

Mining

Overview

	2011	2012	2013 (estimated)
Total Market Size	4,670	5,000	5,180
Total Local Production	5,100	5,400	5,600
Total Exports	800	800	830
Total Imports	370	400	410
• Imports from the U.S.	100	100	110

Data in US\$ millions.

* Statistical data are unofficial estimates from trade sources and press reports.

Brazil has one of the largest mining markets in the world, with a strong local presence of subsidiaries of multinational companies that have local factories, as well as Brazilian companies that manufacture a wide variety of mining equipment and components.

Brazil is the world's fifth largest mineral producer and as a result, one of the world's largest mining equipment markets. The economic crisis significantly affected the sector in 2009; however, Brazilian output of most minerals has consistently increased in the last three years and the production level for most minerals is back near the record year of 2008. Although output of Brazilian mineral commodities increased, prices decreased significantly in 2012, except for gold, causing negative impacts on the financial situation of the mining companies. These prices depend basically on the international supply of and demand for raw materials.

China has played a very important role for Brazilian mining companies in recent years, as it has become the largest importer of Brazil's minerals, especially iron ore, Brazil's most important mineral. Most of the new projects developed in Brazil are linked to China's desire for Brazilian mineral resources such as iron ore. The concern is that the sector is becoming increasingly dependent on China's demand for mineral goods.

The Brazilian mineral potential still has not been fully surveyed, and significant discoveries of mineral deposits are expected in the future. Most of Brazil's mines are open pit so the underground mining equipment market is very small, though more underground mines are expected to open in the future.

Brazil's largest installed mining operations are for iron ore, with 2012's output at 480 million metric tons/year (Mt/y), representing nearly 16.5% of the world's total. Brazil has other significant production in minerals such as:

- Bauxite 35 Mt/y in 2012, or 14% of the world's total
- Gold 70 t/y in 2012 of metal contents, or 2.4% of world's total
- Kaolin 3 Mt/y or 6% of the world's total in 2011
- Manganese 2.6 Mt/y of concentrate or 20% of the world's total in 2011
- Niobium 80,000 t/y in 2011, with 94% of the world's totals
- Potassium Chloride 550,000 t/y in 2012
- Phosphate concentrate 6.5 Mt/y of concentrate in 2011
- Zinc 290,000 t/y of metal content in 2012 or 2.3% of world's total
- Lead 25,000 t of primary lead and 142,000 t of recycled lead
- Copper 450,000 t of ore in 2012 (2.5%), estimated 660,000 t/y by 2016

- Tin 12,000 t of Sn content in 2011
- Nickel 83,000 t Ni content in 2012
- Uranium 180 t of U3O8 concentrate
- Construction aggregates 700 million t/y in 2012
- Raw Mat. for cement 68 Mt/y of cement made in Brazil in 2012

The total Brazilian mineral output in 2012 was US\$55 billion, including the value of commodities concentrated in the central state of Minas Gerais (48% of the total) and in the northern state of Pará (in the Carajás mining area of the Amazon region), with 28% of the total.

Brazil's coal production is small and has been stagnant for the last 20 years. The output in 2011 was only 6 Mt/y of steam coal (compared to 5 Mt/y in 1991), but there are plans to increase its output to 12 Mt by 2016, in order to supply several coal power plants. Total Brazilian deposits of coal are estimated to be 32 billion metric tons. There are nine coal power plants currently in operation in Brazil, with a combined capacity of 2,000 MW, equivalent to only 2% of the total electricity consumption of this country. There are projects by local companies to start up several new coal power plants in Brazil in the next 5 years, for a combined capacity of 4,000 MW.

Brazil is one of the largest importers of metallurgical coal, used by local steel manufacturers. It has imported approximately 16 million metric tons/year (US\$2 billion) of metallurgical coal in the last year. Metallurgical coal totaled 46% of the total value of Brazilian mineral imports in 2011. The main supplying countries have been Australia, United States of America, Canada, and South Africa. Vale, the largest Brazilian mining company has made large investments in coal mining in Australia and in Mozambique in the last five years. It had an output of 7 million t/y of coal in these countries during 2011. The total deposits are 2.5 billion metric tons and the total output is planned to reach 40 Mt/year.

The United States has always been one of the largest exporting countries to the Brazilian mining market, with a share of 20% to 30% of Brazilian imports. Official statistics show that the United States has exported hundreds of types of components for mining machinery in Brazil. Other very strong exporters and competitors have been Germany, Sweden, Canada, China, France, Italy, Finland, and Japan.

