



cutting through complexity

MINING

Brazil

Country mining factsheet

kpmg.com

KPMG INTERNATIONAL



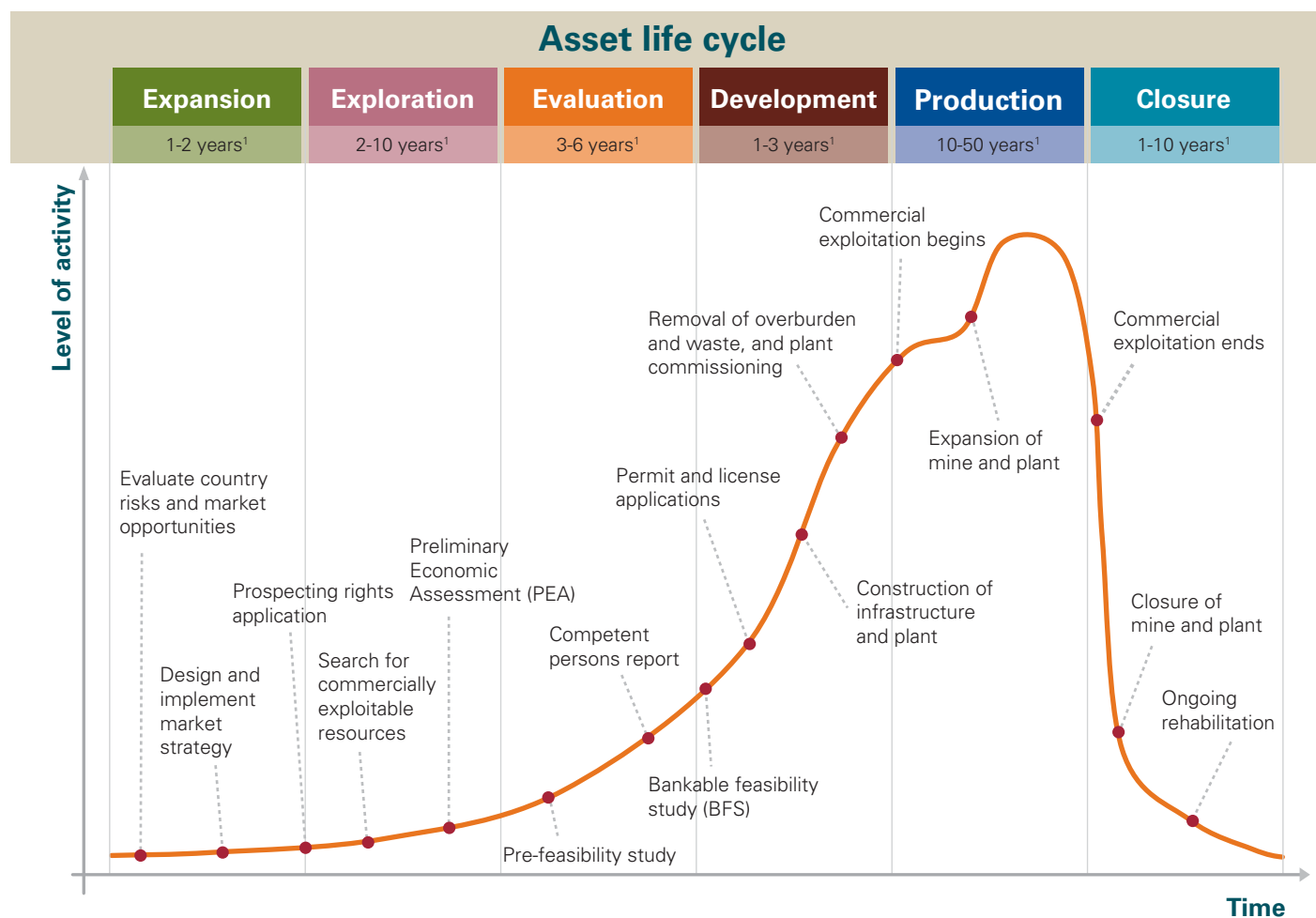
Growth Series



Contents

| | |
|--|----|
| Country snapshot | 6 |
| EIU rankings: ease of doing business | 7 |
| Type of government | 9 |
| Economy and fiscal policy | 9 |
| Fraser institute rankings | 10 |
| Regulatory environment | 11 |
| Sustainability and environment | 12 |
| Taxation | 13 |
| Power supply | 16 |
| Infrastructure development | 16 |
| Labor relations and employment situation | 17 |
| Inbound and outbound investment | 18 |
| Key commodities – production and reserves | 19 |
| Major mining and metal companies in Brazil | 24 |

Mining asset life cycle

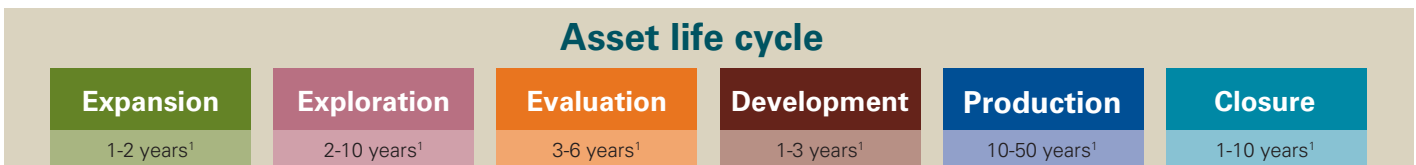


Source: KPMG International, 2012.

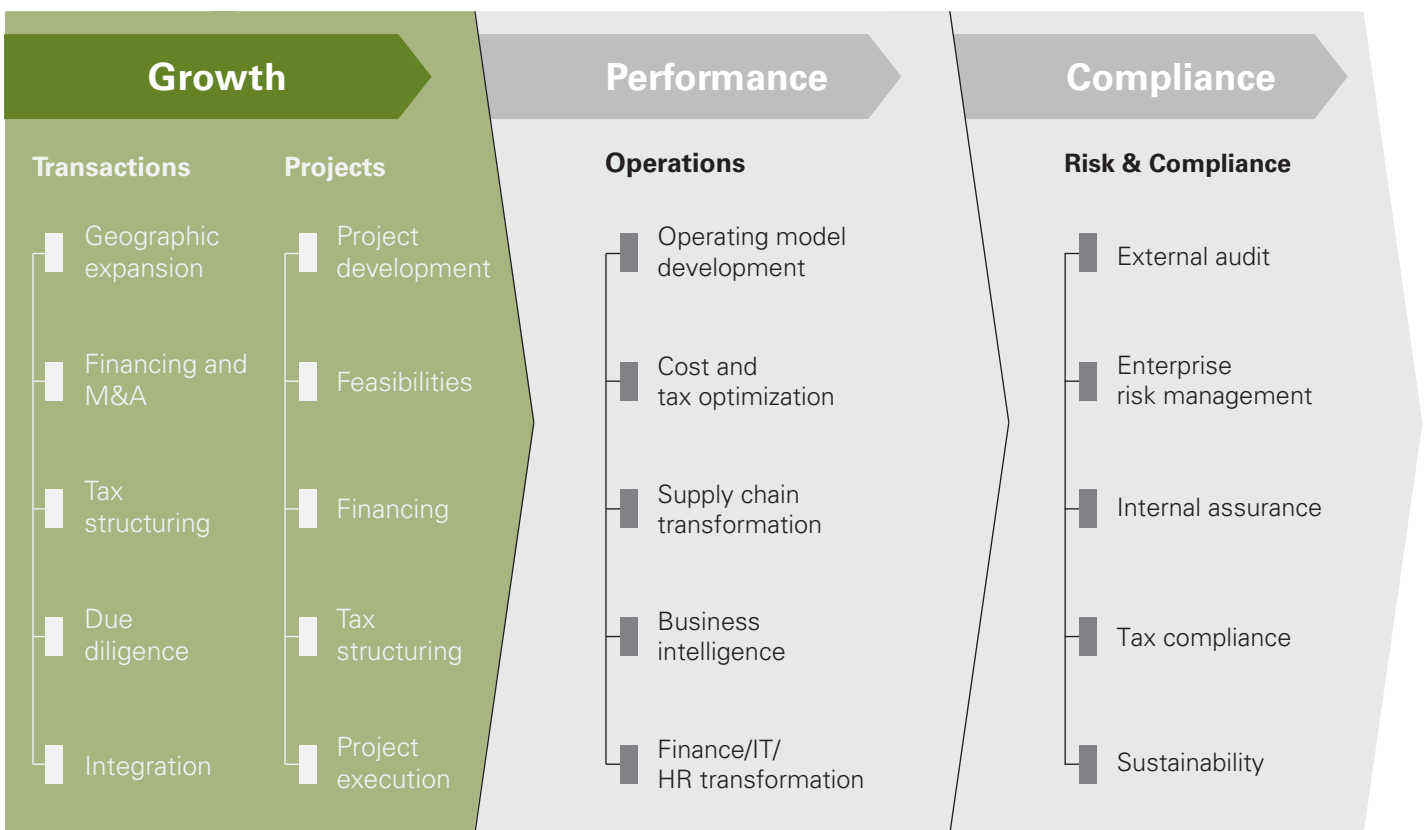
Note: (1) Estimated duration of stage in the mining asset life cycle

