilian mean price and only covers a 1/4 of the actual production costs at Tucuruí. The port installations at Porte Grossa were also financed primarily by the Brazilian part. Out of the total capital for this, app. 90 MUSD only 20 % was raised by Japanese banks.

The project has been suffering from heavy cost increases. Starting with a total investment of 995 MUSD in 1976 the investments went up to 1857 MUSD in 1982 but after cost cuts total investment was limited to 1300 MUSD. If recalculated to USD/t this investment equals app a cost of 3000 USD/t of which 400 USD are due to the specific location in the Amazonas. Still the infrastructure is not taken into account. It was all financed by the federal government and Para state authorities.

In 1987 an agreement has been reached between the NAAC consortium and CVRD to continue with the last two potlines of Albras and to expand the capacity to 320 kt/year by 1991.<sup>1</sup> Investment in this phase is estimated to be 550 MUSD in 1986

1. Mining Magazine July 1987

prices. Funding will be split into capital 30% and loans 70%. Debt/equity ratio 2.33. Most of the loans are planned to be given by BNDES the Brazilian government's Bank for Social and Economic Development. It is already mentioned that the cost estimates are too low.<sup>1</sup> See Table 4.

#### Alunorte

The alumina part of the complex, Alunorte is encountering severe problems. It was originally intended that production should start in 1988 with a capacity of 0.8 Mt, but the Japanese have withdrawn in early 1987. NAAC had 39.2 % of the capital in Alunorte while CVRD had the remainder. CVRD took a larger share of the alumina plant in order to be able to deliver 160 Kt annually to the Valesul smelter. Of the total investment of 400 MUSD so far NAAC has supplied 63 MUSD as equity and 97 MUSD as loans.<sup>2</sup> CVRD is at present looking for new partners to continue the project. It is also possible that CVRD decides to go on on its own. The plant will not be in production before 1991.

#### Summary Albras/Alunorte

The Albras/Alunorte complex was set up to become the world's largest integrated alumina/aluminium production unit. The Japanese companies have been the prime driving force behind the project. Their support of independant producers like the Brazilians has very much contributed to the diminishing production shares of the "Six sisters". The new forms of investment which the Japanese partners, private and government, have succesfully developed have given them access to new independant sources of aluminium and at the same time very decisively limited their own financial risks. The Brazilian government has failed to establish CVRD as a "Seventh sister".

1. IBA Quarterly Review, Vol 12 No 3 1987
2. Mining Journal 87 02 07

## Jamaica

Jamaica has been trying to establish a South-South joint venture to exploit its bauxite reserves together with Colombia. A protocol was signed in September 1984 to construct a jointly owned smelter in Colombia, fuelled by Colombian coal and supplied with bauxite from Jamaica. The 140 kt smelter should have come on stream in 1990. In 1986 it was reported that the Jamaican government dropped the project due to slow progress.<sup>1</sup> In 1984 Jamaica received a 4 MECU loan from the EIB to boost the productivity of two alumina plants.

## Surinam

Surinam derives approximately 80 % of its foreign exchange earnings from the aluminium industry. A 150 MUSD program to reconstruct and rehabilitate the industry by the early 1990s, without adding new capacity has been announced. The financing is to be supplied by the two trans-national mining companies which are active in the aluminium industry of the country: Alcoa and Billiton with 85 and 65 MUSD respectively. To attract this investment the government has agreed to suspend its bauxite levy temporarily. The government hopes to offset this loss by several measures as a counter-trade bauxite deal with Czechoslovakia.<sup>2</sup> The guerilla action in the country since early 1987 has however severely disturbed the aluminium production and Billiton has considered to withdraw from the country.<sup>3</sup>

1. Mining Journal 86 01 10
2. Mining Journal 86 10 31
3. Mining Journal 87 04 24

Guyana

The state owned aluminium industry (Guymine) of Guyana has experienced some very difficult years in the early 1980s. Cash operating losses were high and the Central Bank of Guyana has been giving equity contributions to Guymine equal to 144 MUSD between 1982 and 1986. A comprehensive rehabilitation programme will cost app. 90 MUSD. Funding has not yet been finalized but the EEC has capital from the SYSMIN funds still available (10-15 MECU). In 1984 an intervention was approved in an amount of 35 MECU of which 3 MECU has been committed up to the end of 1986. The remainder could possibly be available also for a rehabilitation. Further financing could be negotiated with the World Bank group.