Sub-Sector Best Prospects

Brazil has a very limited market for turnkey machinery in general, as a large number of leading multinationals manufacturers have their own factories in Brazil. Many of them even export their products made in Brazil. These companies, however, provide excellent opportunities for U.S. manufacturers of hundreds of parts and components for most types of mining equipment, such as earth-moving machines, belt conveyors, crushers and grinding equipment, laboratory instruments, drill bits and geological survey.

Products (or components) that are not locally produced, either by foreign or local firms have the highest success rate for entry into the market. Otherwise, the imported product will need to offer much higher technology or cost/benefit compared to the locally-made ones, as local companies tend to prefer buying locally even if there is a difference in quality. Import taxes and fees in Brazil are very high in the mining sector, and import procedures are complicated and bureaucratic, leading buyers to favor local over imported products.

Opportunities

The Brazilian market for mining equipment is very competitive. Most large multinational manufacturers have factories in Brazil, where they manufacture for the domestic market and frequently also export from Brazil to many other countries. Typically, these companies use 50% to 90% Brazilian-made components to build their equipment in Brazil, in terms of value of the final product. For example, Caterpillar has a huge factory in Brazil, with total sales of more than US\$2 billion/year, and it exports more than 50% of its Brazilian-made machines all over the world. In 2012, Caterpillar, which has had line of earthmoving machinery in Brazil for over 50 years, has added a factory of locomotives in Brazil.

Other international firms present in the market include Cummins, GE, P&H MinePro, Ingersoll Rand, Goodyear, Terex, 3M, Eaton, ITT, Bucyrus Erie, Timken (US), Volvo, Scania, Tamrock, Asea Brown Boveri, Atlas Copco, Sandvik, SKF (Sweden), Case New Holland, Iveco, FIAT (Italy), Siemens, Liebherr, Schenk Process, Voith, Mercedes Benz, Wehr, Thyssen Krupp, Kuttner, Koch, MAN, Schaeffler (Germany), Michelin Tires, Alstom, Saint Gobain (France), Komatsu, Toshiba, NSK (Japan), Metso, Outokumpu (Finland), Orica (Australia), and JCB (UK).

There are many Brazilian manufacturers competing with similar technologies, or have technology transfer agreements with foreign companies and dominate big shares of the market. The largest ones include Randon, Villares, Bardella, Dedini, Jaraguá, and Isomonte. There are also hundreds of medium-sized Brazilian companies that specialize in manufacturing all types of parts and components for the suppliers of turn-key equipment.

Prospective Buyers:

VALE S.A. (formerly known as Companhia Vale do Rio Doce): Brazil's largest, and the world's second largest mining company is VALE. Privatized in 1997, VALE is responsible for nearly 50% of Brazil's mineral output in terms of value, and represents an excellent opportunity for U.S. equipment suppliers. VALE produces nearly 90% of Brazil's iron ore output; 100% of potash, 85% of manganese, 43% of kaolin, 80% of bauxite, and it is also the top player in aluminum, copper, and nickel production. The output of its main minerals in 2012 was 320 million metric tons (Mt) of iron ore, plus 55 Mt of iron ore pellets, 2.4 Mt of manganese ore, 237,000 tons of nickel (metal content in ore), 15 Mt of bauxite, 292,000 tons of copper (contents in ore), 550,000 tons of potassium chloride, 7 Mt of coal and 8 Mt of phosphate rock. VALE is also the top logistics player in Brazil, especially for ports and railroads, not only for its own use, but also as a supplier of logistics services to other companies. It is the largest Brazilian consumer of electricity. Over the last decade, VALE has diversified further, buying the Canadian company INCO (the world's second largest nickel producer), plus increasing coal projects in Australia and Mozambique. VALE had significant years of increased growth until the economic crisis of 2008. Since the end of 2009, however, the situation has been slowly improving again albeit at a slower pace.

Anglo American has a large iron ore project located in Minas Gerais, which will start in 2014 with an output of 26 million metric tons. Since 2010, Anglo also has a big nickel project named "Barro Alto," with an output of 36,000 kt/year in ferro-nickel alloys.

AngloGold Ashanti is the second largest gold producer in Brazil, with an output of 480,000 troy ounces in 2010, and projects to increase its output in Brazil to 670,000 troy ounces in the next three years.

MMX, a newcomer that had started three large iron ore projects in Brazil in 2007, but sold a majority to Anglo American. Its output was nearly 9 million t/y of iron ore in 2012. MMX has a “Bom Sucesso” project that will start in 2015 with an estimated 9 million t/y.

Usiminas, Brazil's largest steel manufacturer, has an output of currently 12 Mt of iron ore, and projects to expand to 29 Mt by 2017, in a joint-venture with the Japanese-owned Sumitomo.

