

CODELCO - CHILE

CURRENT PROFILE AND FUTURE OUTLOOK

A Presentation by:

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CODELCO - CHILE
PROFILE AND OUTLOOK

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CODELCO - CHILE
PROFILE AND OUTLOOK

I. INTRODUCTION

Since the 19th century, Chile has produced an important portion of the world's copper supply.

Due to the increasing importance of Chile's copper in the world's copper market during the past 20 years, emphasis has been placed on Chilean copper policies, procedures and decision-making including the plans and projections of Corporacion Nacional Del Cobre De Chile (CODELCO-CHILE) for the future.

Regretfully, fact has been confused with fiction --- thus, the true story of the Chilean copper industry has been beclouded or veiled and a breach created, especially pertaining to Codelco.

I shall, first, give you an overview of CODELCO - CHILE's CURRENT PROFILE by reviewing its CORPORATE STRUCTURE, along with some specifics about each one of its MINING OPERATIONS. I shall then proceed to furnish you with some facts about our RESERVES, followed by a separate discussion of our PRODUCTION, SALES and INVESTMENT policies. Next, we shall turn to the company's PRODUCTION COSTS, FINANCIAL RESULTS and TAXES. By presenting you with these facts and figures, I hope that you will draw your own conclusions. Later, I shall use that same information base to give you my own view as to the FUTURE OUTLOOK of Codelco-Chile in the years ahead.

II. CURRENT PROFILE

CORPORATE STRUCTURE

CODELCO-CHILE is a mining, industrial and commercial enterprise which came into being on April 1, 1976 by merging the four largest Chilean copper operations -- Chuquicamata, El Teniente, Andina and El Salvador -- into a single operation.

The fundamental objective of the corporation is to manage its mineral and human resources making optimum use of its many advantages through open competition in the marketplace in order to maximize profits.

CODELCO-CHILE is governed by a board of directors and its President and Chief Executive Officer is the administrative head and legal representative of the enterprise. The corporate headquarters are located in Santiago, Chile.

The areas of corporate development, sales, finance, accounting and the procurement of strategic supplies are centralized at the corporate headquarters, while direct operational management takes place at the divisional mining centers of Chuquicamata, El Teniente, Andina, and El Salvador.

CODELCO conducts its international commercial operations with the assistance of agents located in Europe, America, the Middle East and the Far East. Additionally, it has subsidiary companies in New York, Sao Paulo, London, Dusseldorf and Paris.

CODELCO-CHILE enjoys no special privileges from the government, such as preferential interest rates, customs duties, tax exemptions or subsidies of any kind, it pays dividends and taxes to the State as any other private and commercial enterprise. Moreover, it pays an additional special tax of 10 percent on sales, applicable exclusively to CODELCO-CHILE.

CODELCO's mine operations are:

Chugucamata: The world's largest open-pit copper mine, producing about 9% of the world's copper mine production. Its 1984 production was 563,000 M.T. of copper, representing 54% of Codelco's total production.

El Teniente: The world's largest underground copper mine, producing about 5% of the world's copper production. Its 1984 production amounted to 285,000 M.T. of copper, representing 27% of Codelco's total production.

Andina: A mixed underground/open-pit operation located up in the Los Andes Mountains near Santiago. Its 1984 production amounted to 105,000 M.T. of copper, representing 10% of Codelco's total production.

El Salvador: An underground copper mine located in the north of Chile in the middle

of the Atacama Desert, producing 95,000 M.T. of copper in 1984, which represented 9% of Coodelco's total production.

RESERVES

As of 1984, Chile's copper reserves represented 33% of the total Western World reserves. Codelco's copper reserves represents 74% of Chile's reserves and 24% of the Western World reserves.

TABLE #1

Copper Reserves - 1984
CODELCO'S IMPORTANCE

	<u>Percent</u>
Western World	100
Chile (total)	33
CODELCO*	24

* 74% of Chile's reserves

The average grade of Western World reserves is approximately .77% copper content. Chile's average grade of reserves is .94%. CODELCO's average grade of reserves is .93%, a significant advantage as we look to the future.

