

The production cost of coal in underground mines is approximately US\$ 60 per ton, compared to the US\$ 45 to US\$ 48 dollar range per ton paid by the existing consuming companies.

The only coal that can compete with the price of imported coal is the coal from Magallanes that is exploited in open pits.

Coal imports were 1,520,283 tons in 1991 (1,791,062 tons in 1990), mainly to be used in steam power plants to produce electric energy. The cost of the coal imported was US\$ 80,1 million in 1991 (93.7 million in 1990).

Of the total amount imported, 1,163,000 tons corresponded to Chilgener, which bought coal from Colombia, U.S.A., South Africa, Australia and Canada. The difference with respect to total imports corresponds to metallurgical coal, which was imported by Siderúrgica Huachipato.

Imports from Canada are 259,000 tons of metallurgical coal and 77,500 tons of bituminous coal.

IV.1.1.- Empresa Nacional del Carbón (ENACAR) -State Owned.

Empresa Nacional del Carbón (ENACAR) is a state-owned company with underground and under-water coal mines in the Arauco Gulf, south of Concepción. ENACAR was the largest Chilean producer until the start-up of COCAR which exploits the Pecket mine in Magallanes.

In 1991, ENACAR production was 765,000 tons. Coal sales were 720,958 tons, which was 20.3% less than were sold the previous year (904,679).

Lota

The Lota mine of ENACAR del Carbón, located in the Gulf of Arauco south of the city of Concepción, is the major underground coal mine in Chile. Lota's problem is the high production costs resulting from the depth of its location and the difficulty of the operation which extends several kilometers under the sea.

Estimates show that at the Pique Carlos Cousiño, whose Manto 3 (Stratum 3) generates 60% of Lota's total production, extraction could be raised from 540 thousand to almost 800 thousand annual tons.

The investment program for Manto No. 3 (Stratum No. 3) of the Lota mine was completed to reach production of 1,200,000 annual tons.

This investment had been initiated in 1988, when bids were called for mechanized exploitation. The project was awarded to the Westfalia Lunen group of Germany. The amount required to carry out this investment was 25 million marks (approximately US\$ 13 million), which was provided by the Kreditanstalt für Wiederaufbau in an eight-year loan.

Manto Tres could only be exploited at a height of 1.50 meters, which can now be increased to 2.80 m. with new equipment. Backward exploitation has been developed since 1988, in which tunnels are constructed previously with Roadheader equipment (tunnel makers). The results that have been achieved ensure exploitation of Manto 3 and improve productivity and exploitation costs of the Lota mine.

Other recent investments include US\$ 5 million on the project to lengthen the Lota dock to permit access to ships as big as 35,000 tons to load coal and other products like wood chips, as Carbonífera Schwager is doing. Currently, the dock can only receive ships up to 15,000 tons.

In May, 1990 ENACAR signed a technical assistance agreement with Charabonnages de France Ingenierie (CDF), to initiate a modernization process that will enable the mine to increase current 1 million tpa production by 50% in 5 years. The agreement included a project analysis to replace the low depth ventilation system; substitution of compressed air usage at Lota by an electrohydraulic exploitation and operation system; implementation of computer systems to develop and control underground and surface operations at Lota; analysis of the improvement and expansion of the current washing plant's installed capacity at Lota, and of all the ENACAR projects within its policy of industrial reconversion.

Among these projects are the exploration and exploitation of the Carampangue deposit, the thermo-electrical power plant and the expansion of the Lota port.

The Carampangue deposit has reserves of 18 million tons and an estimated production of 600,000 tpa as of the next six to eight years.

Carville

Compañía Carbonífera Victoria de Lebu, Carville, belongs to Enacar, and is one of the last companies that the previous government decided to transfer to the private sector. This was not completely achieved,