

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 20-F

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended: December 31, 2008

Commission file number: 001-15030

COMPANHIA VALE DO RIO DOCE

(Exact name of Registrant as specified in its charter)

Federative Republic of Brazil

(Jurisdiction of incorporation or organization)

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Avenida Graça Aranha, No. 26
20030-900 Rio de Janeiro, RJ, Brazil

(Address of principal executive offices)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

| <u>Title of Each Class</u> | <u>Name of Each Exchange on Which Registered</u> |
|--|---|
| Preferred class A shares of Vale, no par value per share American Depositary Shares (evidenced by American Depositary Receipts), each representing one preferred class A share of Vale | New York Stock Exchange* New York Stock Exchange |
| Common shares of Vale, no par value per share American Depositary Shares (evidenced by American Depositary Receipts), each representing one common share of Vale | New York Stock Exchange New York Stock Exchange* |
| 6.875% Guaranteed Notes due 2036, issued by Vale Overseas | New York Stock Exchange |
| 8.250% Guaranteed Notes due 2034, issued by Vale Overseas | New York Stock Exchange |
| 6.250% Guaranteed Notes due 2017, issued by Vale Overseas | New York Stock Exchange |
| 6.250% Guaranteed Notes due 2016, issued by Vale Overseas | New York Stock Exchange |
| 5.50% Guaranteed Notes due 2010, series RIO P, issued by Vale Capital | New York Stock Exchange |
| 5.50% Guaranteed Notes due 2010, series RIO, issued by Vale Capital | New York Stock Exchange |

* Shares are not listed for trading, but only in connection with the registration of American Depositary Shares pursuant to the requirements of the New York Stock Exchange.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

The number of outstanding shares of each class of stock of Vale as of December 31, 2008 was:

3,181,786,583 common shares, no par value per share
2,031,725,314 preferred class A shares, no par value per share
12 golden shares, no par value per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

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PRESENTATION OF FINANCIAL INFORMATION

We have prepared our financial statements in this annual report in accordance with generally accepted accounting principles in the United States (“U.S. GAAP”), which differ in certain respects from accounting practices adopted in Brazil (“Brazilian GAAP”). Brazilian GAAP is determined by the requirements of Brazilian corporate law and the rules and regulations of the Brazilian Securities Commission (*Comissão de Valores Mobiliários*), or CVM.

We also publish Brazilian GAAP financial statements and use them for reports to Brazilian shareholders, CVM filings, determining the legal minimum dividend under Brazilian law and determining our Brazilian tax liability. Beginning in 2008, significant changes are being made to Brazilian corporate law to permit Brazilian GAAP to converge with International Financial Reporting Standards (“IFRS”). Pursuant to CVM regulations, we are required to report our financial statements in IFRS beginning with the year ending December 31, 2010.

Our financial statements and the other financial information appearing in this annual report have been translated from Brazilian *reais* into U.S. dollars on the basis explained in Note 3 to our financial statements, unless we indicate otherwise.

References to “*real*,” “*reais*” or “R\$” are to Brazilian *reais* (plural) and to the Brazilian *real* (singular), the official currency of Brazil. References to “U.S. dollars” or “US\$” are to United States dollars. References to “CAD” are to Canadian dollars, and references to “A\$” are to Australian dollars. Unless otherwise specified, we use metric units. References to “Vale” are to Companhia Vale do Rio Doce. References to “us” or “we” are to Vale and, except where the context otherwise requires, its consolidated subsidiaries. References to our “preferred shares” are to our preferred class A shares. References to our “ADSs” or “American Depositary Shares” include both our common American Depositary Shares (our “common ADSs”), each of which represents one common share of Vale, and our preferred American Depositary Shares (our “preferred ADSs”), each of which represents one preferred share of Vale. American Depositary Shares are represented by American Depositary Receipts (“ADRs”) issued by the depositary.

FORWARD-LOOKING STATEMENTS

This annual report contains statements that may constitute forward-looking statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Many of those forward-looking statements can be identified by the use of forward-looking words such as “anticipate,” “believe,” “could,” “expect,” “should,” “plan,” “intend,” “estimate” and “potential,” among others. Those statements appear in a number of places and include statements regarding our intent, belief or current expectations with respect to:

- our direction and future operation;
- the implementation of our principal operating strategies, including our potential participation in acquisition, divestiture or joint venture transactions or other investment opportunities;
- the implementation of our financing strategy and capital expenditure plans;
- the exploration of mineral reserves and development of mining facilities;
- the depletion and exhaustion of mines and mineral reserves;
- trends in commodity prices and demand for commodities;
- the future impact of competition and regulation;
- the payment of dividends;
- industry trends, including the direction of prices and expected levels of supply and demand;
- other factors or trends affecting our financial condition or results of operations; and
- the factors discussed under *Item 3. Key information—Risk factors*.

We caution you that forward-looking statements are not guarantees of future performance and involve risks and uncertainties. Actual results may differ materially from those in forward-looking statements as a result of various factors. These risks and uncertainties include factors relating to (a) the countries in which we operate, mainly Brazil and Canada, (b) the global economy, (c) capital markets, (d) the mining and metals businesses and their dependence upon global industrial production, which is cyclical by nature, and (e) the high degree of global competition in the markets in which we operate. For additional information on factors that could cause our actual results to differ from expectations reflected in forward-looking statements, see *Item 3. Key information—Risk factors*. Forward-looking statements speak only as of the date they are made, and we do not undertake any obligation to update them in light of new information or future developments. All forward-looking statements attributed to us or a person acting on our behalf are expressly qualified in their entirety by this cautionary statement, and you should not place undue reliance on any forward-looking statement.

PART I

Item 1. *Identity of directors, senior management and advisors*

Not applicable.

Item 2. *Offer statistics and expected timetable*

Not applicable.

Item 3. *Key information*

SELECTED FINANCIAL DATA

The tables below present selected consolidated financial information as of and for the periods indicated. You should read this information together with our consolidated financial statements appearing in this annual report.

Statement of income data

| | For the year ended December 31, | | | | |
|--|---------------------------------|--------------|--------------|---------------|----------------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| | (US\$ million) | | | | |
| Net operating revenues | 8,066 | 12,792 | 19,651 | 32,242 | 37,426 |
| Cost of products and services | (4,081) | (6,229) | (10,147) | (16,463) | (17,641) |
| Selling, general and administrative expenses | (452) | (583) | (816) | (1,245) | (1,748) |
| Research and development | (153) | (277) | (481) | (733) | (1,085) |
| Impairment of goodwill | — | — | — | — | (950) |
| Other expenses | (257) | (271) | (570) | (607) | (1,254) |
| Operating income | <u>3,123</u> | <u>5,432</u> | <u>7,637</u> | <u>13,194</u> | <u>14,748</u> |
| Non-operating income (expenses): | | | | | |
| Financial income (expenses) | (589) | (437) | (1,011) | (1,291) | (1,975) |
| Foreign exchange and monetary gains, net | 65 | 299 | 529 | 2,553 | 364 |
| Gain on sale of investments | 404 | 126 | 674 | 777 | 80 |
| Subtotal | <u>(120)</u> | <u>(12)</u> | <u>192</u> | <u>2,039</u> | <u>(1,531)</u> |
| Income before income taxes, equity results and minority interests | 3,003 | 5,420 | 7,829 | 15,233 | 13,217 |
| Income taxes charge | (749) | (880) | (1,432) | (3,201) | (535) |
| Equity in results of affiliates and joint ventures and change in provision for gains on equity investments | 542 | 760 | 710 | 595 | 794 |
| Minority interests | (223) | (459) | (579) | (802) | (258) |
| Net income | <u>2,573</u> | <u>4,841</u> | <u>6,528</u> | <u>11,825</u> | <u>13,218</u> |
| Total cash paid to shareholders(1) | 787 | 1,300 | 1,300 | 1,875 | 2,850 |

(1) Consists of total cash paid to shareholders, whether classified as dividends or interest on shareholders' equity, during the period.

Basic and diluted earnings per share

| | For the year ended December 31,(1) | | | | |
|---|------------------------------------|------------------|------------------|------------------|------------------|
| | 2004 | 2005 | 2006 | 2007 | 2008(5) |
| | (US\$, except as noted) | | | | |
| Earnings per share(2): | | | | | |
| Basic | | | | | |
| Per common share | 0.56 | 1.05 | 1.35 | 2.41 | 2.58 |
| Per preferred share | 0.56 | 1.05 | 1.35 | 2.41 | 2.58 |
| Diluted | | | | | |
| Per common share | – | – | – | 2.42 | 2.61 |
| Per preferred share | – | – | – | 2.42 | 2.61 |
| Weighted average number of shares outstanding (in thousands)(3): | | | | | |
| Common shares | 2,943,216 | 2,943,216 | 2,943,216 | 2,943,216 | 3,028,817 |
| Preferred shares | 1,662,864 | 1,662,864 | 1,908,852 | 1,889,171 | 1,946,454 |
| Treasury common shares underlying convertible notes | – | – | – | 34,510 | 56,582 |
| Treasury preferred shares underlying convertible notes | – | – | – | 18,478 | 30,295 |
| Total | <u>4,606,080</u> | <u>4,606,080</u> | <u>4,852,068</u> | <u>4,885,375</u> | <u>5,062,148</u> |
| Distributions to shareholders per share(4): | | | | | |
| In US\$ | 0.17 | 0.28 | 0.27 | 0.39 | 0.56 |
| In reais | R\$0.49 | R\$0.67 | R\$0.58 | R\$0.74 | R\$1.09 |

- (1) We carried out two-for-one forward stock splits in September 2007 and in May 2006 and a three-for-one forward stock split in August 2004. Share and per-share amounts for all periods give retroactive effect to all forward stock splits.
- (2) Diluted earnings per share for 2007 and 2008 include preferred shares and common shares underlying the mandatorily convertible notes due in 2010, which were issued in June 2007.
- (3) Each common ADS represents one common share and each preferred ADS represents one preferred share.
- (4) Our distributions to shareholders may be classified as either dividends or interest on shareholders' equity. Since 2004, part of each distribution has been classified as interest on shareholders' equity and part as dividends. For information about distributions paid to shareholders, see *Item 8. Financial information—Distributions*.
- (5) In July 2008, we issued 80,079,223 common ADSs, 176,847,543 common shares, 63,506,751 preferred ADSs and 100,896,048 preferred shares in a global equity offering. In August 2008, we issued an additional 24,660,419 preferred shares. In October 2008, our Board of Directors approved a share buy-back program. As of December 31, 2008, we had acquired 18,355,859 common shares and 46,513,400 preferred shares, which are held in treasury. For more information see *Item 16E. Purchases of equity securities by the issuer and affiliated purchasers*.

Balance sheet data

| | At December 31, | | | | |
|---|-----------------|---------------|---------------|---------------|---------------|
| | 2004 | 2005 | 2006 | 2007 | 2008 |
| | (US\$ million) | | | | |
| Current assets | 3,890 | 4,775 | 12,940 | 11,380 | 23,238 |
| Property, plant and equipment, net | 9,063 | 14,166 | 38,007 | 54,625 | 49,329 |
| Investments in affiliated companies and joint ventures and other investments | 1,159 | 1,672 | 2,353 | 2,922 | 2,408 |
| Other assets | 1,603 | 2,031 | 7,626 | 7,790 | 4,956 |
| Total assets | <u>15,715</u> | <u>22,644</u> | <u>60,926</u> | <u>76,717</u> | <u>79,931</u> |
| Current liabilities | 2,455 | 3,325 | 7,312 | 10,083 | 7,237 |
| Long-term liabilities(1) | 1,867 | 2,410 | 10,008 | 13,195 | 10,112 |
| Long-term debt(2) | 3,214 | 3,714 | 21,122 | 17,608 | 17,535 |
| Total liabilities | 7,536 | 9,449 | 38,442 | 40,886 | 34,884 |
| Minority interest | 788 | 1,218 | 2,811 | 2,555 | 2,491 |
| Stockholders' equity: | | | | | |
| Capital stock | 3,209 | 5,868 | 8,119 | 12,306 | 23,848 |
| Additional paid-in capital | 498 | 498 | 498 | 498 | 393 |
| Mandatorily convertible notes—common ADSs | — | — | — | 1,288 | 1,288 |
| Mandatorily convertible notes—preferred ADSs | — | — | — | 581 | 581 |
| Reserves and retained earnings | 3,684 | 5,611 | 11,056 | 18,603 | 16,446 |
| Total shareholders' equity | 7,391 | 11,977 | 19,673 | 33,276 | 42,556 |
| Total liabilities and shareholders' equity | <u>15,715</u> | <u>22,644</u> | <u>60,926</u> | <u>76,717</u> | <u>79,931</u> |

(1) Excludes long-term debt.

(2) Excludes current portion of long-term debt.

RISK FACTORS

Risks relating to our business

The global recession could lead to a significant reduction in our revenues, cash flow and profitability.

The global economy, and in particular global industrial production, is the primary driver of demand for minerals and metals. Global industrial production has been trending downward since the second half of 2008, resulting in a significant and widespread contraction in demand for minerals and metals, including an unprecedented decline in global demand for iron ore, our main product.

There is uncertainty about the depth and duration of the current global economic downturn and its continuing impact on the demand for minerals and metals. To avoid significant inventory accumulation, we have been reducing production of several products, which will have a negative impact on our cash generation and profitability.

Slowing economic growth in China could have a negative impact on our revenues, cash flow and profitability.

China has been the main driver of the global demand for minerals and metals over the last few years. In 2008, Chinese demand represented approximately 53% of global demand for seaborne iron ore, 29% of global demand for nickel, 34% of global demand for aluminum and 27% of global demand for copper. The percentage of our gross revenues attributable to sales to consumers in China was 17.4% in 2008. A contraction of China's economic growth could result in lower demand for our products, leading to lower revenues, cash flow and profitability.

Chinese economic growth has been decelerating sharply as a result of a tightening domestic credit market and slowing exports. The strong decline in credit growth from the last quarter of 2007 through the third quarter of 2008 significantly impeded growth in the real estate sector, one of the largest consumers of steel in China. Although the Chinese government is increasing expenditure on infrastructure and public housing, launching tax incentives, and taking measures to ease credit tightness, there is uncertainty about the extent and duration of the current growth deceleration.

A decline in demand for steel would adversely affect our business.

Demand for our most important products depends on global demand for steel. Iron ore and iron ore pellets, which together accounted for 57.3% of our 2008 gross revenues, are used to produce carbon steel. Nickel, which accounted for 15.5% of our 2008 gross revenues, is used mainly to produce stainless steel. Demand for steel depends heavily on global economic conditions, but it also depends on a variety of regional and sectoral factors. The prices of different steels and the performance of the global steel industry are highly cyclical and volatile, and these business cycles in the steel industry affect demand and prices for our products. In addition, vertical backward integration of the steel industry could reduce the global seaborne trade of iron ore. The global seaborne trade of iron ore could also suffer from competition from metalics, such as semi-finished steel and scrap. In certain cases, it may be more economical for steelmakers to charge more scrap in basic oxygen furnaces ("BOF") and electric arc furnaces ("EAF"), instead of producing pig iron. Semi-finished products, such as billets and slabs, may also be available from fully-integrated steel mills at low cost, reducing overall demand for seaborne iron ore.

From 2003 to 2007, growing worldwide demand for carbon steel led to strong demand and rising prices for iron ore and iron ore pellets. However, the acceleration of the global financial crisis and the slowdown in Chinese demand since the second half of 2008 have resulted in sharp cuts in global carbon steel output, negatively affecting demand for iron ore and iron ore pellets. Moreover, the global financial crisis has had a sharp impact on Europe and Brazil, our natural markets for iron ore and iron ore pellets. The European economy may recover more slowly than other regions, which would negatively affect the volume of our

shipments of iron ore and iron ore pellets to this region. A sustained decline in prices or sales volumes for iron ore and iron ore pellets would have a material adverse effect on our revenues and earnings.

In response to high nickel prices, which reached record highs in the second quarter of 2007 as a result of high demand for stainless steel, producers and consumers of stainless steel started shifting from stainless steel with high nickel content (series 300) to stainless steels with either lower nickel content (series 200) or no nickel content (series 400). It is unclear whether this trend will continue or potentially reverse in the midst of lower nickel prices. Stainless steel production fell 2% in the first half of 2008, and declined 13% in the second half of 2008 relative to 2007, as a result of inventory de-stocking and the global financial crisis. A sustained decline in austenitic stainless steel production would have a material adverse effect on our revenues from nickel.

The prices of nickel, aluminum and copper, which are actively traded on world commodity exchanges, are subject to significant volatility.

Nickel, aluminum and copper are sold in an active global market and traded on commodity exchanges, such as the London Metal Exchange and the New York Mercantile Exchange. Prices for these metals are subject to significant fluctuations and are affected by many factors, including actual and expected global macroeconomic and political conditions, levels of supply and demand, the availability and cost of substitutes, inventory, investments by commodity funds and others and actions of participants in the commodity markets. Prices for these metals are more volatile than contractual prices for products such as iron ore, iron ore pellets and metallurgical coal, because they respond more quickly to actual and expected changes in market conditions.

Increased direct or indirect substitution of primary nickel could adversely affect our nickel business.

Demand for primary nickel may be negatively affected by the direct substitution of primary nickel with other materials in current applications. Scrap nickel competes directly with primary nickel as a source of nickel for use in the production of stainless steel, and the choice between them is largely driven by their relative prices and availability. In 2008, the stainless steel scrap ratio is estimated to have remained relatively unchanged compared to 2007, at 49%. Nickel pig iron, a product developed by Chinese steel and alloy makers that utilizes low-grade lateritic nickel ores, competes with other nickel sources in the production of stainless steel. In 2008, nickel pig iron production declined approximately 17%, given high production costs and lower nickel prices.

We may not be able to reduce our production volume in response to lower demand in a timely and cost-efficient manner.

Due to the slowdown in the global economy beginning in the second half of 2008, demand for our products has declined sharply. We have been taking measures to adjust our production volume to the lower demand level, such as shutting down mines, slowing down plant production, and undertaking maintenance ahead of schedule. However, operating at significant idle capacity may expose us to higher unit production costs, because a significant portion of our cost structure is fixed in the short-term due to the high capital intensity of mining operations. In addition, there could be limits to cost cutting due to certain labor regulations or previous labor or government agreements. During periods of high demand, conversely, our ability to rapidly increase production capacity is limited.

Regulatory, political, economic and social conditions in the countries in which we operate or have projects could adversely impact our business and the market price of our securities.

Our financial performance may be negatively affected by regulatory, political, economic and social conditions in countries in which we have significant operations or projects, particularly Brazil, Canada, Indonesia, Australia, New Caledonia and Mozambique.

Our operations depend on authorizations from and concessions by governmental regulatory agencies of the countries in which we operate. For details about the authorizations and concessions upon which our operations activities depend, see *Item 4. Information on the company—Regulatory matters*. We are subject to laws and regulations in many jurisdictions that can change at any time, and changes in laws and regulations may require modifications to our technologies and operations and result in unanticipated capital expenditures. For example, a mining law in Indonesia enacted in January 2009 may have important implications for current and future mining operations of PT International Nickel Indonesia Tbk (“PT Inco”). See *Item 4. Information on the company—Regulatory matters—Mining regulation*.

Actual or potential political changes and changes in economic policy may undermine investor confidence, result in economic slowdowns and otherwise adversely affect the economic and other conditions under which we operate in ways that could have a material adverse effect on our business. Governments in emerging economies such as Brazil, Indonesia and New Caledonia frequently intervene in the economy and occasionally make substantial changes in policy that could adversely affect exchange rates, inflation, interest rates, rates of taxes or royalties and the economic and regulatory environment in which we operate. For example, a planned referendum in 2014 may result in New Caledonia becoming fully independent from France, which may result in political and economic changes that could adversely affect our Goro project.

Protestors have taken actions to disrupt our operations and projects, and they may continue to do so in the future. In New Caledonia, protestors have in the past caused physical damage to our Goro project and have impeded the construction of the marine pipeline. Although we vigorously defend ourselves against illegal acts, while supporting the communities living near our operations, future attempts by protestors to harm our operations could adversely affect our business.

Our projects are subject to risks that may result in increased costs or delay or prevent their successful implementation.

We are investing to further increase our production capacity, logistics capabilities and to expand the scope of minerals we produce. Our expansion and mining projects are subject to a number of risks that may adversely affect our growth prospects and profitability, including the following:

- We may encounter delays or higher than expected costs in obtaining the necessary equipment or services to build and operate a project.
- Our efforts to develop projects according to schedule may be hampered by a lack of infrastructure, including a reliable power supply.
- We may fail to obtain, or experience delays or higher than expected costs in obtaining, the required permits to build a project.
- Changes in market conditions or regulations may make a project less profitable than expected at the time we initiated work on it.
- Adverse mining conditions may delay and hamper our ability to produce the expected quantities of minerals.
- Some of our development projects are located in regions where tropical diseases, AIDS, malaria, yellow fever and other contagious diseases are a major public health issue and pose health and safety risks to our employees. If we are unable to ensure the health and safety of our employees, our business may be adversely affected.

Our controlling shareholder has significant influence over Vale, and the Brazilian government has certain veto rights.

As of March 31, 2009, Valepar S.A. owned 52.7% of our outstanding common stock and 32.4% of our total outstanding capital. As a result of its share ownership, Valepar can control the outcome of some actions

that require shareholder approval. For a description of our ownership structure and of the Valepar shareholders' agreement, see *Item 7. Major shareholders and related party transactions—Major shareholders*.

The Brazilian government owns 12 Vale golden shares, granting it limited veto power over certain company actions, such as changes to our name, the location of our headquarters and our corporate purpose as it relates to mining activities. For a detailed description of the Brazilian government's veto powers, see *Item 10. Additional information—Common shares and preferred shares—General*.

Our governance and compliance processes may fail to prevent regulatory penalties and reputational harm.

We operate in a global environment, and our activities straddle multiple jurisdictions and complex regulatory frameworks with increased enforcement activities worldwide. Our governance and compliance processes, which include the review of internal control over financial reporting, may not prevent future breaches of law, accounting or governance standards. We may be subject to breaches of our Code of Ethical Conduct, business conduct protocols and instances of fraudulent behavior and dishonesty by our employees, contractors or other agents. Our failure to comply with applicable laws and other standards could subject us to fines, loss of operating licenses and reputational harm.

Many of our operations depend on joint ventures or consortia, and our business could be adversely affected if our partners fail to observe their commitments.

We currently operate important parts of our pelletizing, nickel, bauxite, coal and steel businesses through joint ventures with other companies. Important parts of our electricity business are operated through consortia. Our forecasts and plans for these joint ventures and consortia assume that our partners will observe their obligations to make capital contributions, purchase products and, in some cases, provide managerial personnel. If any of our partners fails to observe its commitments, the affected joint venture or consortium may not be able to operate in accordance with its business plans, or we may have to increase the level of our investment to implement these plans. For more information about our joint ventures, see *Item 4. Information on the company—Lines of business*.

Environmental, health and safety regulation may adversely affect our business.

Our operations often involve the use, handling, disposal and discharge of hazardous materials into the environment or the use of natural resources, and nearly all aspects of our operations and development projects around the world are subject to environmental, health and safety regulation. Such regulation requires us to obtain operating licenses, permits and other approvals and to conduct environmental assessments prior to initiating projects or undertaking significant changes to existing operations. Difficulties in obtaining permits may lead to construction delays or cost increases, and in some cases may lead us to postpone or even abandon a project. Environmental regulation also imposes standards and controls on activities relating to mining, exploration, development, production, reclamation, closure, monitoring and the refining, distribution and marketing of our products. Such regulation may give rise to significant costs and liabilities. In addition, community activist groups and other stakeholders may increase demands for environmentally-sustainable development, which could entail significant costs and reduce our profitability.

Environmental regulation in many countries in which we operate has become stricter in recent years, and it is possible that more regulation or more aggressive enforcement of existing regulations will adversely affect us by imposing restrictions on our activities, creating new requirements for the issuance or renewal of environmental licenses, raising our costs or requiring us to engage in expensive reclamation efforts. For more information on environmental, health and safety regulation applicable to our operations, see *Item 4. Information on the company—Regulatory matters—Environmental regulation* and *Item 8. Financial information—Legal proceedings*.

Our reserve estimates may materially differ from mineral quantities that we may be able to actually recover; our estimates of mine life may prove inaccurate; and market price fluctuations and changes in operating and capital costs may render certain ore reserves uneconomical to mine.

Our reported ore reserves are estimated quantities of ore and minerals that we have determined can be economically mined and processed under present and anticipated conditions to extract their mineral content. There are numerous uncertainties inherent in estimating quantities of reserves and in projecting potential future rates of mineral production, including many factors beyond our control. Reserve engineering involves estimating deposits of minerals that cannot be measured in an exact manner, and the accuracy of any reserve estimate is a function of the quality of available data and engineering and geological interpretation and judgment. As a result, no assurance can be given that the indicated amount of ore will be recovered or that it will be recovered at the rates we anticipate. Estimates of different engineers may vary, and results of our mining and production subsequent to the date of an estimate may lead to revision of estimates. Reserve estimates and estimates of mine life may require revision based on actual production experience and other factors. For example, fluctuations in the market prices of minerals and metals, reduced recovery rates or increased operating and capital costs due to inflation, exchange rates or other factors may render proven and probable reserves uneconomic to exploit and may ultimately result in a restatement of reserves.

We may not be able to replenish our reserves, which could adversely affect our mining prospects.

We engage in mineral exploration, which is highly speculative in nature, involves many risks and frequently is non-productive. Our exploration programs, which involve significant capital expenditures, may fail to result in the expansion or replacement of reserves depleted by current production. If we do not develop new reserves, we will not be able to sustain our current level of production beyond the remaining lives of our existing mines.

Even if we discover mineral deposits, we remain subject to drilling and production risks, which could adversely affect the mining process.

Once mineral deposits are discovered, it can take a number of years from the initial phases of drilling until production is possible, during which the economic feasibility of production may change. Substantial time and expenditures are required to:

- establish mineral reserves through drilling;
- determine appropriate mining and metallurgical processes for optimizing the recovery of metal contained in ore;
- obtain environmental and other licenses;
- construct mining, processing facilities and infrastructure required for greenfield properties; and
- obtain the ore or extract the metals from the ore.

If a project proves not to be economically feasible by the time we are able to exploit it, we may incur substantial write-offs. In addition, potential changes or complications involving metallurgical and other technological processes arising during the life of a project may result in cost overruns that may render the project not economically feasible.

We face rising extraction costs over time as reserves deplete.

Reserves are gradually depleted in the ordinary course of a given mining operation. As mining progresses, distances to the primary crusher and to waste deposits become longer, pits become steeper and underground operations become deeper. As a result, over time, we usually experience rising unit extraction costs with respect to each mine. Several of our mines have been operating for long periods, and we will likely experience rising extraction costs per unit in the future at these operations.

We may face shortages of equipment, services and skilled personnel.

From 2003 to 2007, the mining industry faced worldwide shortages of mining and construction equipment, spare parts, contractors and other skilled personnel as a result of high demand for minerals and metals and the large number of projects under development. We have experienced longer lead-times for mining equipment and problems with the quality of contracted engineering, construction and maintenance services. We compete with other mining companies for highly skilled executives and staff with relevant industry and technical experience, and we may not be able to attract and retain such people. Shortages during peak periods could negatively impact our operations, resulting in higher production or capital expenditure costs, production interruptions, higher inventory costs, project delays and potentially lower production and revenues. While this risk may be mitigated in the short term by economic conditions, we believe it remains an issue in the medium-term upon the recovery of the global economy.

Labor disputes have disrupted our operations, and such disputes could recur.

A substantial number of our employees, and some of the employees of our subcontractors, are represented by labor unions and are covered by collective bargaining or other labor agreements, which are subject to periodic negotiation. Negotiation may become more difficult in times of higher prices and increased profits in the mining and metals industries, as labor unions may seek wage increases. Strikes or work stoppages have occurred in the past in Canada and Indonesia and could reoccur in connection with negotiations of new labor agreements or during other periods for other reasons, including the risk of layoffs during a downcycle. Moreover, we could be adversely affected by labor disruptions involving unrelated parties that may provide us with goods or services. Strikes and other labor disruptions at any of our operations could adversely affect the operation of facilities and the timing of completion and the cost of our capital projects.

Higher energy costs or energy shortages would adversely affect our business.

Energy costs are a significant component of our cost of production, representing 16.6% of our total cost of goods sold in 2008. To fulfill our energy needs, we depend on oil by-products, which represented 33.7% of total energy needs in 2008 in TOE (tons of oil equivalent), electricity (40.4% on the same basis), coal (12.4% on the same basis) and natural gas (13.5% on the same basis).

Fuel costs represented 10.4% of our cost of goods sold in 2008. Increases in oil and gas prices adversely affect margins in our logistics, mining, iron ore pellets, nickel and alumina businesses. Due to relatively high international oil prices, which increased by 38% in 2008, and low nickel prices recently, we have announced cuts in nickel production in Indonesia, where we use oil generators.

Electricity costs represented 6.1% of our total cost of goods sold in 2008. If we are unable to secure reliable access to electric energy at acceptable prices, we may be forced to curtail production or may experience higher production costs, either of which would adversely affect our results of operations. Due to relatively high electricity prices and low aluminum prices recently, we have announced a production curtailment at one of our aluminum smelters, which pays electricity at spot prices.

Electricity shortages have occurred in Brazil in the past and could reoccur in the future, and there can be no assurance that the Brazilian government's policies will succeed in encouraging growth in power generation capacity. Future shortages, and government efforts to respond to or prevent shortages, may adversely impact the cost or supply of electricity for our Brazilian aluminum and ferroalloy operations, which are electricity-intensive. Changes in the laws, regulations or governmental policies regarding the power sector or concession requirements could reduce our expected returns from our investments in power generation. See *Item 4. Information on the company—Regulatory matters—Electric energy regulation.*

Through our subsidiary PT Inco, we process lateritic nickel ores using a pyrometallurgical process, which is energy-intensive. Although PT Inco currently generates a majority of the electricity for its operations from its own hydroelectric power plants, hydrological factors, such as low rainfalls, could adversely affect electricity production at PT Inco's plants in the future, which could significantly increase the risk of higher costs or

lower production volume. For more information on the regulations governing energy production, see *Item 4. Information on the company—Regulatory matters—Electric energy regulation.*

Price volatility of the currencies in which we conduct operations relative to the U.S. dollar could adversely affect our financial condition and results of operations.

We are affected by fluctuations in the prices of the currencies in which we conduct operations relative to the U.S. dollar. A substantial portion of our revenues and debt is denominated in U.S. dollars, and changes in exchange rates may result in losses or gains on our net U.S. dollar-denominated indebtedness and accounts payable. In 2008, 2007 and 2006, changes in exchange rates produced net foreign exchange gains (loss) of US\$(1.011) billion, US\$1.639 billion and US\$452 million, respectively. In addition, the price volatility of the Brazilian *real*, the Canadian dollar, the Indonesian rupiah and other currencies against the U.S. dollar affect our results since most of our costs of goods sold are denominated in currencies other than the U.S. dollar, principally the *real* (62% in 2008) and the Canadian dollar (20% in 2008), while our revenues are mostly U.S. dollar-denominated. Currency fluctuations are expected to continue to affect our financial income, expense and cash flow generation.

Significant volatility in currency prices may also result in disruption of countries' foreign exchange markets and may limit our ability to transfer or to convert such currencies into U.S. dollars and other currencies for the purpose of making timely payments of interest and principal on our indebtedness. The governments of countries in which we operate may institute restrictive exchange rate policies in the future.

We may not have adequate insurance coverage for some business risks.

Our businesses are generally subject to a number of risks and hazards, which could result in damage to, or destruction of, mineral properties, facilities and equipment. The insurance we maintain against risks that are typical in our business may not provide adequate coverage. Insurance against some risks (including liabilities for environmental pollution or certain hazards or interruption of certain business activities) may not be available at a reasonable cost, or at all. As a result, accidents or other negative developments involving our mining, production or transportation facilities could have a material adverse effect on our operations.

Risks relating to our American Depositary Shares

If ADR holders exchange ADSs for the underlying shares, they risk losing the ability to remit foreign currency abroad and Brazilian tax advantages.

The Brazilian custodian for the shares underlying our ADSs will maintain an electronic registration from the Central Bank of Brazil entitling it to remit U.S. dollars outside Brazil for payments of dividends and other distributions relating to the shares underlying our ADSs or upon the disposition of the underlying shares. If an ADR holder exchanges its ADSs for the underlying shares, it will be entitled to rely on the custodian's electronic registration for only five business days from the date of exchange. Thereafter, an ADR holder may not be able to obtain and remit U.S. dollars abroad upon the disposition of, or distributions relating to, the underlying shares unless it obtains its own electronic registration by registering the investment in the underlying shares under Resolution No. 2,689 of the National Monetary Council, which permits qualifying institutional foreign investors to buy and sell securities on the São Paulo Stock Exchange (the "BOVESPA"). For more information regarding these exchange controls, see *Item 10. Additional information—Exchange controls and other limitations affecting security holders.* If an ADR holder attempts to obtain its own electronic registration, it may incur expenses or suffer delays in the application process, which could delay the receipt of dividends or distributions relating to the underlying shares or the return of capital in a timely manner.

We cannot assure ADR holders that the custodian's electronic registration or any certificate of foreign capital registration obtained by them will not be affected by future legislative changes, or that additional restrictions applicable to ADR holders, the disposition of the underlying shares or the repatriation of the proceeds from disposition will not be imposed in the future.

ADR holders may be unable to exercise preemptive rights relating to the shares underlying their ADSs.

ADR holders may not be able to exercise preemptive rights, or exercise other types of rights, with respect to the underlying shares. The ability of ADR holders to exercise preemptive rights is not assured, particularly if the applicable law in the holder's jurisdiction (for example, the Securities Act in the United States) requires that either a registration statement be effective with respect to those rights or an exemption be available. We are not obligated to file a registration statement in the United States, or to make any other similar filing in any other jurisdiction, relating to preemptive rights with respect to the underlying shares or to undertake steps that may be needed to make exemptions from registration available, and we cannot assure ADR holders that we will file any registration statement or take such steps. For a more complete description of preemptive rights with respect to the underlying shares, see *Item 10. Additional information—Common shares and preferred shares—Preemptive rights.*

ADR holders may encounter difficulties in the exercise of voting rights.

ADR holders do not have the rights of shareholders. They have only the contractual rights set forth for their benefit under the deposit agreements. ADR holders are not permitted to attend shareholders' meetings, and they may only vote by providing instructions to the depository. In the event that we fail to provide the depository with voting materials on a timely basis, or the depository does not provide sufficient time for ADR holders to submit voting instructions, ADR holders will not be able to vote. With respect to ADSs for which instructions are not received, the depository may, subject to certain limitations, grant a proxy to a person designated by us.

Brazilian securities markets are not as highly regulated as the securities markets in certain other jurisdictions.

ADR holders may be disadvantaged by the fact that the Brazilian securities markets are not as highly regulated and supervised as the securities markets in the United States or in certain other jurisdictions. Rules and policies against self-dealing and regarding the preservation of minority shareholder interests may be less well-developed and enforced in Brazil than in the United States or in certain other jurisdictions. For example, when compared to Delaware corporate law, Brazilian corporate law and practice have less detailed and well-established rules and judicial precedents relating to the review of management decisions against duty of care and duty of loyalty standards in the context of corporate restructurings, transactions with related parties, and sale-of-business transactions. Moreover, shareholders in Brazilian companies ordinarily do not have standing to bring a class-action lawsuit. As a foreign private issuer, we are not required to follow many of the corporate governance rules that apply to U.S. domestic issuers with securities listed on the New York Stock Exchange, and we are not subject to the U.S. proxy rules. For more information concerning our corporate governance policies, see *Item 16G. Corporate governance.*

Item 4. Information on the company

BUSINESS OVERVIEW

General

We are the second-largest metals and mining company in the world and the largest in the Americas, based on market capitalization. We are the world's largest producer of iron ore and iron ore pellets and the world's second-largest producer of nickel. We are one of the world's largest producers of manganese ore, ferroalloys and kaolin. We also produce bauxite, alumina, aluminum, copper, coal, cobalt, precious metals, potash and other products. To support our growth strategy, we are actively engaged in mineral exploration efforts in 22 countries around the globe. We operate large logistics systems in Brazil, including railroads, maritime terminals and a port, which are integrated with our mining operations. Directly and through affiliates and joint ventures, we have investments in the energy and steel businesses.

The following table presents the breakdown of our total gross revenues attributable to each of our main lines of business, each of which is described following the table.

| | Year ended December 31, | | | |
|------------------------------|--------------------------------|----------------|-------------|-------------|
| | 2006 | 2006(1) | 2007 | 2008 |
| | (%) | | | |
| Ferrous minerals: | | | | |
| Iron ore | 49.2% | 39.0% | 36.0% | 46.2% |
| Iron ore pellets | 9.7 | 7.7 | 8.3 | 11.2 |
| Manganese | 0.3 | 0.2 | 0.2 | 0.7 |
| Ferroalloys | 2.5 | 2.0 | 2.1 | 3.1 |
| Pig iron | — | — | 0.2 | 0.4 |
| Subtotal | <u>61.7</u> | <u>48.9</u> | <u>46.8</u> | <u>61.6</u> |
| Non-ferrous minerals: | | | | |
| Nickel(2) | 11.6 | 25.6 | 30.3 | 15.5 |
| Aluminum | 11.7 | 9.3 | 8.2 | 7.9 |
| Copper | 5.3 | 7.1 | 6.0 | 5.3 |
| PGMs(2) | 0.4 | 1.0 | 1.0 | 1.0 |
| Other precious metals(2) | 0.1 | 0.7 | 0.3 | 0.3 |
| Other non-ferrous minerals | 1.9 | 1.6 | 1.7 | 1.3 |
| Subtotal | <u>31.0</u> | <u>45.3</u> | <u>47.5</u> | <u>31.3</u> |
| Coal | — | — | 0.5 | 1.5 |
| Logistics | 6.8 | 5.4 | 4.6 | 4.2 |
| Other investments | 0.5 | 0.4 | 0.6 | 1.4 |
| Total | <u>100%</u> | <u>100%</u> | <u>100%</u> | <u>100%</u> |

(1) Including Vale Inco's 2006 gross revenues prior to its acquisition.

(2) Revenues included in the nickel product segment in our consolidated financial statements.