TABLE #2

Average Ore Grade
WESTERN WORLD COPPER RESERVES

Western World (ex. Chile)	<input type="text"/>	.77%
Western World (total)	<input type="text"/>	.82%
CODELCO	<input type="text"/>	.93%
Chile (total)	<input type="text"/>	.94% Copper

At current production levels, CODELCO's identified reserves would permit about 113 years of steady production, whereas Western World reserves point to a production period of about 67 years.

TABLE #3

Remaining Years of Production
KNOWN RESERVES AT CURRENT RATE

Western World (ex. Chile)	<input type="text"/>	67
Western World (total)	<input type="text"/>	77
CODELCO	<input type="text"/>	112
Chile (total)	<input type="text"/>	116 years

PRODUCTION

CODELCO-CHILE produces about 81% of the total Chilean copper production. In 1984, Chile produced 1,290,000 M.T. of copper representing 20% of the Western World mine production. Of this amount Codelco produced 1,049,000 M.T. of copper, representing 16% of the mine production of the Western World.

TABLE #5

Mine Production of Copper - 1984
CODELCO'S IMPORTANCE

	<u>Metric Tons</u>	<u>Percent</u>
Western World (estimated)	6,400,000	100
Chile (total)	1,290,000	20
CODELCO*	1,049,000	16

* 81% of Chile's production

CODELCO also produces, as a by-product, an important amount of Molybdenum which is sold in different forms.

CODELCO's Molybdenum production represents about 20% of the total Western World's production. CODELCO also produces a relatively small amount of gold and silver.

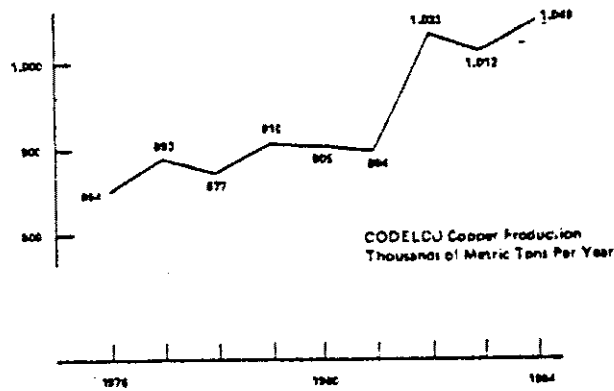
TABLE #4

Byproduct Molybdenum Production
CODELCO'S IMPORTANCE - 1984

	<u>Metric Tons</u>	<u>Percent</u>
Western World (estimated)	86,400	100
CODELCO	16,859	20

CODELCO-CHILE's total copper production increased from 854,000 M.T. in 1976 to 1,049,000 M.T. in 1984, an increase of 195,800 M.T.

CHART A



These increases are the result of the coming on stream of several expansion projects begun in the sixties. In fact, during that time, a development program was started by the American-owned companies with the intention of increasing the production of the Chilean copper mines to 900,00 M.T. of copper per year.

Until 1974, production had only reached 763,000 M.T. of copper because the investments contemplated in the program proved to be insufficient and the technologies employed

required some further development.

For this reason, the State of Chile (and Codelco-Chile since its creation in 1976) had to supplement those investments and find new technical solutions to satisfy the expansion program.

Furthermore, the average grade of ore dropped from 1.73% in 1976 to 1.55% in 1983. To avoid the consequent decrease in production, it was necessary to increase processing capacities, mainly at the mines and concentrator plants.

As a result, the corporation had to invest U.S. \$1.75 billion between 1976 and 1983, of which U.S. \$974 million were used to consolidate the production figures planned during the sixties (that is, 900,000 M.T. of copper per year). Only U.S. \$373 million were allotted to increase the treatment capacity which, in turn led to the production of 1 million M.T. of copper in 1982.

TABLE 6

CODELCO's Investments
1976 - 1983

	<u>Million U.S.Dollars</u>	<u>Percent</u>
Production	1,347	77
Operational Improvements	(974)	(56)
Increased capacity*	(373)	(21)
Supporting Services, Energy	<u>399</u>	<u>23</u>
	<u>1,746</u>	<u>100</u>

*To compensate for declining ore grade.