Recent cost estimates has arrived at 128 MUSD for the rehabilitation programme and 14 MUSD for spares and equipment.<sup>1</sup> See Table 5.

Guyana has concluded several counter-trade agreements. Such agreements are covering the shipment of 50 kt annually to the USSR and 250 kt during a four year period to Venezuela. The Venezuelan deal is a oil-bauxite trade.<sup>2</sup>

1. Mining Magazine April 1987

2. Mining Annual Review 1987

## AFRICA

### Guinea

Development of the Aye Koye bauxite deposit has been a large scale project which has been discussed for several years. In 1984 it was estimated that a 2200 MUSD investment was needed. Guinea sought participation from the World Bank and from French, German and Arab investors. It is reported that the World Bank was reluctant to support such a huge project on grounds that it would be better to try to diversify Guinea's economy.<sup>1</sup>

A 14.8 MUSD investment to produce "sandy" alumina was announced in early 1985. 5.3 MUSD was supplied by the EIB and Friguia contributing 3.6 MUSD while the French Caisse Centrale de Cooperation Economique covering the balance.<sup>2</sup>

### Zaire

A 210 kt/year aluminium smelter at Inga has been planned in the mid 1980s. The plant would utilize the electricity from the Inga dam and power plant which is underutilized. Alusuisse has been studying the project which was estimated to cost 1300 MUSD. Alusuisse and a related consortium withdrew in 1985.<sup>3</sup> Later on the same year the IFC announced its intention to invest 400 MUSD in the proposed plant.<sup>4</sup> The project has not proceeded further.

1. Engineering and Mining Journal June 1985
2. Mining Journal 85 01 04
3. Mining Journal 85 07 05
4. Mining Journal 85 09 27

ASIAIndia<sup>1</sup>

There has recently been a profound change in the financing of non-ferrous metals projects in India. A set of new instruments have been employed both in green field projects and in expansion projects. The changes have been most important in the public sector.

The public sector has been forced to progressively shift from budgetary funding to make use of new sources of capital:

- + Domestic capital market
- + Commercial loans from foreign banks
- + Suppliers' credits and equity participation by suppliers of both technology and machinery

The publically held companies in the non-ferrous sector have entered the domestic capital market through floating of:

- + Bonds of fixed tenure. These bonds carry greater security as they are associated with government owned enterprises. In addition public sector bonds have fiscal advantages by way of concessions in wealth- and income tax.
- + Fixed deposits at interest rates higher than those prevailing in commercial banks.

The private sector has seen its foreign equity participation diminish partially as a result of the Foreign Exchange Regulation Act (FERA) which stipulates government control over equity participation by foreign partners over 40 %. The main sources of capital have been:

- + The domestic capital market
- + Internally generated sources

1. The section on India is based on a specially prepared report The new instruments of financing investments in non-ferrous metals sector in India by GD Kalra, NCAER 1987.

#### Indian Aluminium Company (Indal)

Indal has at present a production capacity of 117 kt of aluminium annually. The company is owned controlled by Alcan holding just above 50 % of the equity. Indal is at present floating a partially convertible debenture loan of 225 M rupies to finance its diversification programme. Alcan will not participate in this scheme and its equity holding will be diluted below the 40 % limit of Fera.

#### Hindustan Aluminium Corporation (Hindalco)

The only integrated alumina/aluminium producer of the private sector in India. Capacity is 120 kt of aluminium annually. Kaiser has a 26.7 % equity in the company. An expansion programme up to 150 kt has been adopted. Kaiser intends to participate in the investments also in the future. The present plans will be funded by internally generated surpluses and by the domestic financial market.

#### Madras Aluminium Company (Malco)

A privately owned company with a production capacity of 25 kt aluminium metal/year. The Italian company Aluminca has a 20 % share of Malco. Nothing is known about the company's present investment plans or their financing.

#### Bharat Aluminium Company (Balco)

The public sector entered the aluminium industry in 1965 when Balco was founded. Today the company has a capacity of 200 kt of alumina and 100 kt of aluminium. Balco has two main investment projects under construction:

- + A captive thermal power plant at Korba
- + Bauxite mine at Gandh<sup>a</sup>mardan, Orissa

The power plant is financed by UK aid amounting to 131 (2489 M rupies) and a UK export credit to 25 MGBP (475 M rupies). Original cost was 3369 M rupies but cost has escalated and is likely to reach 4827 M rupies before completion in late 1987.