- *Ferrous minerals:*
 - *Iron ore and iron ore pellets.* We operate three systems in Brazil for producing and distributing iron ore. The Northern and the Southeastern Systems are fully integrated, consisting of mines, railroads, a maritime terminal and a port. The Southern System consists of three mining complexes and two maritime terminals. We operate 10 pellet-producing facilities in Brazil, one of which is a joint venture. We also have a 50% stake in a joint venture that owns three pelletizing plants in Brazil and a 25% stake in a pellet company in China.

- *Manganese and ferroalloys.* We conduct our manganese mining operations through subsidiaries in Brazil, and we produce several types of manganese ferroalloys through subsidiaries in Brazil, France and Norway.
- *Non-ferrous minerals:*
 - *Nickel.* Our principal nickel mines and processing operations are conducted by our wholly-owned subsidiary Vale Inco Limited (“Vale Inco”), which has mining operations in Canada and Indonesia. We own and operate, or have interests in, nickel refining facilities in the United Kingdom, Japan, Taiwan, South Korea and China.
 - *Aluminum.* We are engaged in bauxite mining, alumina refining, and aluminum metal smelting. In Brazil, we own a bauxite mine, an alumina refinery and two aluminum smelters. We have a 40% interest in Mineração Rio do Norte S.A. (“MRN”), a bauxite producer, operations of which are also located in Brazil.
 - *Copper.* We have copper mining operations in Brazil and Canada. In Brazil, we produce copper concentrates at Sossego in Carajás, in the state of Pará. In Canada, we produce copper concentrate, copper anode and copper cathode in conjunction with our nickel mining operations at Sudbury, Thompson and Voisey’s Bay.
 - *PGMs.* We produce platinum-group metals as by-products of our nickel mining and processing operations in Canada. The PGMs are concentrated at our Port Colborne facilities, in the Province of Ontario, Canada, and refined at our precious metals refinery in Acton, England.
 - *Other precious metals.* We produce gold and silver as by-products of our nickel mining and processing operations in Canada. Some of these precious metals are upgraded at our facilities in Port Colborne, Ontario, and all are refined by unrelated parties in Canada.
 - *Other non-ferrous minerals.* We are the world’s fourth-largest producer of kaolin for the paper industry and Brazil’s sole producer of potash. We produce cobalt as a by-product of our nickel mining and processing operations in Canada and refine it at our Port Colborne facilities.
- *Coal.* We produce metallurgical and thermal coal through Vale Australia Holdings (“Vale Australia”), which operates coal assets in Australia through wholly-owned subsidiaries and unincorporated joint ventures. We also have minority interests in Chinese coal and coke producers.
- *Logistics.* We are a leading provider of logistics services in Brazil, with railroads, maritime terminals and a port. Two of our three iron ore systems incorporate an integrated railroad network linked to automated port and terminal facilities, which provide rail transportation for our mining products, general cargo and passengers, bulk terminal storage, and ship loading services for our mining operations and for customers. We also have a 31.3% interest in Log-In Logística Intermodal S.A. (“Log-In”), which provides container-based logistics services in Brazil, and a 41.5% interest in MRS Logística S.A. (“MRS”), which transports our iron ore products from the Southern System mines to our Guaíba Island and Itaguaí maritime terminals, in the state of Rio de Janeiro.

Business strategy

Our mission is to transform mineral resources into prosperity and sustainable development. Our vision is to become the largest mining company in the world and to surpass current standards of excellence in research, development, project implementation and business operations. Given the current economic environment, the following objectives have assumed paramount importance in the short term: cost minimization, operational and financial flexibility and the reconciliation of cash preservation with the pursuit of profitable growth options. However, we maintain our long-term growth strategy, and we aim to increase our geographical and product diversification and logistics capabilities. We continue to review opportunities to make strategic acquisitions,

while focusing on disciplined capital management in order to maximize return on invested capital and total return to shareholders. Below we highlight our major business strategies.

Maintaining our leadership position in the global iron ore market

We continue to consolidate our leadership in the global iron ore market. In 2007 and 2008, we had an estimated market share of 32.5% and 30.2%, respectively, of the total volume traded in the seaborne market. We are committed to maintaining our position in the global iron ore market by strengthening relationships with customers, focusing our product line to capture industry trends, increasing our production capacity in line with demand growth, controlling costs and strengthening our logistics infrastructure of railroads, ports, shipping and distribution centers. We believe that our strong relationships with major customers, reinforced through long-term contracts, high quality products and a strong technical marketing strategy, will help us achieve this goal. We have also encouraged steelmakers to develop steel slab plants in Brazil, through joint ventures in which we may hold minority stakes, in order to create additional demand for our iron ore.

Achieving leadership in the nickel business

We are the world's second-largest nickel producer, with large-scale, long-life and low-cost operations, a substantial resource base, advanced technology and a robust growth profile. We are a leading producer of high-quality nickel products for non-stainless steel applications, such as plating, alloy steels, high nickel alloys and batteries, which represented 67% of our nickel sales in 2008. Our long-term goal is to strengthen our leadership in the nickel business. Given the challenges imposed by the near- and medium-term prospects for the balance between nickel supply and demand, we are exercising strong capital discipline while evaluating our growth projects and the ramp-up of our Goro and Onça Puma projects.

Expanding our aluminum activities

We are developing and increasing production capacity in our aluminum operations, focusing on the upstream portion of the production chain by developing low-cost bauxite and alumina projects. We have large, undeveloped high-quality bauxite reserves and opportunities for low-cost expansions in alumina refining. We are working on the development of these opportunities. We are also investing in mineral exploration to increase our bauxite resources.

Developing our copper resources

We believe that our Brazilian copper projects, which are all situated in the Carajás mineral province, in the Brazilian state of Pará, could be among the most competitive in the world in terms of investment cost per metric ton of ore. We are developing the Salobo project, and we are testing new technology that, if successful, could permit the development of other copper projects in this region. We expect these copper mines to benefit from our infrastructure facilities serving the Northern System. We are also engaged in mineral exploration in several countries to increase our reserve base.

Investing in coal

We are pursuing various opportunities to become a large global player in coal businesses. We have coal operating assets and a portfolio of exploration projects in Australia and two joint ventures in China. In addition, we recently acquired coal assets in Colombia. We intend to continue pursuing organic growth in the coal business through the development of the Moatize project in Mozambique, development of more advanced coal exploration projects in Australia and mineral exploration initiatives in several countries, including Colombia and Mongolia.

Investing in fertilizers

We are pursuing various opportunities to become a large producer of fertilizers in order to benefit from rising global consumption. Per capita income growth correlates with increased use of fertilizers. Recently, biofuels have emerged as another driver of demand for fertilizers. Ethanol is made from sugar cane in Brazil

and corn in the United States, while biodiesel is made mainly from soybeans, palm and rapeseed. South America and emerging Asian countries are expected to be the major drivers of future growth in global potash consumption. Brazil is expected to play a key role, given its position as a global agricultural powerhouse where modernization has recently been taking place at a fast pace and large investments in logistics infrastructure are planned. We have a phosphate project in Peru under development, and we recently acquired two potash projects, in Argentina and Canada. Moreover, we are engaged in potash and phosphate mineral exploration in several countries.

Diversification and expansion of our resource base

We are engaged in an active mineral exploration program, with efforts in 22 countries around the globe. We are mainly seeking new deposits of bauxite, coal, copper, diamond, iron ore, manganese ore, nickel, phosphate, platinum group metals, potash and uranium. Mineral exploration is an important part of our organic growth strategy.

Enhancing our logistics capacity to support our iron ore business

We believe that the quality of our railway assets and our many years of experience as a railroad and port operator, together with the lack of efficient transportation for general cargo in Brazil, position us as a leader in the logistics business in Brazil. We have been expanding the capacity of our railroads primarily to meet the needs of our iron ore business.

To support our commercial strategy for our iron ore business, we are investing in a dedicated shuttle service from Brazil to Asia and in the development of distribution centers in Asia and the Middle East in order to minimize the freight-cost differential between Brazil and Australia to Asia and to increase the competitiveness of our iron ore business in these regions.

Developing power generation projects

Energy management and efficient supply have become a priority for us. As a large consumer of electricity, we believe that investing in power generation projects to support our operations will help protect us against volatility in the price of energy, regulatory uncertainties and the risk of energy shortages. Accordingly, we have developed hydroelectric power generation plants in Brazil, Canada and Indonesia, and we are using the electricity from these projects to supply our internal needs. In 2007, we began investing in natural gas exploration in Brazil through consortia. We are seeking to diversify and optimize our energy matrix through increased use of thermal coal, renewable fuels and natural gas.

Significant changes in our business

The scope of our operations has been enlarged by acquisitions, dispositions, the completion of major investment projects and production adjustments. We summarize below the major acquisitions, divestitures, investment projects and other developments having a significant effect on our financial performance since the beginning of 2008.

Production adjustments

Since November 2008, we have been taking steps to adjust our production plans given the change in the global economic outlook. We have shut down some mines in the Southern and Southeastern Systems, in the state of Minas Gerais, Brazil. In addition, we have reduced the production pace at other sites to adjust our output to anticipated lower sales volumes. Only three of our 10 pellet plants are currently operating. We have shut down five of the seven pellet plants located at the port of Tubarão, in the state of Espírito Santo, Brazil, a pellet plant in São Luís, in the state of Maranhão, and a pellet plant in Fábrica, in the state of Minas Gerais.

We stopped our manganese ore and ferroalloy operations in Brazil from December 2008 to January 2009. We will keep our Dunkerque ferroalloy plant in France idle until April 2009, and extend furnace maintenance

at the plant in Mo I Rana, Norway, until June 2009. These changes will cut production by 600,000 metric tons of manganese ore and 90,000 metric tons of ferroalloys.

In December 2008, we shut down one of the two blast furnaces at our pig iron operation in Carajás, which is now operating at 40% of its nominal capacity.

In our nickel operations, we have discontinued the use of higher-cost thermal power generation, which will lead to a reduction of nickel-in-matte output by approximately 17,000 metric tons annually in Indonesia. In January 2009, we shut down the Copper Cliff South mine (“CC South”), located in the mining site of Sudbury, province of Ontario, Canada, for an undetermined period of time. CC South has an annual production capacity of 8,000 metric tons of finished nickel. We plan to shut down our Sudbury operation for a period of eight weeks, from June 1 to July 27, 2009, and our Voisey’s Bay operation during the entire month of July 2009.

In October 2008, we reduced activities at one of our aluminum smelters, Valesul, located in the state of Rio de Janeiro, Brazil, to 40% of its nominal annual capacity of 95,000 metric tons, which was the level required to operate solely with energy produced by Valesul. In April 2009 Valesul shifted from aluminum smelting to being a producer of billets for extrusion using purchased primary ingots and scrap as raw materials.

In response to weak market demand for kaolin, we reduced the production by our subsidiary CADAM S.A., in the state of Amapá, Brazil, by 30% of its nominal production capacity. We reduced the kaolin production of our subsidiary PPSA by 200,000 metric tons per year at its sites in the state of Pará, Brazil, effective January 1, 2009.

Companhia Siderúrgica Vitória

We are acquiring the interest of our former joint venture partner Baosteel Group Corporation in Companhia Siderúrgica Vitória (“CSV”), which was established to construct an integrated steel slab plant in the Brazilian state of Espírito Santo.

Global offer

In the second half of 2008, Vale conducted a global equity offering of 256,926,766 common shares and 189,063,218 preferred shares, including ADSs. The aggregate proceeds of the global offering to Vale, after underwriting discounts and commissions, and including the proceeds from the exercise of the over-allotment option, were approximately US\$12.2 billion, which we intend to use for capital expenditures and strategic acquisitions and to maximize our financial flexibility.

Pellet plant leases

In 2008, we leased four pelletizing plants located in Tubarão complex, in Vitória, in the Brazilian state of Espírito Santo, which are owned by joint ventures in which we have a stake. We have consolidated 100% of the sales and related costs of pellets produced by these pelletizing operations in our financial statements, which simplified and increased the transparency of our operational and financial reporting. These operating leases are consistent with our continuous search for opportunities to maximize shareholder value creation. They enabled us to increase our exposure to the iron ore business and capture synergies arising from operations at the Tubarão Port.

Investing in shipping

As part of our commercial strategy for our iron ore business, we are investing in the development of a maritime shuttle service between Brazil and Asia that is intended to minimize the freight-cost differential between Brazil and Australia to Asia and to enhance our competitiveness in the Asian market, which we expect to account for most of the future growth in the global demand for iron ore. Accordingly, we have ordered the construction of 12 large ore carriers, bought used ships and entered into freight contracts. The

investment in new large ore carriers amounted to US\$1.6 billion, while we have spent US\$74 million on the acquisition of used ships.

Acquisitions

Copper exploration assets in the African copperbelt

In December 2008, we entered into an agreement with African Rainbow Minerals Limited and its 65%-owned subsidiary, TEAL Exploration & Mining Incorporated (“TEAL”), to acquire a 50% interest in a joint venture company that will own TEAL’s subsidiaries for CAD81 million, enhancing our strategic growth options in the copper business in Africa. The transaction was completed in the first quarter of 2009.

TEAL has three copper projects in the feasibility and approval stages in the African copperbelt, which together could represent a nominal production capacity of 65,000 metric tons of copper per year in the next few years, and an extensive and highly prospective copper exploration portfolio, which indicates a potential for more than 300 million metric tons of high grade ore (greater than 1.5% Cu).

Coal assets in Colombia

In December 2008, we agreed to acquire 100% of the export coal assets of Cementos Argos S.A. (“Argos”) in Colombia for US\$300 million. Argos’s coal assets consist of two mining concessions, a port and a minority stake in a railroad. Since Colombia is the world’s third-largest exporter of high-quality thermal coal, given its low level of sulfur and high calorific value, we are seeking to build a coal asset platform in the country to enhance our growth options in the coal business. The acquisition was completed in the first quarter of 2009.

Potash deposits in Argentina and Canada

In the first quarter of 2009, we acquired from Rio Tinto Plc (“Rio Tinto”) 100% of the Rio Colorado project (“Rio Colorado”), in the provinces of Mendoza and Neuquén, Argentina, and 100% of the Regina project (“Regina”), in the province of Saskatchewan, Canada, for US\$850 million. Rio Colorado includes the development of a mine with an initial nominal capacity of 2.4 Mtpy of potash, with potential for expansion of up to 4.35 Mtpy, construction of a 350-kilometer railway spur, port facilities and a power plant. Regina is still in the exploration stage, with potential to deliver an annual output of 2.8 Mt of potash. Existing infrastructure near the project will allow transportation of the final product to Vancouver, facilitating access to the fast-growing Asian market.

Corumbá iron ore assets

In January 2009, we agreed to acquire from Rio Tinto 100% of the Corumbá open-pit iron ore mining operations in Brazil, with associated logistics assets, for US\$750 million. The Corumbá iron ore mine is a world-class asset, characterized by high grade and rich in direct-reduction lump ores. The logistics assets support 70% of the operations’ transportation needs. The acquisition of the Corumbá assets is subject to certain Brazilian government approvals.

Mining rights in Minas Gerais

In the second quarter of 2008, we acquired from Mineração Apolo iron ore mining rights located in the Rio Acima and Caeté districts, in the Brazilian state of Minas Gerais. We made payments amounting to US\$128 million in 2008, and we will make remaining payments of R\$7 million (approximately US\$3 million).

Organic growth

We have a challenging program of investments in the organic growth of our businesses. Our main investment projects are summarized under —*Capital expenditures*, and detailed in the discussion of each of

our lines of business. The projects that have had the largest impact on our financial performance since the beginning of 2008 are summarized below:

- In our iron ore business, Fazendão started up in the first quarter of 2008 and has an annual production capacity of 15.8 million metric tons of run-of-mine.
- In iron ore pellets, we concluded two pellet projects in 2008, Zhuhai and Samarco III, and one in the first half of 2009, Vargem Grande (formerly Itabiritos). Vargem Grande's operations have a nominal annual production capacity of 7 million metric tons.
- In our nickel business, we completed the Dalian nickel processing plant in 2008. Dalian, located in the province of Liaoning, China, began operations in April 2008 and will process the nickel oxide sinter produced by Goro, as well as other existing operations. Dalian has annual production capacity of 35,000 metric tons of finished nickel. Goro, in New Caledonia, is expected to start up in the first half of 2009 and to ramp up over a four-year period to a nominal annual production capacity of 60,000 metric tons of nickel and 4,600 metric tons of cobalt.
- In our aluminum business, we completed the first expansion of Paragominas (Paragominas II), from 5.4 to 9.9 million metric tons per year, in the first half of 2008. We also completed the construction of stages 6 and 7 at our Alunorte alumina facility in Brazil, which started operating in the second half of 2008, adding 1.9 million metric tons to its nominal production capacity.
- In copper, we started up a hydro-metallurgical plant in December 2008 to test the application of hydro-metallurgical technology for industrial-scale processing of more complex copper minerals to produce copper cathode. This plant processes copper concentrate produced at our Sossego mine, in the Carajás region of the Brazilian state of Pará. It has an annual production capacity of 10,000 metric tons of copper cathode.

Divestitures and asset sales

In line with our strategy, we have continued to reduce our holdings of non-strategic assets. We summarize below our key dispositions and asset sales since the beginning of 2008.

- *Jubilee Mines.* In the first quarter of 2008, we sold our minority stake in Jubilee Mines, a nickel-producing company in Australia, for US\$130 million.
- *Usiminas.* In the second quarter of 2009, we sold our remaining 2.93% interest in Usinas Siderúrgicas de Minas Gerais S.A. ("Usiminas") for R\$595 million.

LINES OF BUSINESS

Our principal lines of business consist of mining and logistics. We also invest in energy to supply part of our consumption. Below is an outline of the information provided in this section:

1. Ferrous minerals

1.1 Iron ore

- 1.1.1 Operations
- 1.1.2 Production
- 1.1.3 Projects and exploration

1.2 Iron ore pellets

- 1.2.1 Operations
- 1.2.2 Production
- 1.2.3 Projects

1.3 Iron ore and iron ore pellets

- 1.3.1 Customers, sales and marketing
- 1.3.2 Competition

1.4 Manganese ore

1.5 Ferroalloys

1.6 Manganese ore and ferroalloys—competition

1.7 Pig iron

2. Non-ferrous minerals

2.1 Nickel

- 2.1.1 Operations
- 2.1.2 Production
- 2.1.3 Projects and exploration
- 2.1.4 Customers, sales and marketing
- 2.1.5 Competition

2.2 Aluminum

- 2.2.1 Bauxite
- 2.2.2 Alumina
- 2.2.3 Aluminum
- 2.2.4 Customers and sales
- 2.2.5 Competition

2.3 Copper

- 2.3.1 Operations
- 2.3.2 Production
- 2.3.3 Projects and exploration
- 2.3.4 Customers and sales
- 2.3.5 Competition

2.4 PGMs and other precious metals

2.5 Other non-ferrous minerals

- 2.5.1 Cobalt
- 2.5.2 Kaolin
- 2.5.3 Potash
- 2.5.4 Projects and exploration

3. Coal

3.1 Operations

3.2 Production

3.3 Projects and exploration

3.4 Customers and sales

3.5 Competition

4. Infrastructure

4.1 Logistics

- 4.1.1 Railroads
- 4.1.2 Ports and maritime terminals
- 4.1.3 Shipping
- 4.1.4 Projects

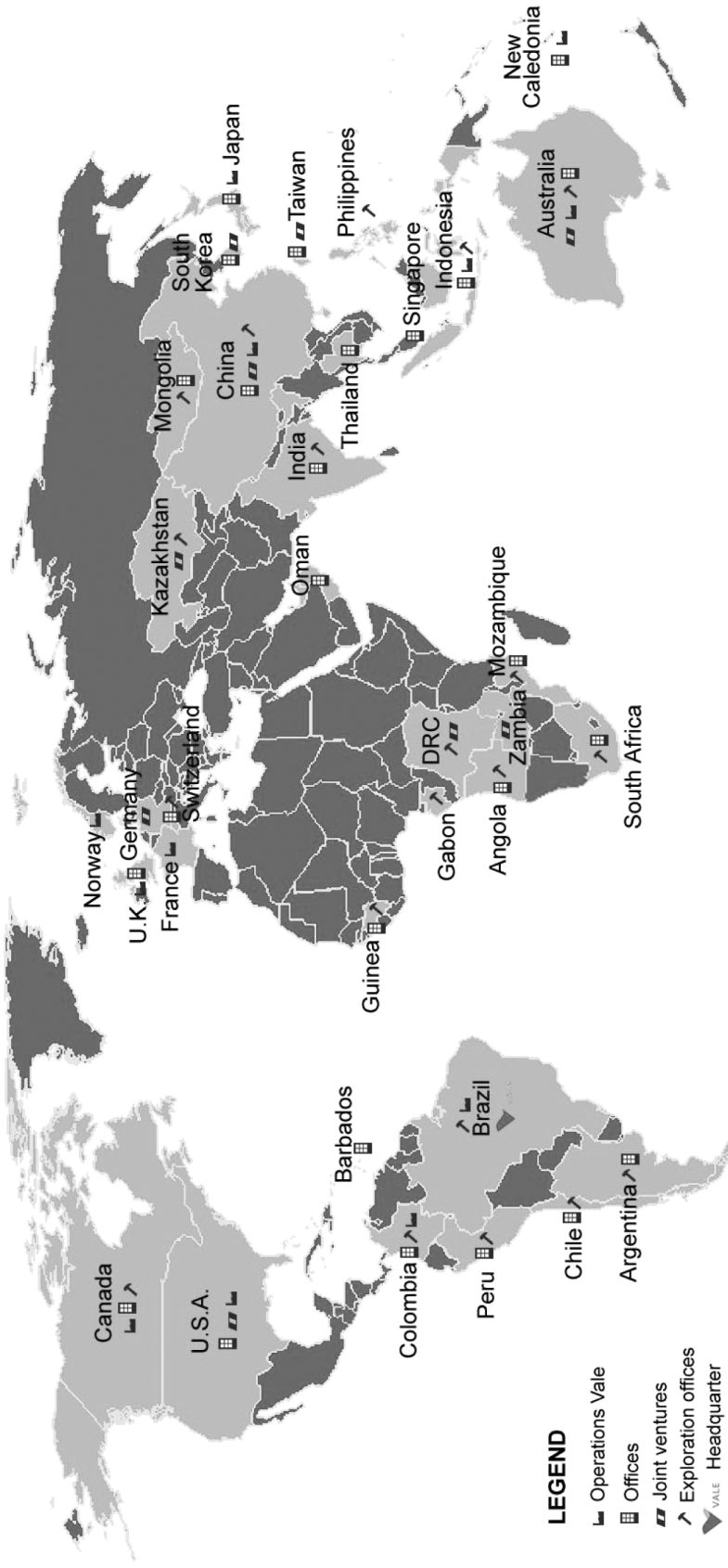
4.2. Energy

- 4.2.1 Operations
- 4.2.2 Projects

5. Other investments

5.1 Steel

The following map shows the locations of our operations worldwide.



LEGEND

- ▣ Operations Vale
- ▣ Offices
- ▣ Joint ventures
- ▣ Exploration offices
- ▣ VALE Headquarter

1. Ferrous minerals

Our ferrous minerals business segment includes:

- iron ore mining;
- iron ore pellet production;
- manganese ore mining; and
- ferroalloy production.

1.1 Iron ore

1.1.1 Operations—iron ore

We conduct our iron ore business in Brazil, primarily at the parent-company level and through our subsidiary Urucum Mineração S.A. (“Urucum”). Our iron ore mining and related operations are concentrated in three systems: the Southeastern System, the Southern System and the Northern System, each with its own transportation capability.

| <u>Company</u> | <u>System</u> | <u>Our share of capital</u> | | <u>Partners</u> |
|------------------|-------------------------------------|-----------------------------|--------------|-----------------|
| | | <u>Voting</u> | <u>Total</u> | |
| | | (%) | | |
| Vale | Northern, Southeastern and Southern | – | – | – |
| Urucum | Southeastern | 100 | 100 | – |

Southeastern System

The Southeastern System mines are located in the Iron Quadrangle region of the state of Minas Gerais, where they are divided into three mining complexes (Itabira, Minas Centrais, and Mariana), and in the state of Mato Grosso do Sul, where Urucum’s mine is located.

The ore reserves in the three mining complexes have high ratios of itabirite ore relative to hematite ore. Itabirite ore has iron grade of 35-60% and requires concentration to achieve shipping grade, which is at least 63.5% average iron grade. The Urucum ore reserves have high ratios of hematite ore, which has an average grade of approximately 62.3%.

We conduct open-pit mining operations in the Southeastern System. At the three mining complexes, we generally process the run-of-mine by means of standard crushing, classification and concentration steps, producing sinter feed, lump ore and pellet feed in the beneficiation plants located at the mining sites. At Urucum’s mine, we generally process the run-of-mine by means of standard crushing and classification steps, producing only lump ore. In 2008, we produced 99.4% of the electric energy consumed in the Southeastern System at our hydroelectric power plants (Igarapava, Porto Estrela, Funil, Candonga, Aimorés, Capim Branco I and Capim Branco II).

We own and operate integrated railroad and terminal networks in the three mining complexes, which are accessible by road or by spur tracks of our EFVM railroad. The EFVM railroad connects these mines to the Tubarão port in Vitória, in the state of Espírito Santo. For a more detailed description of the networks, see —*Logistics*, below. We do not own or operate logistics facilities at the site of Urucum’s mine. Urucum iron ore is delivered to customers by barges through the Paraguay River.

Southern System

The Southern System mines are located in the Iron Quadrangle region of the state of Minas Gerais in Brazil. The mines of Minerações Brasileiras Reunidas (“MBR”) have been incorporated into this system and

are now operated at the parent-company level pursuant to an asset lease agreement. The Southern System has three major mining complexes: the Minas Itabirito complex (comprised of four mines, with two major beneficiation plants and three secondary beneficiation plants); the Vargem Grande complex (comprised of three mines and one major beneficiation plant); and the Paraopeba complex (comprised of four mines and three beneficiation plants).

We use wet beneficiation processes to convert run-of-mine obtained from open-pit mining operations into sinter feed, lump ore and pellet feed, in addition to *hematitinha*, a product used primarily by Brazilian pig-iron producers. In 2008, we produced 72% of the electric energy consumed in the Southern System at our hydroelectric power plants (Igarapava, Porto Estrela, Funil, Candonga, Capim Branco I and Capim Branco II).

We enter into freight contracts with our affiliate, MRS, a railway company, to transport our iron ore products at market prices from the mines to our Guaíba Island and Itaguaí maritime terminals in the state of Rio de Janeiro.

Northern System

The Northern System mines, located in the Carajás mineral province of the Brazilian state of Pará, contain some of the largest iron ore deposits in the world. The reserves are divided into northern and southern ranges situated approximately 35 kilometers apart. Since 1983, we have been conducting mining activities in the northern range, which is divided into four main mining bodies. The Northern System has open-pit mines and an ore-processing plant. The mines are located on public lands for which we hold mining concessions.

Because of the high grade (66.7% on average) of the Northern System deposits, we do not have to operate a concentration plant at Carajás. The beneficiation process consists simply of sizing operations, including screening, hydrocycloning, crushing and filtration. Output from the beneficiation process consists of sinter feed, pellet feed, special fines for direct reduction processes and lump ore. We obtain all of the electrical power for the Northern System at market prices from regional utilities.

We operate an integrated railroad and terminal network in the Northern System. After completion of the beneficiation process, our EFC railroad transports the iron ore to the Ponta da Madeira maritime terminal in the state of Maranhão. To support our Carajás operations, we have housing and other facilities in a nearby township. These operations are accessible by road, air and rail.

1.1.2 Production—iron ore

| <u>Mine/Plant</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity(1)</u> | <u>Recovery rate</u> |
|--------------------------------|-------------|---|--------------|--------------|----------------------------|----------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| | | (million metric tons) | | | | (%) |
| Southeastern System | | | | | | |
| <i>Itabira complex</i> | | | | | | |
| Cauê(2) | Open pit | 23.7 | 24.8 | 21.5 | 24.6 | 69.8 |
| Conceição(2) | Open pit | 23.3 | 21.9 | 20.3 | 22.0 | 74.7 |
| <i>Minas Centrais complex</i> | | | | | | |
| Água Limpa/Cururu(3) | Open pit | 4.2 | 4.2 | 4.7 | 4.7 | 55.5 |
| Gongo Soco | Open pit | 6.7 | 6.5 | 5.0 | 6.1 | 80.0 |
| Brucutu | Open pit | 7.7 | 21.9 | 26.4 | 30.0 | 74.0 |
| Andrade(4) | Open pit | 1.4 | 1.3 | 1.4 | 1.4 | 100 |
| <i>Mariana complex</i> | | | | | | |
| Alegria | Open pit | 12.9 | 13.5 | 12.3 | 12.4 | 72.3 |
| Fábrica Nova(5) | Open pit | 13.2 | 14.6 | 14.0 | 15.6 | 78.2 |
| Fazendão(6) | Open pit | 0.7 | 3.7 | 9.8 | 15.8 | 92.8 |
| Timbopeba | Open pit | 2.8 | 1.3 | — | — | — |
| Urucum | Open pit | 1.4 | 1.1 | 1.0 | 2.0 | 60.0 |
| Total Southeastern System | | 98.0 | 114.9 | 116.4 | 134.6 | |
| Southern System(7) | | | | | | |
| <i>Minas Itabirito complex</i> | | | | | | |
| Segredo/João Pereira | Open pit | 11.5 | 11.8 | 12.1 | 12.1 | 72.3 |
| Sapocado/Galinheiro(8) | Open pit | 17.1 | 17.4 | 15.1 | 18.8 | 76.8 |
| <i>Vargem Grande complex</i> | | | | | | |
| Tamanduá(9) | Open pit | 10.0 | 10.2 | 9.8 | 10.0 | 81.6 |
| Capitão do Mato(9) | Open pit | 11.4 | 11.5 | 9.7 | 11.5 | 80.6 |
| Abóboras | Open pit | 4.3 | 6.0 | 4.2 | 6.1 | 100 |
| <i>Paraopeba Complex</i> | | | | | | |
| Jangada | Open pit | 4.8 | 3.9 | 4.3 | 5.0 | 84.7 |
| Córrego do Feijão | Open pit | 8.2 | 9.3 | 8.4 | 8.4 | 84.7 |
| Capão Xavier | Open pit | 13.5 | 13.3 | 13.5 | 13.5 | 86.8 |
| Mar Azul | Open pit | 3.5 | 5.9 | 3.5 | 4.0 | 90.6 |
| Total Southern System | | 84.3 | 89.3 | 80.5 | 88.8 | |
| Northern System | | | | | | |
| <i>Serra Norte(10)</i> | | | | | | |
| N4W | Open pit | 34.3 | 40.3 | 44.3 | 47.2 | 89.3 |
| N4E | Open pit | 19.2 | 15.4 | 13.2 | 15.1 | 89.3 |
| N5-W | Open pit | 15.2 | 30.4 | 34.7 | 34.7 | 89.3 |
| N5E(11) | Open pit | 13.1 | 5.6 | 4.4 | 5.0 | 89.3 |
| Total Northern System | | 81.8 | 91.7 | 96.5 | 100.4 | |
| Total Vale | | <u>264.2</u> | <u>295.9</u> | <u>293.4</u> | <u>323.8</u> | |

(1) These figures represent nominal capacity in 2008, which is equivalent to planned production for 2008.

(2) The run-of-mine from Minas do Meio is sent to the Cauê and Conceição concentration plants.

(3) Água Limpa/Cururu is owned by Baovale, in which we own 100% of the voting shares and 50% of the total shares. Production figures for Água Limpa/Cururu have not been adjusted to reflect our ownership interest.

(4) We lease the Andrade mine from Companhia Siderúrgica Belgo-Mineira pursuant to a 40-year contract.

(5) Fábrica Nova ore is sent to the Alegria and Fábrica Nova plants.

(6) Fazendão ore is sent to the Alegria plant and Samarco.

(7) Former MBR mines were included in other complexes in the Southern System.

(8) Galinheiro mine was separated from the Sapocado mine and includes the Pico mine.

(9) Tamanduá and Capitão do Mato ores are processed at the Vargem Grande plant.

(10) All Serra Norte ores are processed at the Carajás plant.

(11) Our former N5E-N mine was incorporated in the N5E reserve model.

1.1.3 Projects and exploration—iron ore

- *Carajás 130 mtpy.* This brownfield project, located in the Northern System, will add 30 million metric tons per year to our capacity with the construction of a new composite primary crushing plant, beneficiation and classification units and significant investment in logistics (including car dumpers, stockyards and sideways terminals). Our estimated total investment in this project is US\$2.478 billion. This project is currently scheduled to come on stream in the first half of 2011, subject to obtaining the required environmental licenses.
- *Carajás - additional 10 mtpy.* This brownfield project, also located in the Northern System, is being developed to partially compensate for the delay of the Carajás project described above. Our estimated total investment in this project is US\$290 million, representing a relatively low capital expenditure cost per ton of US\$29, given the project's focus on increasing the capacity of iron ore beneficiation. Start-up is scheduled for the second half of 2009.
- *Serra Sul (mine S11D).* This project, located in the Northern System, is the largest greenfield project in our history and in the history of the iron ore industry. We expect it to have an annual production capacity of 90 million metric tons of iron ore. Completion is currently scheduled for the first half of 2013, subject to obtaining the required environmental licenses. Our estimated total investment in this project is US\$11.297 billion. This project is subject to approval by our Board of Directors.
- *Apolo (previously Maquiné - Baú).* We expect this project, located in the Southeastern System, to have annual production capacity of 24 million metric tons. The estimated total cost of the project, which is subject to approval by our Board of Directors, is US\$2.509 billion. Completion is scheduled for the first half of 2013, subject to market conditions.

We are currently engaged in mineral exploration efforts for iron ore deposits in several states in Brazil. We are also seeking iron ore exploration opportunities in Africa, Australia and India.

1.2 Iron ore pellets

1.2.1 Operations—iron ore pellets

Directly and through joint ventures, we produce iron ore pellets in Brazil and in China, as set forth in the following table.

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | | <u>Partners</u> |
|-----------------------|--|-----------------------------|--------------|--|
| | | <u>Voting (%)</u> | <u>Total</u> | |
| | <i>Brazil:</i> | | | |
| Vale | Tubarão, Fábrica, Vargem Grande and São Luís | — | — | — |
| Hispanobras | Tubarão | 51.0 | 50.9 | Arcelor Mittal |
| Samarco | Mariana and Anchieta | 50.0 | 50.0 | BHP Billiton |
| | <i>China:</i> | | | |
| Zhuhai YPM | Zhuhai, Guangdong | 25.0 | 25.0 | Zhuhai Yueyufeng Iron and Steel Co., Ltd Pioneer Iron and Steel Group Co. Ltd. |

In the Tubarão port area, in the Brazilian state of Espírito Santo, we operate our wholly-owned pelletizing plants, Tubarão I and II, four plants with respect to which we signed operating leases in 2008, and our jointly-owned plant, Hispanobras. We send iron ore from our Southeastern System mines to these plants and use our logistics infrastructure to distribute their final products.

Our São Luís pelletizing plant, located in the Brazilian state of Maranhão, is part of the Northern System. We send Carajás iron ore to this plant and ship its production to customers through our Ponta da Madeira maritime terminal.

The Fábrica and Vargem Grande (formerly Itabiritos) pelletizing plants, located in the Brazilian state of Minas Gerais, are part of the Southern System. We send some of the iron ore from the Fábrica Nova mine to the Fábrica plant, and we send iron ore from the Pico mine to the Vargem Grande plant. We transport pellets from these plants using MRS.

Samarco operates a mine, Germano, and three pelletizing plants in two operating sites. The Germano mine is located in Mariana, Minas Gerais, close to our Southeastern System, and the pelletizing plants are located in the Ponta Ubu unit, in Anchieta, Espírito Santo. Iron ore from Germano and our Southeastern System mine Fábrica Nova is sent to the Samarco pelletizing plants using a 396-kilometer pipeline, the longest pipeline in the world for the conveyance of iron ore. Samarco has its own port facilities to transport its production.

The Zhuhai YPM pelletizing plant, in China, is part of the Yueyufeng Steelmaking Complex. It has port facilities, which we use to send feed from our mines in Brazil. Zhuhai YPM's main customer is Yueyufeng Iron & Steel ("YYSS"), which is also located in the Yueyufeng Steelmaking Complex.

We sell pellet feed to our pelletizing joint ventures at market prices. Historically, we have supplied all of the iron ore requirements of our wholly-owned pelletizing plants and joint ventures, except for Samarco and Zhuhai YPM, to which we supply only a portion of their needs. Of our total 2008 pellet production, 68.3% was blast furnace pellets, and the remaining 31.7% was direct reduction pellets, which are used in steel mills that employ the direct reduction process rather than blast furnace technology.

The following table sets forth information regarding our iron ore sales to our pelletizing joint ventures for the periods indicated.

| | Sales for the year ended December 31, | | |
|-------------------------|--|--------------------|--------------------|
| | <u>2006</u> | <u>2007</u> | <u>2008</u> |
| | (million metric tons) | | |
| Hispanobras | 4.9 | 4.7 | 4.1 |
| Itabasco(1) | 4.3 | 4.4 | 3.2 |
| Kobrasco(2) | 5.3 | 4.4 | 1.6 |
| Nibrasco(3) | 8.0 | 7.4 | 2.0 |
| Samarco(4) | 7.5 | 7.1 | 11.3 |
| Zhuhai YPM(5) | <u>—</u> | <u>—</u> | <u>0.8</u> |
| Total | <u>30.0</u> | <u>28.1</u> | <u>23.0</u> |

- (1) Sales until September 2008, since we signed a 10-year operating lease contract for Itabasco's pelletizing plant in October 2008.
- (2) Sales until May 2008, since we signed a five-year operating lease contract for Kobrasco's pelletizing plant in June 2008.
- (3) Sales until April 2008, since we signed a 30-year operating lease contract for Nibrasco's two pelletizing plants in May 2008.
- (4) In 2006 we sold 1.9 million metric tons of concentrate and 5.6 million metric tons of run-of-mine; in 2007 we sold 1.9 million metric tons of concentrate and 5.2 million metric tons of run-of-mine; and in 2008 we sold 1.8 million metric tons of concentrate and 9.5 million metric tons of run-of-mine.
- (5) Zhuhai YPM started operations in January 2008.