(2) Reflects key activities only at each stage of the mining asset life cycle

KPMG mining growth solutions



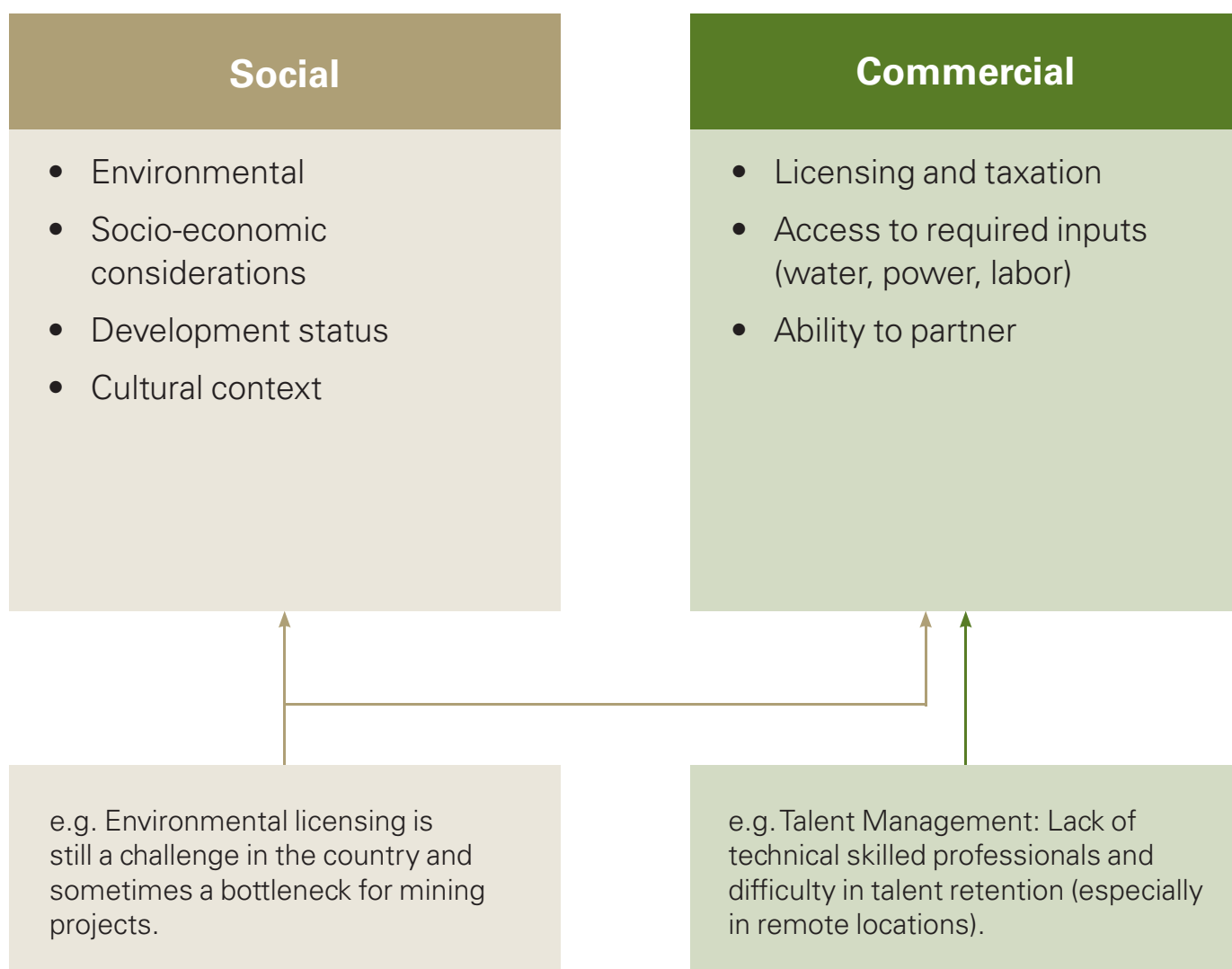
Your asset life cycle – How KPMG can help



KPMG mining growth solutions

KPMG in Brazil's risk framework to

External factors



assess new geographic expansion

Macro-drivers

- Local macro-economic environment
- Infrastructure
- Physical security of people and assets

e.g. Infrastructure in Brazil is underdeveloped. Even though the government has a program for growth of investment in this area there is still a lot to do.

Political

- Investor/asset owner protection
- Political and judicial environment
- Political vision for the sector
- Risk regarding ethical compliance
- Exchange control

e.g. New regulation: a new regulation for the sector is expected for 2012 with changes in taxation and mining rights rules.

Country snapshot

Brazil ^{1,2}

Geography

The Federative Republic of Brazil, commonly known as Brazil, is the fifth largest country in the world and the third largest in the Americas, after the US and Canada.

- Located in the eastern part of South America (10°00 S, 55°00 W) and spread over 8,547,403 square kilometers, Brazil is slightly smaller than the US.
- For administrative and political purpose, the country is divided into 26 states and a federal district, grouped into 5 regions : North, Northeast, Central West, Southeast and South.

Climate

In Brazil, the climate varies considerably with latitude and elevation. While in the North, the climate is mostly tropical, in the South, it is temperate. Most of Brazil has an undulating terrain, with flat and rolling lowlands in the North. The country also has two of the world's largest river systems – the Amazon in the North and the Paraná river system in the South.³

Population

With an estimated population of 203 million (July 2011), Brazil is the fifth most populated country in the world. Its population is relatively young, with median age of 29.3 years.

Currency

In 1994, as part of the economic reforms, aimed at bringing stability to the country's finance and control the three decade-long inflation, Brazil launched a new currency – the real.

In the 1980s and early 1990s, Brazil had made a number of changes in currency amid fluctuations and changes in the economy. However, the current currency system has been stable since its introduction in mid-1990s.⁴

Average exchange rate in 2011 was:

- BRL1.80: US\$
- BRL2.33: EUR⁵

Source: CIA Factbook and Economic Intelligence Unit (EIU)

¹CIA: The World Factbook, Accessed on December 28, 2011

²Brazil Country Profile, EIU, Accessed on December 28, 2011

³Brazil – the land, United Nations website, Accessed on December 30, 2011

⁴Currency and Money in Brazil, Kwintessential, accessed on December 28, 2011

⁵Oanda.com, Accessed on January 4, 2012

EIU rankings: ease of doing business

Brazil ranked 38th among the 82 countries covered under the EIU business environment ranking for 2006–10. The country ranked third, only behind Chile and Mexico in the regional ranking that included 12 countries from the South American region.

In the recent years, Brazil has witnessed economic stability, expansion of the domestic market and improved access to investment finance. However, weak infrastructure and complex tax system remain a drag to Brazil's ranking.