The bauxite mine has been seriously delayed and has not yet been brought on stream in spite of being planned for start up in 1985. The funding of the whole project 475 M rupies in 1987 is provided by the Indian government.



### National Aluminium Company (Nalco)

Nalco is the youngest of the public sector companies incorporated in 1981. The Nalco project in the Orissa state comprises a giant bauxite/alumina/aluminium complex. Production capacity is planned to be: 2.4 Mt bauxite, 0.8 Mt alumina, 218 kt aluminium and 600 MW captive power plant together with a deep water port for export of alumina. The first part of the project went on stream in 1985 when the bauxite mine was commissioned. The alumina and aluminium plants will become operative in 1987. The total investment is estimated at 24 billion rupies. A captive coal mine for the power plant and the needed railway line between the coal mines and the plant is estimated at another 970 M rupies. The total investment of around 25 000 M rupies equal to app. 1300 MGBP.<sup>1</sup> The originally approved cost was 12 424 M rupies. The project has been financed substantially through foreign loans:

Two Eurocurrency loans of 680 MUSD and 300 MUSD provided by a consortium of international banks. The first Eurodollar loan will be renegotiated in order to have longer maturity and grace periods as well as lower interest rate.

French credit facilities of French franc (FRF) of 1750 M out of which only 1050 M are likely to be utilised. The French loans equal app. 400 MUSD.

1. Mining Annual Review 1987

## Indonesia

The joint Indonesian and Japanese aluminium smelter PT Indonesia Asahan Aluminium (Inalum) with a Japanese consortium holding 75 % and the Indonesian government 25 % has been suffering cash problems since production started in 1984.<sup>1</sup> The total project cost of the 225 kt/year smelter is 411 000 M yen. The problems are due to that loans were made in yen and the recent sharp appreciation of the yen against the dollar and the low dollar based international aluminium prices. The Japanese consortium called Nippon Asahan Aluminium Company has together with the Japanese Overseas Economic Cooperation Fund been willing to invest an additional 24 000 M yen provided that the Indonesian part puts up an additional 8000 M yen.<sup>2</sup> The Japanese consortium which consists of the Export-Import Bank of Japan and 23 private investors. 78 % of Inalum's total debt has been in yen.<sup>3</sup> In 1986 it was agreed with the Japanese creditors that payment of 28 000 M yen would be deferred for two years.<sup>4</sup>

## China

It is believed that the continuing expansion of the Chinese aluminium industry will to a larger extent than in most developing countries be made with foreign direct investments. This area has received priority in the 1986-1990 five-year plan.<sup>5</sup>

1. Mining Journal 87 02 27
2. Mining Journal 87 09
3. Mining Journal 86 06 27
4. Mining Journal 86 01 24
5. IBA Quarterly Review Vol 12 No 3 1987

OWNERSHIP STRUCTURE OF THE VENEZUELAN ALUMINIUM INDUSTRY (2)

Company	State		Private	
	CVG <sup>1</sup>	FIV <sup>2</sup>	Local	Foreign
Bauxiven	55	45	-	-
Interalumina	4	92	-	Alusuisse 4
Venalum	19	61	-	Japanese <sup>3</sup> 20
Alcasa	8	77	-	Reynolds 15
Alusur	-	-	Sural <sup>4</sup> 51	Austria Metall 49

1. Corporación Venezolana de Guyana

2. Fondo de Inversiones de Venezuela

3. Consortium with

Showa Aluminium	7 %
Kobe Steel Ltd	4
Sumitomo Aluminium Smelting Co Ltd	4
Mitsubishi Metal Corporation	2
Ryoka Light Metal Industries	2
Marubeni Corporation	1

4. Suramericana de Aleaciones Laminados

PIJIGUAOSProject

Bauxite mine with 1Mt production in 1988 expansion to 3 Mt in 1990.

Ownership

Corporación Venezolana de Guyana (CVG)	55 %	stateowned
Fondo de Inversiones de Venezuela (FIV)	45	"

Debt/Equity ratio

1.48.