1.2.2 Production—iron ore pellets

| <u>Company</u> | Production for the year ended December 31, | | | Nominal capacity |
|-----------------------|---|-------------|-------------|-------------------------|
| | 2006 | 2007 | 2008 | |
| | (million metric tons) | | | |
| Vale(1) | 14.2 | 17.6 | 26.6 | 31.7 |
| GIIC(2) | 1.3 | — | — | — |
| Hispanobras | 4.5 | 4.3 | 3.8 | 3.8 |
| Itabasco(3) | 4.0 | 4.0 | 2.9 | — |
| Kobrasco(4) | 4.8 | 5.0 | 2.1 | — |
| Nibrasco(5) | 9.1 | 9.0 | 2.7 | — |
| Samarco | <u>13.9</u> | <u>14.3</u> | <u>17.1</u> | <u>21.8</u> |
| Total | <u>51.8</u> | <u>53.7</u> | <u>55.2</u> | <u>58.5</u> |

(1) Figure includes actual production, including production from the four pellet plants we leased in 2008.

(2) We sold our interest in GIIC in May 2006.

(3) Production until September 2008, since we signed a 10-year operating lease contract for Itabasco's pelletizing plant in October 2008.

(4) Production until May 2008, since we signed a five-year operating lease contract for Kobrasco's pelletizing plant in June 2008.

(5) Production until April 2008, since we signed a 30-year operating lease contract for Nibrasco's two pelletizing plants in May 2008.

1.2.3 Projects—iron ore pellets

- *Tubarão VIII.* We are building a new pelletizing plant at our existing seven-plant complex at the Tubarão Port. We expect the plant to have annual production capacity of 7.5 million metric tons. Completion is scheduled for the first half of 2011. The estimated total cost of this project is US\$636 million. In response to market conditions for iron ore pellets, we have temporarily slowed down the project development.
- *Oman.* In Oman, at the Sohar industrial complex, we are developing a pelletizing plant, a bulk terminal and a distribution center with capacity of 40 million metric tons. The plant will have annual nominal production capacity of 9 million metric tons of direct reduction pellets. The estimated total cost of this project is US\$1.356 billion. Operations are scheduled to begin in the second half of 2010.

1.3 Iron ore and iron ore pellets

1.3.1 Customers, sales and marketing—iron ore and iron ore pellets

We supply all of our iron ore and iron ore pellets (including our share of joint-venture pellet production) to the steel industry. Prevailing and expected levels of demand for steel products affect demand for our iron ore and iron ore pellets. Demand for steel products is influenced by many factors, such as global manufacturing production, civil construction and infrastructure spending.

In 2008, China accounted for 28.7% of our iron ore and iron ore pellet shipments, and Asia as a whole accounted for 47.8%. Europe accounted for 24.4%, followed by Brazil with 19.0%. Our 10 largest customers collectively purchased 143.5 million metric tons of iron ore and iron ore pellets from us, representing 48.5% of our 2008 iron ore and iron ore pellet shipments and 50.9% of our total iron ore and iron ore pellet revenues. With the exception of Arcelor Mittal, which accounted for 13.6% of our shipments of iron ore and iron ore pellets in 2008, no individual customer accounted for more than 10.0% of our shipments of iron ore and iron ore pellets for any of the three years ended December 31, 2008.

In 2008, the Asian market (primarily China and Japan) and the European market were the primary markets for our blast furnace pellets, while North America, the Middle East and North Africa were the primary markets for our direct reduction pellets.

We strongly emphasize customer service in order to improve our competitiveness. We work with our customers to understand their main objectives and to provide them with iron ore solutions to meet specific customer needs. Using our expertise in mining, agglomeration and iron-making processes, we search for technical solutions that will balance the best use of our world-class mining assets and the satisfaction of our clients. We believe that our ability to provide customers with a total iron ore solution and the quality of our products are very important advantages helping us to improve our competitiveness in relation to competitors who may be more conveniently located geographically. In addition to offering technical assistance to our customers, we operate sales support offices in Tokyo (Japan), Seoul (South Korea), Singapore, Muscat (Oman) and Shanghai (China), which support the sales made by our wholly-owned subsidiary located in Saint-Prex, Switzerland. These offices also allow us to stay in close contact with our customers, monitor their requirements and our contract performance, and ensure that our customers receive timely deliveries.

1.3.2 Competition—iron ore and iron ore pellets

The global iron ore and iron ore pellet markets are highly competitive. The main factors affecting competition are price, quality, range of products offered, reliability, operating costs and shipping costs.

Our biggest competitors in the Asian market are located in Australia and include subsidiaries and affiliates of BHP Billiton PLC and Rio Tinto Ltd. Although the transportation costs of delivering iron ore from Australia to Asian customers are generally lower than ours as a result of Australia's geographical proximity, we are competitive in the Asian market for two main reasons.

First, steel companies generally seek to obtain the types (or blends) of iron ore and iron ore pellets that can produce the intended final product in the most economic and efficient manner. Our iron ore has low impurity levels and other properties that generally lead to lower processing costs. For example, in addition to its high grade, the alumina grade of our iron ore is very low compared to Australian ores, improving productivity in blast furnaces, which is particularly important during periods of high demand.

Second, steel companies often develop sales relationships based on a reliable supply of a specific mix of iron ore and iron ore pellets. We have a customer-oriented marketing policy and place specialized personnel in direct contact with our clients to help determine the blend that best suits each particular customer.

In terms of reliability, our ownership and operation of logistics facilities in the Northern and Southeastern Systems help us ensure that our products are delivered on time and at a relatively low cost. In addition, we are developing a dedicated shuttle service from Brazil to China, aimed at enhancing our ability to offer our products in the Chinese market at competitive prices and to increase our market share. To support this strategy, we will order new ships, purchase used vessels and enter into long-term freight contracts.

Our principal competitors in Europe are Kumba Iron Ore Limited; Luossavaara Kiirunavaara AB ("LKAB"); Société Nationale Industrielle et Minière ("SNIM"); Rio Tinto Ltd.; and BHP Billiton. We are competitive in the European market for the same reasons we are competitive in Asia, as well as the proximity of our port facilities to European customers.

The Brazilian iron ore market is also competitive. There are several small iron ore producers and new companies with developing projects, such as Anglo Ferrous Brazil, MMX, MHAG and Bahia Mineração. At the same time, there are vertically integrated steel companies such as CSN and Mannesmann. Usiminas has become partially integrated with the acquisition of an iron ore company. Although pricing is relevant, quality and reliability are important competitive factors as well. We believe that our integrated transportation systems, high-quality ore and technical services make us a strong competitor in the Brazilian market.

With respect to pellets, our major competitors are Luossavaara Kiirunavaara AB ("LKAB"), Cleveland-Cliffs Inc., Quebec Cartier Mining Co., Iron Ore Company of Canada (a subsidiary of Rio Tinto Ltd.) and Gulf Industrial Investment Co.

1.4 Manganese ore

We conduct our manganese mining operations in Brazil through our subsidiaries Vale Manganês S.A. (“Vale Manganês”) and Urucum.

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | |
|----------------------------|-----------------------|-----------------------------|--------------|
| | | <u>Voting</u> | <u>Total</u> |
| | | (%) | |
| | <i>Brazil:</i> | | |
| Vale Manganês(1) | Pará and Minas Gerais | 100 | 100 |
| Urucum | Mato Grosso do Sul | 100 | 100 |

(1) Vale Manganês’s mines are Azul and Morro da Mina.

Our mines produce three types of manganese ore products:

- metallurgical ore, used primarily for the production of ferroalloys;
- natural manganese dioxide, suitable for the manufacture of electrolytic batteries; and
- chemical ore, used in several industries for the production of fertilizer, pesticides and animal feed, and used as a pigment in the ceramics industry.

We operate on-site beneficiation plants at our Azul mine and at the Urucum mines, which are accessible by road. The Azul and Urucum mines have high-grade ores (at least 40% manganese grade), while our Morro da Mina mine has low-grade ores. All of these mines obtain electrical power at market prices from regional electric utilities.

The following table sets forth information about our manganese production.

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> | <u>Recovery rate</u> |
|-------------------------|-------------|---|-------------|-------------|-------------------------|----------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| | | (million metric tons) | | | | |
| Azul(1) | Open pit | 1.7 | 0.9 | 2.0 | 2.5 | 63.3 |
| Morro da Mina | Open pit | 0.2 | 0.1 | 0.1 | 0.3 | 93.2 |
| Urucum(2) | Underground | <u>0.4</u> | <u>0.3</u> | <u>0.2</u> | <u>0.5</u> | 83.0 |
| Total | | <u>2.3</u> | <u>1.3</u> | <u>2.4</u> | <u>3.3</u> | |

(1) Given the need to prioritize iron ore transportation through the EFC railroad, we shut down the Azul mine from July to December 2007.

(2) Urucum has a five-year renewable lease agreement with CPFL for its plant in Corumbá, in the Brazilian state of Mato Grosso do Sul.

We are seeking opportunities for mineral exploration and development of manganese deposits mainly in Africa and Brazil.

1.5 Ferroalloys

The following table sets forth the subsidiaries through which we conduct our ferroalloys business.

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | |
|------------------------------------|--------------------------------|-----------------------------|--------------|
| | | <u>Voting</u> | <u>Total</u> |
| | | (%) | |
| Vale Manganês | Minas Gerais and Bahia, Brazil | 100 | 100 |
| Urucum | Mato Grosso do Sul, Brazil | 100 | 100 |
| Vale Manganèse France | Dunkerque, France | 100 | 100 |
| Vale Manganese Norway AS | Mo I Rana, Norway | 100 | 100 |

We produce several types of manganese ferroalloys, such as high carbon and medium carbon ferro-manganese and ferro-silicon manganese. The production of ferroalloys consumes significant amounts of electricity, representing 7% of our total consumption in 2008. The electricity supply for our ferroalloy plant in Dunkerque, France and Mo I Rana, Norway are provided through a long-term contract. For information on the risks associated with potential energy shortages, see *Item 3. Key information—Risk factors*.

The following table sets forth information about our ferroalloys production.

| <u>Company</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> |
|------------------------------------|---|-------------|-------------|-------------------------|
| | <u>2006</u> | <u>2007</u> | <u>2008</u> | |
| | (thousand metric tons) | | | |
| Vale Manganês(1) | 260 | 288 | 288 | 368 |
| Urucum(2) | 21 | 22 | 20 | 20 |
| Vale Manganèse France(3) | 146 | 103 | 55 | 140 |
| Vale Manganese Norway AS | 107 | 129 | 112 | 120 |
| NES(4) | 6 | — | — | — |
| Total | <u>540</u> | <u>542</u> | <u>475</u> | <u>648</u> |

(1) Vale Manganês has five plants in Brazil: Santa Rita, Barbacena and Ouro Preto in the state of Minas Gerais; and Simões Filho in the state of Bahia. We sold Vale Manganês's São João del-Rei plant in June 2007. From January 2006 to October 2007, we reduced capacity at Simões Filho due to weak demand for ferroalloys.

(2) Urucum has one plant in Corumbá in the Brazilian state of Mato Grosso do Sul.

(3) From August to October 2007, we shut down our furnace at Vale Manganèse France due to technical problems. We shut it down again in August 2008 due to technical problems, and it is currently undergoing repairs.

(4) We sold our interest in NES (Nova Era Silicon S.A.) in February 2006.

1.6 Manganese ore and ferroalloys—competition

The markets for manganese ore and ferroalloys are highly competitive. Competition in the manganese ore market takes place in two segments. High-grade manganese ore competes on a global seaborne basis, while low-grade ore competes on a regional basis. For some ferroalloys, high-grade ore is mandatory, while for others high- and low-grade ores are complementary. The main suppliers of high-grade ores are located in South Africa, Gabon, Australia and Brazil. The main producers of low-grade ores are located in Ukraine, China, Ghana, Kazakhstan, India and Mexico.

The ferroalloy market is characterized by a large number of participants who compete primarily on the basis of price. The principal competitive factors in this market are the costs of manganese ore, electricity and logistics and reductants. We compete both with stand-alone producers and integrated producers that also mine their own ore. Our competitors are located principally in countries that produce manganese ore or steel.

1.7 Pig iron

We conduct a pig iron operation in northern Brazil. This operation was conducted through our subsidiary Ferro-Gusa Carajás S.A. (“FGC”) until April 2008, when FGC was merged into Vale.

We utilize two conventional mini-blast furnaces to produce approximately 350,000 metric tons of pig iron per year, using iron ore from our Carajás mines in northern Brazil. The charcoal source is exclusively from eucalyptus trees grown in a cultivated forest of 82,000 acres, with the total project encompassing approximately 200,000 acres.

2. Non-ferrous minerals

2.1 Nickel

2.1.1 Operations—nickel

We conduct our nickel operations primarily through our wholly-owned subsidiary Vale Inco. Vale Inco operates two nickel production systems, one in North America and Europe and the other in Asia and the South Pacific, as set forth in the following table.

| <u>System</u> | <u>Location</u> | <u>Operations</u> |
|--------------------------|--|--|
| North America & Europe | Canada—Sudbury, Ontario | Fully integrated mines, mill, smelter and refinery (producing intermediates and finished nickel and by-products) |
| | Canada—Thompson, Manitoba | Fully integrated mines, mill, smelter and refinery (producing finished nickel and by-products) |
| | Canada—Voisey’s Bay, Newfoundland and Labrador | Mine and mill (producing nickel concentrate and by-products) |
| | U.K.—Clydach, Wales | Stand-alone nickel refinery (producing finished nickel) |
| Asia & the South Pacific | Indonesia—Sorowako, Sulawesi(1) | Mining and processing operations (producing nickel matte, an intermediate product) |
| | Japan—Matsuzaka(2) | Stand-alone nickel refinery (producing finished nickel) |
| | Taiwan—Kaoshiung(3) | Stand-alone nickel refinery (producing finished nickel) |
| | China—Dalian, Liaoning(4) | Stand-alone nickel refinery (producing finished nickel) |
| | South Korea—Onsan(5) | Stand-alone nickel refinery (producing finished nickel) |

(1) Operations conducted through our 61%-owned subsidiary PT International Nickel Indonesia Tbk.

(2) Operations conducted through our 67%-owned subsidiary Vale Inco Japan Limited.

(3) Operations conducted through our 49.9%-owned subsidiary Taiwan Nickel Refining Corporation.

(4) Operations conducted through our 98%-owned subsidiary Vale Inco New Nickel Materials (Dalian) Co. Ltd.

(5) Operations conducted through our 25% interest in Korea Nickel Corporation.

North America & Europe

Sudbury operations

Our long-established mines in Sudbury, Ontario, are primarily underground operations with nickel sulfide ore bodies. These ore bodies also contain co-deposits of copper, cobalt, platinum-group metals, gold and silver. We have integrated mining, milling, smelting and refining operations to process ore into finished nickel at Sudbury. We also smelt and refine an intermediate product, nickel concentrate, from our Voisey’s Bay operations. We ship a nickel intermediate product, nickel oxide, from our Sudbury smelter to our nickel refineries in Wales, Taiwan, China and South Korea for processing into finished nickel. In 2008, we produced

19.1% of the electric energy consumed in Sudbury at our hydroelectric power plants there. The remaining electricity was purchased from Ontario's provincial electricity grid.

Thompson operations

Our long-established mines in Thompson, Manitoba, are primarily underground operations with nickel sulfide ore bodies. The ore bodies also contain co-deposits of copper and cobalt. We have integrated mining, milling, smelting and refining operations to process ore into finished nickel at Thompson. We also smelt and refine an intermediate product, nickel concentrate, from our Voisey's Bay operations. Low-cost energy is available from purchased hydroelectric power at our Thompson operations.

Voisey's Bay operations

Our Voisey's Bay mine, in Newfoundland and Labrador, is an open-pit operation with the potential for underground operations at a later stage. We mine nickel sulfide ore bodies here, which also contain co-deposits of copper and cobalt. We mill Voisey's Bay ore on site and ship it as an intermediate product (nickel concentrates) primarily to our Sudbury and Thompson operations for final processing (smelting and refining). A portion of our Voisey's Bay nickel concentrate is also toll-smelted and toll-refined by unrelated parties in Europe. The electricity requirements of our Voisey's Bay mine are supplied through diesel generators.

Clydach operations

Clydach is a stand-alone nickel refinery in the U.K. that processes a nickel intermediate product, nickel oxide, supplied from our Sudbury operations to produce finished nickel.

Asia & the South Pacific

Sulawesi operations

Our subsidiary PT Inco operates an open cast mining area and related processing facility in Sorowako on the Island of Sulawesi, Indonesia. PT Inco mines nickel laterite saprolite ore and produces an intermediate product (nickel matte), which is shipped primarily to our nickel refinery in Japan. Pursuant to life-of-mine off-take agreements, PT Inco sells 80% of its production to Vale Inco and 20% of its production to Sumitomo Metal Mining Co., Ltd. ("Sumitomo"). PT Inco is a public company whose shares are traded on the Indonesia Stock Exchange. We hold 61% of its share capital, Sumitomo holds 20% and the remaining 19% is publicly held.

Energy costs are a significant component of our nickel production costs for the processing of lateritic ores at our PT Inco operations in Indonesia. A major part of the electric furnace power requirements of PT Inco is supplied at low cost by its two hydroelectric power plants on the Larona River, Larona and Balambano. PT Inco has thermal generating facilities in order to supplement its hydroelectric power supply with a source of energy that is not subject to hydrological factors. Since October 2008, all thermal generating facilities have been shut down in order to decrease operational costs. In 2008, the hydroelectric power plants provided 81% of the electric energy consumed at our Indonesian operations, and the oil generators provided the remainder.

Asian refinery operations

Our 67%-owned subsidiary Vale Inco Japan Limited operates a refinery in Matsuzaka, which produces intermediate and finished nickel products, primarily using nickel matte sourced from PT Inco. Vale Inco Japan is a private company. The minority interest is held by Sumitomo (13%), Daido Steel Co., Ltd. (9%), Mitsui & Co., Ltd. (7%) and other Japanese companies (5%).

We also operate or have investments in nickel refining operations in Taiwan, China and South Korea, through our 49.9% stake in Taiwan Nickel Refining Corporation ("TNRC"), our 98% interest in Vale Inco New Nickel Materials (Dalian) Co. Ltd. ("VINNM") and our 25% stake in Korea Nickel Corporation

("KNC"). TNRC, INNМ and KNC produce finished nickel for the local stainless steel industry in Taiwan, China and South Korea, primarily using intermediate products containing about 75% nickel (in the form of nickel oxide) from Vale Inco Japan and our Sudbury operations. Dalian is expected to start receiving nickel oxide from Goro in late 2009.

Other operations

Our 65%-owned joint venture Jinco Nonferrous Metals Co., Ltd ("Jinco") operates a nickel salts operation in China (Kunshan, province of Jiangsu). Jinco produces nickel sulphate and chloride, which are used in the nickel plating industry. The remaining 35% of Jinco is held by Jinchuan Group Limited.

Through our wholly-owned subsidiary The International Metals Reclamation Company, Inc., or INMETCO, in the United States (Ellwood City, Pennsylvania), we process stainless steel waste, end-of-life batteries and other waste products primarily containing nickel, chromium, iron and cadmium. We sell the resulting recovered metals as a remelt alloy ingot to the stainless steel industry.

Through our wholly-owned subsidiary Novamet Specialty Products Corporation, in the United States (Wyckoff, New Jersey), we process and sell nickel powders.

Through our 77%-owned subsidiary Inco Advanced Technology Materials (Shenyang) Co. Ltd. and our 76.7% subsidiary Inco Advanced Technology Materials (Dalian) Co. Ltd., both in China, we produce and sell nickel foam.

2.1.2 Production—nickel

The following table sets forth our annual mine production by operating mine (or on an aggregate basis for PT Inco because it has mining areas rather than mines) and the average percentage grades of certain metals (nickel and copper). For our Sudbury, Thompson and Voisey's Bay operations, the production and average grades represent the mine product delivered to those operations' respective processing plants and do not include adjustments due to beneficiation, smelting or refining. The mine production at PT Inco represents the product from PT Inco's dryer kilns delivered to PT Inco's smelting operations and does not include nickel losses due to smelting. The following table sets forth information about ore production at our nickel mining sites.

| | 2006 | | | 2007 | | | 2008 | | |
|--|--|---------------------|---------------------|-------------------|---------------------|---------------------|-------------------|---------------------|---------------------|
| | <u>Production</u> | <u>% Copper</u> | <u>% Nickel</u> | <u>Production</u> | <u>% Copper</u> | <u>% Nickel</u> | <u>Production</u> | <u>% Copper</u> | <u>% Nickel</u> |
| | (thousands of metric tons, except percentages) | | | | | | | | |
| <i>Ontario operating mines</i> | | | | | | | | | |
| Copper Cliff North. | 1,341 | 1.19 | 0.96 | 1,078 | 0.92 | 0.84 | 1,165 | 1.01 | 1.01 |
| Copper Cliff South(1). | 879 | 1.94 | 1.63 | 883 | 1.71 | 1.46 | 771 | 1.67 | 1.48 |
| Creighton | 997 | 1.55 | 2.09 | 963 | 1.62 | 2.08 | 1,001 | 1.56 | 2.14 |
| Stobie | 2,808 | 0.68 | 0.75 | 2,850 | 0.68 | 0.72 | 2,892 | 0.65 | 0.72 |
| Garson | 721 | 1.19 | 1.60 | 692 | 1.58 | 1.59 | 840 | 1.72 | 1.69 |
| Coleman | 1,348 | 2.40 | 1.65 | 1,408 | 2.75 | 1.74 | 1,425 | 2.66 | 1.62 |
| Gertrude | 207 | 0.27 | 0.70 | 12 | 0.25 | 0.66 | 124 | 0.29 | 0.72 |
| Total Ontario operations | <u>8,301</u> | 1.32% | 1.25% | <u>7,887</u> | 1.39% | 1.25% | <u>8,219</u> | 1.36% | 1.26% |
| <i>Manitoba operating mines</i> | | | | | | | | | |
| Thompson. | 1,214 | — | 2.08 | 1,380 | — | 1.83 | 1,320 | — | 1.77 |
| Birchtree | <u>1,069</u> | — | 1.62 | <u>1,164</u> | — | 1.52 | <u>971</u> | — | 1.51 |
| Total Manitoba operations | <u>2,283</u> | — | 1.86% | <u>2,545</u> | — | 1.69% | <u>2,291</u> | — | 1.66% |
| <i>Voisey's Bay operating mines</i> | | | | | | | | | |
| Ovoid. | <u>1,507</u> | 2.22 | 3.77 | <u>2,147</u> | 2.47 | 3.74 | <u>2,385</u> | 2.38 | 3.50 |
| Total Voisey's Bay operations. | <u>1,507</u> | 2.22% | 3.77% | <u>2,147</u> | 2.47% | 3.74% | <u>2,385</u> | 2.38% | 3.50% |

| | 2006 | | | 2007 | | | 2008 | | |
|--|--------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|
| | Production | % Copper | % Nickel | Production | % Copper | % Nickel | Production | % Copper | % Nickel |
| (thousands of metric tons, except percentages) | | | | | | | | | |
| <i>Sulawesi operating mining areas</i> | | | | | | | | | |
| Sorowako | 4,459 | — | 1.95 | 4,615 | — | 2.03 | 4,258 | — | 2.08 |
| Pomalaa(2) | 685 | — | 2.30 | 645 | — | 2.30 | 417 | — | 2.29 |
| Total Sulawesi operations | <u>5,144</u> | — | 2.00% | <u>5,260</u> | — | 2.06% | <u>4,675</u> | — | 2.10% |

(1) This mine has been closed indefinitely since January 2009.

(2) This mine has been closed indefinitely since May 2008.

The following table sets forth information about our finished nickel production. Finished nickel includes (i) nickel refined through our facilities, (ii) nickel further refined into specialty products, and (iii) intermediates designated for sale. The numbers below are reported on an ore-source basis.

| Mine | Type | Production for the year ended December 31, | | | Nominal capacity(1) |
|---------------------------|-------------|--|--------------|--------------|---------------------|
| | | 2006 | 2007 | 2008 | |
| (thousand metric tons) | | | | | |
| Sudbury(2) | Underground | 82.0 | 70.7 | 85.3 | 91.5 |
| Thompson(2) | Underground | 30.3 | 29.8 | 28.9 | 38.3 |
| Voisey's Bay(3) | Open pit | 35.5 | 58.9 | 77.5 | 77.5 |
| Sorowako(4) | Open cast | 70.0 | 75.8 | 68.3 | 78.9 |
| External(5) | — | 17.1 | 12.7 | 15.4 | 18.3 |
| Total(6) | | <u>234.9</u> | <u>247.9</u> | <u>275.4</u> | <u>304.5</u> |

(1) These figures represent nominal capacity in 2008, which is equivalent to planned production for 2008 (except for Voisey's Bay, for which nominal capacity is equivalent to actual production for 2008).

(2) Figures for 2006 and 2007 were revised to exclude finished nickel we produced using feeds purchased from unrelated parties. Primary nickel production only (does not include secondary nickel from INMETCO).

(3) Includes finished nickel produced at our Sudbury and Thompson operations, as well as some finished nickel produced by unrelated parties under toll-smelting and toll-refining arrangements.

(4) We have a 61% interest in PT Inco, which owns the Sorowako mines, and these figures include the minority interests.

(5) Finished nickel processed at our facilities using feeds purchased from unrelated parties.

(6) Excludes finished nickel produced under toll-smelting and refining arrangements covering purchased intermediates with unrelated parties. Unrelated-party tolling of purchased intermediates was 16.1 thousand metric tons in 2006, 14.2 thousand metric tons in 2007 and 7.5 thousand metric tons in 2008.

2.1.3 Projects and exploration—nickel

- *Goro.* Located in New Caledonia, in the South Pacific, Goro has one of the largest deposits of lateritic nickel in the world. We expect it to reach nominal annual production capacity of 60,000 metric tons of nickel in the form of nickel oxide sinter and 4,600 metric tons of cobalt. Our estimated total investment in this project is US\$4.083 billion. Operations are scheduled to begin in the first half of 2009 and to ramp up over a four-year period in order to mitigate operational risks.
- *Onça Puma.* Onça Puma is a nickel mine built on deposits of nickel laterite (saprolite) in the Brazilian state of Pará. We expect it to reach nominal annual production capacity of 58,000 metric tons of nickel in ferro-nickel, its final product. The total estimated investment in this project is US\$2.297 billion.
- *Totten.* Totten is a nickel mine in Sudbury, Ontario. The estimated total cost of Totten is US\$362 million, and completion is scheduled for the first half of 2011, subject to market conditions. The new mine will have annual production capacity of 8,200 metric tons of nickel, with copper and precious metals (platinum, gold and silver) as by-products.

- *Voisey's Bay processing facility.* Pursuant to an agreement with the government of the Province of Newfoundland and Labrador, we are required to construct a commercial nickel processing facility in Newfoundland and Labrador to produce approximately 50,000 metric tons of finished nickel per year together with up to 5,000 metric tons of copper and 2,500 metric tons of cobalt, utilizing the ore from the Ovoid mine at our Voisey's Bay mining site. The most recent budget approved by our Board of Directors for this project was US\$2.177 billion. We are contractually obligated to complete the construction of the facility by the first quarter of 2013. The total investment for this project is subject to board approval.
- *Clarabelle Mill expansion.* The expansion of Clarabelle Mill, a processing plant in Sudbury, consists of increasing ore beneficiation capacity, while improving recovery rates for nickel and copper. The estimated total cost is US\$1.272 billion. Completion of the project, which is subject to board approval and to market conditions, is scheduled for the second half of 2011.

We are engaged in greenfield exploration for nickel, with several active programs and projects in Australia, Brazil, Canada, China, Yemen, Mongolia and the Philippines. We are engaged in brownfield exploration for nickel in Canada and Indonesia.

2.1.4 Customers, sales and marketing—nickel

Our customers are broadly distributed on a global basis. In 2008, 56.2% of our total nickel sales were delivered to customers in Asia, 27.2% to North America, 11.6% to Europe and 5.0% to other locations. We have short-term fixed-volume contracts with customers for the majority of our expected annual nickel sales. These contracts, together with our sales of proprietary and multi-use nickel products, provide stable demand for a significant portion of our annual production.

Nickel is an exchange-traded metal, listed on the London Metal Exchange ("LME"), and most nickel products are priced according to a discount or premium to the LME price, depending on the nickel product's physical and technical characteristics. Our finished nickel products represent what is known in the industry as "primary" nickel, meaning nickel produced principally from nickel ores (as opposed to "secondary" nickel, which is recovered from recycled nickel-containing material). Finished primary nickel products are distinguishable in terms of the following characteristics, which determine the product price level and the suitability for various end-use applications:

- nickel content and purity level: (i) intermediates with various levels of nickel content, (ii) nickel pig iron has 1.5-6% nickel, (iii) ferro-nickel has 20-40% nickel, (iv) standard LME grade nickel has a minimum of 99.8% nickel, and (v) high purity nickel has a minimum of 99.9% nickel and does not contain specific elemental impurities;
- shape (such as pellets, discs, squares, strips, and foams); and
- size.

In 2008, the principal end-use applications for nickel were:

- austenitic stainless steel (55-60% of global nickel consumption);
- non-ferrous alloys, alloy steels, and foundry applications (20-25% of global nickel consumption);
- nickel plating (10% of global nickel consumption); and
- specialty applications, such as batteries, fuel cells, powder metallurgy and automotive parts (5-10% of global nickel consumption).

In 2008, 67% of our refined nickel sales were made into non-stainless steel applications, compared to the industry average for primary nickel producers of approximately 12%. As a result of our focus on such higher-

value segments, our average realized nickel prices for refined nickel have consistently exceeded LME cash nickel prices.

We offer sales and technical support to our customers on a global basis. We have a well-established global marketing network for finished nickel, based at our head office in Toronto, Canada. We also have sales offices in Saddle Brook, New Jersey, and San Antonio, Texas in the United States, in London, England, in Tokyo, Japan, in Hong Kong and Shanghai, China, in Kaohsiung, Taiwan, in Bangkok, Thailand and in Bridgetown, Barbados.

2.1.5 Competition—nickel

The global nickel market is highly competitive. We believe that our key competitive strengths include our long-life mines, our low cash costs of production relative to other nickel producers, and sophisticated exploration and processing technologies. Our global marketing reach, diverse product mix, and technical support direct our products to the applications and geographic regions that offer the highest margins for our products.

In 2008, our nickel deliveries represented approximately 21% of global consumption for primary nickel. In addition to us, the largest suppliers in the nickel industry (each with its own integrated facilities, including nickel mining, processing, refining and marketing operations) are Mining and Metallurgical Company Norilsk Nickel, BHP Billiton plc, Xstrata plc and Jinchuan Nonferrous Metals Corporation. Together with us, these companies accounted for about 61% of global finished primary nickel production in 2008.

While stainless steel production is a major driver of global nickel demand, stainless steel producers can use nickel products with a wide range of nickel content, including secondary nickel (scrap). The choice between primary and secondary nickel is largely based on their relative prices and availability. In recent years, secondary nickel has accounted for about 44-49% of total nickel used for stainless steels, and primary nickel has accounted for about 51-56%. In 2006, a new primary nickel product entered the market, known as nickel pig iron. This is a low-grade nickel product made in China from imported lateritic ores (primarily from the Philippines, Indonesia and New Caledonia) that is suitable primarily for use in stainless steel production. In 2008, nickel pig iron production totaled an estimated 75,000 metric tons, representing 5.4% of world primary nickel supply.

Competition in the nickel market is based primarily on quality, reliability of supply and price. We believe our operations are competitive in the nickel market because of the high quality of our nickel products and our relatively low production costs.

Given the competitive advantages described above, we were able to increase our sales in 2008 despite a decline in worldwide demand of 1% from 2006 to 2007 and of 4% from 2007 to 2008. Our global deliveries (including intermediates and purchased nickel) increased, as a percentage of total deliveries in the global nickel market, from 20% in 2006 to 21% in 2008.

2.2 Aluminum

We operate our aluminum businesses at the parent-company level and through subsidiaries and joint ventures, as set forth in the following table.

| Company | Business | Our share of capital | | Partners |
|----------|----------|----------------------|-------|---|
| | | Voting (%) | Total | |
| Vale | Bauxite | – | – | – |
| MRN | Bauxite | 40.0 | 40.0 | Alcan Participações Ltda., BHP Billiton Metais S.A., Companhia Brasileira de Alumínio, Alcoa Alumínio S.A., Alcoa World Alumina Brasil Participações Ltda. and Norsk Hydro Brasil Ltda |
| Alunorte | Alumina | 59.0 | 57.0 | Hydro Aluminium Brasil Investment BV, Companhia Brasileira de Alumínio, Nippon Amazon Aluminium Co., Ltd, Japan Alunorte Investment Co., Ltd, Mitsui & Co., Ltd. and Mitsubishi Corporation |
| Albras | Aluminum | 51.0 | 51.0 | Nippon Amazon Aluminium Co., Ltd |
| Valesul | Aluminum | 100 | 100 | – |

2.2.1 Bauxite

We conduct our bauxite operations through our joint venture Mineração Rio do Norte S.A. (“MRN”) and at the parent company level.

- *MRN.* MRN, which is located in the northern region of the Brazilian state of Pará, is one of the largest bauxite operations in the world, operating four open-pit bauxite mines that produce high quality bauxite. In addition, MRN controls substantial additional high quality bauxite resources. MRN also operates ore beneficiation facilities at its mines, which are connected by rail to a loading terminal and port facilities on the Trombetas River, a tributary of the Amazon River, that can handle vessels of up to 60,000 deadweight tons (DWT). MRN owns and operates the rail and the port facilities serving its mines. The MRN mines are accessible by road from the port area and obtain electricity from their own thermal power plant.
- *Paragominas mine.* Operations at our Paragominas mine, in the Brazilian state of Pará, began in the first quarter of 2007 to supply Alunorte’s alumina refinery. The first expansion of Paragominas (Paragominas II) was concluded in the second quarter of 2008. The mine has a nominal annual production capacity of 9.9 million metric tons of wet 12% moisture bauxite, and the bauxite quality is similar to that of MRN. The Paragominas site has a beneficiation plant with milling and a 244-kilometer slurry pipeline. We obtain electricity from Eletronorte.

The following table sets forth information about ore production at our mining sites.

| <u>Mine(1)</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> | <u>Recovery rate</u> |
|-----------------------------|-------------|---|-------------|-------------|-------------------------|----------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| | | (million metric tons) | | | | (%) |
| <i>MRN</i> | | | | | | |
| Almeidas | Open pit | 8.4 | 4.8 | 3.6 | — | — |
| Aviso | Open pit | 12.0 | 14.4 | 14.5 | — | — |
| Saracá V | Open pit | 1.6 | 2.1 | 2.3 | — | — |
| Saracá W | Open pit | 3.2 | 3.5 | 3.9 | — | — |
| Total MRN | | <u>25.2</u> | <u>24.8</u> | <u>24.2</u> | 25.1 | 72-75 |
| <i>Paragominas</i> | | | | | | |
| Miltonia 3 | Open pit | <u>0.3</u> | <u>4.4</u> | <u>7.3</u> | — | 70 |
| Total Paragominas | | <u>0.3</u> | <u>4.4</u> | <u>7.3</u> | | |

(1) These figures represent run-of-mine production.

The following table sets forth information about our final bauxite production.

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> | <u>Recovery rate</u> |
|------------------------------|-------------|---|-------------|-------------|-------------------------|----------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| | | (million metric tons) | | | | (%) |
| <i>MRN</i> | Open pit | 17.8 | 18.1 | 18.1 | 18.0 | 72 |
| <i>Paragominas</i> | Open pit | 0.0 | 1.9 | 4.4 | 9.9 | 70 |

We are developing the Paragominas III bauxite project. Paragominas III, which will increase production capacity by 4.95 million metric tons per year, has an estimated cost of US\$487 million. We intend to supply the first stage of a new alumina refinery, Companhia de Alumina do Pará, with production from Paragominas III. The project is scheduled for completion in the second half of 2012.

We are engaged in greenfield exploration for bauxite in Brazil and Guinea.

2.2.2 Alumina

We conduct our alumina operations in Brazil, through our subsidiary Alunorte—Alumina do Norte do Brasil S.A. (“Alunorte”), which produces alumina by refining bauxite supplied by MRN and the Paragominas mine. The Alunorte plant is the largest alumina refinery in the world, with a nominal production capacity of 6.3 million metric tons per year, after the last expansion concluded in the second quarter of 2008.

Alunorte sells alumina to our subsidiary Albras—Alumínio Brasileiro S.A. (“Albras”), its principal customer, as well as to our subsidiary Valesul and unaffiliated customers. Albras’ aluminum production facilities are located nearby, in the city of Barcarena in the state of Pará, and Alunorte and Albras share infrastructure and other resources.

The following table sets forth information on our alumina production.

| <u>Company</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> |
|--------------------|---|-------------|-------------|-------------------------|
| | <u>2006</u> | <u>2007</u> | <u>2008</u> | |
| | (million metric tons) | | | |
| Alunorte | 3.9 | 4.3 | 5.0 | 6.3 |

We are developing the Companhia de Alumina do Pará (“CAP”) alumina project. The CAP refinery is 61% owned by us, 20% by Hydro Aluminum S.A. and 19% by Dubai Aluminium Company Limited (“DUBAL”). The initial production capacity of this refinery, located in Barcarena, close to Alunorte’s alumina refinery, will be 1.86 million metric tons per year of alumina through two lines each of 930,000 tons per year. Future capacity expansions at this refinery has the potential to reach up to 7.4 million metric tons per year. The estimated total cost for the first phase of CAP is US\$2.200 billion. The start-up of the first phase is scheduled for the end of 2012, subject to approval by our Board of Directors and to market conditions.

2.2.3 Aluminum

We conduct our aluminum smelting operations in Brazil through our subsidiaries Albras and Valesul Alumínio S.A. (“Valesul”).

Albras. The Albras smelter, located in Barcarena, in the state of Pará, is one of the largest aluminum plants in the Americas, with a nominal capacity of 455,000 metric tons per year. Albras produces aluminum using alumina supplied by Alunorte. Alunorte supplied 100% of Albras’ alumina requirements in 2008. Albras produces pure metal ingots.