Also, it is interesting to point out that of these \$1.75 billion, \$300 million, or 17% correspond to investments in projects carried out to comply with Chilean regulations for environmental protection. Perhaps at this point it would also be relevant to let you know that the Chilean Constitution assures all Chileans the right to live in a contaminant-free environment.

Chilean legislation establishes norms and procedures and specific limits on both water and atmospheric pollution which are comparable to those prevalent in some developed countries including the U.S. Conscious of the environmental impact of its activities, Codelco has been making the necessary investments in order to comply with the established regulations and is considering further investments of over \$400 million for the near future in order to continue its progress in this field.

This analysis shows that Codelco-Chile's present production practices have been occasionally misunderstood. Incremental expansions of the treatment capacity to offset declining ore grades and the coming on stream of several expansion projects initiated in the decade of the Sixties, have been interpreted by some as unreasonable production increases.

It is Codelco's current production policy to maintain its present level of production at about 1 million M.T. of copper per year and to increase this level of production only as the total market expands in order to maintain its current share of that total market. If, however, other competing mines are depleted or cease production, Codelco is prepared to increase its production levels.

Our 1985 projected production level is 1,023,000 M.T. of copper.

It is important to realize and fully understand that in the particular case of Codelco-Chile, the incremental expansion of its existing production capacity can be made at a capital cost which is between one-seventh and one-third of the normal cost required to start up a completely new production project located elsewhere. This reflects Codelco's high ore grades, high efficiency ratios, low cost of production, and large size reserves of high quality ore.

In order to evaluate the possibility of eventual revenue increases for member nations of the Intergovernmental Council of Copper Exporting Countries (CIPEC) from a reduction of copper production by those nations, Codelco has commissioned several in-house and outside studies. All of these studies demonstrated that the CIPEC countries would lose substantial revenues from production cut-backs. The fact is that CIPEC's share of total world copper production is less than 40%, which does not give CIPEC countries a sufficient market power to affect price in a way as to increase revenues resulting from such production cut-backs. The most recent of these studies concludes that a 15% cut-back by the major CIPEC countries would result in a revenue loss for these countries of 12% to 14%. Since over half of our production costs are fixed, this would result in a substantial loss of net profits, especially for a low-cost producer such as Codelco.

SALES

It is CODELCO-CHILE's sales policy to market its products primarily on a direct contract basis to end-users through a world-wide network of subsidiaries and sales agents. Major customers are in Western Europe, the U.S., Latin America, and Japan.

It is also the policy of CODELCO-CHILE to distribute its sales geographically as evenly as possible and to attempt to sell to each individual market a share of its own exports which would be consistent with that market's relative share of the world's total copper consumption. To do this, the company strives to develop long-term commercial associations directly with established customers.

TABLE 7

CODELCO Sales vs. Western World Consumption
GLOBAL DISTRIBUTION - 1984

	<u>CODELCO SALES</u>	<u>COPPER CONSUMPTION*</u>
Western Europe	52%	35%
U.S.A.	15	27
Latin America	12	3
Japan	11	17
Other	10	18
	<u>100%</u>	<u>100%</u>

* Estimated

Our sales development plans take into consideration the high growth potential of countries such as China, India, Taiwan, South Korea, Brazil and others and we expect to increase sales to those countries.

In other words, Codelco-Chile pursues sales and

marketing strategies consistent with its own market-oriented policies and profit-maximizing objectives.

We strongly believe that an international environment of free and fair trade is an essential ingredient for the healthy competitiveness and development of all economic sectors related to the copper industry. Furthermore, we remain convinced that some of the obstacles actually standing in the way, or threatening to stand in the way, of free international trade, should and can be overcome.

INVESTMENTS

CODLECO has a basic investment plan and contingency plans based on different growth projections of the copper market. CODELCO establishes its development options considering market conditions, economic feasibility of projects and capital resources for financing them.

Various investment plans have been studied based on different growth projections for the copper market.

The basic investment plan seeks to maintain the current level of copper production. To attain this objective, it is necessary to increase the tonnage of ore processed in an amount proportionate to the drop in the ore grades. The total investment required for this sole purpose is estimated at a total of U.S. \$600 million during the next 5 years.