Over 2011–15, the business environment in Brazil is expected to improve slightly, according to EIU forecasts. This heavy tax environment and the existing infrastructure bottleneck are likely to remain the problem areas during the period.⁶

| Value of index ^a | | Global rank ^b | | Regional rank | |
|-----------------------------|---------|--------------------------|---------|---------------|---------|
| 2006–10 | 2011–15 | 2006–10 | 2011–15 | 2006–10 | 2011–15 |
| 6.50 | 6.74 | 38 | 37 | 3 | 3 |

Source: Economist Intelligence Unit

Note a. Out of 10

Note b. Out of 82 countries.

Note c. Out of 12 countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Mexico, Peru and Venezuela.



⁶Brazil Country Profile, EIU, Accessed on December 28, 2011



Type of government

Brazil, a federal republic, is one of the largest democracies in the world. The president, elected for a term of four years, is the head of both state and government. The executive powers rest with the cabinet, which is appointed and headed by the president. Control over the budget also lies with the president.

The country has 26 states and one federal district, which constitute its administrative divisions. Each state has its own judicial system. Besides, the country has a system of courts to deal with disputes between states and matters that lie outside the jurisdiction of state courts.^{7,8}

Economy and fiscal policy

Brazil has a well-diversified middle income economy, with developed and large mining, manufacturing and service sectors. Most of the country's industries are in its southern and southeastern parts.⁹

Brazil features among the quartet of leading emerging market economies, popularly known as Brazil, Russia, India and China (BRIC) nations. In 2010, the country surpassed Italy to become the seventh largest global economy. During that year, its Gross Domestic product (GDP) stood at US\$2,141.9 billion in terms of market exchange rates, and US\$2,188 billion in terms of purchasing power parity. Brazil was one of the first emerging markets to begin a recovery post the 2008 global financial crisis. In 2010, the Brazilian economy rebounded strongly and registered a growth of around 7.5 percent, after contracting by 0.6 percent in 2009.^{10,11}

Driven by strong domestic demand, favorable demography and plentiful natural resources, the country is forecast to grow significantly in the medium term. Over 2011–20, Brazil's GDP is expected to increase 4.3 percent annually, up from the average annual GDP growth of 2.9 percent over the past 25 years, according to the EIU. However, over 2021–30, the annual growth is expected to ease to 3.5 percent, as the working-age population entering the workforce begins to drop.^{12,13}

From 1960 through the 80s, the country faced a series of boom and bust periods and was regularly plagued with problems of high inflation and foreign debt. However, since the monetary and fiscal reforms introduced in 1994, which included measures such as the introduction of the real, the launch of an extensive privatization program and the focus shift on fiscal discipline, Brazil has significantly improved its macroeconomic stability.^{14,15}

Brazil has built up sizeable foreign reserves (US\$288.6 billion, as on 31 December 2010) and also reduced its public debt from 67.7 percent of GDP in 2005 to 54.3 percent (EIU estimate) in 2010. Further, it has also improved its external debt profile (US\$396.2 billion, as on 30 June 2011), by shifting its debt burden toward real denominated and domestically held instruments.^{16,17,18}

⁷CIA: The World Factbook, Accessed on November 21, 2011

⁸Brazil Country Profile, EIU, Accessed on December 28, 2011

⁹CIA: The World Factbook, Accessed on November 21, 2011

¹⁰CIA: The World Factbook, Accessed on November 21, 2011

¹¹Brazil Country Profile, Foreign & Commonwealth Office, Accessed on December 28, 2011

¹²Brazil Country Profile, Foreign & Commonwealth Office, Accessed on December 28, 2011

¹³Brazil Country Profile, EIU, Accessed on December 28, 2011

¹⁴Brazil Country Profile, Foreign & Commonwealth Office, Accessed on December 28, 2011

¹⁵Brazil Country Profile, EIU, Accessed on December 28, 2011

¹⁶Brazil Country Profile, Foreign & Commonwealth Office, Accessed on December 28, 2011

¹⁷Brazil Country Profile, EIU, Accessed on December 28, 2011

¹⁸CIA: The World Factbook, Accessed on December 28, 2011

Fraser institute rankings

Economic Freedom of the World 2011 Report¹⁹

Among the 141 countries covered in the Fraser Institute's *Economic Freedom of the World 2011 Report*, Brazil ranked 102nd, with a score of 6.19 on a scale of 10.

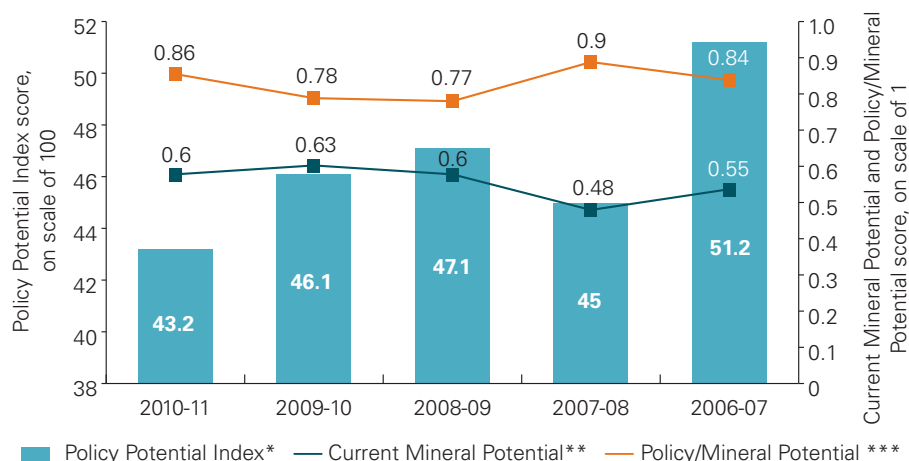
The annual peer-reviewed report ranks 141 countries around the world based on their policies that encourage 42 different economic measures in the following different areas:

- Size of government: Expenditures, taxes and enterprises
- Legal structure and security of property rights
- Access to sound money
- Freedom to trade internationally
- Regulation of credit, labor and business

Survey of mining companies 2010 / 2011²⁰

Brazil ranked ninth on Policy / Mineral Potential among the 79 countries covered by the Fraser Institute's *Survey of Mining Companies 2010/2011*. Figure 1 provides the country's scores on key indices of the survey.

Figure 1: Brazil's scores, Fraser Institute's Survey Of Mining Companies 2010/2011



Note *: The Policy Potential Index is a composite index that measures the effects on exploration of government policies

Note **: The Current Mineral Potential Index, is based on respondents' answers to the question about whether or not a jurisdiction's mineral potential under the current policy environment encourages or discourages exploration. It assumes current regulations and land use restrictions.

Note ***: The Policy/Mineral Potential Index is based on respondents' answers to the question about mineral potential of jurisdictions, assuming their policies are based on "best practices." It assumes no land use restrictions in place and the industry "best practices".

¹⁹Economic Freedom of the World 2011 Annual Report, Free The world, August 2011

²⁰Survey of Mining Companies: 2010/2011, Fraser Institute, March 2011

Regulatory environment

For the mining sector, Brazil has a complex regulatory framework, with jurisdiction and approval processes divided among municipal, state and federal governments. At the federal level, there are three key government agencies – the Ministry of Mines and Energy (MME), the National Department of Mineral Production (DNPM) and the Geological Survey of Brazil (CPRM).

In Brazil, mineral exploration licenses are granted by the DNPM and development concessions are issued by the MME. The DNPM has the responsibility of managing Brazil's mineral resources, including the supervision of the mining activity and the enforcement of mining related laws. The CPRM is the national agency responsible for collecting information on the country's geology, minerals and water resources.

The Ministry of Environment is responsible for developing environmental regulations. While the National Council of Environment (CONAMA) implements these regulations, the Brazilian Institute for Environment and Renewable Resources (IBAMA) acts as the primary licensing entity. New mining operations require environmental licenses at three different stages of development – a preliminary environmental license, an installation license (before the start of construction) and an operational license (before the beginning of operations).