Aluminum is produced from alumina by means of a continuous electro-chemical process, which requires substantial amounts of electricity. Albras purchases electric power from Eletronorte. Eletronorte generates electricity at the Tucuruí hydroelectric power plant located on the Tocantins River. This plant is the sole source of electrical power in the region in the quantities required for Albras’ operations. Albras consumes approximately one-fifth of the non-peak period output of the Tucuruí plant.

Valesul. Valesul operates a smelter located in the state of Rio de Janeiro with a nominal capacity of 95,000 metric tons per year. Valesul produces primary aluminum and aluminum alloys in the form of ingots and billets. Valesul produces aluminum using alumina provided by Alunorte, which supplied 53.6% of Valesul’s alumina requirements in 2008 and the remaining 46.4% was supplied by external sources. In 2008, Valesul obtained 94% of its electrical energy requirements from: (a) four wholly-owned small hydroelectric power plants located in the state of Minas Gerais, (b) Aimorés, in the state of Minas Gerais, in which Valesul has a 51% stake as of March 2009, and (c) the Machadinho hydroelectric power plant, in the state of Santa Catarina, in which Valesul has a 8.29% stake. Its remaining electrical energy requirements are obtained from unrelated parties at market prices. The 51% stake in Aimorés is being transferred back to Vale, pending approval from ANEEL, the Brazilian electricity regulatory agency.

Valesul is engaged in litigation regarding the prices charged by an electricity utility in the state of Rio de Janeiro for the transmission of electricity. See *Item 8. Financial information—Legal proceedings*. The following table sets forth information on our aluminum and aluminum alloys production.

| <u>Company</u> | Production for the year ended December 31, | | | Nominal capacity |
|---------------------|---|-------------|-------------|-----------------------------|
| | 2006 | 2007 | 2008 | |
| | (thousand metric tons) | | | |
| Albras | 456 | 455 | 455 | 455 |
| Valesul(1). | <u>95</u> | <u>95</u> | <u>87</u> | <u>95</u> |
| Total | <u>551</u> | <u>551</u> | <u>543</u> | <u>540</u> |

(1) In 2006, 2007 and 2008, Valesul also recycled 13,000, 13,000 and 15,000 metric tons, respectively, of aluminum scrap from unrelated parties.

2.2.4 Customers and sales—aluminum

Bauxite. MRN produces bauxite for sale on a take-or-pay basis to the joint venture partners. Excess production may be sold to customers. The joint venture partners pay a price that is determined by a formula linked to the price of aluminum for three-month futures contracts on the London Metal Exchange and to the

price of alumina FOB Australia. In 2008, our subsidiary Alunorte purchased 64.7% of its bauxite requirements from MRN. Paragominas sells all of its production to our subsidiary Alunorte, which corresponds to 35.3% of its bauxite requirements in 2008.

Alumina. Each Alunorte partner must purchase on a take-or-pay basis all alumina produced by Alunorte in proportion to its respective interest. The partners pay the same price, which is determined by a formula based on the price of aluminum for three-month futures contracts on the London Metal Exchange. We usually use a portion of our share of Alunorte’s alumina production to supply Albras and Valesul, and we sell the remainder to customers in Argentina, Canada, Egypt, Norway, the United States and other countries.

Aluminum. The Albras partners must purchase on a take-or-pay basis all aluminum produced by Albras in proportion to their ownership interests. We generally market our aluminum in the global markets, mainly Asia and Europe, to clients in the aluminum industry. Valesul’s aluminum products are sold primarily in the Brazilian market.

2.2.5 Competition—alumina and aluminum

Alumina. The alumina market is competitive, but small compared to the primary aluminum market, because many of the major aluminum-producing companies have integrated bauxite, alumina and aluminum operations. Competition in the alumina market is based primarily on quality, reliability of supply and price, which is directly related to lower costs and logistics. We believe that Alunorte is competitive in the alumina market because of the high quality of its alumina, its advantages in scale and technology, lower conversion costs relative to other refineries in the Atlantic, its efficient port facilities, and the ongoing commitment of its shareholders to purchase a substantial portion of its annual production to place it both in Brazilian and other markets.

Aluminum. The global aluminum market is highly competitive. The world’s largest producers are subsidiaries and affiliates of Alcoa, Rusal, Rio Tinto, Chalco, Norsk Hydro and BHP Billiton. As primary aluminum is a commodity, competition in the aluminum market is based primarily on the economics of transportation and the costs of production. We believe that Albras is competitive in the global aluminum market because of its relatively efficient and accessible port facilities and its generally prevailing lower cost of production.

2.3 Copper

2.3.1 Operations—copper

We conduct our copper operations at the parent-company level in Brazil and through our subsidiary Vale Inco in Canada.

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | |
|-----------------|-----------------|-----------------------------|--------------|
| | | <u>Voting</u> | <u>Total</u> |
| | | <u>(%)</u> | |
| Vale | Brazil | — | — |
| Vale Inco | Canada | 100 | 100 |

Brazilian operations

Our Sossego copper mine in Carajás, in the state of Pará, has two main copper ore bodies, Sossego and Sequeirinho. Its annual operating capacity is 14 million metric tons of run-of-mine, averaging 120,000 metric tons of copper contained in concentrate (30% grade) and 104,000 ounces of gold in concentrate. The copper ore is mined by open-pit method, and the run-of-mine is processed by means of standard primary crushing and conveying, SAG milling (a semi-autogenous mill that uses a large rotating drum filled with ore, water and steel grinding balls to transform the ore into a fine slurry), ball milling, copper concentrate flotation, tailings disposal, concentrate thickening, filtration and load out. We truck the concentrate to a storage terminal in

Parauapebas and then transport it via the EFC railroad to the Ponta da Madeira maritime terminal in São Luís, in the state of Maranhão.

We constructed an 85-kilometer road to link Sossego to the Carajás air and rail facilities and a power line that allows us to purchase electrical power at market prices. We have a long-term energy supply contract with Eletronorte.

In December 2008, we concluded the construction of the Usina Hidrometalúrgica de Carajás plant (“UHC”), located at the Sossego mining site, to test the application of hydro-metallurgical technology for the industrial-scale processing of more complex copper ores to produce copper cathode. This plant uses copper concentrate from our Sossego mine. It has an annual production capacity of 10,000 metric tons of copper cathode. If proven to be efficient after the estimated 21-month testing period, we believe this technology could be used to process the sulfide ore produced at the mines in the Carajás mineral province at a relatively low cost.

Canadian operations

In Canada, we recover copper in conjunction with our nickel operations, principally at Sudbury and Voisey’s Bay. At Sudbury, we produce two intermediate copper products, copper concentrate and copper anodes, and we also produce electrowon copper cathode as a by-product of our nickel refining operations. At Voisey’s Bay, we produce copper concentrates.

2.3.2 Production—copper

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity(1)</u> |
|------------------------|-------------|---|-------------|-------------|----------------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | |
| | | <u>(thousand metric tons)</u> | | | |
| <i>Brazil:</i> | | | | | |
| Sossego | Open pit | 117 | 118 | 126 | 120 |
| <i>Canada:</i> | | | | | |
| Sudbury | Underground | 109 | 113 | 115 | 115 |
| Voisey’s Bay | Open pit | 28 | 42 | 55 | 55 |
| Thompson | Underground | 1 | 1 | 1 | 2 |
| External(2) | — | <u>11</u> | <u>9</u> | <u>14</u> | <u>17</u> |
| Total | | <u>267</u> | <u>284</u> | <u>312</u> | <u>309</u> |

- (1) These figures represent nominal capacity in 2008, which is equivalent to planned production for 2008 (except for Sudbury and Voisey’s Bay, for which nominal capacity is equivalent to actual production for 2008).
- (2) We process copper at our facilities using feed purchased from unrelated parties.

2.3.3 Projects and exploration—copper

- *Tres Valles (formerly Papomono).* We are investing in the Tres Valles project in the Coquimbo region of Chile, which has an estimated nominal production capacity of 18,000 metric tons per year of copper cathode. The estimated total cost of the project is US\$102 million. The completion of this project is scheduled for the first half of 2010.
- *Salobo.* In the first phase of development of the Salobo copper deposit in Carajás, annual nominal capacity will be 127,000 metric tons of copper in concentrates, with 130,000 troy ounces of gold in concentrate as a by-product. The concentrate will be processed using conventional smelting technology. The total estimated cost for this project is US\$1.152 billion. Subject to market conditions, it is scheduled to be completed by the first half of 2011.

- *Salobo expansion.* The project will expand the Salobo mine's annual production capacity from 127,000 to 254,000 metric tons of copper in concentrates. The scope of the project contemplates the expansion of the industrial and support facilities, raising the height of the tailing dam and increasing mine movement. The total estimated cost for this project is US\$855 million. Subject to market conditions, it is scheduled to be completed by the second half of 2013.
- *Totten.* The Totten nickel mine in Sudbury, Ontario, is expected to produce 11,200 metric tons of copper per year as a co-product of nickel production. Subject to market conditions, completion is scheduled for the first half of 2011. The estimated total cost of the project is US\$362 million.

We are engaged in copper mineral exploration primarily in Argentina, Australia, Brazil, Canada, Chile, Democratic Republic of Congo, Kazakhstan, Mongolia, Peru and the Philippines.

2.3.4 Customers and sales—copper

Copper concentrates from Sossego are sold under medium- and long-term contracts to copper smelters in South America, Europe and Asia. We have a long-term off-take agreement to sell the majority of copper concentrate from Salobo to smelters. Vale Inco has long-term copper supply agreements with Xstrata Copper Canada for the sale of copper anodes and copper concentrates produced in Sudbury. Copper in concentrates from Voisey's Bay are sold under medium-term contracts to customers in Europe. Electrowon copper from Sudbury is sold in North America under short-term sales agreements.

2.3.5 Competition—copper

The global copper cathode market is highly competitive. Producers are integrated mining companies and custom smelters, covering all regions of the world, while consumers are principally wire, rod and copper-alloy producers. Competition occurs mainly on a regional level and is based primarily on production costs, quality, reliability of supply and logistics costs. The world's largest copper cathode producers are Codelco, Freeport, BHP Billiton and Xstrata, operating at the parent-company level or through subsidiaries. Our participation in the global copper cathode market is marginal.

Copper concentrate and copper anode are intermediary products in the copper production chain. Both the concentrate and anode markets are competitive, having numerous producers but fewer participants and smaller volumes than in the copper cathode market due to high levels of integration by the major copper producers.

In the copper concentrate market, the main producers are mining companies located in South America, Indonesia and Australia, while consumers are custom smelters located in Europe and Asia. Competition in the copper concentrate market occurs mainly on a global level and is based on production costs, quality, logistics costs and reliability of supply. The largest competitors in the copper concentrate market are BHP Billiton, Rio Tinto, Freeport and Xstrata, operating at the parent-company level or through subsidiaries. Our market share in 2008 was about 3% of the total custom copper concentrate market.

The copper anode/blister market has very limited trade within the copper industry; generally, anodes are produced to supply each company's integrated refinery. The trade in anodes/blister is limited to those facilities that have more smelting capacity than refining capacity or to those situations where logistics cost savings provide an incentive to source anodes from outside smelters. The largest competitors in the copper anode market are Codelco, Anglo American and Xstrata, operating at the parent-company level or through subsidiaries.

2.4 PGMs and other precious metals

As by-products of our Sudbury nickel operations in Canada, we recover significant quantities of platinum-group metals, as well as small quantities of gold and silver. We operate a processing facility in Port Colborne, Ontario, which produces PGMs, gold and silver intermediate products. We have a refinery in Acton, England, where we process our intermediate products, as well as feeds purchased from unrelated parties and toll-refined materials. In 2008, PGM concentrates from our Sudbury operations supplied about 33% of our PGM

production. The remaining portion was supplied by feed from unrelated parties (including purchased and toll-refined materials). Vale Inco's global marketing department sells our own PGMs and other precious metals, as well as products from unrelated parties and toll-refined products, on a sales agency basis. The following table sets forth information on our precious metals production.

| <u>Mine(1)</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity(2)</u> |
|------------------------|-------------|---|-------------|-------------|----------------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | |
| (thousand troy ounces) | | | | | |
| Sudbury: | | | | | |
| Platinum | Underground | 153 | 140 | 166 | 180 |
| Palladium | Underground | 209 | 191 | 231 | 231 |
| Gold | Underground | 78 | 75 | 85 | 85 |

- (1) Production figures exclude precious metals purchased from unrelated parties and toll-refined materials.
(2) These figures represent nominal capacity in 2008, which is equivalent to planned production for 2008, (except for palladium and gold, for which nominal capacity is equivalent to actual production for 2008).

2.5 Other non-ferrous minerals

2.5.1 Cobalt

We recover significant quantities of cobalt as a by-product of our Canadian nickel operations. In 2008, we produced 1,472 metric tons of refined cobalt metal at our Port Colborne refinery and 728 metric tons of cobalt hydrate at our Thompson nickel operations in Canada. Our remaining cobalt production consisted of 773 metric tons of cobalt contained in intermediate products (such as nickel concentrates). We expect to increase our production of cobalt as we increase nickel production in New Caledonia at the Goro mine, because the nickel laterite ore at this location contains significant co-deposits of cobalt.

We sell cobalt on a global basis. Our cobalt metal, which is electro-refined at our Port Colborne refinery, has very high purity levels (99.8%) and consequently commands a price premium in the market. Cobalt metal is used in the production of various alloys, particularly for aerospace applications, as well as the manufacture of cobalt-based chemicals. Our cobalt hydrate is used by chemical producers to make cobalt-based chemicals.

The following table sets forth information on our cobalt production.

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity(1)</u> |
|------------------------|-------------|---|--------------|--------------|----------------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | |
| (metric tons) | | | | | |
| Sudbury | Underground | 665 | 727 | 804 | 1,003 |
| Thompson | Underground | 411 | 179 | 168 | 242 |
| Voisey's Bay | Open pit | 680 | 1,239 | 1,695 | 1,695 |
| External(2) | — | 221 | 379 | 161 | 169 |
| Total | | <u>1,977</u> | <u>2,524</u> | <u>2,828</u> | <u>3,109</u> |

- (1) These figures represent nominal capacity in 2008, which is equivalent to planned production for 2008 (except for Voisey's Bay, for which nominal capacity is equivalent to actual production for 2008).
(2) These figures do not include unrelated-party tolling of feeds purchased from unrelated parties.

2.5.2 Kaolin

We conduct our kaolin business in Brazil, through the subsidiaries set forth in the following table:

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | | <u>Partners</u> |
|----------------|------------------------|-----------------------------|--------------|---------------------------|
| | | <u>Voting (%)</u> | <u>Total</u> | |
| CADAM. | Vitória do Jari, Amapá | 100 | 61.5 | Banco do Brasil and BNDES |
| PPSA. | Barcarena, Pará | 85.6 | 86.2 | Mitsubishi Corporation |

CADAM S.A. (“CADAM”) and Pará Pigmentos S.A. (“PPSA”) produce kaolin for paper coating. They also conduct research into other uses for kaolin products in order to develop a more diversified portfolio.

CADAM is located on the border of the states of Pará and Amapá, in the Amazon area in northern Brazil. CADAM’s reserves are principally concentrated in the open-pit Morro do Felipe mine, in Vitória do Jari, in the state of Amapá. The beneficiation plant and private port facilities are situated on the west bank of the Jari River, in Munguba, in the state of Pará. CADAM produces the following products: Amazon SB, Amazon Premium and Amazon Plus. They are sold mainly in the European, Asian and Latin American markets.

PPSA operates an open-pit mine, Rio Capim, and a beneficiation plant. These operations are linked to the land and port facilities in Barcarena, via a 180-kilometer pipeline. The beneficiated kaolin is pumped through a slurry pipeline. PPSA produces the following products: Century, Century S, Paraprint, Paraplate and Paralux. They are sold mainly in the European, Asian and North American markets.

CADAM obtains electricity from its own thermal power plant, whose nominal capacity is 22.5 MW. PPSA has an energy supply contract with Rede Celpa.

The following table sets forth information on our kaolin production.

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> | <u>Recovery rate(1)</u> |
|------------------------------|-------------|---|--------------|--------------|-------------------------|-------------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| (thousand metric tons) | | | | | | |
| <i>CADAM</i> | | | | | | |
| Morro do Felipe(2) | Open pit | 755 | 714 | 602 | 645 | 48.8 |
| <i>PPSA</i> | | | | | | |
| Rio Capim | Open pit | <u>597</u> | <u>639</u> | <u>528</u> | <u>672</u> | 28.8 |
| Total. | | <u>1,352</u> | <u>1,354</u> | <u>1,129</u> | <u>1,317</u> | |

(1) Total recovery rate.

(2) The reduction in nominal capacity was due to deactivation of the lump production line.

2.5.3 Potash

We conduct potash operations in Brazil at the parent-company level. We lease the only potash mine in Brazil (in Rosario do Catete, in the state of Sergipe) from Petrobras—Petróleo Brasileiro S.A., the Brazilian state-owned oil company. The lease, signed in 1991, became effective in 1992 for a period of 25 years. All sales from the Taquari-Vassouras mine are to the Brazilian market. The following table sets forth information on our potash production.

| <u>Mine</u> | <u>Type</u> | <u>Production for the year ended December 31,</u> | | | <u>Nominal capacity</u> | <u>Recovery rate</u> |
|-----------------------------|-------------|---|-------------|-------------|-------------------------|----------------------|
| | | <u>2006</u> | <u>2007</u> | <u>2008</u> | | |
| (thousand metric tons) | | | | | | |
| Taquari-Vassouras | Underground | 731 | 671 | 607 | 850 | 87.8 |

2.5.4 Projects—other non-ferrous minerals

We are developing the Bayovar project, in Bayovar, Peru, which consists of an open-pit phosphate mine with nominal production capacity of 3.9 million metric tons per year and a maritime terminal. Completion is expected in the second half of 2010. The estimated total cost of this project is US\$479 million.

We are engaged in potash mineral exploration in Argentina, Brazil and Canada and in phosphate mineral exploration in Brazil, Mozambique and Peru.

3. Coal

3.1 Operations—coal

We produce thermal and metallurgical coal through our subsidiary Vale Australia, which operates coal assets in Australia through wholly-owned companies and unincorporated joint ventures, and we have minority interest in two Chinese companies, Henan Longyu Energy Resources Co., Ltd. (“Longyu”) and Shandong Yankuang International Coking Company Ltd. (“Yankuang”), as set forth in the following table.

| <u>Company</u> | <u>Business</u> | <u>Location</u> | <u>Our share of capital (%)</u> | <u>Partners</u> |
|----------------------------|---------------------------------|--------------------------------|---------------------------------|---|
| <i>Vale Australia</i> | | <i>Australia:</i> | | |
| Integra Coal | Thermal and metallurgical coal | Hunter Valley, New South Wales | 61.2 | NSC, JFE, Posco, Toyota |
| Carborough Downs | Metallurgical coal | Bowen Basin, Queensland | 80.0 | NSC, JFE, Posco, Tata |
| Isaac Plains | Thermal and metallurgical coal | Bowen Basin, Queensland | 50.0 | Aquila |
| Broadlea | Thermal and metallurgical coal | Bowen Basin, Queensland | 100 | — |
| | | <i>China:</i> | | |
| <i>Longyu</i> | Coal and other related products | Henan Province | 25.0 | Yongcheng Coal & Electricity (Group) Co. Ltd., Shanghai Baosteel International Economic & Trading Co., Ltd. and other minority shareholders |
| <i>Yankuang</i> | Metallurgical coke and methanol | Shandong Province | 25.0 | Yankuang Group Co. Limited, Itochu Corporation |

Integra Coal Operations (underground and open-cut). The Integra Coal Operations are located 10 kilometers north-west of Singleton in the Hunter Valley of New South Wales. The operations comprise an underground coal mine that produces coal by longwall methods, and an open-cut pit. Coal from the mine is processed at a coal handling and processing plant (“CHPP”) with a capacity of 1,200 metric tons per hour, loaded onto trains at a purpose-built rail loadout facility for transport to the Port of Newcastle.

Carborough Downs. Carborough Downs is located in the Central Bowen Basin in central Queensland, approximately 15 kilometers east of the township of Moranbah and approximately 180 kilometers southwest of the coastal city of Mackay. Carborough Downs mining leases overlie the Rangel Coal Measures of the Bowen Basin with the economic seams of Leichardt and Vermont. Both seams have coking properties and can be beneficiated to produce coking and PCI products. Carborough Downs coal is processed at the Carborough Downs CHPP, which is capable of processing 500 metric tons per hour, and which operates seven days per week. The product is loaded onto trains at a rail loadout facility and transported 160 kilometers to the Dalrymple Bay Coal Terminal.

Isaac Plains. The Isaac Plains open-cut mine is located close to Carborough Downs in central Queensland. The mine is managed by Isaac Plains Coal Management on behalf of the joint venture parties. The coal is classified as a medium volatile bituminous coal with low ash and sulfur contents. Isaac Plain's product split is 75% metallurgical coal and 25% thermal coal. Coal is processed at the Isaac Plains CHPP and railed 172 kilometers to the Dalrymple Bay Coal Terminal.

Broadlea. Broadlea is an open-cut operation located just north of Carborough Downs's underground mine, consisting of a collection of small economic coal deposits. Broadlea is mined using the truck-and-shovel method, and product coal is toll-washed at the Carborough Downs CHPP and railed 172 kilometers to the Dalrymple Bay Coal Terminal.

3.2 Production—coal

The following table sets forth information on our coal production.

| <u>Joint venture</u> | <u>Mine type</u> | <u>Production for the year ended December 31,(1)</u> | |
|------------------------------------|-------------------------|--|--------------|
| | | <u>2007</u> | <u>2008</u> |
| | | <u>(thousand metric tons)</u> | |
| Thermal coal: | | | |
| Integra Coal(2) | Opencut | 255 | 557 |
| Isaac Plains(3) | Opencut | 171 | 147 |
| Broadlea | Opencut | 14 | 582 |
| Total thermal coal | | <u>440</u> | <u>1,286</u> |
| Metallurgical coal: | | | |
| Integra Coal(2) | Underground and opencut | 1,214 | 1,747 |
| Isaac Plains(3) | Opencut | 249 | 382 |
| Carborough Downs(4) | Underground | 269 | 429 |
| Broadlea | Opencut | 32 | 249 |
| Total metallurgical coal | | <u>1,764</u> | <u>2,808</u> |

(1) We acquired AMCI HA, the previous owner of these mines, in April 2007. 2007 figures include production from May to December 2007.

(2) We own 61.2% of Integra Coal and these figures relate to our equity.

(3) We own 50% of Isaac Plains and these figures relate to our equity.

(4) We own 80% of Carborough Downs and these figures relate to our equity.

| <u>Joint venture</u> | <u>Mine type</u> | <u>Nominal capacity</u> |
|-------------------------------|-------------------------|------------------------------|
| | | <u>(million metric tons)</u> |
| Integra Coal(1) | Underground and opencut | 2.75 |
| Isaac Plains(2) | Opencut | 1.4 |
| Carborough Downs(3) | Underground | 3.84 |
| Broadlea | Opencut | 0.8 |
| Total | | <u>8.79</u> |

(1) We own 61.2% of Integra Coal and these figures relate to our equity.

(2) We own 50% of Isaac Plains and these figures relate to our equity.

(3) We own 80% of Carborough Downs and these figures relate to our equity.

Longyu has annual production capacity of 5.85 million metric tons of coal and other related products, and Yankuang, a metallurgical coke plant, has annual production capacity of 2.0 million metric tons of coke and 200,000 metric tons of methanol.

3.3 Projects and exploration—coal

- *Moatize.* We have obtained all of the required licenses from the Mozambique government for the construction of the Moatize mine, which will have nominal production capacity of 11 million metric tons per year, of which 8.5 million metric tons per year will be metallurgical coal and 2.5 million

metric tons per year will be thermal coal. In 2008, we signed a memorandum of understanding with the government of Mozambique establishing a railroad tariff. The port construction is subject to a bidding process. The estimated total cost of this project is US\$1.322 billion, and start-up is expected in the second half of 2010.

- *Carborough Downs.* This project will increase the nominal capacity of the Carborough Downs mine to 4.8 million metric tons per year. The longwall operations are scheduled to start in the second half of 2009. Meanwhile, the mine is producing up to 1.0 million metric tons per year via continuous miners in the development of gate roads and inventory of longwall panels. The project requires an estimated total investment of US\$330 million.

We are currently seeking opportunities for greenfield mineral exploration for coal in Australia, Brazil, Colombia, Mongolia and Mozambique.

3.4 Customers and sales—coal

Our coal sales are primarily focused in East Asia. In 2008, 43% of our coal sales were made to Japanese steel mills and power utilities. We also sell coal to customers in South Korea, India, Taiwan, China, Pakistan and Brazil. In 2008, our Chinese coal joint ventures directed their sales mainly to the Chinese domestic market.

Our Integra Operations in New South Wales are similar to many Hunter Valley operations in that the vast majority of production is consumed in Japan, and the remaining amounts are delivered to Korea and Taiwan. Our Queensland operations commenced production in late 2006. Aided by a strong market for metallurgical coal, we were able to market various types of coal from our Carborough Downs, Broadlea and Isaac Plains mines in a number of target markets, predominantly those mentioned above, as well as a trial shipment to Germany.

3.5 Competition—coal

The global coal industry, which is primarily comprised of the markets for hard coal (metallurgical coal and thermal coal) and brown coal/lignite, is highly competitive. Growth in steel demand, especially in Asia, may underpin strong demand for metallurgical coal. Major port (and often rail) constraints in some of the countries in which major suppliers are located could lead to limited availability of incremental metallurgical coal production.

The global seaborne thermal coal market has significantly expanded in recent years. Growth in thermal coal demand is closely related to growth in electricity consumption, which will continue to be driven by global economic growth, particularly from emerging markets economies. Large existing fleets of coal-fired power plants with long life cycles take decades to replace or upgrade, keeping the share of thermal coal in the electricity matrix very high in countries with high consumption. The cost of fuel is typically the largest variable cost involved in electricity generation and coal is currently the most competitively priced fossil fuel for this purpose.

Competition in the coal industry is based primarily on the economics of production costs, coal quality and transportation costs. We believe that our operations and project pipeline are competitive, and our key competitive strengths include the strategic geographic location of our current and future supply bases and our production cash costs relative to several other coal producers.

Major participants in the coal seaborne market are subsidiaries and affiliates of Xstrata plc, BHP Billiton plc, PT Bumi Resources Tbk., Anglo Coal, Drummond Company, Inc., Rio Tinto Ltd., Teck Cominco, Peabody and the Shenhua Group.

4. Infrastructure

4.1 Logistics

We have developed our logistics business based on the transportation needs of our mining operations, mainly iron ore, and it also provides transportation services for customers' products and for passengers. We conduct logistics businesses at the parent-company level, through subsidiaries and through joint ventures, as set forth in the following table.

| Company | Business | Location | Our share of capital | | Partners |
|---------------|--|-----------|----------------------|-------|---|
| | | | Voting (%) | Total | |
| Vale | Railroad (EFVM, EFC, FNS), port and maritime terminal operations | Brazil | – | – | – |
| FCA | Railroad operations | Brazil | 100 | 99.9 | Former employees of Rede Ferroviária Federal S.A. |
| MRS | Railroad operations | Brazil | 37.9 | 41.5 | CSN, Usiminas and Gerdau |
| CPBS | Port and maritime terminal operations | Brazil | 100 | 100 | – |
| Log-In . . . | Port and maritime terminal operations and shipping activities | Brazil | 31.3 | 31.3 | Mitsui & Co. and several institutional investors |
| PT Inco . . . | Port and maritime terminal operations | Indonesia | 61.0 | 61.0 | Sumitomo and several institutional investors |

4.1.1 Railroads

Vitória a Minas railroad (“EFVM”). The EFVM railroad links our Southeastern System mines in the Iron Quadrangle region in the Brazilian state of Minas Gerais to the Tubarão Port, in Vitória, in the Brazilian state of Espírito Santo. We operate this 905-kilometer railroad under a 30-year renewable concession, which expires in 2027. The EFVM railroad consists of two lines of track extending for a distance of 601 kilometers to permit continuous railroad travel in opposite directions, and single-track branches of 304 kilometers. Industrial manufacturers are located in this area and major agricultural regions are also accessible to it. The EFVM railroad has a daily capacity of 342,000 metric tons of iron ore. In 2008, the EFVM railroad carried a total of 75.8 billion ntk of iron ore and other cargo, of which 17.3 billion ntk, or 23%, consisted of cargo transported for customers, including iron ore for Brazilian customers. The EFVM railroad also carried approximately 1 million passengers in 2008. In 2008, we had a fleet of 326 locomotives and 19,743 wagons at EFVM.

Carajás railroad (“EFC”). We operate the EFC railroad under a 30-year renewable concession, which expires in 2027. This railroad, located in the Northern System, starts at our Carajás iron ore mines in the Brazilian state of Pará, and extends 892 kilometers to our Ponta da Madeira maritime terminal complex facilities located near the São Luís Port in the Brazilian state of Maranhão. The EFC railroad consists of one line of track, with crossing yards and turnouts to permit the passage of trains in opposite directions. The EFC railroad has a daily capacity of 301,000 metric tons of iron ore. In 2008, the EFC railroad carried a total of 88.7 billion ntk of iron ore and other cargo. In 2008, the EFC railroad transported a total of 6.4 billion ntk of cargo for customers, including iron ore for Brazilian customers. The EFC railroad also carried approximately 330,000 passengers in 2008. The main cargo of the EFC railroad consists of iron ore, principally carried for us. In 2008, we had a fleet of 211 locomotives and 12,084 wagons at EFC. In May 2008, we began operations of the largest capacity train in Latin America. This train has 330 cars, measures 3.4 kilometers and weighs 42,300 gross metric tons when loaded.

Ferrovia Centro-Atlântica (“FCA”). Our subsidiary FCA operates the central-east regional railway network of the Brazilian national railway system under a 30-year renewable concession, which expires in 2026. The central east network has approximately 8,023 kilometers of track extending into the states of Sergipe, Bahia, Espírito Santo, Minas Gerais, Rio de Janeiro and Goiás and Brasília, the Federal District of Brazil. It connects with our EFVM railroad near the cities of Belo Horizonte, in the state of Minas Gerais and Vitória, in the state of Espírito Santo. FCA operates on the same track gauge as our EFVM railroad and

provides access to the Santos Port in the state of São Paulo. In 2008, the FCA railroad transported a total of 11.3 billion ntk of cargo for customers. In 2008, FCA had a fleet of 495 locomotives and 11,881 wagons.

Ferrovias Norte-Sul railroad ("FNS"). In October 2007, we won the auction for the subconcession for commercial operation for 30 years of a 720-kilometer segment of the FNS railroad, in Brazil. Since 1989, we have operated a segment of the FNS, which connects to the EFC railroad, enabling access to the port of Itaquí, in São Luís, where our Ponta da Madeira maritime terminal is located. A 452-kilometer extension was concluded in December 2008. A state-owned company is required to complete a new 268-kilometer segment by December 2009. In 2008, the FNS railroad transported a total of 0.9 billion ntk of cargo for customers. This new railroad creates a new corridor for the transportation of general cargo, mainly for the export of soybeans, rice and corn produced in the center-northern region of Brazil. In 2008, FNS had a fleet of six locomotives and 370 wagons.

The principal items of cargo of the EFVM, EFC, FCA and FNS railroads are:

- iron ore and iron ore pellets, carried for us and customers;
- steel, coal, pig iron, limestone and other raw materials carried for customers with steel mills located along the railroad;
- agricultural products, such as soybeans, soybean meal and fertilizers; and
- other general cargo, such as building materials, pulp, fuel and chemical products.

We charge market prices for customer freight, including iron ore pellets originating from joint ventures and other enterprises in which we do not have a 100% equity interest. Market prices vary based on the distance traveled, the type of product transported and the weight of the freight in question, and are regulated by the Brazilian transportation regulatory agency, ANTT (*Agência Nacional de Transportes Terrestres*).

MRS Logística S.A. ("MRS"). The MRS railroad is 1,643 kilometers long and links the Brazilian states of Rio de Janeiro, São Paulo and Minas Gerais. In 2008, the MRS railroad carried a total of 55.5 billion ntk of cargo, including 32.4 billion ntk of iron ore and other cargo from Vale.

4.1.2 Ports and maritime terminals

Brazil

We operate a port and six maritime terminals principally as a means to complete the delivery of our iron ore and iron ore pellets to bulk carrier vessels serving the seaborne market. See *Item 4. Information on the company—Lines of business—Ferrous minerals—Operations—Iron ore pellets*. We also use our port and terminals to handle customers' cargo. In 2008, 10.8% of the cargo handled by our port and terminals represented cargo handled for customers.

Tubarão Port. The Tubarão Port, which covers an area of approximately 18 square kilometers, is located near the Vitória Port in the Brazilian state of Espírito Santo and contains four maritime terminals: (i) the iron ore maritime terminal, (ii) Praia Mole Terminal, (iii) Terminal de Produtos Diversos, and (iv) Terminal de Granéis Líquidos.

- *The iron ore maritime terminal has two piers.* Pier I can accommodate two vessels at a time, one of up to 170,000 DWT on the southern side and one of up to 200,000 DWT on the northern side. Pier II can accommodate one vessel of up to 365,000 DWT at a time, limited at 20 meters draft plus tide. In Pier I there are two ship loaders, which can load up to a combined total of 14,000 metric tons per hour. In Pier II there are two ship loaders that work alternately and can each load up to 16,000 metric tons per hour. In 2008, 93.9 million metric tons of iron ore and iron ore pellets were shipped through the terminal for us. The iron ore maritime terminal has a stockyard capacity of 2.8 million metric tons.

- Praia Mole terminal is principally a coal terminal and handled 13.6 million metric tons in 2008. See *Item 8. Financial information—Legal proceedings—Praia Mole suit.*
- Terminal de Produtos Diversos handled 5.3 million metric tons of grains and fertilizers in 2008.
- Terminal de Granéis Líquidos handled 1.1 million metric tons of bulk liquid in 2008.

Ponta da Madeira maritime terminal. The Ponta da Madeira maritime terminal is located near the Itaqui Port in the Brazilian state of Maranhão. The terminal facilities can accommodate three vessels. Pier I can accommodate vessels displacing up to 420,000 DWT. Pier II can accommodate vessels of up to 155,000 DWT. Pier I has a maximum loading rate of 16,000 tons per hour. Pier II has a maximum loading rate of 8,000 tons per hour. Pier III, which has two berths and three shiploaders, can accommodate vessels of up to 220,000 DWT and has a maximum loading rate of 8,000 metric tons per hour in each shiploader. Cargo shipped through our Ponta da Madeira maritime terminal consists principally of our own iron ore production. Other cargo includes manganese ore, copper concentrate and pig iron produced by us and pig iron and soybeans for unrelated parties. In 2008, 85.7 million metric tons were handled through the terminal for us and 6.0 million metric tons for customers. The Ponta da Madeira maritime terminal has a stockyard capacity of 5.4 million metric tons.

Itaguaí maritime terminal — Cia. Portuária Baía de Sepetiba (“CPBS”). CPBS is a wholly-owned subsidiary that operates the Itaguaí terminal, in the Sepetiba Port, in the Brazilian state of Rio de Janeiro. Itaguaí’s maritime terminal has a pier that allows the loading of ships up to 18.1 meters and up to 230,000 DWT. In 2008, the terminal uploaded approximately 22.8 million metric tons of iron ore. From December 2007 to February 2008, Itaguaí operated with limited capacity as a result of an accident with a ship in the terminal.

Guaíba Island maritime terminal. We operate a maritime terminal on Guaíba Island in the Sepetiba Bay, in the Brazilian state of Rio de Janeiro. The iron ore terminal has a pier that allows the loading of ships of up to 300,000 DWT. In 2008, the terminal uploaded approximately 40.6 million metric tons of iron ore.

Inácio Barbosa maritime terminal (“TMIB”). We operate the Inácio Barbosa maritime terminal, located in the Brazilian state of Sergipe. The terminal is owned by Petrobras. Vale and Petrobras entered into an agreement in December 2002, which allows Vale to operate this terminal for a period of 10 years. In 2008, 1.1 million metric tons of fuel and agricultural and steel products were shipped through TMIB.

Indonesia

PT Inco owns and operates two ports in Indonesia to support its nickel mining activities.

- The Balintang Special Port is located in Balintang Village, South Sulawesi, and has a pier that can accommodate vessels displacing up to 6,000 DWT.
- The Harapan Tanjung Mangkasa Village is located in Harapan Tanjung Mangkasa Village, South Sulawesi, and has a pier that can accommodate vessels displacing up to 39,000 DWT.

4.1.3 Shipping

We operate in two distinct shipping areas: seaborne dry bulk shipping and tug boat services. The following table sets forth information on the volume of cargo that our seaborne dry bulk shipping service carried for the periods indicated.

| | Year ended December 31, | | |
|-----------------|-------------------------------|--------------|--------------|
| | 2006 | 2007 | 2008 |
| | <u>(thousand metric tons)</u> | | |
| Iron ore: | | | |
| Vale | 160 | 1,324 | 1,884 |
| Customers | 148 | — | — |
| Coal | 0 | 147 | — |
| Other | <u>2,243</u> | <u>—</u> | <u>—</u> |
| Total | <u>2,551</u> | <u>1,471</u> | <u>1,884</u> |

We operate three capesize vessels, which have been fully dedicated to perform shuttle services from Brazil to China since May 2007. We have entered into long-term freight contracts, are building 12 large ore carriers, each with a capacity of 400,000 DWT, and have bought four used capesize vessels to develop a dedicated shuttle service from Brazil to China using these vessels. We expect this service to enhance our ability to offer our products in the Chinese market at competitive prices and to increase our market share in China and the global seaborne market.

We have also entered into a long-term freight contracts to transport pellet feed from Brazil to Oman, where we are building a pelletizing plant with nominal capacity of 9 million metric tons of direct reduction iron ore pellets per year and a distribution center with capacity to handle 40 million tons of iron ore or iron ore pellets.

We conduct our intermodal shipping business through Log-In. Log-In offers port handling and container transportation services, by sea or rail, as well as container storage. It has a fleet of seven ships for coastal shipping, a container terminal (*Terminal Vila Velha*, or TVV) and two multimodal terminals. In 2008, Log-In's coastal shipping service transported 119,918 twenty-foot equivalent units (teus), TVV handled 283,660 teus and its express train service moved 45,202 teus.