Should the present market situation change in order to allow for an average market growth of 1.5% over the next decade, Codeco has contingency plans which would permit an increase of its production level by 300,00 M.T. of copper

with a total investment of U.S. \$1.7 billion. This alternative investment plan is consistent with our basic investment plan. We should bear in mind that the actual implementation of these investment plans depend both on the increase in the demand for copper and the availability of financing capital at reasonable terms and conditions.

There have been some assertions made that Codelco, being a state-owned producer, benefits from preferential interest rate loans and credits from multilateral financing institutions. This is clearly not the case. Here are the facts.

TABLE 8

CODELCO's Outstanding Debt
DECEMBER 1984

	Million <u>U.S. Dollars</u>	<u>Percent</u>
Private Commercial Banks	872	89
Suppliers	85	9
Other Creditors	10	1
International Dev. Banks	<u>8</u>	<u>1</u>
	975	100

The principal sources of funds for such investment programs are Codelco's own corporate funds, credits from suppliers and private commercial banks. Funding through international development financing institutions has been, and shall continue to be, of relatively minor importance. Thus, of an approximate total outstanding debt of U.S. \$975 million as of 1984, - U.S. \$872 million (89%) was owed to private commercial banks; U.S. \$85 million (9%) to various

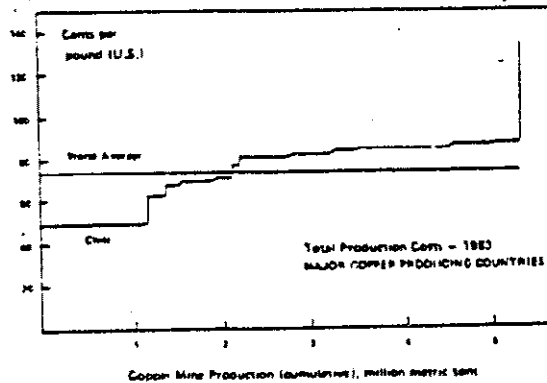
suppliers; U.S. \$10 million (1%) to other creditors and only U.S. \$8 million (.8%) was owed to the World Bank (IBRD).

Up to now, we have described some of the basic aspects of CODELCO-CHILE's policies and practices as they relate to production, sales and investments. Let us now briefly review the company's basic economic profile.

PRODUCTION COSTS

Codelco's production cost is one of the lowest in the world.

CHART B



In 1983, it represented about 58% of the average production costs of the Western World.

CODELCO's low costs are due in part to the natural advantage of relatively high ore grades -- actually two or three times higher than most U.S. and Canadian mines -- good by-product credits, relatively higher grade and lower impurities of concentrates, sufficient and relatively less expensive water supplies and ready access to deep ports.

Nevertheless, these comparative natural advantages are only part of the picture that explain Codelco's favorable cost position in the world copper market today.

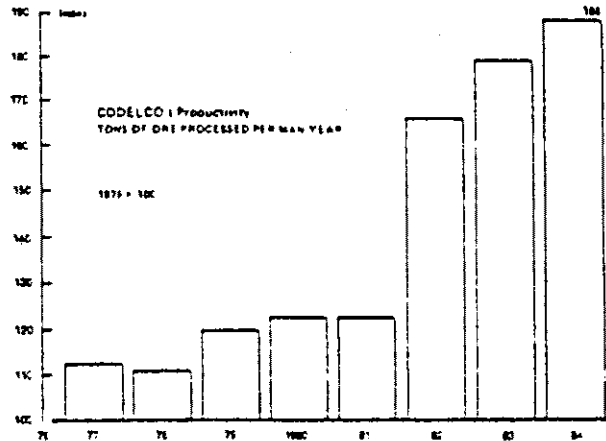
This cost position is also the result of stringent cost reduction and austerity programs sustained since the company's inception in 1976, together with investment carried out to increase production efficiency. As a direct result of these programs, the cost of producing copper, measured in constant dollars, has been significantly lowered. Let me briefly illustrate this important point by mentioning four significant achievements of these programs:

- * Drastic reductions were realized in the consumption of energy, in part because of the introduction of oxygen technology in the copper smelting process. As a consequence, energy consumption per ton of copper produced dropped 21% during the last 3 years.
- * Use of efficient technology, such as the El Teniente converter, has permitted us to eliminate some of the labor and energy intensive reverberatory furnaces.
- * Reduction of inventories of materials and supplies.
- * Improving and streamlining the labor force (mainly by attrition) has meant a total reduction of the work force by 18% over the past 8 years: from 30,948 workers in 1976 to 25,339 workers in 1984.