In Brazil, exploration licenses (with three years' validity) are granted by the DNPM. Such licenses are then renewed on the basis of analysis and approval of the Final Exploration Report. Within one year of approval of the exploration report, mining concessions are granted by the MME. The concessions are granted for the period till the mineral deposit is exhausted.

Mining in Brazil is governed by the Mining Code (Act No. 227) of 1967. Aimed at providing an impetus to foreign investment in the mining sector, the mining code was amended in 1996, to provide greater flexibility to foreign investors. Successive amendments to the constitution have now made it possible for foreign entities to have 100 percent ownership of Brazilian companies.

Brazil is set to overhaul its existing mining code. As part of the revision, several measures are being considered, including changes in the licensing system for mine development, which are likely to limit the approval of new mining licenses for existing large producers of a given mineral and introduce a new auction system for mining licenses. In addition, creation of a new agency to regulate mining sector and increase in royalty payments are also being considered. Further, the government is also likely to introduce provisions for a set level of domestic sourcing, including that of parts and machinery for new mining projects, and increased processing of the minerals prior to exporting them.^{21,22,23,24,25}

²¹Mining in Brazil – State of the Industry Review, InfoMine, October 2011

²²Brazil – Not a Country for Beginners, Engineering & Mining Journal, February 10, 2011

²³What You Need To Know About Brazil's New Mining Code, And Why Vale Could Be Oversold, Business Insider, September 09, 2011

²⁴Brazil's New Mining Code To Introduce National Input Rule – ABDI, FOX Business, September 26, 2011

²⁵Brazil mining code to limit new licenses-report, Reuters, November 4, 2011

Sustainability and environment

One of the most important aspects of sustainability in Brazil is related to Climate Change, which led to unprecedented emission reductions voluntary commitments, called NAMA's or Nationally Appropriate Mitigation Actions. However, such initiatives have resulted in non-complimentary legislation at the federal, state and municipal level. Uncertainty around the regulatory framework for climate change in Brazil is adding complexity to mining companies – who are paralyzed between a position of action or reaction.

Currently Brazil has the National Policy on Climate Change, which establishes a voluntary reduction commitment of 36.1 to 38.9 percent of projected GHG emissions until 2020 – which was further detailed one year later by a decree stating some sectorial metrics to land use change, agribusiness, waste management and energy. In some regions such as São Paulo, there are both state and municipal level legislation. São Paulo State Climate Change Policy establishes a 20 percent reduction target over a 2005 baseline until 2020, whereas the municipal level sets a 30 percent reduction target over a 2005 baseline until 2012.

The framework currently under design roughly addresses energy issues, but it is expected to become more specific in the short term, with sectorial measures being implemented, certainly impacting the Oil & Gas and Mining sectors. One approach taken by pioneering mining companies was to enter the carbon market via the Clean Development Mechanism (CDM). However, by the end of the decade many of these abandoned the CDM and shifted to a risk management approach – comprising GHG inventory elaboration and accounting of emissions reductions – and enabling them to hedge against future regulations.

Other companies adopted a wait and see policy – prolonging until external stakeholders started to ask for data on their carbon footprints. The rapid interest from the investment community and organizations such as the Carbon Disclosure Project (CDP) and Sao Paulo Stock Exchange (BM&F Bovespa) resulted in many mining companies having to develop GHG accounting systems overnight to comply with increasing demands for non-financial information.

Taxation

In Brazil, mining activities receive the same tax treatment enforced on main others economic activities. Mining exploration and exploitation operations are subject essentially to regular Federal and State corporate tax regimes. However, there is also a main charge levied on mining activities due to the exploration and the financial return for the exploitation of mineral resources, known as Compensation for Exploitation of Mineral Resources (CFEM).^{26,27}

1. CFEM

The Financial Compensation is calculated over the amount of the net revenue, obtained in the sale of the mineral product. Net revenue results from the sale of the mineral product, minus taxes (ICMS, PIS, COFINS) due in the commercialization, as well as the expenses with transport and insurance.

| Mineral product | Rate (%) |
|--|----------|
| Bauxite, managanese ore, rock salt and potassium | 3.0 |
| Iron ore, fertilizers, mineral coal and other mineral substances | 2.0 |
| Gold (when produced in prospecting, it is exempt) | 1.0 |
| Precious carbon, colored, cuttable stones and precious metals | 0.2 |

* Gold produced in prospecting is exempt

However, the Federal Government is currently studying a possible hike on the rate of CFEM. Although such increase is being discussed primarily inside the government, many of the major players in the mining sector have been fiercely contesting such increase. At this time, the timeframe for the rates increase or even if they will really occur or not are still not fully clear.

2. Corporate income tax

Corporate Income Tax is a Federal tax charged on the company's book income, adjusted by certain additions (non-deductible expenditures) and exclusions (non-taxable revenues) to reach the taxable income. The rate is 15 percent on taxable income, plus a surtax of 10 percent on the annual income exceeding R\$ 240,000.

The Social Contribution on Profits is also a federal tax charged at 9 percent of taxable income. The tax base tends to be similar to the IRPJ tax base, although some specific adjustments may be required for one and not for the other.

²⁶Mining in Brazil – State of the Industry Review, InfoMine, October 2011

²⁷Brazil – Not a Country for Beginners, Engineering & Mining Journal, February 10, 2011



Companies can elect two different regimes to calculate the taxable income: actual or presumed profit systems. Please note that, according to the Company's net revenue, the actual profit system will be mandatory.

Under the actual profit system, net taxable income corresponds to the company's net book profit, adjusted by some inclusions and deductions per Brazilian corporate tax legislation.

On the other hand, the presumed profit is arrived at by applying an 8 percent rate over the revenue. The total amount of capital gains, financial revenue and other revenue must be added to this presumed profit base to compute the corporate taxes. The corresponding tax rates are then applied over the presumed profit.

According to the Brazilian tax legislation the tax losses can be carried forward indefinitely against the profits of future periods, however the offset is limited to 30 percent of the current year taxable income.

In particular, tax loss carry forwards will forfeit, if, cumulatively, between the date of the record of the tax loss carry forward and the date of its utilization, the change of the company's control and the change of the company's activity occur

2.1. Tax deduction – mining operations

The Brazilian legislation allows for some expenses related to mining operations to be considered deductible to income tax purposes. Such as:

- **Exploration tax deductions**

The expenses incurred during the exploration stage and when expanding the reserves of the mine may be deducted as operational expenses for tax purposes, or capitalized and amortized for the minimum period of 5 years from the start-up date of the mine.

- **Development tax deduction**

The expenses incurred in the mine's development may be capitalized and amortized for the minimum period of 5 years from the start-up of the mine.

- **Depletion tax deductions**

The amount corresponding to the decline in value of mineral resources deriving from their exploitation may be computed as cost or charge, in each period of assessment.

The exhaustion quota will be determined in accordance with the principles applying to asset depreciation, based upon the cost of acquisition or prospecting of mineral resources exploitation.

The exhaustion quote calculation takes into consideration the volume of production in the year in relation to the mine's known reserves, having as base on the cost of acquiring or obtaining the restated mining rights or, if the company is not the holder, the duration of the mine's leasing contract.

2.2. Tax incentive – exploration profit

As a Federal tax incentive, we point out a possible reduction of 75 percent of the Corporate Income Tax. In this context, companies that have their projects approved for the set-up, modernization, extension and diversification of businesses recognized as priority for the regional development (companies located mainly in the North and Northeast of the country – where several mining companies are located) may benefit from a 75 percent reduction of the income tax during a 10-year period

3. PIS/COFINS (Tax over revenues)

PIS/COFINS can be collected under a cumulative and a non-cumulative regime (debt-credit system, similar but not identical to a value-added tax). Usually, opting between these regimes is locked with the choice with the assessment regime for Income tax.

PIS/COFINS is assessed under a combined rate of 9.25 percent (non-cumulative) and 3.65 percent (for cumulative regime).

For non-cumulative regime, the combined rate of 9.25% can be used to calculate credits over the acquisition of some goods and services as well as rent.