We also operate a fleet of 24 tug boats (13 owned and 11 chartered) in maritime terminals in Brazil, in Vitória (state of Espírito Santo), Trombetas (state of Pará), São Luís (state of Maranhão) and Aracaju (state of Sergipe).

4.1.4 Projects—logistics

- *Southeastern Corridor project.* We are investing in the EFVM railroad and Tubarão Port in order to increase our logistics capacity in our Southeastern System for iron ore. The estimated total cost is US\$553 million, and the conclusion of the project is scheduled for the second half of 2009.
- *Litorânea Sul railroad.* The Litorânea Sul railroad will be 165-kilometers long and will serve the Anchieta Industrial complex and a new port to be built in Ubu, both in the Brazilian state of Espírito Santo. This project is still subject to board approval. The estimated total cost of this project is US\$935 million. Its conclusion has been preliminarily scheduled for the first half of 2012.

4.2 Energy

4.2.1 Operations—energy

We have developed our energy assets based on the current and projected energy needs of our mining operations, with the goal of reducing our energy costs and minimizing the risk of energy shortages.

Brazil

Energy management and efficient supply in Brazil are priorities for us, given the uncertainties associated with changes in the regulatory environment, and the risk of rising electricity prices and electric energy shortages (as experienced in Brazil in the second half of 2001). We currently have seven hydroelectric power plants in operation. In 2008, our total energy capacity in Brazil was 4.152 GWh. We use the electricity produced by these plants for our internal needs. As a large consumer of electricity, we expect that investing in power projects will help us reduce costs and will protect us against energy price volatility. However, we may experience delays in the construction of certain generation projects due to environmental and regulatory issues, which may lead to higher costs.

Canada

In 2008, our wholly-owned and operated hydroelectric power plants in Sudbury generated 19.1% of the electricity requirements of our Sudbury operations. The power plants consist of five separate generation stations with an installed generator nameplate capacity of approximately 56 MW. The output of the plants is limited by water availability, as well as constraints imposed by a water management plan regulated by the provincial government. Over the course of 2008, the power system operator distributed electrical energy at the rate of approximately 211.5 MW to all surface plants and mines in the Sudbury area.

In 2008, diesel generation generated 100% of the electric requirements of our Voisey's Bay operations. We have six diesel generators on-site, of which normally only four are in operation, producing approximately 25 MW.

Indonesia

Energy costs are a significant component of our nickel production costs for the processing of lateritic ores at our PT Inco operations in Indonesia. A major portion of PT Inco's electric furnace power requirements are supplied at low-cost by its two hydroelectric power plants on the Laron River: (i) the Laron plant, which generates an average of 165 MW, and (ii) the Balambano plant, which generates an average of 110 MW. PT Inco has thermal generating facilities which include 24 cat-type diesel generators, with capacity of 1 MW each, five Mirless Black diesel generators being converted from diesel to fuel oil, and one oil burning steam turbine generator. These generators have the capacity to provide 80 MW of power. Since October 2008, all thermal facilities have been shut down in order to reduce operational costs.

4.2.2 Projects—energy

We are developing the following energy projects:

- *Barcarena thermal power plant.* We plan to start the construction of a coal-fired thermal power plant in Brazil with 600 MW of capacity in the second half of 2009, subject to obtaining required environmental licenses. Completion is scheduled for the second half of 2011. Our estimated total investment in the project is US\$898 million.
- *Estreito hydroelectric power plant.* In the second half of 2007, we began construction of the Estreito hydroelectric power plant, located on the Tocantins River, on the border of the Brazilian states of Maranhão and Tocantins. The plant will have an installed capacity of 1,087 MW. Completion is targeted for the second half of 2010. We have a 30% stake in the consortium that will build and operate the plant. Our estimated share of the total investment is US\$514 million.
- *Karebbe hydroelectric power plant.* Karebbe will be the third hydroelectric power plant built by PT Inco in Sulawesi, Indonesia. It is intended to reduce production costs and to produce enough energy to enable the potential expansion of production to 90,000 metric tons per year of nickel in matte. The estimated total cost is US\$410 million, and start-up is scheduled for the first half of 2011.

We also hold 58.08% of a consortium that has a concession to build the Santa Isabel hydroelectric power plant on the Araguaia River in Brazil. We continue our efforts to obtain the necessary environmental licenses to begin construction.

We are participating, through joint ventures, in natural gas exploration efforts in Brazil. Currently, we have minority stakes in 16 consortiums to explore natural gas in 26 blocks located in Espírito Santo, Pará-Maranhão, Parnaíba and Santos Basins. We aim to use any natural gas discovered to meet our energy needs. We expect at least three exploration wells to be drilled during 2009.

5. Other investments

5.1 Steel

We have ownership interest in a steel company, as set forth in the following table.

| <u>Company</u> | <u>Location</u> | <u>Our share of capital</u> | | |
|----------------|---------------------------|-----------------------------|--------------|-----------------|
| | | <u>Voting</u> | <u>Total</u> | <u>Partners</u> |
| | | (%) | | |
| CSI | California, United States | 50.0 | 50.0 | JFE Steel |

California Steel Industries (“CSI”) is a flat-rolled steel producer located in the United States. It produces approximately 1.8 million metric tons of flat steel per year.

We are developing the following steel projects in order to create additional demand for our iron ore and iron ore pellets:

- *ThyssenKrupp-CSA—Siderúrgica do Atlântico Ltda.* We have a minority stake in an integrated steel slab plant in the Brazilian state of Rio de Janeiro, which is currently under construction. Our total investment will be US\$630 million, corresponding to a 10% stake in the joint venture. Start-up is scheduled for the first half of 2010.
- *Companhia Siderúrgica de Pecém (“CSP”).* In November 2007, we signed a memorandum of understanding with Dongkuk Steel Mill Co. (“Dongkuk”), one of the largest steel producers in South Korea, for the construction of a steel slab plant in the Brazilian state of Ceará with initial production capacity of 2.5 million metric tons per year with the possibility for expansion to 5 million metric tons per year. In April 2008, we signed a new memorandum of understanding with Dongkuk and JFE Steel Corporation (“JFE”) to conduct a feasibility study to analyze the construction of a larger steel slab plant, with initial production capacity of 5 to 6 million metric tons per year. Depending on the outcome of the feasibility study, JFE will either participate in the project as a majority shareholder or not at all. In the former case, we expect our stake in CSP’s capital to be no more than 20%. In the latter case, we and Dongkuk will construct the plant as contemplated in the November 2007 memorandum of understanding and, in such case, we expect our stake in CSP’s capital to be 40%. This project is subject to board approval, and our total investment has not yet been determined.
- *Marabá.* We are conducting a feasibility study for the construction of a steel plant in Marabá, in the Brazilian state of Pará. The plant would have production capacity of 2.5 million metric tons per year of semi-finished steel and would entail an estimated investment of US\$3.3 billion. Start-up of this project, which is subject to board approval, would be in 2013.
- *Companhia Siderúrgica de Vitória (“CSV”).* We are acquiring the interest of our former joint venture partner Baosteel Group Corporation in CSV, which was established to construct an integrated steel slab plant Brazil. We are renaming CSV Companhia Siderúrgica de Ubu (“CSU”). CSU is expected to have initial production capacity of 5 million metric tons per year and will undertake the conceptual engineering studies and licensing process. However, in the event the project is

implemented, we expect to find a majority partner and retain only a 20% stake. This project is subject to board approval, and our total investment has not yet been determined.

RESERVES

Presentation of information concerning reserves

The estimates of proven and probable ore reserves at our mines and projects and the estimates of mine life included in this annual report have been prepared by our staff of experienced geologists and engineers, unless otherwise stated, and calculated in accordance with the technical definitions required by the SEC. Under the SEC's Industry Guide 7:

- Reserves are the part of a mineral deposit that could be economically and legally extracted or produced at the time of the reserve determination.
- Proven (measured) reserves are reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, working or drill holes; grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established.
- Probable (indicated) reserves are reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation.

We periodically revise our reserve estimates when we have new geological data, economic assumptions or mining plans. During 2008, we performed an analysis of our reserve estimates for certain projects, which is reflected in new estimates as of December 31, 2008. Reserve estimates for each operation are for 100% of the operation and assume that we either have or will obtain all of the necessary rights to mine, extract and process ore reserves at each mine. Where we own less than 100% of the operation, reserve estimates have not been adjusted to reflect our ownership interest. Certain figures in the tables, discussions and notes have been rounded. For a description of risks relating to reserves and reserve estimates, see *Item 3. Key information—Risk factors*.

Iron ore reserves

In preparing iron ore reserve data, we used price assumptions that did not exceed the following three-year (2006 to 2008) historical average prices for iron ore:

- US\$0.9675 per Fe unit for Southeastern System fines; and
- US\$1.0088 per Fe unit for Carajás fines.

Our iron ore reserve estimates are of in-place material after adjustments for mining depletion, with no adjustments made for metal losses due to processing.

| | Iron ore—Southeastern System mines(1) | | | | | |
|-------------------------------------|---------------------------------------|-------|----------------|-------|----------------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Itabira complex</i> | | | | | | |
| Conceição | 321.1 | 51.4 | 28.0 | 58.9 | 349.1 | 52.0 |
| Minas do Meio | 344.7 | 53.7 | 176.9 | 56.1 | 521.7 | 54.5 |
| <i>Centrais complex</i> | | | | | | |
| Água Limpa/Cururu | 46.5 | 41.8 | 6.3 | 42.2 | 52.8 | 41.8 |
| Gongo Soco | 54.2 | 64.6 | 20.2 | 58.6 | 74.4 | 63.0 |
| Brucutu | 295.0 | 52.3 | 364.2 | 50.1 | 659.2 | 51.1 |
| Baú | — | — | 37.1 | 55.7 | 37.1 | 55.7 |
| Apolo(2) | 145.2 | 60.3 | 133.5 | 56.2 | 278.7 | 58.3 |
| Andrade | 106.8 | 59.7 | 14.1 | 54.8 | 120.9 | 59.2 |
| <i>Mariana complex</i> | | | | | | |
| Alegria | 185.2 | 50.2 | 55.7 | 48.1 | 240.8 | 49.7 |
| Fábrica Nova | 511.3 | 47.0 | 351.4 | 44.2 | 862.6 | 45.8 |
| Fazendão | 251.5 | 50.1 | 94.5 | 49.7 | 346.0 | 50.0 |
| Timbopeba | — | — | 73.3 | 55.2 | 73.3 | 55.2 |
| <i>Urucum</i> | | | | | | |
| Mina de Ferro | 8.1 | 62.7 | 29.5 | 62.1 | 37.5 | 62.3 |
| Total Southeastern System | <u>2,269.6</u> | 51.7 | <u>1,384.6</u> | 50.8 | <u>3,654.2</u> | 51.4 |

(1) Tonnage is stated in millions of metric tons of wet run-of-mine. Grade is % of Fe. Approximate drill hole spacings used to classify the reserves were: 100m x 100m to proven reserves and 200m x 200m to probable reserves.

(2) Formerly Maquiné.

| | Iron ore—Southeastern System mines | | | |
|-----------------------------|------------------------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Itabira complex</i> | | | | |
| Conceição | Open pit | 1957 | 2023 | 100 |
| Minas do Meio | Open pit | 1976 | 2023 | 100 |
| <i>Centrais complex</i> | | | | |
| Água Limpa/Cururu | Open pit | 2000 | 2013 | 50 |
| Gongo Soco | Open pit | 2000 | 2013 | 100 |
| Brucutu | Open pit | 1994 | 2027 | 100 |
| Baú | Open pit | — | 2029 | 100 |
| Apolo | Open pit | — | 2029 | 100 |
| Andrade(1) | Open pit | 2005 | 2027 | 100 |
| <i>Mariana complex</i> | | | | |
| Alegria | Open pit | 2000 | 2029 | 100 |
| Fábrica Nova | Open pit | 2005 | 2023 | 100 |
| Fazendão | Open pit | 1976 | 2032 | 100 |
| Timbopeba | Open pit | 1984 | 2009 | 100 |
| <i>Urucum</i> | | | | |
| Mina de Ferro | Open pit | 1994 | 2023 | 100 |

(1) We entered into a 40-year contract with Companhia Siderúrgica Belgo-Mineira to lease the Andrade mine.

| | Iron ore—Southern System mines(1)(2) | | | | | |
|---------------------------------|--------------------------------------|-------|----------------|-------|----------------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Minas Itabiritos complex</i> | | | | | | |
| Segredo/João Pereira | 404.0 | 46.1 | 472.0 | 43.8 | 876.0 | 44.9 |
| Sapocado(3) | 109.2 | 52.8 | 145.2 | 53.5 | 254.4 | 53.2 |
| Galinheiro(3) | 132.0 | 54.7 | 191.6 | 54.1 | 323.6 | 54.3 |
| <i>Vargem Grande complex</i> | | | | | | |
| Tamanduá | 305.9 | 56.6 | 210.1 | 51.5 | 516.0 | 54.5 |
| Capitão do Mato | 227.1 | 56.2 | 598.7 | 50.4 | 825.8 | 52.0 |
| Abóboras | 269.5 | 46.8 | 181.5 | 43.8 | 450.9 | 45.6 |
| <i>Paraopeba complex</i> | | | | | | |
| Jangada | 45.6 | 66.6 | 15.7 | 66.2 | 61.3 | 66.5 |
| Córrego do Feijão | 31.5 | 67.0 | 3.5 | 63.1 | 35.0 | 66.6 |
| Capão Xavier | 92.6 | 65.1 | 10.4 | 64.4 | 103.0 | 65.0 |
| Mar Azul | — | — | 26.6 | 55.9 | 26.6 | 55.9 |
| Total Southern System | <u>1,617.4</u> | 52.9 | <u>1,855.2</u> | 49.1 | <u>3,472.6</u> | 50.9 |

(1) Tonnage is stated in millions of metric tons of wet run-of-mine. Grade is % of Fe. Approximate drill hole spacings used to classify the reserves were: 100m x 100m to proven reserves and 200m x 200m to probable reserves.

(2) Mines formerly categorized as part of the MBR System are now included in the Southern System.

(3) The Galinheiro reserves were separated from the Sapocado reserves and include the Pico reserves.

| | Iron ore—Southern System mines | | | |
|---------------------------------|--------------------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Minas Itabiritos complex</i> | | | | |
| Segredo/João Pereira | Open pit | 2003 | 2040 | 100 |
| Sapocado | Open pit | 1942 | 2030 | 100 |
| Galinheiro | Open pit | 1942 | 2030 | 100 |
| <i>Vargem Grande complex</i> | | | | |
| Tamanduá | Open pit | 1993 | 2040 | 100 |
| Capitão do Mato | Open pit | 1997 | 2050 | 100 |
| Abóboras | Open pit | 2004 | 2040 | 100 |
| <i>Paraopeba complex</i> | | | | |
| Jangada | Open Pit | 2001 | 2017 | 100 |
| Córrego do Feijão | Open pit | 2003 | 2014 | 100 |
| Capão Xavier | Open pit | 2004 | 2021 | 100 |
| Mar Azul | Open pit | 2006 | 2010 | 100 |

| | Iron ore—Northern System mines(1) | | | | | |
|----------------------------|-----------------------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Serra Norte complex</i> | | | | | | |
| N4W | 1,284.0 | 66.5 | 285.7 | 66.1 | 1,569.7 | 66.5 |
| N4E | 331.5 | 66.5 | 96.2 | 66.0 | 427.7 | 66.4 |
| N5-W | 51.1 | 66.5 | 187.2 | 66.1 | 238.3 | 66.2 |
| N5E(2) | 344.6 | 67.4 | 321.2 | 67.3 | 665.8 | 67.4 |
| <i>Serra Sul</i> | | | | | | |
| S11 | 3,045.8 | 66.8 | 1,193.7 | 66.7 | 4,239.6 | 66.8 |
| <i>Serra Leste</i> | | | | | | |
| SL1 | 55.7 | 66.2 | 5.2 | 66.4 | 60.9 | 66.2 |
| Total Northern System | 5,112.7 | 66.7 | 2,089.3 | 66.6 | 7,202.0 | 66.7 |

(1) Tonnage is stated in millions of metric tons of wet run-of-mine. Grade is % of Fe. Approximate drill hole spacings used to classify the reserves are: 200m x 150m to proven reserves and 300m x 200m to probable reserves, except SL1 which is 100m x 100m to proven reserves and 200m x 200m to probable reserves.

(2) Reserves previously classified under N5E-N and N5S were incorporated in the N5E reserve model.

| | Iron ore—Northern System mines | | | |
|--------------------|--------------------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Serra Norte</i> | | | | |
| N4W | Open Pit | 1994 | 2031 | 100 |
| N4E | Open pit | 1984 | 2025 | 100 |
| N5-W | Open pit | 1998 | 2023 | 100 |
| N5E | Open pit | 1998 | 2017 | 100 |
| <i>Serra Sul</i> | | | | |
| S11 | Open pit | – | 2059 | 100 |
| <i>Serra Leste</i> | | | | |
| SL1 | Open pit | – | 2039 | 100 |

| | Iron ore—Total reserves for all systems(1) | | | | | |
|---------------------------|--|-------|----------|-------|----------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| Total Southeastern System | 2,269.6 | 51.7 | 1,384.6 | 50.8 | 3,654.2 | 51.4 |
| Total Southern System | 1,617.4 | 52.9 | 1,855.2 | 49.1 | 3,472.6 | 50.9 |
| Total Northern System | 5,112.7 | 66.7 | 2,089.3 | 66.6 | 7,202.0 | 66.7 |
| Total Vale | 8,999.7 | 60.5 | 5,329.1 | 56.4 | 14,328.8 | 59.0 |

(1) Tonnage is stated in millions of metric tons of wet run-of-mine. Grade is % of Fe.

Changes in iron ore reserves: 2008 versus 2007

Our iron ore reserve estimates increased from 7,267.8 to 14,328.8 million metric tons. The increase mainly reflects (i) the inclusion of the huge reserves of S11, part of the Serra Sul deposit in Carajás, (ii) the expansion of the N4W reserves into a continuous body to the south of the deposit, and (iii) the inclusion of the low-grade itabirite reserves for the Vargem Grande complex (the Tamanduá, Capitão do Mato and Abóboras mines). All of these deposits have been intensively drilled over the past four years, and the related projects (Serra Sul, Carajás 130 Mt, and Vargem Grande (formerly Itabiritos)) are now in feasibility or pre-feasibility stages. Moreover, our reserve estimates for Segredo/João Pereira increased due to the expansion of the open-pit project, which was undertaken in order to include low-grade materials, that will be used to feed a new concentration plant. Changes in the other reserves reflect mining production during the year and small changes in new updated geological models and/or pit designs and reserve classifications.

Manganese ore reserves

In preparing manganese reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average price for manganese of US\$349.50 per metric ton (published by Ryan's Notes). We have adjusted ore reserve estimates for extraction losses and metallurgical recoveries during extraction.

| | Manganese ore reserves(1) | | | | | |
|-------------------------|---------------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| Azul | 35.5 | 35.7 | 7.2 | 33.3 | 42.6 | 35.2 |
| Urucum | — | — | 7.0 | 44.4 | 7.0 | 44.4 |
| Morro da Mina | 9.2 | 24.3 | 6.1 | 24.3 | 15.3 | 24.3 |
| Total | 44.7 | 33.4 | 20.3 | 34.4 | 64.9 | 33.6 |

(1) Tonnage is stated in millions of metric tons of wet run-of-mine. Grade is % of Mn.

| | Manganese ore mines | | | |
|-------------------------|---------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| Azul | Open pit | 1985 | 2020 | 100 |
| Urucum | Underground | 1976 | 2020 | 100 |
| Morro da Mina | Open pit | 1902 | 2045 | 100 |

Changes in manganese ore reserves: 2008 versus 2007

Our manganese ore reserve estimates increased from 58.6 to 64.9 million metric tons in 2008, due to revision of the ultimate pit in Morro da Mina and Azul Mine. The economic assumptions were updated based on a three-year average price revision for both mines, the removal of some physical restrictions at Morro da Mina (relocation of the mineral processing plant occurred in 2008) and a revised cut-off grade for the Azul mine based on new market product specifications. During 2009, we are performing an analysis of our manganese ore reserve estimates and new exploration drilling, which will be reflected in comprehensive new estimates as of December 31, 2009.

Nickel ore reserves

In preparing nickel reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average LME spot price for nickel of US\$27,297 per metric ton. Our nickel reserve estimates are of in-place material after adjustments for mining depletion and mining losses (or screening and drying in the cases of Sulawesi and Goro) and recoveries, with no adjustments made for metal losses due to processing.

| | Nickel ore reserves(1) | | | | | |
|-------------------------|------------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Canada</i> | | | | | | |
| Sudbury | 75.6 | 1.20 | 74.8 | 1.14 | 150.4 | 1.17 |
| Thompson | 10.1 | 1.94 | 14.4 | 1.67 | 24.5 | 1.78 |
| Voisey's Bay | 23.0 | 3.03 | 3.0 | 0.68 | 26.0 | 2.76 |
| <i>Indonesia(2)</i> | | | | | | |
| Sulawesi | 88.7 | 1.81 | 64.0 | 1.72 | 152.7 | 1.77 |
| <i>New Caledonia(2)</i> | | | | | | |
| Goro | 100.8 | 1.35 | 23.5 | 1.91 | 124.3 | 1.46 |
| <i>Brazil</i> | | | | | | |
| Onça Puma | 55.1 | 1.79 | 27.6 | 1.62 | 82.7 | 1.73 |
| Vermelho | — | — | — | — | — | — |
| Total | 353.3 | 1.63 | 207.2 | 1.50 | 560.6 | 1.58 |

(1) Tonnage is stated in millions of dry metric tons. Grade is % of nickel.

(2) We have rights to other properties in Indonesia, New Caledonia and in other locations, which have not yet been fully explored.

| Nickel ore mines | | | | |
|-------------------------|-------------|------------------------|----------------------------------|--------------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Canada</i> | | | | |
| Sudbury | Underground | 1885 | 2042 | 100 |
| Thompson | Underground | 1960 | 2021 | 100 |
| Voisey's Bay | Open pit | 2005 | 2019 | 100 |
| <i>Indonesia</i> | | | | |
| Sulawesi | Open cast | 1978 | 2037 | 61.0 |
| <i>New Caledonia</i> | | | | |
| Goro | Open pit | – | 2036 | 74.0 |
| <i>Brazil</i> | | | | |
| Onça Puma | Open pit | – | 2039 | 100 |

Changes in nickel ore reserves: 2008 versus 2007

Reserves at our Sudbury operations decreased from 160.3 to 150.4 million metric tons, after mining depletion, while nickel grades remained similar. The change was essentially due to reclassification of mineral reserves to mineral resources at Stobie Mine and at the non-operating Blezzard deposit, which was partially offset by exploration additions and re-evaluations at our operating mines.

Reserves at our Thompson operations remained stable at 24.5 million metric tons. Mining depletion was partially offset by ore reserve additions resulting from exploration and mine plan re-evaluations. The estimated average nickel grade declined by 2%.

Reserves at our Voisey's Bay operations decreased from 28.9 to 26.0 million metric tons, primarily due to mining depletion and a copper grade increase caused by a reduction of the mining internal dilution rate. This reduction is supported by the reconciliation of three years of production data with the life-of-mine plan estimates.

Reserves at Sulawesi decreased from 160.9 to 152.7 million metric tons, after adjustments for mining depletion, changes in plant feed chemistry operational targets and the reassessment of ore quantity estimates on steep slopes. These adjustments were partially offset by additional drilling that converted mineral resources to reserves.

Reserves at Goro increased from 120.0 to 124.3 million metric tons after consideration of additional drilling, feed, preparation attrition revisions and a more accurate interpolation of ore and waste interfaces.

Reserves at Onça Puma remained unchanged from 2007 estimates, since no production activities occurred in 2008.

Reserves at Vermelho, which we reported last year, have been downgraded to mineral resources as a result of a review underway to change the plant flowsheet design in order to reduce capital expenditures and operational costs. As a result, the project's technical and economic viability cannot be demonstrated.

Bauxite ore reserves

In preparing bauxite reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average realized sales price for bauxite of US\$30.56 per metric ton. We have adjusted ore reserve estimates for mass recoveries during washing, bone dry.

| | Bauxite ore reserves(1) | | | | | |
|--------------------|-------------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>MRN</i> | | | | | | |
| Almeidas | 1.8 | 50.2 | – | – | 1.8 | 50.2 |
| Aviso | 22.1 | 51.2 | – | – | 22.1 | 51.2 |
| Bacaba | 6.8 | 53.5 | – | – | 6.8 | 53.5 |
| Saracá V | 2.2 | 47.9 | – | – | 2.2 | 47.9 |
| Saracá W | 11.7 | 49.8 | – | – | 11.7 | 49.8 |
| Bela Cruz | 45.1 | 52.1 | 22.2 | 51.6 | 67.3 | 52.1 |
| Cipó | 2.1 | 49.8 | 4.6 | 49.8 | 6.7 | 49.8 |
| Teófilo | 27.9 | 50.1 | 5.3 | 49.4 | 33.2 | 50.1 |
| Aramã | 8.6 | 49.8 | 1.4 | 49.1 | 10.0 | 49.8 |
| Greigh | 1.8 | 48.9 | 0.7 | 48.8 | 2.4 | 48.8 |
| Monte Branco | 16.9 | 49.0 | 24.3 | 49.1 | 41.2 | 48.8 |
| Total MRN | 146.8 | 50.8 | 58.5 | 50.1 | 205.4 | 50.6 |
| <i>Paragominas</i> | | | | | | |
| Miltonia 3 | 141.0 | 49.4 | 55.4 | 49.4 | 196.4 | 49.4 |
| Miltonia 5 | 95.7 | 47.3 | 2.9 | 47.3 | 98.6 | 47.3 |
| Total Paragominas | 236.7 | 48.6 | 58.3 | 49.3 | 295.0 | 48.7 |

(1) Tonnage is stated in millions of metric tons of washed product (bone dry). Grade is % of Al₂O₃.

| | Bauxite ore mines | | | |
|--------------------|-------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>MRN</i> | | | | |
| Almeidas | Open pit | 2002 | 2009 | 40.0 |
| Aviso | Open pit | 2003 | 2011 | 40.0 |
| Bacaba | Open pit | 2009 | 2011 | 40.0 |
| Saracá V | Open pit | 1979 | 2009 | 40.0 |
| Saracá W | Open pit | 2006 | 2016 | 40.0 |
| Bela Cruz | Open pit | – | 2019 | 40.0 |
| Cipó | Open pit | – | 2023 | 40.0 |
| Teófilo | Open pit | – | 2023 | 40.0 |
| Aramã | Open pit | – | 2019 | 40.0 |
| Greigh | Open pit | – | 2016 | 40.0 |
| Monte Branco | Open pit | – | 2020 | 40.0 |
| <i>Paragominas</i> | | | | |
| Miltonia 3 | Open pit | 2006 | 2032 | 100 |
| Miltonia 5 | Open pit | – | 2032 | 100 |

Changes in bauxite ore reserves: 2008 versus 2007

MRN's bauxite reserves increased from 164.9 to 205.4 million metric tons, primarily due to research and valuation of new mining areas in 2008.

Paragominas' bauxite reserves decreased from 299.9 to 295.0 million metric tons, primarily due to mining depletion. The mine contains 692,000 metric tons of stockpiled material that was taken into account in the reserve calculations.

Copper ore reserves

In preparing copper reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average LME spot price for copper of US\$6,977 per metric ton. Our copper reserve estimates

are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing.

| | Copper ore reserves(1) | | | | | |
|------------------------|------------------------|-------|--------------|-------|----------------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Canada</i> | | | | | | |
| Sudbury | 75.6 | 1.43 | 74.8 | 1.27 | 150.4 | 1.35 |
| Thompson | 10.1 | 0.13 | 14.4 | 0.12 | 24.5 | 0.12 |
| Voisey's Bay | 23.0 | 1.78 | 3.0 | 0.38 | 26.0 | 1.62 |
| <i>Brazil</i> | | | | | | |
| Sossego | 124.6 | 1.00 | 41.9 | 0.91 | 166.5 | 0.93 |
| Salobo | 508.2 | 0.80 | 420.3 | 0.74 | 928.5 | 0.77 |
| 118 | — | — | — | — | — | — |
| Total | <u>741.5</u> | 0.92 | <u>554.4</u> | 0.81 | <u>1,295.9</u> | 0.86 |

(1) Tonnage is stated in millions of metric tons of dry run-of-mine. Grade is % of copper.

| | Copper ore mines | | | |
|------------------------|------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Canada</i> | | | | |
| Sudbury | Underground | 1885 | 2042 | 100 |
| Thompson | Underground | 1960 | 2021 | 100 |
| Voisey's Bay | Open pit | 2005 | 2019 | 100 |
| <i>Brazil</i> | | | | |
| Sossego | Open pit | 2004 | 2021 | 100 |
| Salobo | Open pit | — | 2030 | 100 |

Changes in copper ore reserves: 2008 versus 2007

Our copper ore reserve estimates for our Canadian operations decreased from 213 to 201 million metric tons for the reasons discussed in connection with nickel reserves above.

Reserves at Sossego decreased from 181.8 to 166.5 million metric tons, primarily reflecting mining depletion, and a review of pit optimization with an updated economic model with increased operational costs.

Reserves at Salobo were unchanged from 2007 estimates, at 928.5 million metric tons, because no production activities occurred in 2008.

Reserves at 118, which we reported last year, have been downgraded to mineral resources as a result of delays in environmental licensing and the decision to evaluate the resources of sulfide copper ore in addition to the previously analyzed resources of oxide copper ore.

Cobalt ore reserves

We expect to recover significant quantities of cobalt as a by-product of our Canadian operations and from the Goro project. Our cobalt reserve estimates are of in-place material after adjustments for mining depletion and mining losses (or screening and drying in the case of Goro) and recoveries, with no adjustments made for metal losses due to processing.

| | Cobalt ore reserves(1) | | | | | |
|------------------------|------------------------|-------|--------------|-------|--------------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Canada</i> | | | | | | |
| Sudbury | 75.6 | 0.04 | 74.8 | 0.03 | 150.4 | 0.04 |
| Voisey's Bay | 23.0 | 0.15 | 3.0 | 0.03 | 26.0 | 0.14 |
| <i>New Caledonia</i> | | | | | | |
| Goro | <u>100.8</u> | 0.12 | <u>23.5</u> | 0.08 | <u>124.3</u> | 0.11 |
| Total | <u>199.4</u> | 0.09 | <u>101.3</u> | 0.04 | <u>300.7</u> | 0.08 |

(1) Tonnage is stated in millions of metric tons. Grade is % of cobalt.

| | Cobalt ore mines | | | |
|------------------------|------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Canada</i> | | | | |
| Sudbury | Underground | 1885 | 2042 | 100 |
| Voisey's Bay | Open pit | 2005 | 2019 | 100 |
| <i>New Caledonia</i> | | | | |
| Goro | Open pit | — | 2036 | 74.0 |

Changes in cobalt ore reserves: 2008 versus 2007

Our cobalt reserve estimates changed from 2007 to 2008 for the reasons discussed in connection with nickel reserves above.

PGMs and other precious metals reserves

We expect to recover significant quantities of precious metals as by-products of our Canadian operations and from the Salobo project. Our reserve estimates are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing.

| | Precious metals reserves(1) | | | | | |
|----------------------|-----------------------------|-------|--------------|-------|----------------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| <i>Canada</i> | | | | | | |
| <i>Sudbury</i> | | | | | | |
| Platinum | 75.6 | 0.60 | 74.8 | 0.90 | 150.4 | 0.70 |
| Palladium | 75.6 | 0.80 | 74.8 | 1.10 | 150.4 | 0.90 |
| Gold | 75.6 | 0.30 | 74.8 | 0.40 | 150.4 | 0.30 |
| <i>Brazil</i> | | | | | | |
| <i>Sossego</i> | | | | | | |
| Gold | 124.6 | 0.28 | 41.9 | 0.24 | 166.5 | 0.27 |
| <i>Salobo</i> | | | | | | |
| Gold | <u>508.2</u> | 0.50 | <u>420.3</u> | 0.40 | <u>928.5</u> | 0.46 |
| Total—Gold | <u>708.4</u> | 0.44 | <u>537.0</u> | 0.39 | <u>1,245.4</u> | 0.42 |

(1) Tonnage is stated in millions of dry metric tons. Grade is grams per dry metric ton.

| Precious metals mines | | | | |
|-----------------------|-------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| <i>Canada</i> | | | | |
| Sudbury | Underground | 1885 | 2042 | 100 |
| <i>Brazil</i> | | | | |
| Sossego | Open pit | 2004 | 2021 | 100 |
| Salobo | Open pit | – | 2030 | 100 |

Changes in PGMs and other precious metals reserves: 2008 versus 2007

The decrease in our platinum, palladium and gold reserve estimates from 2007 to 2008 for the Canadian operations was due to the reasons discussed in connection with nickel reserves above.

Kaolin ore reserves

In preparing kaolin reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average realized sales price for kaolin of US\$184.91 per metric ton. Our reserve estimates are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing.

| | Kaolin ore reserves(1) | | | | | |
|---------------------------|------------------------|------------|----------|------------|---------|------------|
| | Proven | | Probable | | Total | |
| | Tonnage | Brightness | Tonnage | Brightness | Tonnage | Brightness |
| Morro do Felipe | 9.6 | 86.7 | 23.1 | 86.8 | 32.7 | 86.7 |
| Rio Capim | 34.8 | 82.5 | 8.6 | 81.9 | 43.5 | 82.4 |
| Total | 44.5 | 84.6 | 31.7 | 84.4 | 76.2 | 84.5 |

(1) Tonnage is stated in millions of metric tons. Brightness is stated in percentage terms.

| Kaolin ore mines | | | | |
|---------------------------|----------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| Morro do Felipe | Open pit | 1976 | 2030 | 86.2 |
| Rio Capim | Open pit | 1996 | 2030 | 61.5 |

Changes in kaolin ore reserves: 2008 versus 2007

Reserves at Morro do Felipe decreased from 34.1 to 32.7 million metric tons, primarily reflecting mining depletion in 2008 and, to a lesser extent, a reduction in estimates to reflect differences between actual recoveries and amounts predicted by our reserve model.

Reserves at Rio Capim increased from 29.1 to 43.5 million metric tons due to the increase in the number of holes and the development of a new three-dimensional geological model.

During 2009, we are performing an analysis of our kaolin ore reserve estimates, which will be reflected in comprehensive new estimates as of December 31, 2009.

Potash ore reserves

In preparing potash reserve data, we used price assumptions that did not exceed the three-year (2006 to 2008) historical average realized sales price for potash of US\$350.12 per metric ton. Our reserve estimates are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing.

| | Potash ore reserves(1) | | | | | |
|-----------------------------|------------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| Taquari-Vassouras | 3.3 | 28.0 | 6.5 | 28.0 | 9.8 | 28.0 |

(1) Tonnage is stated in millions of dry metric tons. Grade is % of KCl.

| | Potash ore mine | | | |
|--------------------------------|-----------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| Taquari-Vassouras(1) | Underground | 1986 | 2012 | 100 |

(1) We have a 25-year lease contract, which was signed in 1991, with Petrobras.

Changes in potash ore reserves: 2008 versus 2007

Our potash reserves decreased from 12.9 to 9.8 million metric tons, mainly reflecting mining depletion in 2008.

Phosphate reserves

In preparing phosphate reserve data, we used price assumptions that did not exceed the three year (2006 to 2008) historical average benchmarking prices for phosphate concentrate of US\$153.5 per metric ton (published by CRU—Fertilizer Week). Our reserve estimates are of in-place material after adjustments for mining depletion, mining losses and recoveries, with no adjustments made for metal losses due to processing. The year 2008 is the first year for which we have reported phosphate reserves.

| | Phosphate reserves(1) | | | | | |
|-------------------|-----------------------|-------|----------|-------|---------|-------|
| | Proven | | Probable | | Total | |
| | Tonnage | Grade | Tonnage | Grade | Tonnage | Grade |
| Bayovar | 245.4 | 17.1 | 2.1 | 15.0 | 247.5 | 17.1 |

(1) Tonnage is stated in millions of dry metric tons. Grade is % of P₂O₅.

| | Phosphate ore mine | | | |
|-------------------|--------------------|-----------------|---------------------------|-------------------|
| | Type | Operating since | Projected exhaustion date | Vale interest (%) |
| Bayovar | Open pit | – | 2037 | 100 |

Coal reserves

In preparing coal reserve data, we used price assumptions that did not exceed the following (2006 to 2008) historical average prices (realized sales and benchmarking prices) for coal:

- US\$104.87 per metric ton of hard metallurgical coal;
- US\$65.66 per metric ton of pulverized coal injection (“PCI”); and
- US\$53.11 per metric ton of thermal coal.

Our coal reserve estimates are of in-place material after adjustments for mining depletion, in-situ moisture content, anticipated mining losses and dilution, but excluding any adjustment for losses associated with beneficiation of raw coal mined to meet saleable product requirements. Our coal reserve estimates were prepared by the following independent consultants: Mr. Colin Coxhead (Integra Coal), SRK Consulting (Carborough Downs), MB Mining Consultants and Hoskings Resource Management (Isaac Plains), and Snowden Mining Industry Consultants Pty Ltd (Moatize).

| | | Coal ore reserves(1) | | | |
|----------------------------------|--------------------------------|----------------------|--------------|--------------|-------------------------------|
| Coal type | | Proven | Probable | Total | |
| | | (tonnage) | (tonnage) | (tonnage) | (calorific value) |
| Integra Coal: | | | | | |
| South Opencut | Metallurgical and thermal | – | – | – | 28.5 (thermal) |
| Middle Liddell Seam | Metallurgical | 1.2 | 14.6 | 15.8 | – |
| Barret and Hebden Seam | Metallurgical | – | – | – | – |
| North Opencut | Metallurgical and thermal | – | – | – | 28.5 (thermal) |
| Total Integra Coal | | 1.2 | 14.6 | 15.8 | – |
| Carborough Downs | Metallurgical and PCI | 41.2 | 5.0 | 46.2 | 31.7 (PCI) |
| Isaac Plains | Metallurgical, PCI and thermal | 22.8 | 0.9 | 23.7 | 31.0 (PCI); 27.8 (thermal) |
| Broadlea | Metallurgical | – | – | – | – |
| Moatize | Metallurgical | <u>422</u> | <u>416</u> | <u>838</u> | 32 |
| Total | | <u>487.2</u> | <u>436.5</u> | <u>923.7</u> | |

(1) Tonnage is stated in millions of dry metric tons. Calorific value is stated in Mj/kg and refers to the quality of marketable coal, quoted on a “gross air dried” basis. Calorific value is used in marketing thermal and PCI coals. Marketable coal quality reported is based on 2007 sales contract specifications, except for Moatize.

| | | Coal mines | | |
|----------------------------------|-----------------|---------------------------|-------------------|------|
| Type | Operating since | Projected exhaustion date | Vale interest (%) | |
| Integra Coal: | | | | |
| South Opencut | Open pit | 1999 | 2010 | 61.2 |
| Middle Liddell Seam | Underground | 1999 | 2014 | 61.2 |
| Barret and Hebden Seam | Underground | – | 2023 | 61.2 |
| North Opencut | Open pit | – | 2016 | 61.2 |
| Carborough Downs | Underground | 2006 | 2020 | 80.0 |
| Isaac Plains | Open pit | 2006 | 2016 | 50.0 |
| Broadlea | Open pit | 2006 | 2011 | 100 |
| Moatize | Open pit | – | 2046 | 100 |

Changes in coal reserves: 2008 versus 2007

Our coal reserves decreased from 995.2 to 923.7 million metric tons.