Perhaps the indicator that best depicts the effort

carried out by Codelco-Chile on all fronts is the dramatic increase in productivity, which rose 88% from 1976 to 1984.

CHART C



We are very proud of this productivity increase because it represents the result of the efforts of many people at Codelco.

FINANCIAL RESULTS

Those accomplishments go a long way to explain the impressive financial results exhibited by Codelco in the wake of what may be considered as one of the harshest periods for the copper industry at large.

Codelco has remained profitable since the beginning of its operations, despite low copper prices in the periods of 1976 to 1978 and 1982 to 1984, as the financial indicators for the period show.

TABLE 9

CODELCO'S Financial Results - 1976-1984
MILLIONS OF U.S. DOLLARS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	Ave. 76-84
Net Worth	1,416	1,343	1,373	1,537	1,487	1,403	1,508	1,837	2,111	
Total Sales	1,266	1,162	1,264	2,071	2,281	1,741	1,560	1,774	1,534	
Income Before Taxes	369	285	378	1,058	965	295	441	528	333	
Net Income	178	159	233	467	401	97	161	221	144	
Income Before Taxes to Net Worth, %	26	21	28	69	65	21	27	29	16	34
Net Income to Net Worth, %	13	12	17	30	27	7	10	12	7	15
Net Income to Total Sales, %	14	13	18	23	18	6	10	12	9	14

The average of the income before taxes is 34% of the company's net worth, while the average net income is 15% of net worth for the same period. The difference between these two averages gives us an indication of the magnitude of the taxes paid by Codelco. Additionally, the average net income after taxes to total sales for this period is 14% which I am sure you will agree, reflects a respectable profit for the 1976 to 1984 period.

These figures are public and our accounting practices are standard. All our balance sheets are audited by well-known international auditors.

The fact that CODELCO-CHILE in 1984 was able to turn in about U.S. \$557 million in taxes and dividends to the Chilean treasury in the midst of these difficulties and uncertainties speaks quite eloquently of its real strength and solidity. Furthermore, the company's net profits for 1984 were U.S. \$144 million which in turn is 7% of the company's net worth income.

TAXES

CODELCO's total financial contribution to the Chilean government was U.S. \$5.3 billion in the form of taxes and dividends during the period of 1976 - 1984.

TABLE 10

CODELCO's Payments to the Government of Chile
TAXES AND PROFITS - Millions of U.S. Dollars

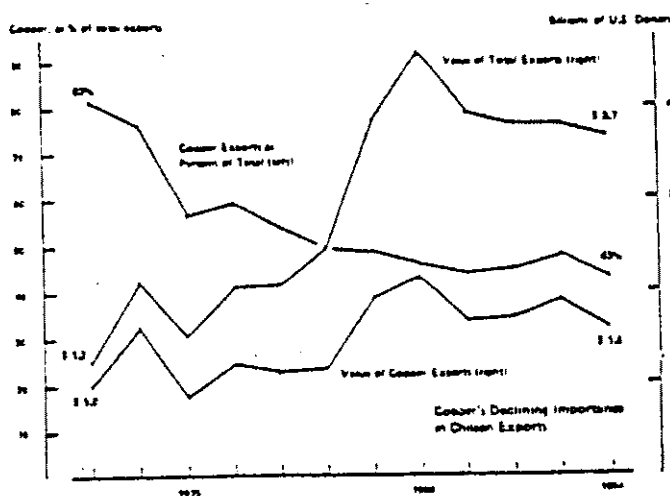
1976 - 432.2	1980 - 1,006.6
1977 - 398.8	1981 - 480.3
1978 - 368.1	1982 - 523.9
1979 - 865.2	1983 - 678.5
1984 - 556.5	

TOTAL: 1976 through 1984 = \$5,310,100,000.

