

THE BRAZILIAN FERROALLOYS INDUSTRY - CURRENT SITUATION AND OUTLOOKS

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LOCATION AND CAPACITIES

There are 23 producers operating in Brazil, all privately owned, which produced nearly 960.000 tons of ferroalloys and metallic silicon. This was 5% under 1993 figures. We compete with Norway to reach the 5th position of largest producer in the world. We are, also, the fourth largest exporter. Furthermore, Brazil and Russia are the only countries which are at the same time, large producers, large consumers and large exporters.

The present installed power available is around 1.200 MVA, corresponding to an installed production capacity of approximately 1.300.000 tons of all ferroalloys and silicon metal, including the aluminothermics.

In 1994, of the produced total, 48% were manganese alloys, 25% silicon alloys, 9% metallic silicon, 8% chrome, 4% nickel and 6% of special alloys (FeNb, FeP, inoculants, etc.).

The Brazilian producers are located in the five country geoeconomic regions (north, northeast, south, southeast and centerwest), with strong concentration in the southeast (Minas Gerais and São Paulo states) and in the northeast (Bahia and Ceará).

One of the main characteristics of this sector in Brazil is that the plants are located in small and medium size towns, and in its majority in poor areas, where generally they are the largest employers, thus contributing to the increase of income in their regions and, more important, preventing the migration trend to the big cities of the rural poor peasants, which is a social and common tendency in our country. Furthermore, the industry generate many jobs in reforestation and mining areas. Among direct and indirect jobs, there are in these regions around 60.000 employees devoted to the industry of ferroalloys.

It is therefore highly significant the industry contribution towards the social development of the micro-regions they are installed.

ENVIRONMENTAL PROTECTION

The environmental question in the productive activity is carefully conducted by the ferroalloys and silicon metal producers with the installation of suitable equipment, specially filters and electrostatic precipitators.

As a matter of fact, all producers, with no exception, have officially signed their commitments with the authorities for the installation of adequate equipments within duly defined terms to preserve the environment.

Several companies have already complied with the stipulations and installed adequate equipment and nowadays only do a strict control of environment, following the Brazilian legislation on the subject, which in many instances is more severe than elsewhere.

ORES

The Brazilian ores are well known by their good characteristics and adequacy for the ferroalloys production. Distances from the ore sites to the plants are short, with exception to the manganese ores, which, in some cases, are transported from the north region to the northeast and also to the southeast where producers are located.

However, such distances are relatively small when compared to imports, principally of manganese and chrome ores, regularly conducted by the ferroalloy producers in Europe, United States, People's Republic of China and Japan.

CHARCOAL

As is well known, the Brazilian producers are the only ones using charcoal as a reducing agent for ferroalloys and metallic silicon on a large scale. Charcoal is utilized in more than 95% of the total production.

The advantages of using charcoal are evident, since technically it allows for the production of ferroalloys and silicon metal with extremely low sulphur and phosphorous contents. It also allows for a better furnace electrical performance, with consumption reduction of energy, besides presenting economical advantages in comparison with other reducing agents.

For this objective, the Brazilian producers have, since the last 25 years, prepared themselves by planting more than 150.000 hectares of homogeneous forests for the supply of the total of consumption as well as to comply with the Brazilian legislation.

These reforestations also present a series of social and economic advantages, as they allow the utilization of any type of soil, principally in areas already degraded. Besides that, the ferroalloy and silicon metal producers are stimulating the small rural owner of areas not too far from their industries to plant small homogeneous forests in association with them. These small farmers have the opportunity to increase their income and produce charcoal at lower cost for the industries, due to the shorter distances for transportation.

ELECTRICAL ENERGY

In Brazil, 96% of the generated electric energy is from hydraulic source. There are only a few thermoelectric plants in the south, operating with mineral coal - abundant in this region, but with high ash content; in the north, there are small plants operating with fuel oil, finally, there is only one nuclear plant which operates erratically.

Due to the hydraulic origin and taking into consideration the flexible consumption characteristics, the Brazilian producers of ferroalloy and silicon metal have maintained with the generating power companies highly interesting cooperation, satisfying both parties. These need consumers to absorb the energy surpluses which will always exist, in less or more volume, during the greater portion of the year and which not consumed would result in avoidable energy losses and income, consequently.

The ferroalloys and silicon metal producers have also developed adequate technologies for the electric furnaces, in such a way that currently their operation is conducted with a high degree of modulation, which is performed during the periods of the highest energy demand. The producers may thus profit from a reduction of up to 25% from normal tariff.

Until recently, the Brazilian legislation did not permit private enterprises to build and operate hydroelectric plants for domestic consumption or for supply and sale the energy generated. This has been substantially modified, and nowadays it is willing to stimulate private organizations to invest in the construction and operation of such plants.

In the southeast and northeast of Brazil, where exists the highest concentration of our plants, there are many possibilities and availability of locations for the installation of small and medium size hydroelectric generating plants. Such locations are made available by the government to the private sector for the construction and operation for domestic consumption of sale of the generated energy.

Several companies of our area are studying projects for the utilization of such available potentials, which certainly will conduct to the construction and operation of generating plants for domestic consumption.

OUTLOOK

The Brazilian industry of ferroalloys and metallic silicon, modern, since recently installed and operated, has substantially invested to permanently participate in the world's market for their products.

This industry, therefore, presents substantial production factors which will allow for good competitiveness along the years to come, in spite of protectionistic pressures which have been launched during recent years by producers of countries or regions of high consumption, which, stimulated upon particular and eventual situations of our economy, distorted the market figures.