We are reporting Middle Liddell Seam reserves for the first time this year, at 15.8 million metric tons.

Reserves at Barret and Hebden Seam and North Opencut were reduced to zero, from 36.9 and 8.7 million metric tons, respectively, since they have been downgraded to mineral resources while new studies are underway.

Reserves at Carborough Downs decreased from 47 to 46.2 million metric tons, mainly reflecting mining depletion.

Reserves at Isaac Plains increased from 19.0 to 23.7 million metric tons, mainly reflecting a reserve update and mining depletion.

Reserves at Moatize were unchanged from 2007 estimates, at 838 million metric tons, because no production activities occurred in 2008.

REGULATORY MATTERS

In this section, we describe the following:

- mining regulation in Australia, Brazil, Canada, Indonesia and New Caledonia;
- railroad regulation in Brazil;
- electric energy regulation in Brazil, Canada and Indonesia;
- environmental regulation in Australia, Brazil, Canada, Indonesia, New Caledonia and international standards;
- European regulation of hazardous substances; and
- Investment Canada Act undertakings.

Mining regulation

Australia—mining regulation

In Australia, government approval is required for any mine and infrastructure development that could have a significant impact on a matter of national environmental significance. The key features of the regulatory arrangements in each state and territory are the following:

- The government owns all minerals (with some minor exceptions), and rights to minerals are separate from other interests in land.
- Exploration and mining activities must be carried out pursuant to a “tenement” granted by the state or territory in which the activities will take place. A tenement holder has an enforceable right to enter upon the land and undertake all works authorized by the terms of the grant and applicable legislation. The minister of the relevant state or territory may consent to an assignment of a tenement subject to the satisfaction of transfer conditions.
- Tenements are granted by the state upon satisfaction of certain conditions, such as: (i) posting of a security bond for site rehabilitation in accordance with the site environmental license or other requirements after completion of mining operations; (ii) payment of any outstanding rent or royalties; and (iii) compliance with the relevant state mining legislation.
- After a tenement is granted, further conditions apply for its duration, such as payment of royalties on extractions and sales.
- Tenements and other licenses may be required for purposes incidental to mining, including access, storage and some processing activities such as washing and crushing.

Mining rights in Australia may also be subject to native title. “Native title” describes the rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs as recognized by the laws of Australia. Native title does not equate to our common understanding of “title” to land in the sense of ownership of land and may consist of different rights and interests. Examples include the right to access land, hunt, gather and fish, conduct ceremonies, camp; and have possession, use, occupation and enjoyment of the land. State laws require consultation with ‘traditional owner’ claimants to

identify cultural heritage values on areas to be disturbed by mining, and implementation of appropriate management plans.

All Australian states and territories impose statutory royalties on extraction of minerals and royalties on sales of extracted minerals. The amount of the extraction royalty, the method of its calculation and the minerals covered differ from jurisdiction to jurisdiction. While there are some flat-rate extraction royalties, others involve complicated calculations taking into account the market value of the mineral and an index price set by the jurisdiction. The royalty on revenues from sales of extracted minerals is levied net of certain allowable costs such as demurrage, marine costs (including ocean freight and insurance) and exchange losses. Currently, the royalty rates we pay on our coal operations are 6-8% in New South Wales and 7-10% in Queensland.

Compliance with the terms of a tenement and the applicable regulatory scheme may involve significant expenditures. Failure to comply with applicable requirements can result in financial penalties, prosecution or, in extreme cases, forfeiture of the tenements. Although the terms of a tenement and applicable regulations may be subject to change or amendment by the state or territory in certain circumstances, it is rare for this to occur unilaterally and without prior notice or negotiation.

We own, or have rights to acquire interest in, a combination of 496 exploration or mining tenements in Australia, covering 978,600 hectares in New South Wales, 778,600 hectares in Queensland and 861,600 hectares in Western Australia.

Brazil—mining regulation

Under the Brazilian Constitution, all mineral resources in Brazil belong to the Brazilian government. The Brazilian Constitution and Mining Code impose on mining companies various regulatory restrictions relating to, among other things:

- the manner in which mineral deposits are exploited;
- the health and safety of workers and the safety of residential areas located near mining operations;
- the protection and restoration of the environment;
- the prevention of pollution; and
- the support of local communities where mines are located.

Mining companies in Brazil can only prospect and mine for mineral resources pursuant to prospecting authorizations or mining concessions granted by the National Mineral Production Department (Departamento Nacional de Produção Mineral), or DNPM, an agency of the Ministry of Mines and Energy of the Brazilian government. DNPM grants prospecting authorizations to a requesting party for an initial period of three years. These authorizations are renewable at DNPM's discretion for another period of one to three years, provided that the requesting party is able to show that the renewal is necessary for proper conclusion of prospecting activities. On-site prospecting activities must start within 60 days of official publication of the issuance of a prospecting authorization. Upon completion of prospecting activities and geological exploration at the site, the grantee must submit a final report to DNPM. If the geological exploration reveals the existence of a mineral deposit that is economically exploitable, the grantee has one year (which DNPM may extend) from approval of the report by DNPM to apply for a mining concession or to transfer its right to apply for a mining concession to an unrelated party. When a mining concession is granted, the holder of the concession must begin on-site mining activities within six months. DNPM grants mining concessions for an indeterminate period of time lasting until the exhaustion of the mineral deposit. Extracted minerals that are specified in the concession belong to the holder of the concession. With the prior approval of DNPM, the holder of a mining concession can transfer it to an unrelated party that is qualified to own concessions. In some cases, mining concessions are challenged by unrelated parties.

We own a combination of 2,663 exploration licenses and mining concessions covering 8,115,316 hectares. We also have 1,175 applications comprising of bids and exploration licenses, covering a total of 7,930,702 hectares.

The Brazilian government charges us a royalty known as the CFEM (Compensação Financeira pela Exploração de Recursos Minerais) on the revenues from the sale of minerals we extract, net of taxes, insurance costs and costs of transportation. The current annual rates on our products are:

- 2% for iron ore, kaolin, copper, nickel, fertilizers and other minerals;
- 3% on bauxite, potash and manganese ore; and
- 1% on gold.

The Mining Code and ancillary mining laws and regulations also impose other financial obligations. For example, mining companies must compensate landowners for the damages and loss of income caused by the use and occupation of the land (either for exploitation or exploration) and must also share with the landowners the results of the exploration (at the rate of 50% of the CFEM). Mining companies must also compensate the government for damages caused to public lands. A substantial majority of our mines and mining concessions are on lands owned by us or on public lands for which we hold mining concessions.

We are currently engaged in a series of administrative and other legal proceedings alleging that we have failed to pay the proper amount of CFEM. In addition, we are discussing with DNPM the applicable rate for potash. See *Item 8. Financial information—Legal proceedings—CFEM-related proceedings*.

Canada—mining regulation

The Canadian provinces charge us a tax on profit from mining operations. Profit from mining operations is generally determined by reference to gross revenue from the sale of mine output and deducting certain costs, such as mining and processing costs and investment in processing assets. The statutory mining tax rates for each of the provinces in which we operate in Canada are: 10% in Ontario; 18% in Manitoba; and 15% in Newfoundland and Labrador.

Ontario

At our Sudbury operations, we hold (i) mining rights, (ii) surface rights, (iii) licenses of occupation and (iv) mining claims, each granted to us by the Province of Ontario.

Mining rights are rights to exploit and extract minerals on, in or under the land, and surface rights are rights to use the surface of the land. Mining rights and surface rights may be either owned or leased. Mining rights and surface rights that are owned remain in effect so long as we own the land to which the rights apply. Mining rights and surface rights that are leased remain in effect for the term of the lease, either 10 or 21 years. We own mining rights covering 82,058 hectares and surface rights covering 60,002 hectares, including a combination of mining and surface rights co-owned with third parties covering 1,198 hectares. All properties at our Sudbury operations that contain proven and probable ore reserves are owned by us, with the exception of a portion of ore reserves under Kelly Lake, which is under a 21-year mining lease from the Province of Ontario and which can be accessed from the Copper Cliff South Mine. We lease mining rights covering 14,116 hectares from the Province of Ontario. We do not expect any problems in obtaining renewals of these leases since the only requirement for renewal is payment of a nominal renewal fee. The next lease due for renewal expires in 2010.

Licenses of occupation allow the holder to use licensed land in the manner specified in each license, including the right to dig, excavate and remove ores and minerals from and under the land. We currently hold licenses of occupation covering 2,939 hectares in Ontario, of which approximately 17 hectares are jointly held with third parties.

Mining claims are rights to explore the land covered by the claim. We hold mineral claims covering 8,455 hectares in Ontario, of which 6,596 hectares are jointly held with third parties.

The permission of the government of the Province of Ontario is required for us to export from Canada intermediate products derived from our Sudbury ores. In December 2005, the Ontario government granted us permission to continue to export intermediate nickel products to our nickel refinery in Clydach, Wales until December 31, 2015. In December 2005, the Ontario government granted us permission to continue to export semi-refined PGMs concentrate to our precious metals refinery in Acton, England until December 31, 2015. In June 2007, the Ontario government also granted us permission to ship copper anodes, copper concentrate and MK copper concentrate offshore for further processing until June 27, 2012. We are not aware of any reason at this time that would prevent us from reaching an agreement with the Province of Ontario to extend these permits for additional periods upon their expiration.

Manitoba

At our Thompson operations, our landholdings or mining rights consist of (i) order-in-council leases (“OIC Leases”), (ii) mining leases, and (iii) mineral claims.

OIC Leases entitle the lessee to explore for, and mine, all minerals in the subsurface (except hydrocarbons, industrial minerals and superficial deposits that are not incidental to the mining, milling, smelting and refining processes). OIC Leases provide for an initial 21-year term and two subsequent guaranteed renewals of 21 years each, for a total guaranteed lease period of 63 years. Subsequent lease renewals beyond the three guaranteed 21-year terms can be granted at the discretion of the Province of Manitoba. We currently hold a total of 2,947 OIC Leases covering 109,043 hectares. Of these, 29 OIC Leases, covering 488 hectares, are held by Mystery Lake Nickel Mines Limited, which is 82.6%-owned by Vale Inco (17.4% is held by Newmont Exploration of Canada). Vale Inco holds the remaining OIC Leases. All of our current OIC Leases have been renewed twice (each is in its third guaranteed 21 year term) and remain in effect through the 2022-2025 period.

Mineral leases are issued by the Province of Manitoba and convey (i) the exclusive right to the minerals (other than quarry minerals) existing on or under the land covered by the lease and (ii) access rights to erect buildings and structures (including shafts) to mine within the limits of the lease. The duration of mineral leases is 21 years, and they are renewable at the discretion of the Province’s Minister of Science, Technology, Energy and Mines. We hold six mineral leases that cover 4,151 hectares in the Thompson nickel belt. These mineral leases remain in effect until April 1, 2013.

Mining claims are rights issued by the Province of Manitoba under provincial legislation, which convey to the holder (i) exclusive rights to the minerals (other than quarry minerals) existing on or under the land covered by the claim and (ii) access rights to explore for and develop minerals owned by the Province. A mining claim does not, however, entitle the holder to extract minerals from the land covered by the claim. In order to extract minerals from the land covered by a mining claim, the holder must obtain a mineral lease from the Province of Manitoba. We hold 161 mining claims covering 35,204 hectares.

Newfoundland and Labrador

At our Voisey’s Bay operations, we hold (i) a mining lease, (ii) a surface lease, (iii) mining licenses and (iv) mineral claims.

All of the current estimated proven and probable ore reserves at Voisey’s Bay are located on lands covered by the mining lease, which has a duration of 25 years. The mining lease confers the exclusive right to extract minerals and carry out mineral exploration, mining operations or mining processing and development in, on or under the lands, or part of the lands, covered by the lease, subject to our continued compliance with the terms and conditions of an agreement entered into in September 2002 between Vale Inco and the government of Newfoundland and Labrador. Under the terms of the mining lease, production cannot exceed on average 2.2 million metric tons of ore annually for the first 10 years of mining operations and on average

5.5 million metric tons of ore annually thereafter. The mining lease is subject to an order issued by the provincial government requiring us to complete primary production (smelting, processing or refining) in the Province of Newfoundland and Labrador of all minerals extracted under the lease. However, the government has also issued an order allowing us to export nickel concentrates containing up to 440,000 metric tons of contained nickel until we have completed the construction of a nickel processing facility in the Province. This mining lease can be renewed for further 10-year terms so long as we do not violate the terms of the lease and apply for renewal at least three months prior to the expiration of the current lease.

In conjunction with the mining lease for Voisey's Bay, we hold a surface lease entitling us to use certain lands necessary for our mining operations. Like the mining lease, the surface lease came into effect on September 30, 2002 for a period of 25 years, and may be renewed for further 10-year terms.

A mineral license is required to explore a parcel of land. We hold 1,978 mineral claims, which have been grouped into mineral licenses. The mineral licenses expire in 2014. There are no further renewal rights for these mineral licenses.

Indonesia—mining regulation

PT Inco's operations in Indonesia are conducted pursuant to a Contract of Work with the Indonesian government, which expires in 2025. The Contract of Work gives PT Inco the exclusive right to mine nickel and nickel-containing minerals in certain areas on the Island of Sulawesi and to process and export the nickel and associated minerals recovered from those areas. In exchange, PT Inco pays a royalty fee on, among other items, its nickel production on the concession area and has made certain other commitments. Until March 2008 the royalty was equal to 1.5% of revenues from sales of nickel products. As of April 2008, the royalty payment was changed to equal a fixed amount based on sales volume (US\$78 per metric ton).

In August 2008, we applied for permits to use forestry land located within the Contract of Work area and are in the process of providing supporting materials required for the forestry permits for Pomalaa.

Under the Contract of Work, PT Inco undertook to construct, subject to economic and technical feasibility, two additional production plants in Sulawesi, one in Pomalaa and another in Bahudopi. With respect to Pomalaa, we are reviewing the construction of a high-pressure acid leach processing facility to produce nickel hydroxide, an intermediate nickel product, with an annual production capacity of approximately 30,000 metric tons. We are also considering building a refinery at Bahudopi, with a capacity of approximately 30,000 metric tons per year to process the nickel hydroxide from Pomalaa. We plan to mine a saprolitic nickel orebody in Bahudopi. Ore from Bahudopi would be combined with ore from the Sorowako area to feed the existing pyrometallurgical processing facility in Sorowako. We are required to deliver a report to the Indonesian Department of Energy and Mineral Resources by the end of April 2009 evaluating the economic and technical feasibility of the construction of processing facilities at Pomalaa and Bahudopi. If PT Inco defaults on its obligations to build these facilities, these properties may have to be relinquished. We do not report reserves for the Bahudopi or Pomalaa areas.

In January 2009, a new Mining Law came into effect that introduces a new mining licensing scheme. The impact of the new Mining Law on PT Inco under the existing Contract of Work will remain unclear until implementing regulations have been promulgated, which is expected to occur by January 2010 at the latest. We are investigating the potential impacts that the new Mining Law on PT Inco's current operations and future prospects in Indonesia. Below are some of the issues raised under the new Mining Law.

- The new Mining Law provides that existing Contracts of Work remain in effect until their expiry, but it also requires the amendment of existing Contracts of Work to conform to the new Mining Law. It is unclear how these two provisions will be reconciled, but the government may require amendments to PT Inco's Contract of Work.
- PT Inco's Contract of Work covers an area of approximately 218,000 hectares, and it states that PT Inco is not subject to further relinquishment obligations. However, the new Mining Law provides for

a maximum exploration-phase area per license of 100,000 hectares and a maximum production-phase area per license of 25,000 hectares. Under the new Mining Law, PT Inco is required to submit to the government for approval a work plan for all areas (including those not currently in production) for the remainder of the term covered by the contract. If the work plan is not approved, the new Mining Law calls for our mining area to be adjusted to the limits set forth in the law. All of PT Inco's reported mineral reserves are located in Sorowako, South Sulawesi province, in an area that PT Inco is currently actively mining.

- It is unclear whether a Contract of Work holder will automatically obtain a mining business license (IUP or IUPK, as defined under the new Mining Law) once the Contract of Work expires. Based on current reserve estimates, PT Inco's life of mine plan for its Sorowako operations could last until 2037. We are unsure what the terms of any new mining license or renewal would be under the new Mining Law. If PT Inco is unable to continue its operations after its Contract of Work expires in 2025, we anticipate (assuming current rates of production) that approximately 92.2 million metric tons of our reported mineral reserves would be mineable prior to the expiry of the Contract of Work in 2025. Any further production would require adjustments to the life-of-mine plan.
- The new Mining Law includes provisions such as requirements for domestic processing and refining, a new articulation of the basis for the royalty regime, an additional payment obligation equal to 10% of net profit for IUPK holders, priority for local and national contractors and restrictions on use of affiliated companies.

In August 2008, the Minister of Energy and Mineral Resources announced a new regulation relating to the procedure for the determination of production limitations, which would permit the Minister to place a limit on PT Inco's production level. While a production quota policy is to be designated at the national level, individual limits are to be allocated on a region-by-region basis (down to the Regency level) for those regions where a particular mineral is located. In substance, the regulation conflicts with PT Inco's rights under its Contract of Work, which currently leaves the determination of production level at the discretion of PT Inco. It is unclear how the system will work, and it is possible that a governmental regulation relating to production limitations may be issued in connection with the new Mining Law.

New Caledonia—mining regulation

Concessions in New Caledonia generally represent long-term permits (usually 75-year terms, with some having longer or perpetual terms) granted for mining large deposits that entitle the holder to the exclusive right to exploit, extract and mine. A concession applies to one or several minerals defined by the granting decision along with its geographical location. The granting of a concession is based on the delineation of an exploitable ore body made during exploration activities conducted pursuant to exploration permits. Surface rights, which are rights to use surfaces on or outside mining permits for mining-related activities, can be granted independently of mineral rights.

Our 74%-owned subsidiary, Vale Inco Nouvelle-Calédonie S.A.S. ("Goro Nickel"), currently holds 67 mining concessions in the Massif du Sud in New Caledonia, covering 20,277 hectares and authorizing the mining of nickel, cobalt, chrome, iron ore and manganese. Our Goro project covers 6,571 hectares within eight of these mining concessions, of which four are perpetual in term, two are renewable prior to their expiry in 2016 and one is renewable prior to its expiry date in 2051. Goro Nickel holds 41 surface rights, including surfaces of other owners and an additional free land of the domain. A subsidiary of Vale Inco, Tiébaghi Nickel, holds an additional eight mining concessions outside the Goro project area, in a mining domain called Tiébaghi.

The enactment of a new mining law may occur as part of the Noumea Accord between New Caledonia and France. New Caledonia is an overseas territorial community (*collectivité territoriale*) of France with significant autonomy except in the areas of foreign relations, defense, judicial, currency and certain other related areas. The Noumea Accord sets forth a process and timetable for increasing the autonomy of New Caledonia over the coming years, with a referendum to be held by 2014 on whether New Caledonia should

become fully independent from France. Although we do not believe that these developments will have an adverse effect on the Goro project, there can be no assurances in this regard.

A mining law was passed in March 2009 that prohibits exporting ore from the Goro area and requires the ore to be processed in New Caledonia. In 2008, the South province's government, the owner of the seabed on which a pipeline is to be installed in order to evacuate the treated water from the plant, imposed a 1% royalty on the revenue of the business. The French State and Goro are challenging the legality of the royalty.

Railroad regulation

Brazil—railroad regulation

The Brazilian Ministry of Transportation and the transportation regulatory agency (Agência Nacional de Transportes Terrestres), or ANTT, regulate and supervise the policies of the railroad transportation sector. The federal government may grant private companies concessions for the construction, operation or commercial development of railroads.

Railroad concession contracts granted by the federal government impose certain shareholder ownership limitations. The concession contract for FCA limits shareholder ownership to 20% of the voting capital of the concessionaire, unless such limit is waived by ANTT. We own 99.9% of FCA, which ANTT has authorized. The 20% ownership limitation does not apply to our EFVM and EFC railroads. ANTT also sets different tariff limits for railroad services for each of the concessionaires and each of the different products transported. So long as these limits are respected, the actual prices charged can be negotiated directly with the users of such services.

The MRS concession contract provides that each shareholder can only own up to 20% of the voting capital of the concessionaire, unless otherwise permitted by ANTT. As a result of our acquisitions of CAEMI and Ferteco, our share in the voting capital of MRS surpassed this threshold. As a result, Vale waived its voting and veto rights with respect to MRS shares in accordance with a 2006 ANTT resolution. We continue to have some voting rights through the shareholdings of a subsidiary.

Our railroad concession contracts have a duration of 30 years and are renewable. The FCA and MRS concessions expire in 2026, and the concessions for EFC and EFVM expire in 2027. We also own the subconcession for commercial operation for 30 years of a 720-kilometer segment of the FNS railroad, in Brazil. This concession expires in 2037.

Electric energy regulation

Brazil—electric energy regulation

The power industry in Brazil is regulated by the Ministry of Mines and Energy and the regulatory agency ANEEL. The role of ANEEL is to implement and enforce policies and regulations designated by the Ministry of Mines and Energy and aimed at organizing and regulating the electricity sector and power companies. ANEEL is responsible for ensuring an efficient and economical energy market through regulation, enforcement, as well as monitoring prices and the operational efficiency of power companies.

Under the law governing the electricity sector, concessions grant exclusive rights to generate and transmit or to distribute electricity in a particular area for a period of time that should be sufficient for the concessionaire to recover its investment. The concessions for power generation before December 11, 2003 were granted for up to 35 years and are renewable at the Federal Government's discretion for an additional period of up to 20 years. Concessions for power generation granted after December 11, 2003 are granted for up to 35 years, without the possibility of renewal. Concessionaires (distributors) are required to supply electricity for public services, on a continuing basis, in sufficient quantity and within approved standards of quality.

All of our concessions for power generation in Brazil were granted before December 11, 2003. The next concession to expire has an expiration date in 2028.

Given the hydrologic and integrated nature of the Brazilian electricity generation matrix, Decree No. 2655/1998 created the Mecanismo de Realocação de Energia (Energy Reallocation Mechanism), known as MRE, a mechanism for sharing hydrological risk, and consequently reducing generation volatility among all generators. In order to implement the MRE, ANEEL designates a level of energy production, known as Assured Energy, for each generator that may be reviewed every five years. Assured Energy is calculated in accordance with a statistical model based on average rainfalls in the relevant region, water flows of rivers and water levels in each plant's reservoir over a multi-year time frame.

Each generator is allowed to enter into contracts to sell up to 100% of its Assured Energy. To the extent a generator has signed contracts for the sale of its Assured Energy, and as long as MRE members, as a whole, are able to meet MRE Assured Energy levels, it receives payments based on these contractual terms, regardless of its level of actual generation. If all MRE members meet their contracted energy and there is a surplus of energy remaining, the net regional surplus generation is allocated among generators in different regions and this energy surplus may be sold in the wholesale market.

All contracts for energy purchases and sales are currently recorded in the wholesale market, the Câmara de Comercialização de Energia Elétrica, or the CCEE. The CCEE is a nonprofit private entity subject to the authorization, regulation and supervision of ANEEL, and is responsible for operating the wholesale energy market and for ensuring that energy transactions in the short-term market are settled and cleared in an efficient manner. The CCEE is primarily designed to effect the settlement of differences between the amount of energy contracted under bilateral contracts of the several market agents (generators, distributors, traders and large consumers), and the amount of energy actually consumed and produced. The settlement is done in accordance with the CCEE spot prices, which are expressed in R\$/MWh and are calculated for each settlement period for each sub-market.

Under Law No. 10,848/2004 and the regulations promulgated pursuant to it, jurisdiction of certain regulatory areas is under the Ministry of Mines and Energy rather than ANEEL. Under this law, all consumers of electricity, including large consumers, such as Vale, must contract the totality of their energy needs through contracts. This law creates two parallel markets for energy: a regulated market, in which distributors enter into supply contracts with regulated customers, subject to regulated prices, and an unregulated market, in which *consumidores livres*, or “free consumers,” enter into contracts with independent power producers at prevailing market prices. Regulated consumers may migrate to the unregulated market, but only after the termination of their long-term contracts. Self-generators of energy, such as Vale, are required to provide a pre-determined percentage of their generated energy from concessions acquired after 2004 to the regulated market for distributors' acquisition.

Canada—electric energy regulation

The Canadian provinces are given significant jurisdictional responsibility in many key areas by the Canadian Constitution. The Constitution assigns jurisdiction over electricity and natural resources to the provinces, and as a result the Canadian electricity industry is primarily organized along provincial lines. As a consequence of this constitutional reality, as well as the variations in each province's political and physical environments, there are significant differences between the electricity industries of each of the provinces.

Federal level

In the context of the electricity industry, the federal sphere of responsibility is primarily derived from the constitutional authority over international and inter-provincial trade and commerce. As a result, the construction and operation of international transmission lines as well as the regulation of electricity exports to the United States are matters that fall within the authority of the National Energy Board, a federal regulatory tribunal. Canada's nuclear industry is also federally-regulated; this responsibility falls to the Canadian Nuclear Safety Commission. An additional important area of joint responsibility is that of environmental protection.

Responsibility for environmental matters (including the environmental assessment of electricity developments) is shared between the federal and provincial governments; which level of government may be paramount changes with various environmental, regulatory and government funding considerations.

Provincial level

With the exception of those areas of responsibility that are carved out for the federal government, as discussed above, most matters of electricity industry regulation and policy are addressed at the provincial level. Project developers must also obtain certain key environmental approvals at the provincial level.

Ontario

The power industry in Ontario is regulated by the Ontario Energy Board (the “OEB”). The OEB is responsible for setting rates and the licensing of all participants in the electricity sector in Ontario.

Under the legislative framework in Ontario, we are considered to be a generator, transmitter, distributor and retailer of electricity in Ontario. Pursuant to the Definitions and Exemptions Regulations under the Electricity Act (Ontario) and the Ontario Energy Board Act, the provincial government has decided for public policy reasons to exempt various parties from many of the regulatory requirements related to the electricity industry in Ontario, including rate regulation, licensing requirements, regulatory codes of conduct and financial record-keeping. It has exempted us from requirements applicable to our hydroelectric power plants. In order to maintain our exemption under these rules, we must, among other things, ensure that any price charged by us for transmitting or distributing electricity is no greater than the reasonable costs associated with transmission or distribution. In addition to meeting the requirements of the OEB, we are required to comply with the rules of the Independent Electricity System Operator (“IESO”) administered market.

Indonesia—electric energy regulation

Under Electricity Law No. 15 of 1985 as implemented by Government Regulation No. 10 of 1989 (the “Electricity Law”), the electric power supply business is primarily conducted by a state-owned electric utility company (“PLN”), but private entities licensed by the government may also engage in the electric power supply or generation business, subject to certain limitations. PT Inco’s existing hydroelectric power plants, which generate the majority of its electricity requirements, were constructed and are operated pursuant to a 1975 decree of the Indonesian government permitting private power generation under certain circumstances. We expect PT Inco to qualify for the “IUKS license,” which is available to a private entity that owns power generation facilities whose output is intended for its own purposes. An IUKS holder is generally permitted to sell its surplus of electricity to PLN.

The 1975 decree gives the government the right to acquire PT Inco’s hydroelectric power plants upon two years’ notice to PT Inco. No such notice has been given by the government. If this right were to be exercised, the decree provides that the hydroelectric power plants would be acquired by the government at their depreciated value, subject to the government providing PT Inco with sufficient electricity to meet its operating requirements, at a rate based on cost plus a normal profit margin, for the remaining term of PT Inco’s Contract of Work. The new hydroelectric dam that will be constructed as part of PT Inco’s latest expansion program is also expected to be subject to this decree.

Environmental regulation

Environmental legislation is becoming stricter worldwide, which could lead to greater costs for environmental compliance. For instance, if we are required to modify installations, develop new procedures or purchase new equipment, our environmental compliance costs could increase.

Australia—environmental regulation

Environmental regulation in Australia occurs through legislation at the federal, state and territory levels and, to a limited extent, the common law. For constitutional reasons, most environmental regulation occurs at

the state or territory level and affects operations conducted within that state or territory. Environmental laws impact our Australian operations, principally by regulating:

- the rehabilitation of disturbed land;
- the emission or discharge of pollutants from our facilities;
- the remediation and/or cleanup of any contamination;
- the construction of water storage structures / stream diversions;
- access to water (including overland flows, streams, groundwater and reservoirs/pipelines);
- the protection of biodiversity, including protected species and ecosystems;
- the protection of indigenous and European cultural heritage;
- the management, storage and disposal of waste and hazardous substances; and
- the protection of air quality, including control of ground vibration, noise and odor.

In order to conduct our mining, energy generation and industrial activities in Australia, we must undertake environmental impact studies and submit reports or statements to relevant authorities that oversee the granting of environmental approvals. We seek to comply with all legal requirements and to achieve good relationships with interested parties, especially with communities located near our operations. Our environmental management processes are designed to provide a systematic approach to protection of environmental and social values.

Mine tenement holders are required to rehabilitate areas disturbed by mining to a post mining land use, as agreed with stakeholders. The minimum requirement of post mining landforms is that they be safe, stable, self-sustaining and non-polluting. Conditions attached to planning consents and environmental licenses include rehabilitation completion criteria.

Financial deposits and third party undertakings must be lodged to cover the third party cost of carrying out rehabilitation works. The financial undertakings must be maintained until the completion criteria are satisfied and rehabilitation works are completed to agreed standards.

There is a range of consequences for breaching Australia's environmental laws. Penalties range from substantial fines and jail terms to warning notices. Other consequences include compensation, suspension or revocation of a license, or an order to control, prevent or lessen the environmental harm caused by an offense. Directors and managers can, in some instances, be personally liable for the offenses.

Carbon Pollution Reduction Scheme

The Australian government is introducing a Carbon Pollution Reduction Scheme ("CPRS") as part of a overall strategy to address climate change and its impact, both within Australia and globally. The government has made an unconditional commitment to reduce greenhouse gas emissions to 95% of 2000 levels by 2020 and a conditional commitment to reduce greenhouse gas emissions to 85% of 2000 levels by 2020 (provided that a global agreement by major economies is in place). Draft legislation was released in the first quarter of 2009, and the government's intention is to commence the CPRS on July 1, 2010.

The CPRS will be Australia's primary policy tool to drive reductions in emissions of the six greenhouse gases covered under the Kyoto Protocol. The scheme will put a price on carbon in a systematic way throughout the economy by employing a "cap and trade" mechanism. Under the CPRS, we will be required to acquire a permit for every metric ton of greenhouse gas emitted per year. The number of permits issued by the government each year will be limited and will decrease every year. We will be required to compete in the market to purchase the number of permits required, either through an auction process or on a secondary

trading market. The initial permit price is anticipated to be approximately A\$25, with a cap on prices of A\$40 for the first five years.

In the early years some concessions will apply, in particular in relation to the coal sector through a Climate Change Action Fund. Under this Fund, assistance of up to A\$250 million over five years will be provided to coal mine operations with high fugitive emissions to promote emissions abatement. A further A\$500 million over five years will be provided as direct assistance to gassy coal mines to assist them to adjust while they explore abatement opportunities.

We are taking steps to manage our exposure under the scheme including improving systems to monitor, measure and report greenhouse gas emissions, including cost of emissions in modeling for decision making purposes and identifying opportunities to reduce our carbon emissions.

Brazil—environmental regulation

Federal, state and municipal legislation contain provisions for the control and protection of the environment in Brazil. These laws govern the protection of vegetation, the use of natural resources, the reclamation and rehabilitation of mined areas, the control of atmospheric emissions, the treatment of industrial effluents, as well as the use, handling and final disposal of hazardous materials and the control of water resources.

In order to conduct our mining, energy generation and industrial activities, we must prepare environmental impact assessments and submit them to authorities that oversee the granting of environmental permits. We seek to comply with all legal requirements and to achieve good relationships with interested parties, especially communities located near our operations. Our environmental management system is designed to provide a systematic approach to environmental issues.

Under Brazilian Federal Law No. 9,605/1998, non-compliance with environmental laws and regulations can result in criminal penalties, such as imprisonment and other restrictions for individuals (including directors, officers and managers of companies), and fines and the mandatory rendering of public services by companies. Administrative penalties range from warnings and fines to the suspension of corporate activities, and may also include the loss or reduction of incentives, or the cancellation or interruption of credit facilities granted by governmental institutions.

Issuance of environmental licenses. We must obtain environmental licenses in order to build, develop, expand and operate facilities that use natural resources or may pollute the environment. License validities can vary from one to 10 years, and have to be renewed for the life of the undertaking. We seek to obtain the legally required licenses for each of our facilities and activities.

In some cases, this process requires a significant amount of time for the preparation of comprehensive environmental reports and their evaluation, as well as for the establishment of appropriate programs for environmental education of communities located in areas affected by the proposed projects. We enter into agreements with the appropriate federal and state governmental environmental authorities with respect to facilities whenever environmental non-compliance is detected in order to make these facilities compliant.

Environmental compensation. A federal environmental law (No. 9,985/2000) requires payment of “environmental compensation” to state and federal authorities, in order to create and maintain conservation areas. This law authorizes state governments to promulgate regulations setting forth a state-specific rate, which must be calculated for each project based on the degree of environmental impact caused. There are a number of uncertainties regarding the application of this law, including the rate that will be applied by the state governments and the basis for valuing investments.

Protection of vegetation. All of our projects in Brazil are located in areas subject to federal environmental laws, like the Brazilian Forest Code and the legal reserves decree. In order to develop projects in areas such as the Amazon region and the Brazilian savanna, we must maintain a certain amount of land

undeveloped for environmental conservation. In the Atlantic Forest, which is protected by specific laws aimed at ensuring its sustainable development, we are required to set aside land for conservation that must be equivalent in both area and in ecological characteristics to any land that we use for mining activities in the forest. Additionally, mining activities in certain areas of the Atlantic Forest are restricted depending on the stage of vegetation growth.

Prevention and environmental control measures. Our environmental policies also aim to prevent, control and reduce the environmental impact caused by our business operations. We invested US\$310 million in environment-related projects in 2008 in Brazil.

Water use. We are intensive water users in various states with hydrological resources that vary from very high water availability in the Amazon region to scarcity in the northeast of Brazil. The Hydrological Resources Management System implemented throughout Vale includes evaluation of the availability of water in the areas where we operate and programs to rationalize and control water use. We continually monitor new water legislation and regulations and take particular interest in requirements adopted under the National Policy of Hydrological Resources, which defines the conditions for obtaining water use grants and the fees applicable to that use and for effluents disposal.

Environmental control systems. As a mining company, air emissions control is one of our main objectives. Control equipment and systems, such as stockpiles and road water aspersion and use of chemical dust suppressants or installation of filters and electrostatic precipitators at our facilities are complemented by comprehensive monitoring systems and control software. Besides achievement of legal compliance, air quality in the installations and its effects in the neighboring communities are continuously evaluated, and we believe we make the necessary investments for air quality improvement.

With respect to improvements in water quality, we strive to treat and control the pollutants discharged into the sea and local rivers or other water bodies and also use extensive water recycling in our operations. We are researching new processes and technologies for the improvement of water use and recycling and treatment. Through our comprehensive waste management system, we aim to achieve greater control of the generation and disposal of our waste, to develop opportunities to reuse, recycle and to reduce waste.

Our mine decommissioning guidelines describe a complete set of directives, including technical practices and procedures to be followed during mine closures. The guidelines outline procedures for the rehabilitation and monitoring of degraded areas, the main steps and sequence to be followed during closure, and any liabilities that may result after mine closure. The guidelines also provide standardized basic criteria and procedures, based on the directives of the CVM and the SEC (FAS 143), for cost evaluation, the establishment of current budgets, future decommissioning and reclamation (see Note 3 to our consolidated financial statements).

The mines water and tailings storage dams and waste rock deposits are classified according to a risk matrix involving all the parameters related to construction, operation and safety monitoring. A comprehensive audit program has been established, which evaluates the stability of all those structures and provides the inputs for the development of corrective or preventative action plans when necessary.

Our environmental program also includes reclamation projects intended to (i) protect against soil erosion, (ii) create buffers between our activities and communities in surrounding areas, and (iii) maintain biodiversity through ecosystem restoration. We partner with universities and governmental research entities to conduct extensive research on methods for ecosystem protection. We regularly perform comprehensive fauna and flora investigations to minimize the environmental risks related to investing in potentially sensitive areas.

We participate in the conservation of Brazilian ecosystems by leaving land undeveloped and protecting certain private lands. We also participate in the conservation of lands located in federally-designated "Conservation Units" and develop and support research on biodiversity. In the last three decades, we have also provided support to indigenous communities in the areas of education, health, infrastructure development and technical assistance with the aim of enhancing quality of life and self sufficiency in these communities.

Subterraneous development. A suit challenging a new Brazilian environmental decree that permits mining in certain subterraneous areas may adversely affect our ability to conduct some mining operations.

Canada—environmental regulation

Our operations in Canada are subject to numerous environmental laws and regulations relating to air emissions, water discharges, soils, recycling and waste management, decommissioning and reclamation, and employee health and safety, among other areas.