Financing

## International agencies

108 MUSD

Inter-American Development Bank

Bank loans 94 MUSD

FIV

9

Local loans

101 MUSD

## Suppliers' credits

4 MUSD

Equity 145 MUSD

59 MUSD from CVG, 86 MUSD from FIV

Total 360 MUSD

Total investment

360 MUSD

Comment

The above figures have been presented by the IADB. In the April 1986 issue of Engineering and Mining Journal the following increase was reported: Total cost 462 MUSD, CVG equity 85 MUSD, FIV equity 72 MUSD, internally generated 9 MUSD and 296 MUSD debt. D/E ratio 1.88.

Financing terms

IADB 15 years of amortization, 4 1/2 years of grace,  
interest IADB prevailing lending rate and a credit  
fee of 1.25 %.

VALESULProject

Aluminium smelter in production since 1982. Capacity in 1986 86 kt aluminium annually.

Ownership

CVRD	52 %	
Shell Brasil	44	(Royal Dutch Shell)
Reynolds International	4	

The share holders have agreed that 73 per cent of the shares are needed for all important decisions. CVRD and Shell have to agree.

Debt/Equity ratio

60/40 = 1.5

Financing

International agencies		
	98 MUSD	World Bank
Bank loans	90 MUSD	Chase Manhattan led syndicate
	<u>34</u> MUSD	FINAME a BNDES <sup>1</sup> subsidiary
	222 MUSD	
Equity	148 MUSD	
Total	<u>368</u> MUSD	

Total investment

Initially the following cost estimate was made:

	MUSD	%
Infrastructure	1.0	-
Equipment	126.1	34.1
Technology and consultants	35.5	9.6
Construction	58.4	15.8
	38.3	10.4
Inflation	37.8	10.2
Interest during construction	32.7	8.8
Operating capital	<u>40.3</u>	<u>10.9</u>
	370.1	100

Financing terms

World Bank 15 years of amortization, 5 years of grace,  
interest 7 % and a fee to the Brazilian Treas-  
ury for its guarantees of 3 %.

Chase Manhattan 10 years of amortization, 5 years of grace,  
interest rate not known.

FINAME

1. Banque Nationale de Developpement Economique et Social

ALBRASProject

Originally in 1976, construction of four 80 kt potlines aluminium smelter with a total capacity of 320 kt in 1982. First potline taken into service in 1985 and second in 1987 third and fourth scheduled for 1990.

Ownership

Valenorte Aluminio Ltd	51 %	(CVRD)
Nippon Amazon Aluminium Co (NAAC)	49	
NAAC a Japanese consortium with 33 participants:		
Mitsui Aluminium Co		
Nippon Light Metal Co		
Sumitomo Aluminium Smelting Co		
Mitsubishi Light Metal Industries		
Showa Aluminium Industry		
10 trading houses		
16 aluminium consumers		
Industrial Bank of Japan		
Overseas Economic Cooperation Fund the only government body.		

Debt/Equity ratio

70/30 = 2.33

Financing

Shareholders have agreed to arrange loans in proportion to equity share.

Japan	60%	Export-Import Bank (government) Japan International Cooperation Agency and other government funds
	40%	Commercial Japanese banks
Brazil		BNDES for the infrastructure FINAME domestic equipment Banque du Bresil operating capital foreign banks imported equipment



Total investment

Originally in 1976 the projected cost was 955 MUSD this figure rose to 1857 MUSD in 1982 and sunk after a cost cut to 1300 MUSD in 1986. First potline is estimated to have cost 400 MUSD and the second one 300 MUSD.

The investment costs in 1976:

	MUSD	%
Infrastructure	17.6	2
Aluminium smelter	678,2	71
	60.4	6
Technology and consultants	18.6	2
	38.7	4
Interest during construction	106.6	11
Operating capital	<u>35.2</u>	<u>4</u>
	955.3	100

Financing terms

Japanese loans were coordinated by the OECF. 84 banks and government institutions gave 5 years of grace and 8 per cent interest.

BIDCO - GUYMINEProject

Technical assistance to propose a full scale rehabilitation

Guymine has had some very difficult years in the early 1980s. Cash operating losses were high and the Central Bank of Guyana has been giving equity contributions to Guymine equal to 144 MUSD between 1982 and 1986. To operate the company until 1988 it is projected that 26 MUSD will be needed.

## International agencies

7 MUSD

IDA

5

EEC funds

12 MUSD

## Suppliers' credits

10 MUSD

## Equity

4 MUSD

Government

Financing terms

IDA 15 years of amortization, 3 years of grace,  
interest IBRD prevailing lending rate.