It is worth emphasizing that CODELCO-CHILE has not, is not and will not receive any form of direct or indirect subsidies from the State of Chile. It pays to the Chilean Treasury, the largest share of taxes and dividends of any public or private company in the country.

While it is undeniable that Chile's principal source of foreign exchange income comes from its copper exports, it is equally true that copper's importance as a percentage of total exports from Chile has been decreasing over time.

CHART D



Copper exports accounted for 82% of total Chilean exports in 1973 and it has been reduced significantly to 43% of total exports in 1984.

III. FUTURE OUTLOOK

In this presentation, I have attempted to briefly state some of CODELCO-CHILE's principal policies and practices, illustrating them with facts and figures whenever possible. Let us now turn to CODELCO's future outlook and examine some of the basic considerations which influence the company's strategic positioning.

As a natural consequence of its substantial copper reserves good ore grades and other important comparative advantages, CODELCO plans to stay in business for a long time.

CODELCO does not control either the demand or the price of copper in the world. Since we strongly believe that the copper industry world-wide ought to be governed by the

marketplace, we have and shall continue to work hard and responsibly to render our corporation more efficient and competitive in the world market. Consequently, we shall continue in our efforts to lower our cost of producing copper, to improve the overall efficiency of our operations and the quality of our products.

CODELCO shall strive to maintain its leadership position based on 1) its ability to sustain a high volume of production; 2) its ability to produce high quality products; 3) the reliability and timeliness of its deliveries; and 4) the strict fulfillment of its obligations.

While much has been speculated about CODELCO's production policies, the simple fact remains that world market demand is and will be the determining factor of CODELCO-CHILE's production levels. I hope that this basic message will emerge from this presentation. If world demand increases, we will increase production as necessary to maintain our share of the market. Conversely, if world demand decreases, we do not plan production level changes up or down from our present basic level of 1,000,000 M.T. per year, as long as our operations remain profitable. Furthermore, a corollary of this fundamental policy is that CODELCO's share of a specific market area will be largely determined by the specific conditions of that market.

We recognize, that the battle of materials in the end-use markets is becoming more intense and copper and copper alloys today are facing stronger competition from plastics, aluminum, stainless steel and titanium as well as composite materials. We recognize, also, that this competition must be met head-on in the end-use markets and

that investments must be made in market development as well as in mine improvements.

As copper producers we are, of course, concerned about the copper market these days. The supply/demand situation appears extremely difficult to predict, particularly for the immediate future. Copper prices have reached historically low levels. The current outlook for a sustained longer-term growth of consumption appears likely to remain sluggish as compared to historical standards based on the present picture.

However, we are convinced that any attempts to artificially tamper with current production levels in relation to the market in order to influence prices can only backfire in time. Higher copper prices, if not sustained by the free interaction of supply and demand, cannot last. Moreover, higher copper prices are likely to result in renewed copper substitution and, therefore, result in even lower copper consumption in the future. Protectionism always entails a cost which is transferred via the price system from the "protected" sector of the economy to other sectors. Limiting the competition provided by the open marketplace also promotes inefficiency on the part of the "protected" industry, thus imposing higher-cost products to its captive consuming market. In the end, we believe everybody loses.

We feel that the answer to copper's dilemma lies in expanding the markets for copper and developing new copper applications and technologies. That means making the total market pie larger whereby individual companies, including CODELCO, will have the opportunity to increase sales. Not only must we develop markets, but we must defend present

applications by finding effective and constructive ways to fight substitution.

Copper producers as well as copper fabricators around the world have a vital stake in the success of such efforts. It is crucial that a strong and stable relationship be established among all segments of the copper industry, including metal traders and distributors as well as producers and fabricators, with their collective efforts aimed at market development on a global basis. Copper is after all, a world-wide commodity.

This is the vision that we have about the future of the copper industry. We intend to pursue a very active role along the lines suggested here in order to remain the kind of responsible and reliable world-wide copper supplier that we are. Likewise, we look forward to a stronger and more fruitful relationship among all producers and fabricators around the world.

Chile has played an increasingly significant role in the copper industry of the world since the 19th century and it shall continue to play its appropriate leadership role throughout the 21st century.