Sulfur dioxide (SO₂) and metals emissions reduction in Ontario. Our Sudbury smelting operations are subject to legislation of the Ontario government requiring Vale Inco to significantly reduce its emissions of sulfur dioxide. In 2008, total SO₂ emissions from our Sudbury operations were below the legislated limit of 175,000 metric tons. By 2015, the SO₂ annual emission limit will fall to the federal emission reduction target of 66,000 metric tons. Compliance with the federal emission reduction target will require significant capital expenditures.

A separate regulation, “R419/05 Air Pollution—Local Air Quality,” was passed in November 2005. New air quality standards and compliance requirements, demonstrated by both measurement and air dispersion modeling, will be phased in between 2010 and 2020 for different industrial sectors. These standards will apply to Vale Inco in February 2010. Vale Inco completed its assessment and determined that the Copper Cliff Smelter Complex would not meet the compliance requirements for nickel dust emissions. In October 2008, we applied to the Ministry of Environment for an alternative standard for nickel at this facility for a five-year period, and we are awaiting formal feedback. There are provisions in the regulation for applications for extensions. In addition, there are provisions within the regulation for the Ministry to further review and reduce emission limits even further on a priority basis.

As part of the Atmospheric Emission Reduction Project, internally referred to as the “AER,” we are currently investigating the best available technologies and operating options to meet the lower 2015 SO₂ limit and the reduced metal ambient air concentration limits. The AER project team is staffed by the senior management of our Ontario operations. Compliance with both emission limits will require significant capital expenditures, estimates of which are included in our five-year capital plan.

Sulfur dioxide (SO₂) and particulate emissions reduction in Manitoba. Emissions from our Thompson smelting operations are also regulated under Manitoba legislation limiting SO₂ emissions to 23,000 metric tons per month (on a four-month rolling average) and 187,000 metric tons per calendar year. In 2008, emissions from our Thompson operations were within these limits.

In April 2006, the federal government, through Environment Canada, encouraged base metal smelters and refineries to voluntarily prepare “Pollution Prevention Plans,” addressing “limit targets” for SO₂ and particulate emissions. For Manitoba, the limit targets for 2015 are 22,800 metric tons for SO₂, 198 metric tons for particulate and a 90% reduction of the Canadian Environmental Protection Act (“CEPA”) toxic metals from the 1988 baseline. These target levels are lower than the current emission limits and we will not be able to meet these targets without making significant capital expenditures. Compliance with these targets could adversely affect our financial results and cash flow, particularly for our Thompson operations.

Sudbury and Port Colborne soils. We have been working with regulatory authorities and other interested parties to evaluate elevated levels of nickel and other metals in soils in the vicinity of our processing facilities in Sudbury and Port Colborne, Ontario that may be related to the historical emission of windblown metal-containing particulates. We voluntarily agreed to conduct detailed risk assessments in Port Colborne, and methodologies for soil remediation have been evaluated there. Any efforts we are required to undertake to investigate or remediate these matters may involve significant expenditures. Given the existence of various legal appeals and scientific and medical studies underway, it is not possible to predict the effect these studies and actions could have on our business, results of operation or financial condition.

Canadian regulations for greenhouse gases and air pollutants. In April 2007, the Canadian government announced the Regulatory Framework for Industrial Air Emissions, proposing intensity targets for greenhouse gases and regulated emission targets for certain air pollutants. Compliance with the greenhouse gas targets will require investment in our Canadian operations and/or the purchase of carbon allowances or offsets through a proposed Canadian Carbon Emissions Trading System. Compliance with the proposed regulatory targets for air pollutants are anticipated to be similar to the requirements in progress through the previously discussed Pollution Prevention Plan. However, at this stage in the legislative process, it is unclear whether additional operating or capital expenditures will be required to comply with enacted amendments or what effect these regulations will have on our business, financial results or cash flow from operations.

Canadian Environmental Protection Act. Pursuant to CEPA, in 2006 the federal government categorized approximately 23,000 chemical substances in terms of two criteria: (a) persistence, bioaccumulation, and inherent toxicity to the environment; and (b) high hazard to humans with a high likelihood of exposure to individuals in Canada. For substances that meet either or both criteria for categorization, screening or detailed assessments must be undertaken and, if deemed necessary, risk management measures may be required. In late 2006, the government began a study of 200 high-priority chemical substances. Cobalt and cobalt chloride are among these chemicals, and specific studies with respect to them could begin in early 2009. We cannot predict what impact the CEPA data challenge will have on our business, financial results or cash flow from operations; however, previous assessments on nickel compounds have had no material impact on our operations.

Sulfur dioxide (Canada and United States). In 2008, the American Conference of Governmental Industrial Hygienists (“ACGIH”) ratified a new threshold limit value for sulfur dioxide in the workplace. This new ACGIH value will be legally binding in the Province of Manitoba in 2009. The approach taken by the ACGIH in setting the new limit has deviated significantly from their past practices and focused solely on short term exposure. The new limit is effectively an order of magnitude lower than the previous limit and will represent a significant challenge for compliance. In the near term, workplace exposures will be managed with procedural improvements and with the use of personal protective equipment. The potential future impact of the new limit on our financial performance, including capital investment and compensation claims, is unclear at this time.

Permitting for new operations. In August 2008, Vale Inco Newfoundland & Labrador Limited was formally released from the need for further environmental assessments on its proposed hydrometallurgical commercial processing facility in Long Harbour. As of February 2009, the project is currently awaiting a permit for residue storage in Sandy Pond. This permit is required before construction of the facility can begin. It is anticipated that remaining technical issues will be resolved and that a permit will be granted in 2009.

Indonesia—environmental regulation

PT Inco’s operations are subject to environmental regulations and permits issued by the Indonesian government. PT Inco’s environmental, health and safety policy includes a commitment to meet or exceed these requirements. In 2008, full compliance with stack particulate emission limits was achieved following the complete implementation of bag house filters on all furnaces in 2007, at a capital cost of US\$62 million. The site remained in compliance in 2008 with regulations concerning suspended solids in runoff water and virtually all metals levels, including soluble nickel.

We are currently implementing an SO₂ mitigation feasibility study on alternatives to reduce stack SO₂ discharge levels so that compliance can be consistently achieved. This program, which has been approved by the Indonesian government, includes monitoring and engineering assessments of available mitigation technologies.

In September 2007, a new discharge regulation for nickel mining and processing activities was released by the Ministry of the Environment. This lowered the acceptable level of chromium 6 from 0.5 milligrams per liter to 0.1 milligrams per liter. A detailed engineering study was completed in 2008 to address this new

regulation. The measures we are taking should be sufficient to ensure a high level of confidence regarding compliance with this new regulation.

Environmental performance at the site was recognized by the government in the form of a gold award for rehabilitation (for the second consecutive year), and an improved rating in the government's Program for Pollution Control, Evaluation, and Rating ("PROPER").

New Caledonia—environmental regulation

Our Goro project is subject to French and New Caledonian environmental regulations. Environmental baseline monitoring, particularly for the marine environment, continued in 2008. In preparation for the operation phase, a new tree nursery capable of producing over 260,000 seedlings was constructed and began operations in 2008. We expect to increase the nursery capacity to 1 million seedlings in 2013. In September 2008, we entered into a community agreement with respect to the Goro project. The agreement sets forth social and environmental goals. The authorities granted us operating permits in October 2008.

European regulation of hazardous substances

REACH. The European Commission has adopted a European Chemicals Policy, known as REACH ("Registration, Evaluation, and Authorisation of Chemicals"). REACH establishes a system for the management of chemicals that are manufactured in or imported into the EU. It is possible that our ability to sell certain of our products into Europe, particularly nickel products, will be adversely affected by the application of REACH to chemical substances associated with our products.

Under REACH, manufacturers and importers will be required to register new substances prior to their entry into the European market. There is a phase-in period for registering existing substances based on volume and hazard, provided that the substances were pre-registered within a six-month window during 2008. Except where specifically exempted from REACH registration, all existing substances manufactured in or imported into EU by us were pre-registered. In addition, the uses of certain substances deemed to be of very high concern, including some nickel and cobalt substances, will be subject to an authorization process. Details about how the authorization process will work in practice remain to be determined.

Comprehensive legislative review and risk assessment. EU Regulation 793/93 (EEC), a regulation covering the evaluation of the risks of and controls for existing substances, includes five nickel substances (nickel sulphate, nickel chloride, nickel nitrate, nickel carbonate and nickel metal) as targets. The Danish Environmental Protection Agency (the "Danish EPA") was appointed the principal agency for conducting risk assessments on these substances. The final draft of the Human Health risk assessment was completed in early 2006 and the final draft of the Environmental Risk Assessment was completed in 2008. In 2009, it is expected that the final, combined risk assessment document will be published.

To date, the risk assessment documents have led to hazard classifications (or reclassifications) of approximately 145 nickel compounds in world commerce. At this time, due to other legislative changes in the EU, the legal enforceability of the hazard classifications is unclear. We are currently assessing compliance plans and business implications.

International—environmental regulation

ISO and OHSAS certifications. Our environmental management system is based on the International Organization for Standardization ("ISO") standard 14001. We have ISO 14001 certificates covering:

- iron ore and pelletizing operations (Alegria, Timbopeba, Água Limpa, Fábrica Nova, Fazendão, Cauê, Conceição, Córrego do Feijão, Brucutu, Morro da Mina, Gongo Soco, Fábrica, Mutuca, Tamanduá, Capitão do Mato, Pico, Capão Xavier, Jangada, Aboboras, Mar Azul and Carajás mines and Fábrica and Tubarão pelletizing plants);
- manganese and ferroalloys plants (Azul and Morro da Mina mines and Vale Manganèse France);

- nickel operations (Clydach Refinery, Vale Inco Japan Matsuzaka Plant, Jinco Nonferrous Metal, IATM Dalian, IATM Shenyang and Taiwan Nickel Refining Corporation);
- precious metals operations (Acton Refinery);
- port operations (Tubarão port and Itaguaí maritime terminal);
- aluminum operations (Alunorte, Albrás and Valesul); and
- kaolin production facilities (PPSA and CADAM).

Samarco and MRN are also certified under this standard. We also have obtained OHSAS 18001 certificates for the MBR system, Clydach refinery, Acton refinery, as well as the operations of our IATM Dalian & IATM Shenyang, Taiwan Nickel Refining Corporation (“TNRC”) and Jinco Nonferrous Metals Co. subsidiaries. TNRC is OHSAS 18001 certified.

Harmonization of classification and labeling of chemicals. The Globally Harmonized System (“GHS”) is a global hazard classification and compatible labeling system for chemicals published by the United Nations. Although adoption of the GHS standard by individual countries is voluntary, the Plan of Implementation of the World Summit on Sustainable Development encouraged countries to implement the GHS as soon as possible with a view to having the system fully operational by 2008.

Implementation has been fragmented and has taken longer than expected. Some countries, such as Japan, Korea, and Taiwan, have so far implemented the GHS for workplace hazard communication purposes only. In 2009, the International Maritime Organization and Europe will implement the GHS for transportation purposes. Most countries are in partial stages of implementation with a work plan to completely adopt the GHS standard over the next several years. We do not believe that the adoption of the GHS will have a material impact on the results of operations or on financial conditions; however, additional transportation requirements may be implemented for some materials under the GHS rules.

Investment Canada Act undertakings

We made a number of undertakings to the Canadian Minister of Industry in connection with his approval in 2006 of our acquisition of Vale Inco. We believe we are substantially in compliance with these undertakings, which are briefly described below.

Creation of a Canada-based global nickel business. We committed to locate the headquarters of our global nickel business in Toronto, Ontario and gave Vale Inco a mandate to expand its business as a global leader in the nickel industry. In furtherance of this mandate, we have transferred management responsibility for our interest in existing and future nickel projects to Vale Inco, including our interest in the Onça Puma and Vermelho projects in Brazil. We also undertook, for at least three years from the date of acquisition, not to carry out any layoffs at Vale Inco’s Canadian operating facilities, and to maintain aggregate employment at such facilities at no less than 85% of the aggregate employment level as of the date on which the acquisition occurred.

Acceleration of Voisey’s Bay development project. We undertook to fully support the Voisey’s Bay development project.

Enhanced investments in Vale Inco’s long-term future. To help strengthen Vale Inco’s position as a leader in the global nickel mining business and contribute to ensuring the long-term viability of Vale Inco’s operations in Sudbury and Thompson, we undertook to increase Canadian expenditures in a number of areas, including mineral exploration and research and development, for a three-year period from the date of the acquisition.

Corporate social responsibility. We undertook to increase spending on employee programs in Canada for a three-year period from the date of the acquisition. We also undertook to increase spending on environmental compliance programs in Canada over that same period.

Continuing contributions to communities. We undertook to maintain Vale Inco’s involvement and commitment to the growth of Ontario’s mining cluster, including its membership in the Mineral Industry Cluster Council. We agreed to respect all agreements entered into by Vale Inco with provincial governments, local governments, labor unions and aboriginal groups, including the Labrador Inuit Association and the Innu Nation, in Canada. We also undertook to honor all commitments made by Vale Inco with regard to the funding of educational institutions in Canada, including commitments made with respect to the Centre for Excellence in Mining Innovation at Laurentian University in Sudbury, Ontario.

Each of the undertakings made by us to the Canadian Minister of Industry is subject to the “Investment Canada Act, Guidelines—Administrative Procedures, Monitoring of Investments.” Among other things, these guidelines state that performance is judged in the context of overall results and that an investor who is unable to fulfill a commitment will not be held accountable where such inability is a result of factors clearly beyond its control.

CAPITAL EXPENDITURES

During 2008, we made capital expenditures and other investments of US\$10.319 billion, of which US\$7.519 billion was on organic growth, composed of US\$6.457 billion on projects and US\$1.063 billion on research and development, while US\$2.672 billion was invested in maintaining existing operations. Research and development expenditures are treated as a current expense for accounting purposes.

In October 2008, our Board of Directors approved an investment budget for 2009 of US\$14.235 billion. We will implement the investment budget in accordance with market conditions. The amount of our investment will depend on various factors, including changes in exchange rates relative to our basic assumptions, prices of equipment and engineering services, the scope of projects and the pace of project execution. Of the total 2009 budget, 81.8%, or US\$11.652 billion, is allocated to expenditures for organic growth. Of this amount, US\$10.178 billion is budgeted for project execution, and US\$1.473 billion is budgeted for research and development, of which US\$736 million is allocated to mineral exploration. The remaining US\$2.584 billion is budgeted for investments to support existing operations.

The following table summarizes by major business area the breakdown of our capital expenditures in 2007 and 2008 and our investment budget in 2009.

| | 2007 | | 2008 | | 2009 budget | |
|-----------------------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|
| | (US\$ million) | (% of total) | (US\$ million) | (% of total) | (US\$ million) | (% of total) |
| Ferrous minerals | US\$1,748 | 15.9 | US\$2,171 | 21.0 | US\$4,179 | 29.4% |
| Non-ferrous minerals | 3,988 | 36.2 | 4,614 | 44.7 | 4,785 | 33.6% |
| Logistics | 977 | 8.9 | 1,952 | 18.9 | 3,027 | 21.3% |
| Coal | 169 | 1.5 | 392 | 3.8 | 808 | 5.7% |
| Energy | 165 | 1.5 | 406 | 3.9 | 822 | 5.8% |
| Steel | 279 | 2.5 | 146 | 1.4 | 357 | 2.5% |
| Other | 298 | 2.7 | 510 | 4.9 | 257 | 1.8% |
| Acquisitions | 3,379 | 30.7 | 128 | 1.2 | — | — |
| Total | <u>US\$11,004</u> | <u>100%</u> | <u>US\$10,319</u> | <u>100%</u> | <u>US\$14,235</u> | <u>100%</u> |

The following table describes our expenditures for our main investment projects in 2008 and our budgeted expenditures for projects in 2009, together with estimated total expenditures for each project. All figures in the table are presented on a cash basis. For a description of the status of each of the projects in the table, see —*Lines of business*.

| Business area | Project | Actual | Budgeted | |
|---|--|---------------|-----------------------|-----------------------|
| | | 2008 | 2009 | Total capex(1) |
| | | | (US\$ million) | |
| Ferrous minerals and logistics. | Carajás 130 mtpy iron ore mine | 500 | 798 | 2,478 |
| | Carajás - additional 10 mtpy iron ore mine | 17 | 84 | 290 |
| | Fazendão iron ore mine | 79 | — | 233 |
| | Serra Sul (mine S11D) iron ore mine | 58 | 675 | 11,297 |
| | Apolo iron ore mine | 2 | 54 | 2,509 |
| | Vargem Grande pelletizing plant | 501 | 17 | 1,192 |
| | Tubarão VIII pelletizing plant | 82 | 527 | 636 |
| | Oman pelletizing plant | 77 | 458 | 1,356 |
| | Northern Corridor | 212 | — | 956 |
| | Southeastern Corridor | 205 | 163 | 553 |
| | Litorânea Sul railroad | — | 107 | 935 |
| Non-ferrous minerals. | Onça Puma nickel mine | 985 | 597 | 2,297 |
| | Goro nickel mine | 1,063 | 520 | 4,083 |
| | Totten nickel and copper mine | 41 | 112 | 362 |
| | Voisey's Bay nickel refinery | 68 | 47 | 2,177 |
| | Salobo copper mine | 223 | 459 | 1,152 |
| | Salobo expansion copper mine | — | 39 | 855 |
| | Tres Valles copper mine | 34 | 56 | 102 |
| | Bayovar phosphate mine | 51 | 279 | 479 |
| | Paragominas II bauxite mine | 68 | — | 196 |
| | Paragominas III bauxite mine | — | 81 | 487 |
| | Alunorte: stages 6 & 7 - alumina refinery | 320 | — | 846 |
| | CAP Alumina refinery | 7 | 405 | 2,200 |
| Coal | Moatize coal mine | 143 | 444 | 1,322 |
| | Carborough Downs coal mine | 136 | 138 | 330 |
| Energy. | Barcarena thermal power plant | 53 | 314 | 898 |
| | Estreito hydroelectric power plant | 159 | 149 | 514 |
| | Karebbe hydroelectric power plant | 60 | 119 | 410 |

(1) Estimated total capital expenditure cost for each project.

Item 4A. *Unresolved staff comments*

None.

Item 5. *Operating and financial review and prospects*

OVERVIEW

The year 2008 saw the end of a long period of growing demand and rising prices for minerals and metals that began in 2002. The acceleration of the global financial crisis since September 2008 precipitated a dramatic change in the pace of economic activity around the world. The ensuing heightened levels of uncertainty and retrenchment in the demand for minerals and metals resulted in a weaker operational and financial performance in the fourth quarter of 2008.

We have been very proactive in responding to the deterioration of the economic environment. Production cutbacks, involving primarily the shutdown of higher-cost operational units, and the implementation of new strategic priorities are the main components of our fast reaction to the global recession. Cost minimization, operational and financial flexibility and reconciliation of cash preservation with the pursuit of profitable growth options have assumed great importance to deal with the current scenario. Given powerful cash

generation, large cash holdings and a low-risk debt portfolio, we are able to develop projects based on the merits of each growth opportunity and unconstrained by short-term cash restrictions.

Despite the sharp economic downturn in the fourth quarter, the year 2008 was our sixth consecutive year of record growth in revenues, operating income and net income. Our growth in 2008 reflected strong results for the first nine months of 2008 relative to the same period of 2007, which more than offset a weaker fourth quarter. Below are the main highlights of Vale's performance in 2008.

- Record sales volumes of iron ore (264 million metric tons), nickel (276,000 metric tons), copper (320,000 metric tons), alumina (4.2 million metric tons), cobalt (3,087 metric tons), precious metals (2.4 million troy ounces), platinum group metals (411,000 troy ounces) and coal (4.1 million metric tons).
- Gross operating revenue of US\$38.5 billion, a 16.3% increase over 2007, mainly due to higher prices.
- Net income of US\$13.2 billion, or US\$2.61 per share on a fully diluted basis. This was an 11.9% increase over 2007. The increase in net income was driven primarily by an 11.8% increase in operating income, reflecting a 16.1% increase in net operating revenue.
- Net income for 2008 included a charge of US\$950 million for impairment of goodwill we recorded upon the acquisition of Vale Inco.
- The acceleration of the global financial crisis in the fourth quarter of 2008 resulted in weak demand for our iron ore and iron ore pellets and substantial price declines for non-ferrous minerals. In contrast to the significant gains in the first nine months of 2008, when net income was 28.1% higher than in the same period of 2007, net income in the fourth quarter of 2008 was 46.9% lower than in the fourth quarter of 2007. Net income in the fourth quarter of 2008 was 71.6% lower than in the third quarter of 2008, mainly due to the goodwill impairment charge recognized in the fourth quarter, which in turn reduced net income by 19.7% compared the third quarter of 2008.

In parts of the following discussion, we draw comparisons between the third and fourth quarters of 2008 to show the effects of the significantly different market conditions in the fourth quarter.

Demand and prices

The following table sets forth our average realized prices for our principal products for each of the periods indicated.

| | Year ended December 31, | | | Three months ended |
|------------------------------|---|-----------|-----------|--------------------|
| | 2006 | 2007 | 2008 | December 31, 2008 |
| | (US\$ per metric ton, except where indicated) | | | |
| Iron ore | 40.00 | 45.33 | 67.32 | 73.92 |
| Iron ore pellets | 75.21 | 78.62 | 131.76 | 145.25 |
| Manganese | 70.60 | 107.34 | 350.46 | 393.44 |
| Ferroalloys | 886.97 | 1,311.48 | 2,709.60 | 2,603.77 |
| Nickel | 31,981.53 | 37,442.28 | 21,662.14 | 11,926.62 |
| Copper | 6,380.84 | 6,611.27 | 6,331.07 | 3,041.35 |
| Kaolin | 164.78 | 195.88 | 194.06 | 185.95 |
| Potash | 195.09 | 264.09 | 591.18 | 676.47 |
| Platinum (US\$/oz) | 1,115.59 | 1,314.25 | 1,557.07 | 865.27 |
| Cobalt (US\$/lb) | 14.93 | 24.56 | 31.01 | 19.68 |
| Aluminum | 2,558.76 | 2,784.70 | 2,805.86 | 2,470.15 |
| Alumina | 343.99 | 338.76 | 348.42 | 321.59 |
| Bauxite | 30.46 | 36.08 | 41.47 | 41.67 |
| Coal: | | | | |
| Thermal coal | – | 53.73 | 85.38 | 93.32 |
| Metallurgical coal | – | 67.37 | 170.55 | 256.25 |

Iron ore and iron ore pellets

Demand for our iron ore and iron ore pellets is a function of global demand for carbon steel. Demand for carbon steel, in turn, is strongly influenced by global industrial production.

In general, our iron ore sales are made pursuant to long-term supply contracts, which provide for annual price adjustments. Iron ore and iron ore pellets are not priced like commodities because of the wide array of quality levels and physical characteristics. Various factors influence price differences among the various types of iron ore, such as the iron content of specific ore deposits, the various beneficiation and purifying processes required to produce the desired final product, particle size, moisture content, and the type and concentration of contaminants (such as phosphorus, alumina and manganese ore) in the ore. Fines, lump ore and pellets typically command different prices.

Our 2008 reference prices for iron ore fines increased by 65%, and prices for our iron ore pellets were 86.67% higher than in 2007. Carajás iron ore fines were priced at a premium of US\$0.0619 per dry metric ton Fe unit over the 2008 reference price for fines from the Southeastern and Southern Systems. In 2008, demand for iron ore and iron ore pellets exceeded our production capacity in the first nine months of the year, but it declined in the fourth quarter, when global steel production contracted 19.5% compared to the prior quarter.

The global financial crisis has had a strong negative impact on our markets for iron ore and iron ore pellets. Following 10 years of substantial increases in both Chinese steel production and imports of iron ore, Chinese economic growth decelerated sharply in the fourth quarter of 2008, as a result of a tightening domestic credit market and slowing exports. The contraction of China's credit market has significantly impeded growth in the Chinese real estate sector, one of the largest consumers of steel in the country. Although the Chinese government has been increasing expenditures on infrastructure and public housing, launching tax incentives, and taking measures to ease credit tightness, there is uncertainty about the extent and duration of the current economic downturn. Furthermore, the European economy may recover more slowly than other regions, which would negatively affect the volume of our shipments of iron ore and iron ore pellets to this region.

Notwithstanding its severity, we believe the global cyclical downturn will not disrupt long-term economic development of emerging market economies and structural changes over the last years that have caused a

rapid expansion in the demand for minerals and metals, especially iron ore. In addition, China, the world's largest steel producer, has been increasingly dependent on imported iron ore, and we expect this trend to continue in the foreseeable future.

Manganese and ferroalloys

The prices of manganese ore and ferroalloys are influenced by trends in the carbon steel market. Ferroalloy prices are also influenced by the prices of the main production inputs, such as manganese ore, power and coke. Price negotiations for manganese ore are held mainly on a spot or quarterly basis. Ferroalloy prices are settled on a quarterly basis.

In 2008, our average realized price for manganese ore was 226.5% higher than in 2007. After peaking mid-year, manganese prices dropped in the fourth quarter of 2008 due to weakening demand. In 2008, our average realized price for ferroalloys was 106.4% lower than in 2007.

Nickel

Prices for our nickel products generally reflect prices at the LME, the principal terminal market for primary nickel in the world. Our nickel price realizations tend to lag LME cash nickel price movements, due primarily to the terms of our contractual sales arrangements with certain customers. Given our high product quality, we typically realize a premium over prevailing LME cash prices for our finished nickel products.

Demand for nickel, which is mainly used to produce stainless steel, is strongly affected by stainless steel production. In 2008, demand for nickel for stainless steel production was weak, and rising nickel inventories kept prices under pressure. Nickel demand for sources of consumption other than stainless steel production, which represents approximately 40% of global nickel consumption, declined in the second half of 2008. The average LME spot price of nickel in 2008 dropped 43.4% relative to 2007, to US\$21,027 per metric ton. In the fourth quarter of 2008, the LME spot price of nickel declined 42.6% compared to the third quarter of 2008, to US\$10,885. Stainless steel production declined 8% from 2007 levels, due to inventory de-stocking and the global demand contraction. Production fell 2% in the first half of 2008 compared to the same period of 2007, then declined 13% in the second half of 2008 compared to the same period of 2007.

Primary nickel (including ferro-nickel, nickel pig iron and nickel cathode) and secondary nickel (i.e. scrap) are competing nickel sources for stainless steel production. The choice between different types of primary and secondary nickel is largely driven by their relative prices and availability. In 2008, the stainless steel scrap ratio is estimated to have remained relatively unchanged compared to 2007, at 49%. Nickel pig iron production is estimated to have declined approximately 17% in 2008 relative to 2007, given depressed primary nickel prices and high production costs for nickel pig iron. In 2008, nickel pig iron represented approximately 5% of the global supply of primary nickel, compared to 6% in 2007.

Despite the cyclical dynamics of the stainless steel industry, we continue to have a positive long-term outlook for nickel. At the end of 2008 and in early 2009, stainless steel production remained weak in the United States, Europe and Japan, although there were some signs of improvement in China. Per capita consumption of stainless steel in high-growth emerging market economies is still low, and strong growth potential remains for nickel demand from non-stainless steel applications.

Aluminum

Our sales of aluminum are made at prices based on prices on the LME or the New York Mercantile Exchange ("NYMEX") at the time of delivery. Our prices for bauxite and alumina are determined by a formula linked to the price of aluminum for three-month futures contracts on the LME and to the price of alumina FOB Australia.

In 2008, demand and prices for aluminum declined as a result of the global economic downturn. The average LME spot price of aluminum declined 3.2% in 2008 relative to 2007, to US\$2,554 per metric ton. In

the fourth quarter of 2008, the average LME spot price of aluminum declined 35.5% compared to the third quarter of 2008.

Copper

Growth in copper demand in recent years has been driven primarily by Chinese imports. Copper prices are determined on the basis of (i) prices of copper metal on terminal markets, such as the LME and the NYMEX, and (ii) in the case of intermediate products such as copper concentrate and copper anode (which comprise most of our sales), treatment and refining charges negotiated with each customer. Under a pricing system referred to as MAMA (“month after month of arrival”), sales of copper concentrates and anodes are provisionally priced at the time of shipment, and final prices are settled on the basis of the LME price for a future period, generally one to three months after the shipment date.

In 2008, the copper market was negatively affected by the global economic slowdown. World average copper prices on the LME dropped 5.1% in 2008 compared to 2007. In the fourth quarter of 2008, the LME spot price of copper declined 52.8% compared to the third quarter of 2008. In the medium term, however, we expect copper supply to remain limited. Existing copper mines are subject to a natural decline in grade, and a meaningful increases in global mine capacity is unlikely, given the absence of any significant project in an advanced development stage.

Coal

Demand for metallurgical coal is driven by demand for steel, especially in Asia. Demand for thermal coal is closely related to electricity consumption, which will continue to be driven by global economic growth, particularly from emerging markets economies.

Price negotiations for metallurgical coal are mainly held on an annual basis. Price negotiations for thermal coal are held both on a spot and annual basis.

Coal prices have increased in the past several years, but we expect current economic conditions to revert this trend in the short- to medium-term. In 2008, the average sale price of metallurgical coal was 153.2% higher than in 2007, at US\$170.55 per metric ton. The average sale price of thermal coal was 58.9% higher than in 2007, at US\$85.38 per metric ton.

Logistics

Demand for our transportation services in Brazil is primarily driven by Brazilian economic growth, mainly in the agricultural and steel sectors. Cargo volumes declined in 2008 due to a reduction in the transportation of agricultural products, particularly grains, as a result of weaker Brazilian exports during the year. Our logistics businesses were also negatively affected by the reduction of Brazilian steel output and pig iron exports in the fourth quarter of 2008.

We earn our logistics revenues primarily from fees charged to customers for the transportation of cargo via our railroads, port and ships. Our railways generate most of these revenues. Nearly all of our logistics revenues are denominated in *reais* and subject to adjustments for changes in fuel prices. Prices in the Brazilian market for railroad services are subject to ceilings set by the Brazilian regulatory authorities, but they primarily reflect competition with the trucking industry.

Production capacity

Capacity expansions are a key factor affecting our revenues. We continue to invest in increasing capacity in several facilities, but we are managing expansion projects in accordance with ongoing assessments of market conditions. The following expansion projects started production in 2008.

- In our iron ore business, Fazendão started up in the first quarter of 2008, with annual production capacity of 15.8 million metric tons of run-of-mine.

- In our nickel business, we completed the Dalian nickel processing plant in 2008. Dalian, located in China, began operations in April 2008 and has annual production capacity of 35,000 metric tons of finished nickel.
- In our aluminum business, we completed in the first half of 2008 the first expansion of Paragominas (Paragominas II), from 5.4 to 9.9 million metric tons per year. We also completed the construction of stages 6 and 7 at our Alunorte alumina facility in Brazil, which started operating in the second half of 2008, adding 1.9 million metric tons to its nominal production capacity.

See *Item 4. Information on the company—Capital expenditures* for more information about expansion projects currently underway.

Currency price changes

Our results of operations are affected in several ways by changes in currency exchange rates. The most important of these are the following:

- Most of our revenues are denominated in U.S. dollars, while most of our costs of goods sold are denominated in other currencies, principally the *real* (62% in 2008) and the Canadian dollar (20% in 2008). As a result, changes in exchange rates affect our operating margins. Our margins are adversely affected by a decline in the value of the U.S. dollar. We experienced this effect on margins for several years until the middle of 2008.
- Most of our long-term debt is denominated in currencies other than the *real*, principally the U.S. dollar (US\$13,267 million at December 31, 2008). Because our functional currency for accounting purposes is the *real*, changes in the value of the U.S. dollar against the *real* result in exchange gain or loss on our net liabilities in our financial results. In the second half of 2008, our higher average cash holdings in U.S. dollars helped offset the negative effect of exchange rate variation on our U.S. dollar denominated liabilities.
- We had *real*-denominated debt of US\$4,590 million at December 31, 2008. Since most of our revenue is in U.S. dollars, we use derivatives to convert our debt service from *reais* to U.S. dollars. Changes in the value of the U.S. dollar against the *real* result in fair value variation on these derivatives, affecting our financial results. For more information on our use of derivatives, see *Item 11. Quantitative and qualitative disclosures about market risk*.

A decline in the value of the U.S. dollar tends to result in: (i) lower operating margins and (ii) higher financial results due to exchange gains on our net U.S. dollar denominated liabilities and fair value gains on our currency derivatives. Conversely, an increase in the value of the U.S. dollar tends to result in: (i) better operating margins and (ii) lower financial results, due to exchange losses on our net U.S. dollar denominated liabilities and fair value losses on our currency derivatives.

The U.S. dollar was weak against the *real* and the Canadian dollar during the first half of 2008 but began to appreciate significantly in the third quarter of the year. At December 31, 2008, the U.S. dollar had appreciated 31.9% against the *real* and 24.5% against the Canadian dollar relative to December 31, 2007. These currency price changes had the following impacts on our financial results.

- *Operating margins.* During the first half of 2008, the weakness of the U.S. dollar had an adverse effect on our operating margins. However, in the second half of the year, the appreciation of the U.S. dollar against the *real* and the Canadian dollar contributed to cost reductions, which materialized mostly in the fourth quarter of 2008. These mitigated the adverse effects of the economic crisis on our margins.
- *Exchange gains (losses).* We recorded net exchange gains of US\$364 million in 2008, and losses of US\$241 million in the fourth quarter.

- *Gains (losses) on derivatives.* We recorded net fair value losses on derivatives of US\$812 million in 2008, including US\$586 million in the fourth quarter. These losses were primarily on cross-currency swap positions that convert our *real*-denominated debt expense into U.S. dollars. The U.S. dollar value of our *real*-denominated debt decreased to US\$4.7 billion as of December 31, 2008, from US\$5.4 billion as of September 30, 2008.

Operating expenses

Our principal operating expenses consist of: (i) cost of goods sold, (ii) selling, general and administrative expenses and (iii) research and development expenses.

Cost of goods sold. Our cost of goods sold consists of costs of energy (fuel and electric energy), materials (such as components for railroad and mining equipment), outsourced services (especially ore and waste removal, transportation and maintenance), purchased products for processing or resale (such as iron ore, iron ore pellets, nickel and aluminum products), personnel, and depreciation and depletion.

Selling, general and administrative expenses. Our selling, general and administrative expenses consist principally of personnel expense, sales expense and depreciation.

Research and development expenses. Our research and development expenses consist primarily of investments related to mineral exploration and studies for the development of projects, which are recorded as expenses until the economic viability of the related mining activities is established.

RESULTS OF OPERATIONS—2008 COMPARED TO 2007

Revenues

Our gross operating revenues rose to US\$38.509 billion in 2008, a 16.3% increase over 2007. Our net operating revenues increased 16.1% to US\$37.426 billion in 2008. The following table summarizes our gross revenues by product and our net operating revenues for the periods indicated.

| | <u>Year ended December 31,</u> | | <u>% change</u> |
|--|--------------------------------|--------------------|-----------------|
| | <u>2007</u> | <u>2008</u> | |
| | (US\$ million) | | |
| Ferrous minerals: | | | |
| Iron ore | US \$11,908 | US \$17,775 | 49.3% |
| Iron ore pellets | 2,738 | 4,301 | 57.1 |
| Manganese | 77 | 266 | 245.5 |
| Ferroalloys | 711 | 1,211 | 70.3 |
| Pig iron | 81 | 146 | 80.2 |
| Subtotal | <u>15,515</u> | <u>23,699</u> | 52.7 |
| Non-ferrous minerals: | | | |
| Nickel and other products(1) | 11,789 | 7,829 | (33.6) |
| Potash | 178 | 295 | 65.7 |
| Kaolin | 238 | 209 | (12.2) |
| Copper concentrate(2) | 802 | 893 | 11.3 |
| Aluminum | <u>2,722</u> | <u>3,042</u> | 11.8 |
| Subtotal | 15,729 | 12,268 | (22.0) |
| Total minerals and metals | <u>31,244</u> | <u>35,967</u> | 15.1 |
| Logistic services | 1,525 | 1,607 | 5.4 |
| Other products and services(3) | 346 | 935 | 170.2 |
| Gross revenues | 33,115 | 38,509 | 16.3 |
| Value-added tax | (873) | (1,083) | 24.1 |
| Net operating revenues | <u>US \$32,242</u> | <u>US \$37,426</u> | 16.1% |

(1) Includes copper, precious metals, cobalt and other by-products produced by Vale Inco.

(2) Does not include copper produced by Vale Inco.

(3) Includes coal.

Iron ore. Gross revenues from iron ore increased by 49.3% due primarily to higher prices. The increase in average selling prices resulted mostly from a 65.0% increase in 2008 reference prices for iron ore fines, effective as of April 2008 for the majority of our customers. Sales volume increased slightly year-on-year. In the fourth quarter of 2008, our sales volume decreased by 37.9% compared to third quarter 2008, due to the impact of the global macroeconomic conditions.

Iron ore pellets. Gross revenues from iron ore pellets increased by 57.1% due to 67.6% higher average sales prices, which more than offset a 4.3% reduction in sales volume. The higher realized prices resulted from an 86.7% increase in 2008 reference prices for blast furnace and direct reduction pellets. However, fourth quarter sales volume decreased by 20.9% compared to third quarter 2008, due to lower global demand for iron ore pellets.

Manganese ore. Gross revenues from manganese ore increased by 245.5% due primarily to higher prices. However, the deterioration of market conditions in the fourth quarter of 2008 had a negative impact on volumes sold, which decreased by 75.7% compared to the third quarter of 2008.

Ferroalloys. Gross revenues from ferroalloys increased by 70.3% due to a substantial increase in average selling prices, which was partially offset by an 18.9% decrease in volume sold. The decline in volume is primarily attributable to the shut-down of our ferroalloy operations in Dunkerque, France, since August 2008

due to problems with the electric furnace. During the fourth quarter of 2008, sales volume decreased by 44.2% compared to the third quarter of 2008, as a result of a decline in demand.

Nickel and other products. Gross revenues from this segment decreased by 33.6%, mainly due to the following factors.