4. ICMS (State VAT)

The ICMS is a state tax levied on the intermunicipality and interstate circulation of goods and transport and communications services, and the amount payable on each operation must be stated on the corresponding outgoing invoice.

The ICMS taxpayer is entitled to deduct the amounts levied on prior transactions with the same goods or on the acquisition of raw materials, intermediary material and packaging used by the establishment for manufacturing the taxed products from the amount payable (non-cumulative regime).

ICMS is due on the dispatch of goods sent to entities within the state at the rate of 17 percent or 30 percent, depending on the state and on the good.

5. Additional tax deductions

In Brazil, a wide range of government incentives are provided. Usually, incentives take the form of subsidized loan financing and of tax exemptions or reductions, rather than cash grants (mainly State tax – ICMS – incentives – the so-called State Tax War). The concessions are presented to encourage economic development in Brazil, either on a regional or industry basis, by offering taxpayers the opportunity to invest part of their tax liability and also by granting fiscal incentives for approved investments.

6. Other tax considerations

- Import tax (II): In the case of mineral products, the rates of this tax might vary from 3 percent to 9 percent.
- Export tax (IE): Does not apply to exported mineral products (exempt).
- Tax on industrialized products (IPI) does not apply to mining activities.

Power supply

Power generation (capacity) has substantially grown in Brazil (in the last few years); however, in order to meet the demand (expected) for the next 10 years, this capacity will have to grow by 60 percent, according to forecasts of the 2020 10-year Power Plan conducted by EPE (the Power Research Institute) and the Ministry of Mines and Energy. The country will increase its installed power (capacity) from 110,000 MW in December 2010 to 171,000 MW in December 2020.

Brazil currently has a power generation matrix predominantly based on renewable sources, 75.4 percent out of which come from hydro resources. The rest comes from natural gas (8.1 percent), biomass (4.7 percent), small hydroelectric power plants – SHPs (3.6 percent), thermoelectric power plants (3.2 percent), coal (2.2 percent), nuclear power plants (1.7 percent) and wind farms (1.1 percent). It is worth stressing the increase in the complementarity of the Brazilian power matrix, by means of alternative sources, which has been witnessing a 12 percent annual expansion, with highlights for wind farms, sugarcane bagasse biomass and

SHPs. Nevertheless, the country's great hydraulic (power generation) potential which has not yet been explored is concentrated in the North region (the Amazon), which, due to socioenvironmental reasons, does not allow the construction of hydroelectric power plants with large reservoirs, situation which poses a risk to power supply during certain periods of the year. The shortfall in power supply of these hydroelectric power plants would trigger the use of oil-fueled thermoelectric power plants, thus resulting in an increase in power prices for the final consumer. This fact strengthens the importance of the increase in the complementarity of the Brazilian power matrix, by means of more economically viable and less pollutant alternative sources.

Another challenge that the Brazilian government faces is the need for investment in transmission lines to integrate the new (power) generation projects of the North region to the major consumer centers. According to the 10-year power plan, the length of the national grid of approximately 100,000km in 2010 will grow to approximately 142,000km in 2020.

Infrastructure development

According to Brazil's Ministry of Finance the country's growth prospects remain positive for the next years. Until 2014 Brazil's economy is expected to achieve annual growth of 5 percent to 6.5 percent. This expected growth poses both opportunities and challenges, especially in respect of investing in infrastructure.

Currently Brazil has a serious infrastructure deficit, primarily in ports, railways, airports, urban transportation and sanitation. The National Bank for Economic and Social Development (BNDES) has reported that the country invested 2.1 percent of its GDP between 2006 and 2010 (this falls short of the minimum investment rate of 3 percent of GDP recommended by a World Bank study).

To act on this gap the government announced in 2007 the first wave of an investment program (Programa de Aceleração do Crescimento – PAC) to accelerate the country's growth plans. The objective was to encourage private investment in

energy production, logistics and agribusiness. The 2nd wave of the program (PAC 2) was launched announced in 2010 to begin in 2011 and had the objective of attracting the major infrastructure contracts, particularly as Brazil prepares to host the 2014 World Cup (Soccer Major Event) and 2016 Olympic Games in Rio de Janeiro. In a recent study the BNDES is projecting investments in Brazil's economy of more than US\$ 1.5 trillion until 2014. However, for this to occur the country needs to diversify its long-term source of funding, most of which today is provided by BNDES.

These investments will change the actual infrastructure environment and push Brazil's growth in many sectors such as mining.

Labor relations and employment situation

The employment relationship in Brazil is strongly regulated and there is very few room for negotiation of conditions as the rights and duties of both employers and employees are stated in the CLT – Consolidation of Brazilian Labor Laws, issued in 1943. Labor rights can also be regulated by collective bargaining and Agreements that complement CLT for specific groups and/or categories. Any individual remunerated for services, on frequent basis, under the employer subordination (obedience to rules and orders given by the employer) is an employee and no formal written employment agreement is required as oral agreements are fully valid and enforceable, subjecting the employee and employer to the rules and regulation of the CLT.

Brazil's recent economic development and investment scenario has placed demands on the job market which has resulted in unemployment rates being extremely low (5 percent). Of course the highest demand gap is qualified and bilingual professionals and estimates indicate a five digit lack in engineers, for example. Companies are optimizing the use of such resources and importing professionals from several countries is a reality although governmental rules for expatriates working visa are strict as well. The blackout is

noticed in almost every level and region and employees are in a position to demand more salary, benefits and conditions. As a consequence, companies are working in employment brand proposition and attraction/retention strategies and the increase in turnover rates is a general complain despite of the costs increase.

The mining sector in Brazil is growing fast and demands an increasing number of skilled workers to confront this trend. Mining is still a male dominated industry but recent data has indicated an increasing presence of women over the past several years. In 2011 the mineral sector employs about 2.1 million workers directly, apart from the jobs generated during exploration, prospecting and planning stages, and the people working in the panners. The industry faces challenges in Brazil such as lack of qualified employees, more demand for professionals than the market can offer and an increase in the salaries stimulated by aggressive competition among mining industries, causing also a huge turn over.

Please bear in mind that Brazil is currently, facing a blackout in its workforce, more dramatic for qualified professionals, e.g. unemployment rate is around 5 percent.

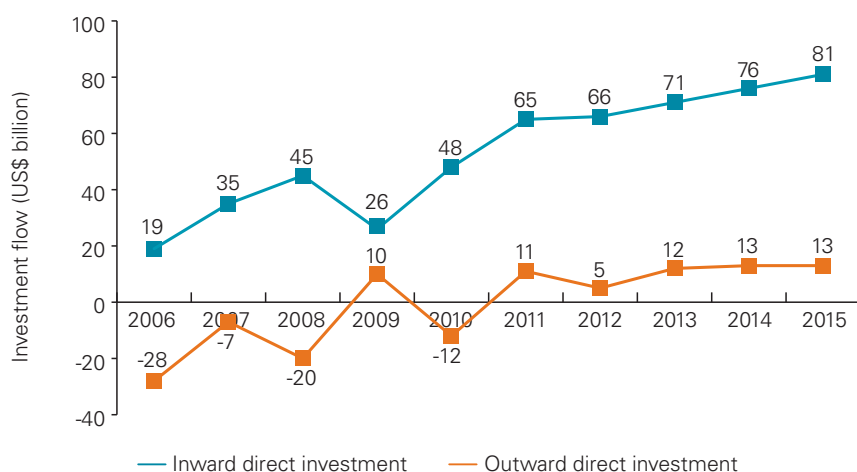




Inbound and outbound investment

In the recent years, Brazil has emerged as one of the world's leading destinations for foreign direct investment (FDI), alongside the other three BRIC nations. As a result, the country's inward direct investments have been outpacing its foreign inbound investment, as shown in Figure 4.²⁸

Figure 4: Trend for inward and outward direct investment in Brazil



Source: Economist Intelligence Unit

With a 7.4 percent GDP growth in 2010, coupled with its vast geological potential, Brazil is a promising market for investors to expand and grow. However, Brazil continues to rank poorly on ease of doing business. In the World Bank's 2011 survey on ease of doing business, it ranked 127th economy out of 183.²⁹