CSN: 30 Mt/y of iron ore in 2012, with a project to expand its output to 40 Mt/y. It is also the second largest Brazilian steel producer.

ArcelorMittal with an output of 4 Mt of iron ore in 2012, and projected expansion to to 10 Mt by 2015. This company is Brazil's third largest steel producer.

Samarco: 24 Mt of iron ore and 17 Mt/y of iron ore pellets in 2012. The company is a consortium between CVRD and BHP.

Gold: The total Brazilian output of gold in 2012 was 70 metric tons of gold metal. It is expected to expand to 90 t/y of gold metal in 2016, according to the Brazilian Mining Institute. The Canadian Kinross Group became Brazil's largest gold producer in 2008, when it started up a new project of US\$550 million and increased its output of gold metal from 5.4 to 17.2 metric tons / year. Other large producers of gold in Brazil are AngloGold Ashanti, Yamana Gold and Jaguar Mining. Luna Gold and Belo Sun have projects to start producing gold in Brazil in 2013. Individual prospectors have a share of nearly 13% of the total output.

Votorantim: This Brazilian group is the only local producer of zinc, and has a share of approximately 40% of the local production of cement. It is a big producer of bauxite and aluminum.

MRN is the largest producer of bauxite in the world, with 18 Mt/y. The company is a consortium that includes Vale (40%), BHP Billiton Metals (14,8%), Alcan (12%), CBA (10%), Alcoa (13,58%), Norsk Hydro (5%), and Abalco (4,62%).

Market Entry:

It is necessary for foreign manufacturers of equipment to have some degree of a local presence in Brazil. Most multinational manufacturers of mining equipment already have factories in Brazil, as explained above. Smaller companies that cannot afford to establish a local subsidiary must at least have good Brazilian representatives that can supply or subcontract technical maintenance and some degree of local assembling.

The mining companies, even the very large ones, prefer to contact Brazilian representatives and do all the import procedures through them, instead of contacting the foreign suppliers directly.

Price and just-in-time delivery for components are the key factors for most importers. Some large mining companies have their own bonded warehouses where they store imported products in Brazil, locked under customs' agreement. These products will go through customs and be paid only when they really need to be used. Unskilled labor is relatively cheap in Brazil compared to the U.S., so equipment that makes redundant large numbers of employees are not necessarily financially attractive to Brazilian companies. Highly qualified workers, especially engineers, earn competitive wages as in the U.S.

Import taxes in Brazil are very high. Import duty on mining equipment typically ranges from 5% to 12% as calculated based on the CIF (cost, insurance and freight) price. These import duties are adopted as a single tariff structure for the Mercosur free trade area which also includes Argentina, Paraguay (suspended), Uruguay, Chile, Bolivia and Venezuela. There are also three local taxes. Note that these taxes apply to both local and foreign products:

- IPI Industrialized Products Tax, federal tax calculated on top of the CIF price plus Import Tax, it is from 5% to 8% for most products.
- ICMS Merchandise and Services Circulation Tax, a state government value-added tax. It is 18% of the final price in most Brazilian states and products.
- PIS/COFINS, Social Integration and Social Security Financing Contributions: 9.25% but it can represent up to 12.63% of the CIF price due to complex calculation formulas.
- Additional Miscellaneous Taxes and Fees: Warehousing, handling charges at port, transportation, etc.

Exposibram, the Brazilian mining show, is held every year in the cities of Belo Horizonte or Belem. It is sponsored and organized by the Brazilian Mining Institute IBRAM, with support from most local mining companies and manufacturers of mining equipment. This show is recommended for U.S. companies looking to understand or partner with Brazilian mining companies and related government entities that travel to the show from around the country. Kallman Worldwide is the representative of this show in the USA. Website: <http://www.exposibram.org.br>

Web Resources

- For more information contact Industry Specialist Mauricio Vasconcelos at mauricio.vasconcelos@trade.gov
- U.S. Commercial Service/Brazil: <http://www.buyusa.gov/brazil>
- U.S. Commercial Service Market Research Worldwide: <http://export.gov/mrktresearch/index.asp>
- Ministry of Mines and Energy (MME) <http://www.mme.gov.br>
- Brazilian Geological Service <http://www.cprm.gov.br>
- VALE <http://www.vale.com>
- Brazilian Mining Institute (IBRAM) <http://www.ibram.org.br>
- Magazine Brazil Mineral www.signuseditora.com.br
- Magazine Minerios www.minerios.com
- Magazine In the Mine www.inthemine.com.br
- Professional Geologists Association www.geologo.com.br
- ABIMAQ - Brazilian Association of Machinery Manufacturers, database of manufacturers: <http://www.abimaq.org.br>
- InfoMine Portal: <http://brasil.infomine.com>