²⁸Miami: connecting Latin America's business flows – Hunton & Williams, Iberian Lawyer, August 24, 2011

²⁹Brazil – Not a Country for Beginners, Engineering & Mining Journal, February 10, 2011



Key commodities – production and reserves

Production level of key commodities in Brazil

Brazil is a leading producer of minerals. It produces and markets nearly 80 mineral commodities. Amid the commodity price boom, the country's mineral production reached US\$40 billion in 2010, registering 67 percent year-on-year (y-o-y) growth. In 2010, Brazil was the world's third largest producer of iron ore and rare earth elements, as shown in Figure 2. In addition, it was fifth largest producer of tin and sixth largest producer of aluminum and manganese.³⁰

Iron ore accounts for more than half of country's minerals export. Brazil is an importer of metallurgical coal, potash, copper, zinc and rare earths. By 2030, the country's mining sector output is likely to increase more than 200 percent.^{31,32}

³⁰Mining in Brazil: state of the industry review, Infomine, October 2011

³¹Mining in Brazil: state of the industry review, Infomine, October 2011

³²Brazil mining code to limit new licenses-report, Reuters, November 4, 2011

In 2012 Brazil's mineral production is expected to reach a record of US\$50 billion.

| Ores | Production on 2011 | Production on 2015 | Expected growth (%) |
|-----------|--------------------|--------------------|---------------------|
| Copper | 400.0 | 662.0 | 211 % |
| Nickel | 70.0 | 192.0 | 159% |
| Alumina | 14.4 | 18.9 | 112 % |
| Iron Ore | 467.0 | 771.5 | 107% |
| Phosphate | 6.3 | 11.6 | 84 % |
| Gold | 0.06 | 0.091 | 57% |
| Niobium | 90.0 | 120.0 | 50% |
| Bauxite | 31.0 | 44.7 | 41 % |
| Agregates | 516.0 | 672.8 | 30% |
| Zinc | 284.4 | 338.0 | 17% |

Source: IBRAM

Classification of Brazil's mineral production and reserves compared with the world's total

| Mineral | %BRA vs. World production | Ranking position | %Brazil vs. World reserves | Ranking position |
|-----------------|---------------------------|------------------|----------------------------|------------------|
| Niobium | 98% | 1st | 98% | 1st |
| Tantalite | 28% | 2nd | 50% | 1st |
| Iron Ore | 17% | 2nd | 11% | 5th |
| Manganese | 20% | 2nd | 1% | 6th |
| Bauxite | 14% | 3rd | 7% | 5th |
| Dimension Stone | 8% | 3rd | 6% | 6th |
| Kaolin | 7% | 5th | 28% | 2nd |
| Tin | 4% | 5th | 13% | 3rd |
| Copper | 2% | 5th | 2% | 13th |
| Zinc | 2% | 12th | 1% | 6th |
| Gold | 2% | 12th | 3% | 9th |

Source: DNPM/IBRAM

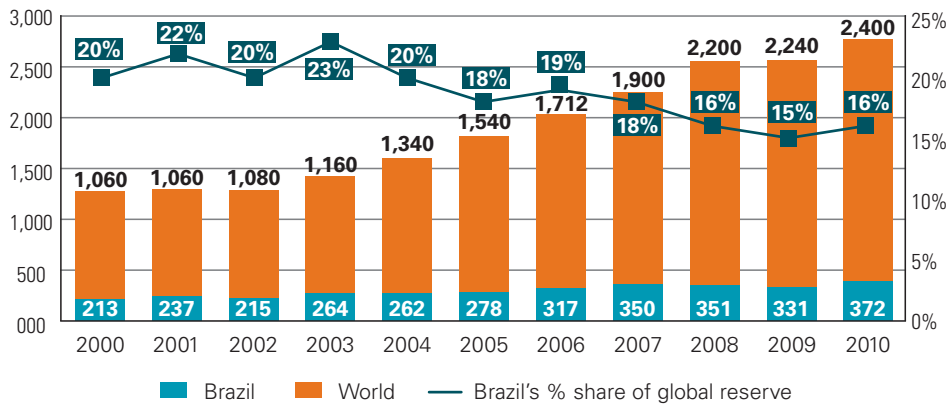
Mineral production: global position of Brazil

| Exporter (Global player) | Exporter | Self-sufficient | Importer/ producer | External dependency |
|--|--------------------------------------|--|--|---------------------------------|
| Niobium (1st) Iron Ore (1st) Manganese (2nd) Tantalum (2nd) | Nickel Magnesium Kaolin Tin | Limestone Industrial diamonds Titanium | | Metallurgical Coal Potassium |
| Graphite (3rd) Bauxite (2nd) Dimension Stone | Vermiculite Chromium Gold | Tungsten Talc | Copper Phosphate Diatomite Zinc | Sulphur Rare Earths |

Source: DNPM/BRAM/PNM 2030

Iron Ore production

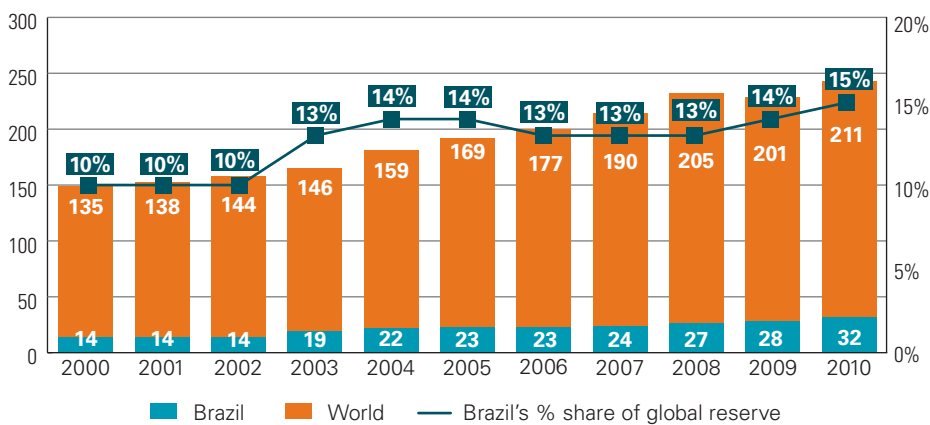
in thousands of tons



Source: DNPM/IBRAM/USGS

Bauxite production

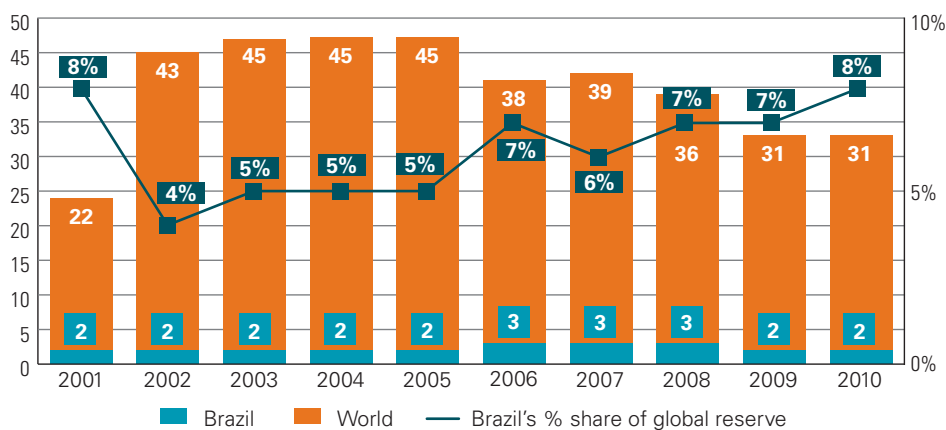
in thousands of tons



Source: DNPM/IBRAM/USGS

Kaolin production

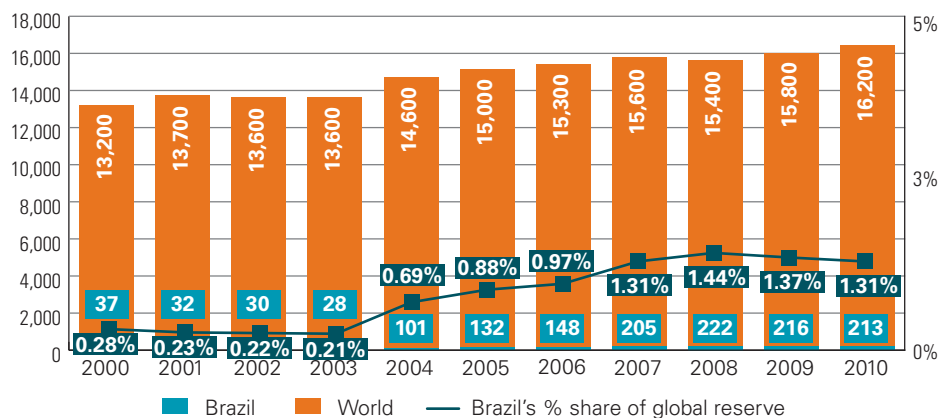
in thousands of tons



Source: DNPM/IBRAM/USGS

Copper production

in thousands of tons

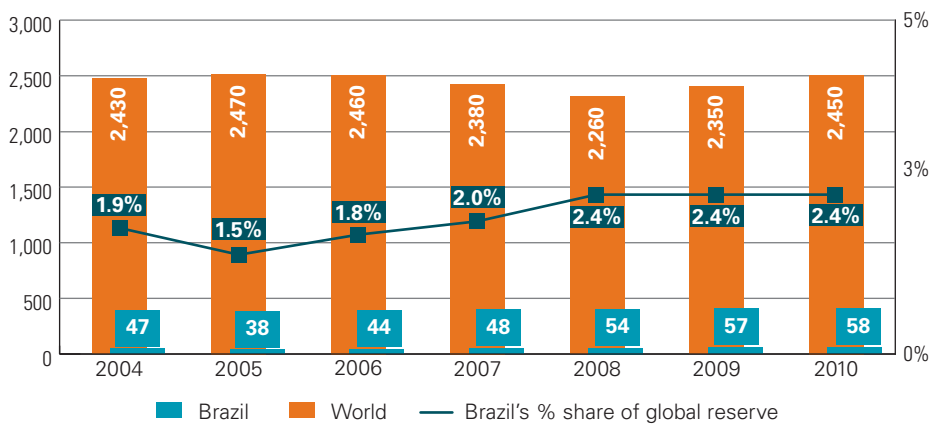


Source: USGS/DNPM/CSG and Index Mundi

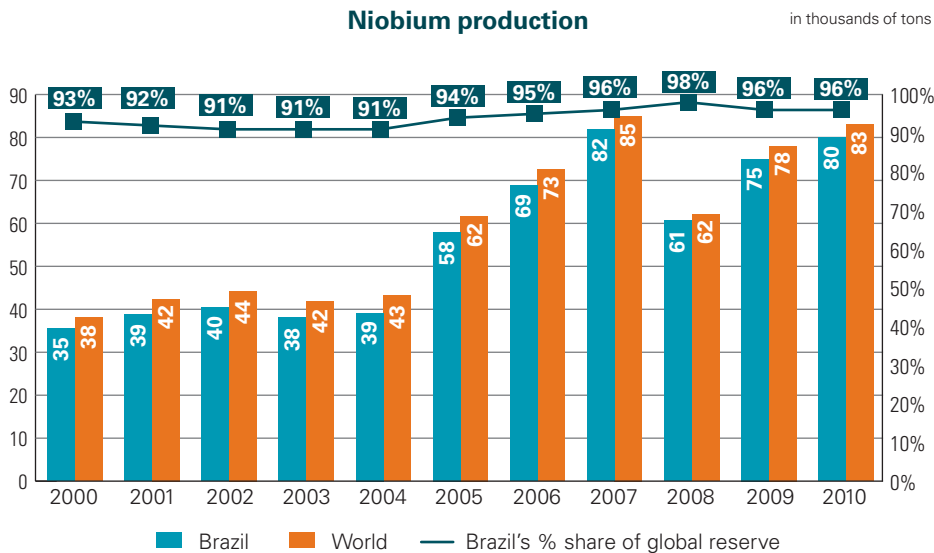
In Brazil the main producing States are PA (51 percent), GO (38 percent) and BA (11 percent)

Gold production

in tons



Source: DNPM/USGS

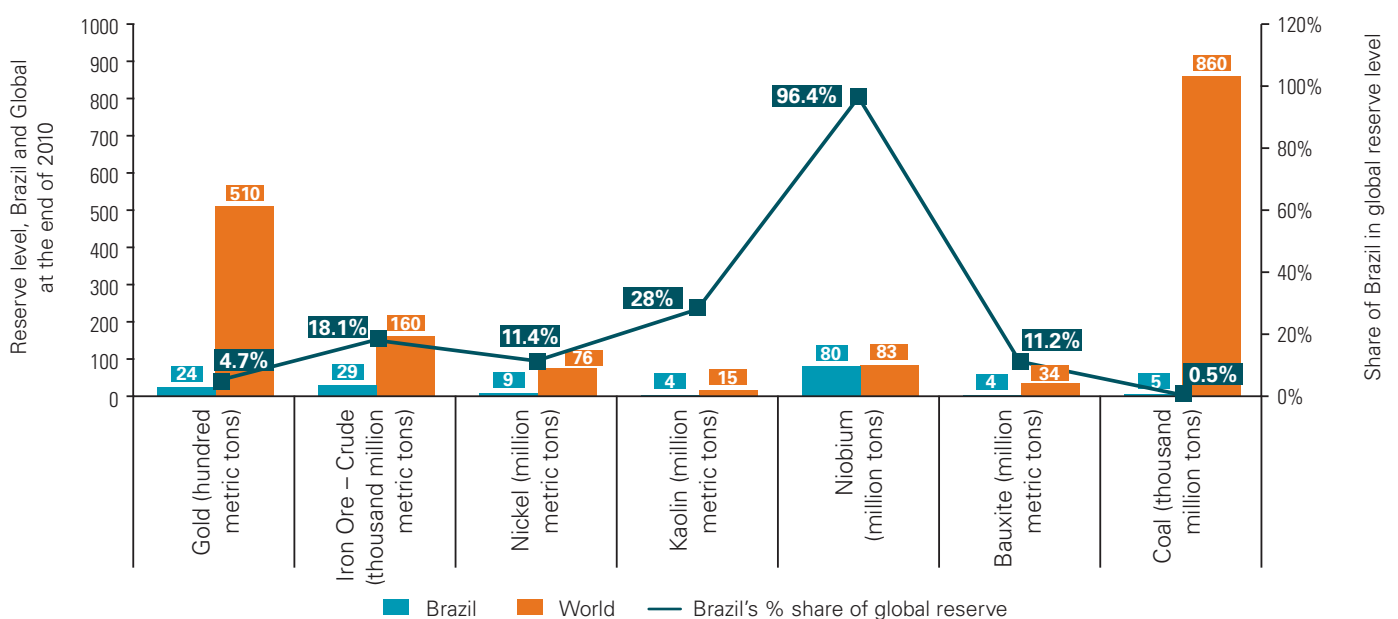


Source: IBRAM

Brazil's share in global reserves of key commodities

Given its diverse geological environment, the country is considered to have one of the largest mineral potentials in the world. Brazil has significant reserves of several important commodities such as Gold (2,400 metric tons), iron ore (29,000 million metric tons), nickel (8.7 million metric tons) and potash (300 thousand metric tons).³³ Minas Gerais, Para and Goias are its most mineral-rich states. Figure 3 below provides the reserve level of key commodities in Brazil and the country's share in the global reserve level, at the end of 2010.

Figure 3: Trend for inward and outward direct investment in Brazil



Source: US Geological Survey, Mineral Commodity Summaries

³³Mining in Brazil – Overview, MBendi Information Services, Accessed on December 29, 2011

Major mining and metal companies in Brazil

Key domestic players (sales revenue of more than US\$250 million in 2010)^{34*}

- Vale SA
- Gerdau Group (Gerdau SA, Metalúrgica Gerdau SA)
- Votorantim Participações SA (Votorantim Metais Zinco S.A., Votorantim Metais Ltda.)
- Camargo Correa SA
- Litel Participações, SA
- Companhia Siderúrgica Nacional – CSN
- Vicunha Siderurgia SA
- Usinas Siderúrgicas de Minas Gerais SA – USIMINAS
- Paranapanema SA
- Magnesita Refratários SA
- Iochpe-Maxion SA
- Bardella SA
- Eucatex SA Indústria e Comércio
- Mangels Industrial SA
- Eternit S.A.
- MMX Mineração e Metálicos SA
- Indústrias Romi SA
- Companhia de Ferro Ligas da Bahia – Ferbasa

Foreign companies with operations in Brazil

- BHP Billiton Limited (Samarco Mineração S.A.)
- Anglo American plc (Anglo American Brasil Ltda., Codemin S.A. Copebras, Anglo Ferrous Brazil)
- Kinross Gold Corporation (Kinross Brasil Mineração S.A.)
- AngloGold Ashanti Limited (Anglogold Ashanti Brasil Mineração Ltda., Mineração Serra Grande S.A.)
- Tenaris SA (Confab Industrial SA)
- SivenSA (Siderurgica Venezolana SA, International Briquettes Holding)
- Lyondell Chemical Company (Millennium Inorganic Chemicals do Brasil S.A.S.)
- Avellan (Calderas Y Tuberías Caltuca C.A.)
- Alcoa Inversiones España S.L (Alcoa Aluminio S.A.)
- Norsk Hydro ASA (Albrás – Alumínio Brasileiro S/A.)
- ArcelorMittal Brasil S.A. (Belgo Mineira Bekaert Arames S/A, ArcelorMittal Vega, Gonvarri Brasil SA)
- TK Aluminum Ltd. (Teksid Do Brasil Ltda.)
- Yamana Gold, Inc. (Mineração Maraca Indústria e Comércio S.A.)

* Note: Methodology used for identification of mining companies:

- For the identification of top mining sector companies in Brazil, we accessed Capital IQ to generate the list of companies operating in Brazil in the following industry sectors: aluminium, coal and consumable fuels, diversified, metals and mining, gold and steel. The list was then filtered to exclude domestic Brazilian corporations with revenue less than US\$250 million in 2010.
- The list of foreign companies with operations in Brazil includes companies whose ultimate parent company was headquartered outside Brazil.

Sources:

- CIA – The World Factbook
- UNDP
- World Bank
- Donor agencies
- Foreign and Commonwealth office
- Donor Agency websites: USAID, DFID, European Commission

³⁴Exame Melhores Maiores 2011 Magazine



Further insight

Growth Series



Growth in a time of scarcity: Managing transactions in the mining sector.

A combination of demand from the East, dwindling mineral resources and rising costs is reshaping the mining sector. As mining companies attempt to manage their asset life cycle in this new landscape, their three main strategic priorities are growth, performance and compliance. Whether organically or (increasingly) through mergers and acquisitions, growth is a perennial objective in an industry where assets continually erode. This guide is the first in a series that discuss how mining companies can best navigate the asset life cycle, and covers the five key elements of the transaction phase: geographic expansion, financing and mergers and acquisitions, tax structuring, due diligence and integration.

Commodity Insights Bulletins – Quarterly Report

Our series of bulletins focus on key mining commodities. Each bulletin is aimed to provide insight into trends, issues and changes within the key mining commodity sectors.

The series currently includes Aluminum, Copper, Gold, Iron Ore, Metallurgical Coal, Nickel, Platinum, Thermal Coal and Platinum.

For more information please visit:

www.kpmg.com/energy

Mining M&A Quarterly Newsletter

This quarterly publication provides a current snapshot of the M&A market providing a review of select key transactions while focusing on the rationale behind those deals as trends take shape.

Investment in Brazil

KPMG in Brazil launches the 11th edition, expanded and updated, of the Investment in Brazil guide. This publication, in English, gathers essential data for the foreign investor who is interested in doing business in the country to have a better understanding of the Brazilian economy, legislation, internal market and tax system, and other important information.

This publication gathers valuable information for the investor to know the attractions and challenges which are typical of Brazil. Its 14 chapters cover the following topics: investing in Brazil; how to invest; setting up a business in Brazil; controls on foreign trade; corporate taxation; incentives; international tax issues; commerce and customs; accounting; work; taxes on individuals; other legal aspects; sustainability; and KPMG in Brazil.

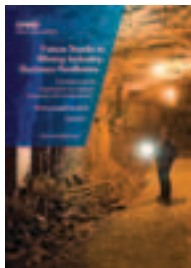
Performance Series



KPMG Mining Operational Excellence Framework

KPMG member firms have developed their own operational excellence framework over the last several years of association with leading mining companies. It starts off an organization on a journey of efficiency and then over time embeds such characteristics in its organization that makes the change sustainable over business cycles. This puts together all the capabilities necessary to assure the CEO of that “operation” will be able to adapt to support their hunt for the next opportunity, whatever its nature.

Compliance Series



Business resilience in the mining industry: conditioning the organization to succeed in an increasing risk environment

With uncertainty on all sides, mining organizations have to re-evaluate their approaches to organizational resilience. KPMG International examined a number of existing and emerging risks faced by mining organizations around the world and identified the attributes of the more resilient organizations. This paper moves ahead of those findings and looks at some practical solutions that can be employed by mining executives to increase resilience and provide a platform on which sustainable, profitable growth can continue.

Impact of IFRS: Mining

This publication provides assistance to companies in the mining sector who are considering converting to IFRS. It gives an overview of the IFRS conversion process and looks at the impact of conversion on IT systems, people and business processes. It also considers the main accounting and reporting issues faced by mining companies, and discusses the related elements of the IASB Discussion Paper Extractive Activities.

KPMG's Global Mining practice

KPMG member firms' mining clients operate in many countries and have a diverse range of needs. In each of these countries, we have local practices that understand the mining industry's challenges, regulatory requirements and preferred practices.

It is this local knowledge, supported and coordinated through KPMG's regional mining centers, which ensures our clients consistently receive high-quality services and the best available advice tailored to their specific challenges, conditions, regulations and markets. We offer global connectivity through our 13 dedicated mining centers in key locations around the world, working together as one global network. They are a direct response to the rapidly evolving mining sector and the resultant challenges that industry players face.

Located in or near areas that traditionally have high levels of mining activity, we have centers in Melbourne, Brisbane, Perth, Rio de Janeiro, Santiago, Toronto, Vancouver, Beijing, Moscow, Johannesburg, London, Denver and Mumbai. These centers support mining companies around the world, helping them to anticipate and meet their business challenges.

For more information, visit
www.kpmg.com/energy



Contact us

Eduardo C. N. Martins

National Sector Leader

T: +55 (21) 3515-9166

E: ecmartins@kpmg.com.br

Ulysses Magalhães

Audit Sector Leader

T: +55 (11) 2183-3133

E: umagalhaes@kpmg.com.br

Pieter Van Dijk

Advisory Sector Leader

T: +55 (21) 3515-9444

E: pdijk@kpmg.com.br

Roberto Haddad

Tax Sector Leader

T: +55 (21) 3515-9469

E: robertohaddad@kpmg.com.br

kpmg.com

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2012 KPMG International Cooperative ("KPMG International"), a Swiss entity. Member firms of the KPMG network of independent firms are affiliated with KPMG International. KPMG International provides no client services. No member firm has any authority to obligate or bind KPMG International or any other member firm vis-à-vis third parties, nor does KPMG International have any such authority to obligate or bind any member firm. All rights reserved.

The KPMG name, logo and "cutting through complexity" are registered trademarks or trademarks of KPMG International.

Designed by Evalueserve.

Publication name: Brazil – Country mining factsheet

Publication number: 120689

Publication date: September 2012