- Gross revenues from nickel sales decreased 40.6%, from US\$10.043 billion in 2007 to US\$5.970 billion in 2008, due to a 42.1% decline in average nickel prices. In the fourth quarter of 2008, the average nickel sales price declined by 39.4% compared to third quarter 2008. Nickel sales volume in the fourth quarter of 2008 remained in line with volumes sold in the third quarter of 2008.
- Gross revenues from copper sales decreased by 4.0%, from US\$1.183 billion in 2007 to US\$1.136 billion in 2008, due to a 4.2% drop in the average sales price. In the fourth quarter of 2008, the average copper sales price declined by 54.2% compared to the third quarter of 2008. Copper sales volume in the fourth quarter of 2008 remained in line with volumes sold in the third quarter of 2008.
- Gross revenues from sales of precious metals and other products increased 19.9%, from US\$427 million in 2007 to US\$512 million in 2008.

Potash. Gross revenues from sales of potash increased by 65.7%. The increase was due to a 123.9% increase in average selling prices, which was partially offset by a 26.0% decline in sales volume compared to the prior year. Volumes sold in the fourth quarter of 2008 were 73.0% lower than in the third quarter of 2008, as a result of the weak performance of the Brazilian agricultural sector and the accumulation of large inventories by farmers in anticipation of higher fertilizer prices.

Kaolin. Gross revenues from sales of kaolin decreased by 12.2%, due principally to an 11.4% decrease in volume.

Copper concentrate. Gross revenues from sales of copper concentrate increased by 11.3% due to an 8.1% increase in sales volumes and a 3.0% increase in the average sales price.

Aluminum. Gross revenues from our aluminum business increased by 11.8%. This increase is attributable to the following factors.

- Gross revenues from sales of aluminum decreased 1.6%, from US\$1.570 billion in 2007 to US\$1.545 billion in 2008, due to lower volume sold. Since there is a one-month lag between aluminum market prices and sales prices, our average aluminum sales price in the fourth quarter of 2008 did not fully reflect the drop in aluminum market prices.
- Gross revenues from sales of alumina increased 33.4%, from US\$1.470 billion in 2008 compared to US\$1.102 billion in 2007, due to higher volumes sold in connection with the Alunorte expansion.
- Gross revenues from sales of bauxite decreased 44.9%, from US\$49 million in 2007 to US\$27 million in 2008, due to a reduction in sales volume caused by increased usage of bauxite at our alumina refinery.

Logistics services. Gross revenues from logistics services increased by 5.4%. The increase reflects higher prices caused by the increase in fuel costs and changes in the mix of cargo, which more than offset the slight reduction in volume of freight cargo.

- Revenues from railroad transportation increased by 6.8%, from US\$1.220 billion in 2007 to US\$1.303 billion in 2008. Average prices increased by 13.0%, and volume shipped decreased by 5.5%. The decline in volumes of general cargo resulted from the reduction in transportation of agricultural products, mainly grains, as a consequence of weaker Brazilian exports during 2008. The

reduction of Brazilian steel output and pig iron exports in the fourth quarter of 2008 also contributed to reduced levels of activity in our logistics business.

- Revenues from port operations increased by 13.9%, from US\$267 million in 2007 to US\$304 million in 2008.
- We had no revenues from shipping in 2008, compared to US\$38 million in 2007, due to the sale of our controlling interest in Log-In in 2007 as a result of which Log-In is no longer consolidated in our results.

Other products and services. Gross revenues from other products and services increased from US\$346 million in 2007 to US\$935 million in 2008, primarily reflecting increased sales of coal. Revenues from sales of metallurgical coal were US\$457 million in 2008, compared to US\$128 million in 2007. Revenues from sales of thermal coal were US\$120 million in 2008, compared to US\$32 million in 2007. Increased coal sales were driven by two factors: (i) a full year of consolidation of Vale Australia in 2008, compared to eight months of consolidation in 2007; and (ii) the increase in average coal prices in 2008 compared to 2007.

Operating costs and expenses

| | Year ended December 31, | | % change |
|--|--------------------------------|-------------------|-----------------|
| | 2007 | 2008 | |
| | (US\$ million) | | |
| Cost of ores and metals | US\$13,628 | US\$14,055 | 3.1% |
| Cost of logistic services | 853 | 930 | 9.0 |
| Cost of aluminum products | 1,705 | 2,267 | 33.0 |
| Others | 277 | 389 | 40.4 |
| Cost of goods sold | 16,463 | 17,641 | 7.2 |
| Selling, general and administrative expenses | 1,245 | 1,748 | 40.4 |
| Research and development | 733 | 1,085 | 48.0 |
| Impairment of goodwill | – | 950 | – |
| Other costs and expenses | 607 | 1,254 | 106.6 |
| Total operating costs and expenses | <u>US\$19,048</u> | <u>US\$22,678</u> | 19.1% |

Cost of goods sold

The following table summarizes the components of our cost of goods sold for the periods indicated.

| | <u>Year ended December 31,</u> | | <u>% change</u> |
|---|--------------------------------|-------------------|-----------------|
| | <u>2007</u> | <u>2008</u> | |
| | <u>(US\$ million)</u> | | |
| Outsourced services | US\$2,628 | US\$2,880 | 9.6% |
| Materials costs | 2,313 | 2,900 | 25.4 |
| Energy: | | | |
| Fuel | 1,406 | 1,842 | 31.0 |
| Electric energy | 878 | 1,078 | 22.8 |
| Subtotal | 2,284 | 2,920 | 27.8 |
| Acquisition of iron ore and pellets | 976 | 1,179 | 20.8 |
| Acquisition of other products: | | | |
| Nickel | 1,522 | 687 | (54.9) |
| Aluminum | 288 | 317 | 10.1 |
| Other | 86 | 31 | (64.0) |
| Subtotal | 2,872 | 2,214 | (22.9) |
| Personnel | 1,873 | 2,139 | 14.2 |
| Depreciation and depletion | 2,049 | 2,664 | 30.0 |
| Inventory adjustment | 1,062 | – | – |
| Others | 1,382 | 1,924 | 39.2 |
| Total | <u>US\$16,463</u> | <u>US\$17,641</u> | 7.2% |

Our total cost of goods sold increased 7.2% from 2007 to 2008. This increase resulted primarily from the factors described below.

- *Depreciation of the U.S. dollar.* Given most of our costs and expenses are denominated in currencies other than the U.S. dollar, the depreciation of the U.S. dollar during 2008 led to higher costs in 2008. COGS currency exposure in 2008 was made up as follows: 62% in Brazilian *reals*, 20% in Canadian dollars, 14% in U.S. dollars, 2% in Indonesian rupiah and 2% in other currencies.
- *Outsourced services.* Outsourced services costs increased by 9.6% in 2008 due to higher sales volumes, the depreciation of the U.S. dollar against the *real*, higher prices of services and maintenance costs. During the fourth quarter, lower sales volumes and the appreciation of the U.S. dollar contributed to reduce costs by 28.6% against the third quarter of 2008.
- *Material costs.* Material costs increased by 25.4% in 2008, primarily reflecting higher sales volumes and higher costs for the maintenance of equipment. In the fourth quarter of 2008, material costs dropped 24.8% compared to the third quarter of 2008, due to an overall reduction in volumes and the average U.S. dollar appreciation against the *real*.
- *Energy costs.* Energy costs increased by 27.8% in 2008. This increase primarily reflected higher energy prices, higher consumption due to the leasing of the pelletizing operations from our joint ventures, and the depreciation of the U.S. dollar. In the fourth quarter, the overall reduction in volumes and the average U.S. dollar appreciation against the *real* led to a 31.2% reduction compared to the third quarter of 2008.
- *Personnel costs.* Personnel costs increased by 14.2%, mainly reflecting the depreciation of the U.S. dollar against the *real* and the impact of wage increases pursuant to a two-year agreement with our Brazilian employees entered into in November 2007. During the fourth quarter, the overall reduction in volumes and the appreciation of the U.S. dollar against the *real* contributed to a 12.9% decline in costs compared to the third quarter of 2008.

- *Acquisition of iron ore and iron ore pellets.* The cost of iron ore and iron ore pellets purchased from third parties increased 20.8%, mainly due to higher benchmark prices. We purchased 11.9 million metric tons of iron ore from third parties in 2008 compared to 8.3 million metric tons in 2007, a 43.4% increase. This was partly offset by a decrease in the volume of pellets purchased from third parties, from 11.7 million metric tons in 2007 to 5.9 million metric tons in 2008, as a result of the leasing of the pelletizing plants from our joint ventures.
- *Other costs.* The increase of US\$542 million was mainly due to the operating lease agreements signed during 2008 with our joint ventures Nibrasco, Itabrasco and Kobrasco, under which we leased four pelletizing plants for a period from five to 30 years.

The increase in total cost of good sold was partially offset by the following factors.

- Acquisition of products, which includes nickel concentrates for processing under tolling contracts, intermediary products and finished nickel, totaled US\$2,214 million in 2008 compared to US\$2,872 million in 2007, as a result of lower prices and volumes.
- We recognized additional cost of goods sold in 2007, in the amount of US\$1.062 billion, because of the adjustment of inventory resulting from the acquisition of Vale Inco.

Selling, general and administrative expenses

Selling, general and administrative expenses increased by 40.4%, or US\$503 million. The increase was mainly attributable to an adjustment related to copper sales and to higher expenses related to global integration of IT infrastructure advertising and brand management. The adjustment for copper sales arose from the effects of sharply declining copper prices under the MAMA pricing system. In the fourth quarter of 2008, copper prices declined 48.8% compared to the third quarter of 2008, causing final prices for copper sales be much lower than the previously set provisional prices. The difference was accounted for as an adjustment of US\$316 million.

Research and development expenses

Research and development expenses increased by 48.0%. The US\$352 million increase primarily reflects an increase in mineral exploration and project studies in several regions, including South America, Asia, Africa and Australia.

Impairment of goodwill

In 2008, we recognized a US\$950 million impairment of the goodwill associated with our 2006 acquisition of Vale Inco, of which US\$1.336 billion remains. For a full description of the impairment test, see Note 13 of our financial statements herein.

Other costs and expenses

Other costs and expenses increased by US\$647 million as a consequence of non-recurring events, as follows: US\$204 million due to an additional payment related to tax assessments on third-party railroad transportation services by our iron ore operations in previous years, US\$199 million relating to provision for loss on materials and US\$77 million of market value assessment of nickel inventories.

Operating income by segment

The following table provides information concerning our operating income by segment and as a percentage of revenues for the periods indicated.

| | Year ended December 31, | | | |
|-------------------------------------|---|-------------------------------|---|-------------------------------|
| | 2007 | | 2008 | |
| | Segment operating income (loss) (US\$ million) | (% of net operating revenues) | Segment operating income (loss) (US\$ million) | (% of net operating revenues) |
| Ferrous minerals: | | | | |
| Iron ore | US\$6,325 | 54.4% | US\$9,988 | 57.4% |
| Pellets | 659 | 25.3 | 1,606 | 39.1 |
| Manganese ore | (9) | – | 169 | 67.3 |
| Ferroalloys | 182 | 28.0 | 604 | 55.8 |
| Pig iron | 19 | 23.5 | 76 | 52.1 |
| Non-ferrous minerals: | | | | |
| Nickel and other products | 4,785 | 40.6 | 1,131 | 14.5 |
| Potash | 37 | 22.0 | 140 | 50.2 |
| Kaolin | (32) | – | (45) | – |
| Copper concentrate | 252 | 32.6 | 111 | 12.7 |
| Aluminum products | 828 | 31.2 | 516 | 17.3 |
| Logistics: | | | | |
| Railroads | 297 | 29.1 | 246 | 22.4 |
| Ports | 22 | 10.0 | 41 | 15.5 |
| Ships | (12) | – | – | – |
| Others | (159) | – | 165 | 18.3 |
| Total | <u>US\$13,194</u> | 40.9% | <u>US\$14,748</u> | 39.4% |

Our operating income decreased as a percentage of net operating revenues, from 40.9% in 2007 to 39.4% in 2008, due to the impairment charge in the nickel segment. In the fourth quarter of 2008, operating margin was 14.7%, compared to 47.2% in the third quarter of 2008, due to lower shipment volumes and prices. Our ferrous minerals business was responsible for 93.6% of our cash generation in the fourth quarter of 2008, compared to 79.9% in the third quarter.

- This comparison reflects the effect of margin reductions in nickel, copper concentrate, aluminum products and railroads, counterbalanced by higher margins in iron ore, iron ore pellets, manganese ore, ferroalloys, potash and ports.
- The increase in operating margin for iron ore and iron ore pellets primarily reflects higher average selling prices, which were partially offset by (i) the impact of the appreciation of the *real* against the U.S. dollar on our operating costs and expenses and (ii) higher research and development expenditures.
- The significant increase in operating margins for manganese and ferroalloys is attributable to higher prices, reflecting market tightness during most of 2008.
- The increase in operating margin for potash is attributable to higher prices, which offset the decrease in volumes during the fourth quarter of the year.
- The decrease in operating margin for nickel and other products primarily reflects (i) the decline in average selling prices and (ii) the goodwill impairment in 2008.
- The margin declines in the aluminum products segment resulted primarily from higher energy costs and higher freight costs. The higher freight costs are due to an increase in the volume of bauxite transported from the Trombetas bauxite mine, which belongs to MRN.

Non-operating income (expenses)

The following table details our net non-operating income (expenses) for the periods indicated.

| | Year ended December 31, | |
|--|----------------------------|-------------|
| | 2007 | 2008 |
| | (US\$ million) | |
| Financial income | US\$295 | US\$602 |
| Financial expenses | (2,517) | (1,765) |
| Gains (losses) on derivatives, net | 931 | (812) |
| Foreign exchange and monetary gains, net | 2,553 | 364 |
| Gain on sale of investments | 777 | 80 |
| Non-operating income (expenses) | US\$2,039 | US\$(1,531) |

We had net non-operating expenses of US\$1.531 billion in 2008, compared to net non-operating revenues of US\$2.039 billion in 2007. This change primarily reflects the following factors.

- An increase in financial income, principally due to higher average cash balances, resulting from our global equity offer.
- A decrease in financial expenses, mainly due to lower average total debt.
- A US\$812 million loss in 2008, compared to a US\$931 million gain in 2007, principally related to a swap of *real*-denominated debt into U.S. dollars. The transaction generated a gain of US\$791 million in 2007 and a loss of US\$833 million in 2008 due to the exchange rate variation.
- Lower foreign exchange gains due to the depreciation of the U.S. dollar. Despite the appreciation of the U.S. dollar against our functional currency, the *real*, in the second half of the year, the larger average cash holdings in U.S. dollar softened the negative effect of the foreign exchange variation in our U.S. dollar-denominated liabilities.
- A US\$80 million gain on sales of investments in 2008 from the sale of our interest in Jubilee Mines, compared to a US\$777 million gain in 2007 from our sales of interests in Usiminas (US\$456 million gain), Log-In (US\$238 million gain) and Lion Ore Mining (US\$80 million gain).

Income taxes

For 2008, we recorded net income tax expense of US\$535 million, compared to US\$3.201 billion in 2007. Our effective tax rate has historically been lower than the Brazilian statutory rate because: (i) income of some non-Brazilian subsidiaries is subject to lower rates of tax; (ii) we are entitled under Brazilian law to deduct the amount of our distributions to shareholders that we classify as interest on shareholders' equity; and (iii) we benefit from tax incentives applicable to our earnings on production in certain regions of Brazil. As a result, the effective tax rate on our pretax income was 4.0% in 2008 and 21% in 2007. In addition, the effective tax rate on our pre-tax income decreased from 21% to 4% in 2008 as a result of the accounting effects of foreign exchange variation, which are not taxable.

Affiliates and joint ventures

Our equity in the results of affiliates and joint ventures resulted in a gain of US\$794 million in 2008, compared to a gain of US\$595 million in 2007. The increase was primarily due to higher net income at our investee Samarco, where a new plant began operations in 2008. Note 12 to our financial statements herein summarizes our equity in the results of affiliates and joint ventures.

RESULTS OF OPERATIONS —2007 COMPARED TO 2006

Revenues

Our gross operating revenues rose to US\$33.115 billion in 2007, a 62.6% increase over 2006. Our net operating revenues increased 64.1% to US\$32.242 billion in 2007. The following table summarizes our gross revenues by product and our net operating revenues for the periods indicated:

| | Year ended December 31, | | |
|--|-------------------------|------------|----------|
| | 2006 | 2007 | % change |
| | (US\$ million) | | |
| Ferrous minerals: | | | |
| Iron ore | US\$10,027 | US\$11,908 | 18.8% |
| Iron ore pellets | 1,979 | 2,738 | 38.4 |
| Manganese | 55 | 77 | 40.0 |
| Ferrous alloys | 508 | 711 | 40.0 |
| Subtotal | 12,569 | 15,434 | 22.8 |
| Non-ferrous minerals: | | | |
| Nickel and other products(1) | 2,802 | 11,789 | 320.7 |
| Potash | 143 | 178 | 24.5 |
| Kaolin | 218 | 238 | 9.2 |
| Copper concentrate(2) | 779 | 802 | 3.0 |
| Subtotal | 3,942 | 13,007 | 230.0 |
| Aluminum | 2,381 | 2,722 | 14.3 |
| Total minerals and metals | 16,511 | 28,441 | 72.3 |
| Logistic services | 1,376 | 1,525 | 10.8 |
| Other products and services(3) | 95 | 427 | 349.5 |
| Gross revenues | 20,363 | 33,115 | 62.6 |
| Value-added tax | (712) | (873) | 22.6 |
| Net operating revenues | US\$19,651 | US\$32,242 | 64.1% |

(1) Includes copper, precious metals, cobalt and other by-products produced by Vale Inco.

(2) Does not include copper produced by Vale Inco.

(3) Including coal.

Iron ore. Gross revenues from iron ore increased by 18.8%, driven primarily by a 13.3% increase in average selling prices and a 4.8% increase in the volume of iron ore sold. The price increases resulted from a 9.5% increase in 2007 reference prices for iron ore fines, effective as of April 2007 for the majority of our customers, and a 19% increase in 2006 reference prices for iron ore fines, effective as of April 2006 for the majority of our customers. The increase in volumes sold was made possible by the expansion of production capacity at our Carajás mine in January 2007 and the ramp-up of our Brucutu mine. These production increases more than offset the negative impact of heavy rain during the first quarter, which slowed production in the mines and caused rail transportation disruptions in the Southeastern System.

Iron ore pellets. Gross revenues from iron ore pellets increased by 38.4% in 2007. Total volumes sold in 2007 were 32.8% higher than in 2006, primarily reflecting the commencement of operations at São Luís after a temporary shutdown in 2006. The 4.5% average price increase resulted from a 5.28% increase in 2007 reference prices for blast furnace and direct reduction pellets, effective as of April 2007 for the majority of our customers, and a 3% reduction in 2006 reference prices blast furnace and direct reduction pellets, effective as of April 2006 for the majority of our customers.

Manganese ore. Gross revenues from manganese ore increased by 40%, reflecting a 52% increase in average selling prices and 9.1% decrease in volume. The decrease in volume was due to a temporary shutdown of our Azul mine from July to December 2007 in order to allow the rail lines that serve to transport our iron ore.

Ferroalloys. Gross revenues from ferroalloys increased by 40.0% due to a 47.9% increase in average selling prices, which was partially offset by a 6.5% decrease in volume largely as a result of furnace repairs at our plant in France.

Nickel and other products. In 2007, revenues from nickel and other products were US\$11.789 billion, compared to US\$2.802 billion in 2006, when we consolidated Vale Inco for only the last quarter of the year.

Potash. Gross revenues from sales of potash increased by 24.5%, driven by a 35.4% increase in average selling prices and an 8% decline in volume, reflecting problems with mining equipment in the first half of 2007 and lower grade of potash we mined.

Kaolin. Gross revenues from sales of kaolin increased by 9.2%, due principally to a 18.9% increase in average selling prices. Volume decreased by 8.2% due to problems with machinery.

Copper concentrate. Gross revenues from sales of copper concentrate increased by 3%, from US\$779 million in 2006 to US\$802 million in 2007, due to a 4.7% increase in average selling prices.

Aluminum. Gross revenues from aluminum business increased by 14.3%. This reflected the following factors:

- A 26.2% increase in gross revenues from sales of aluminum, from US\$1.244 billion in 2006 to US\$1.570 billion in 2007, mainly driven by an 8.8% rise in average selling prices. Volume increased by 15.9%, primarily due to the consolidation of Valesul, which began in July 2006.
- Stable gross revenues from sales of alumina at US\$1.102 billion in 2007, compared to US\$1.108 billion in 2006. Both average selling prices and volume sold remained stable.
- A 69% increase in gross revenues from sales of bauxite, from US\$29 million in 2006 to US\$49 million in 2007. Volume increased by 42.6%, reflecting MRN's increased volume available for sale to unaffiliated customers, given the start-up of our Paragominas mine. Average selling prices increased by 18.5% due to higher LME prices for aluminum, the reference price for our bauxite sales.

Logistics services. Gross revenues from logistics services increased by 10.8%. The increase reflects the appreciation of the *real*, since our prices are generally denominated in *reais*, as well as price increases in *reais*. In particular:

- Revenues from railroad transportation increased by 20.7%, from US\$1.011 billion in 2006 to US\$1.220 billion in 2007. Average prices increased by 16.1% and volume shipped increased by 3.9%.
- Revenues from port operations increased by 2.3%, from US\$261 million in 2006 to US\$267 million in 2007. Average prices increased by 7.4%, while volume decreased by 4.4%.
- Revenues from shipping decreased by 63.5%, from US\$104 million in 2006 to US\$38 million in 2007, due to the sale of our controlling interest in Log-In, which is no longer consolidated.

Other products and services. Gross revenues from other products and services increased from US\$95 million in 2006 to US\$427 million in 2007, primarily reflecting sales of coal following our acquisition of AMCI Holdings Australia Pty.

Operating costs and expenses

The acquisition of Vale Inco had a major impact on our operating costs and expenses (US\$2.230 billion in 2006 and US\$6.533 billion in 2007) due to the consolidation of its operations and the accounting effect of the business combination. Moreover, like other mining and metals companies, we are currently experiencing higher prices for equipment, replacement parts, energy, inputs and services. The depreciation of the U.S. dollar

has increased these pressures, because of our costs denominated in other currencies. The following table summarizes our operating costs and expenses for the periods indicated.

| | Year ended December 31, | | | Amount of variation attributable to Vale Inco (US\$ million) | % change without Vale Inco |
|--|-------------------------|-------------------|----------|---|----------------------------|
| | 2006 | 2007 | % change | | |
| | (US\$ million) | | | | |
| Cost of ores and metals | US\$7,946 | US\$13,628 | 71.5% | US\$4,303 | 24.1% |
| Cost of logistic services | 777 | 853 | 9.8 | – | 9.8 |
| Cost of aluminum products | 1,355 | 1,705 | 25.8 | – | 25.8 |
| Others | 69 | 277 | 301.4 | – | 301.4 |
| Cost of goods sold | 10,147 | 16,463 | 62.2 | 4,303 | 25.4 |
| Selling, general and administrative expenses | 816 | 1,245 | 52.6 | 175 | 33.6 |
| Research and development | 481 | 733 | 52.4 | 132 | 27.1 |
| Other costs and expense | 570 | 607 | 6.5 | 3 | 6.7 |
| Total operating costs and expenses | <u>US\$12,014</u> | <u>US\$19,048</u> | 58.5% | 4,613 | 25.2% |

Cost of goods sold

The following table summarizes the components of our cost of goods sold for the periods indicated.

| | Year ended December 31, | | | Amount of variation attributable to Vale Inco (US\$ million) | % change without Vale Inco |
|---|-------------------------|-------------------|----------|---|----------------------------|
| | 2006 | 2007 | % change | | |
| | (US\$ million) | | | | |
| Outsourced services | US\$2,056 | US\$2,628 | 27.8% | 450 | 6.3% |
| Materials costs | 1,584 | 2,313 | 46.0 | 425 | 21.0 |
| Energy | | | | | |
| Fuel | 912 | 1,406 | 54.2 | 250 | 29.8 |
| Electric energy | 623 | 878 | 40.9 | 112 | 23.9 |
| Subtotal | 1,535 | 2,284 | 48.8 | 362 | 27.4 |
| Acquisition of iron ore and pellets | 758 | 976 | 28.8 | – | 28.8 |
| Acquisition of other products | | | | | |
| Nickel | 482 | 1,522 | 215.8 | 1,040 | – |
| Aluminum | 336 | 288 | (14.3) | – | (14.3) |
| Other | 97 | 86 | (11.3) | – | (11.3) |
| Subtotal | 915 | 2,872 | 213.9 | 1,040 | (13.6) |
| Personnel | 917 | 1,873 | 104.3 | 781 | 24.9 |
| Depreciation and depletion | 899 | 2,049 | 127.9 | 802 | 44.9 |
| Inventory adjustment | 946 | 1,062 | 12.3 | 116 | |
| Others | 537 | 1,382 | 157.4 | 327 | 39.2 |
| Total | <u>US\$10,147</u> | <u>US\$16,463</u> | 62.2% | 4,303 | 25.4% |

Our total cost of goods sold increased by 62.2% from 2006 to 2007. This increase resulted primarily from the following factors:

- *Impact of Vale Inco.* Of the total increase in our cost of goods sold, US\$4.303 billion represents the difference between Vale Inco's costs for the portion after the acquisition became effective. As described above, part of its costs (US\$1.062 billion in 2007 and US\$946 million in 2006) related to the recognition of the final purchase accounting adjustments concluded in 2007, relating to the value of Vale Inco inventories.
- *Impact of depreciation of the U.S. dollar.* Because most of our costs and expenses are denominated in currencies other than the U.S. dollar, the depreciation of the U.S. dollar led to higher costs as expressed in that currency. For example, the average value of the *real* against the U.S. dollar for the

year was 11.7% higher in 2007 than in 2006, which accounted for US\$677 million of the increase, excluding Vale Inco.

- *Outsourced services.* Vale Inco accounted for US\$450 million of outsourced services. Excluding Vale Inco, outsourced services costs increased by 6.3% in 2007 due to higher volumes and the depreciation of the U.S. dollar against the *real*, partially offset by a decrease in outsourcing contracts for ore and waste removal.
- *Material costs.* Vale Inco accounted for US\$425 million of material costs. Excluding Vale Inco, material costs increased by 21% in 2007, primarily reflecting higher volumes, price increase and the depreciation of the U.S. dollar against other currencies.
- *Acquisition of iron ore and iron ore pellets.* Cost of iron ore and iron ore pellets purchased from other mining companies increased 28.8%. We purchased 11.7 million metric tons of pellets from third parties in 2007, an increase of 31.5% compared to 8.9 million metric tons purchased in 2006. This, and the effect of increased price, were partly offset by an 18.6% decrease in the volume of iron ore purchased from third-party suppliers, to 8.3 million metric tons in 2007 compared to 10.2 million metric tons in 2006.
- *Acquisition of other products.* Acquisition of nickel products, which includes nickel concentrates for processing under tolling contracts, intermediary products and finished nickel, totaled US\$1.522 billion in 2007.
- *Energy costs.* Vale Inco accounted for US\$362 million of energy costs. Excluding Vale Inco, energy costs increased by 27.4% in 2007. The increase in electricity costs primarily reflects 8% higher electricity prices for aluminum production under the Albras electricity contract, which links a portion of the price to the LME price for aluminum, while the increase in fuel costs was driven by higher production and the depreciation of the U.S. dollar.
- *Personnel costs.* Vale Inco accounted for US\$781 million of personnel costs. Excluding Vale Inco, personnel costs increased by 24.9%, reflecting an increase in the number of our employees because of the growth of our operations and the return to in-house solutions for some services such as ore and waste removal at our iron ore mines, and the impact of the 2007 wage increases.
- *Other costs.* The increase of US\$845 million is mainly due to payments of royalties and the consolidation of Taiwan Nickel Refining Company (“TNRC”) beginning in the fourth quarter of 2007. We have a 49.9% stake of TNRC, but since we are the only supplier of nickel feed to TNRC, we consolidated it in accordance with Interpretation 46, “Consolidation of Variable Interest Entities, an Interpretation of ARB No. 51” (FIN 46), issued in January 2003 and revised in December 2003 (FIN 46-R) by the Financial Accounting Standard Board.

Selling, general and administrative expenses

Selling, general and administrative expenses increased by 52.6%. Vale Inco accounted for US\$175 million in selling, general and administrative expenses. Excluding the impact of Vale Inco, selling, general and administrative expenses increased by US\$254 million, as a result of higher selling expenses due to the increase in sales volume, advertising (including US\$74 million related to the launch of the Vale brand) and the appreciation of the other currencies against the U.S. dollar.

Research and development expenses

Research and development expenses increased by 52.4%. Of the US\$252 million increase, US\$132 million was attributable to Vale Inco. The remainder of the increase primarily reflects an increase in mineral exploration and project studies in several regions, including South America, Asia, Africa and Australia.

Operating income by segment

The following table provides information concerning our operating income by segment and as a percentage of revenues for the periods indicated.

| | Year ended December 31, | | | |
|-------------------------------------|---|-------------------------------|---|-------------------------------|
| | 2006 | | 2007 | |
| | Segment operating income (loss) (US\$ million) | (% of net operating revenues) | Segment operating income (loss) (US\$ million) | (% of net operating revenues) |
| Ferrous minerals: | | | | |
| Iron ore | US\$5,168 | 53.0% | US\$6,325 | 54.4% |
| Pellets | 630 | 33.3 | 659 | 25.3 |
| Manganese ore | (49) | — | (9) | — |
| Ferroalloys | 3 | 0.6 | 182 | 28.0 |
| Non-ferrous minerals: | | | | |
| Nickel and other products | 411 | 14.7 | 4,785 | 40.6 |
| Potash | 28 | 20.7 | 37 | 22.0 |
| Kaolin | — | — | (32) | — |
| Copper concentrate | 464 | 61.1 | 252 | 32.6 |
| Aluminum: | | | | |
| Alumina and bauxite | 294 | 26.0 | 160 | 13.9 |
| Aluminum | 631 | 51.9 | 668 | 44.3 |
| Logistics: | | | | |
| Railroads | 274 | 32.9 | 297 | 29.1 |
| Ports | 64 | 29.5 | 22 | 10.0 |
| Ships | (6) | — | (12) | — |
| Others | (275) | — | (140) | — |
| Total | <u>US\$7,637</u> | 38.9% | <u>US\$13,194</u> | 40.9% |

Our operating income increased as a percentage of net operating revenues from 38.9% in 2006 to 40.9% in 2007.

- This increase was driven primarily by increases in the margins on our iron ore, nickel, ferroalloys and potash businesses, which, together with the impact of consolidating Vale Inco and its operating margin of 40.6%, more than offset lower margins in our iron ore pellets, copper, alumina, aluminum and port businesses.
- The increase in margins in our iron ore business primarily reflects higher average selling prices, which more than offset the impact of the appreciation of the *real* against the U.S. dollar, higher research and development expenditures and higher depreciation charges due to the expansion of our asset base.
- The increased operating margin for nickel and other products reflects in part the impact of the purchase accounting adjustments relating to inventories described above, which adversely affected margins in 2006 to a much greater degree than in 2007. This will not affect our results in 2008.
- The margin declines in the alumina, aluminum and port operations segments resulted primarily from price increases of significant inputs such as electricity, oil, coking coal and pitch, a decrease in the average selling price of alumina, and the appreciation of the *real* against the U.S. dollar.
- The margin declines in the copper concentrate segment resulted primarily from higher costs due to lower copper grades and the appreciation of the *real* against the U.S. dollar.
- The significant margin increases in the ferroalloys segment are due to higher average prices.

Non-operating income (expenses)

The following table details our net non-operating income (expenses) for the periods indicated.

| | Year ended December 31, | |
|--|-------------------------|------------------|
| | 2006 | 2007 |
| | (US\$ million) | |
| Financial income | US\$327 | US\$295 |
| Financial expenses | (1,338) | (1,592) |
| Foreign exchange and monetary gains, net | 529 | 2,559 |
| Gain on sale of investments | 674 | 777 |
| Non-operating income | <u>US\$192</u> | <u>US\$2,039</u> |

We had net non-operating revenues of US\$2.039 billion in 2007, compared to net non-operating revenues of US\$192 million in 2006. This change primarily reflects:

- Higher exchange gains due to the higher average level of net U.S. dollar-denominated liabilities resulting from the Inco acquisition combined with the depreciation of the U.S. dollar.
- A decrease in financial income, due mainly to lower average cash balances.
- An increase in financial expenses, principally due to the increase in average debt resulting from the Inco acquisition. This was largely offset by a gain of US\$925 million in derivative transactions that we entered into, including a swap of *real*-denominated debt into U.S. dollar (gain of US\$791 million) and a swap hedging some of our personnel costs from *reais* into dollars (gain of US\$127 million).
- US\$777 million gain on sale of investments in 2007, including the sale of our interests in Usiminas (US\$456 million gain), Log-In (US\$238 million gain) and Lion Ore Mining (US\$80 million gain).

Income taxes

In 2007, we recorded net income tax expense of US\$3.201 billion, compared to US\$1.432 billion in 2006. The effective tax rate on our pre-tax income was 21% in 2007 and 18.3% in 2006. Our effective tax rate is lower than the statutory rate because (i) income of some non-Brazilian subsidiaries is subject to lower rates of tax, (ii) we are entitled under Brazilian law to deduct the amount of our distributions to shareholders that we classify for tax purposes as interest on shareholders' equity and (iii) we benefit from tax incentives applicable to our earnings on production in certain regions of Brazil.

LIQUIDITY AND CAPITAL RESOURCES

Overview

In the ordinary course of business, our principal funding requirements are for capital expenditures, dividend payments and debt service. We have historically met these requirements by using cash generated from operating activities and through borrowings. In 2008, we also raised US\$12.2 billion in a global equity offering. For 2009, we have budgeted capital expenditures of US\$14.235 billion and announced minimum dividend payments of US\$2.5 billion. We expect our operating cash flow and cash holdings to be sufficient to meet these anticipated requirements.

We also regularly review acquisition and investment opportunities, and when suitable opportunities arise we make selected acquisitions and investments to implement our business strategy. We may fund these investments with internally generated funds or with borrowings, supplemented in some cases by dispositions.

Sources of funds

Our principal sources of funds are operating cash flow and borrowings, which we supplemented in 2008 with our global equity offering.

Our operating activities generated cash flows of US\$17.1 billion in 2008. Operating cash flows have grown steadily in recent years, driven by the growth in our sales volumes and by rising prices.

At December 31, 2008, we had available committed revolving credit lines totaling US\$1.9 billion, of which US\$1.15 billion was granted to Vale International and the balance to Vale Inco. As of December 31, 2008, neither Vale International nor Vale Inco had drawn any amounts under these facilities, and US\$101 million of letters of credit were issued and outstanding pursuant to Vale Inco's facility.

In April 2008, we entered into a credit line for investment with BNDES for R\$7.3 billion, or approximately US\$3.12 billion, of which we have drawn US\$211 million.

During 2008, we signed framework agreements with the Japan Bank for International Cooperation ("JBIC") and Nippon Export and Investment Insurance ("NEXI") for the financing of mining, logistics and power-generation projects. These agreements represent US\$5.0 billion of long-term financing. We are also negotiating similar agreements with other agencies and have already signed a memorandum of understanding with the Export-Import Bank of Korea ("KEXIM"), the Korean official credit agency for export and import financing.

Uses of funds

Capital expenditures

Capital expenditures amounted to US\$10.319 billion in 2008, and we have budgeted US\$14.235 billion for 2009. Our actual capital expenditures may differ from the budgeted amount for a variety of reasons, including changes in exchange rates. Our capital expenditures figures include some amounts that are treated as current expense for accounting purposes, such as project development, maintenance of existing assets, and research and development. For more information about the specific projects for which we have budgeted funds, see *Item 4. Information on the company—Capital expenditures*.

Distributions

We paid total dividends of US\$2.850 billion in 2008 (including distributions classified for tax purposes as interest on shareholders' equity). The minimum dividend announced for 2009 is US\$2.5 billion. The first installment of this dividend, in the amount of US\$1.250 billion, will be paid on April 30, 2008. See *Item 8. Financial information—Distributions*.

In 2008, we also paid US\$142 million of total interest (quarterly interest plus "additional interest" based on cash distributions in respect of ADSs) on our mandatorily convertible notes.

Debt

At December 31, 2008, we had aggregate outstanding debt of US\$18.245 billion. Our outstanding long-term debt (including the current portion of long-term debt and accrued charges) was US\$18.168 billion, compared with US\$18.857 billion at the end of 2007. At December 31, 2008, US\$504 million of our debt was secured by liens on some of our assets. At December 31, 2008, the average debt maturity was 9.28 years, compared with 10.7 years in 2007.

For information about our management of interest rate and currency risk on our debt, see *Item 11. Quantitative and qualitative disclosures about market risk*.

We are currently rated BBB+ (Standard & Poor's), Baa2 (Moody's), BBB high (Dominion) and BBB- (Fitch).

In general, our short-term debt consists primarily of U.S. dollar-denominated trade financing, mainly in the form of export prepayments and export sales advances with financial institutions. At December 31, 2008, we had no outstanding short-term debt.

Our major categories of long-term indebtedness are as follows. The amounts given below include the current portion of long-term debt and exclude accrued charges.

- *U.S. dollar-denominated loans and financing (US\$6.115 billion at December 31, 2008).* These loans include export financing lines, import finance from export credit agencies, and loans from commercial banks and multilateral organizations. The largest facility is a pre-export financing facility, linked to future receivables from export sales, that was originally entered into in the amount of US\$6.0 billion as part of the refinancing of the Inco acquisition debt. The outstanding amount at December 31, 2008 was US\$3.9 billion.
- *U.S. dollar-denominated fixed rate notes (US\$6.510 billion at December 31, 2008).* We have issued through public offerings several series of fixed rate debt securities through our finance subsidiary Vale Overseas Limited with a Vale guarantee in the amount of US\$5.385 billion. Our subsidiary Vale Inco has issued fixed rate debt in the amount of US\$1.125 billion.
- *U.S. dollar-denominated loans secured by future export receivables (US\$204 million at December 31, 2008).* We have a US\$400 million securitization program based on existing and future receivables generated by our subsidiary CVRD Finance from exports of iron ore and iron ore pellets to six of our customers in Europe, Asia and the United States.
- *Real-denominated non-convertible debentures (US\$2.562 billion at December 31, 2008).* In November 2006, we issued non-convertible debentures in the amount of approximately US\$2.6 billion, in two series, with four- and seven-year maturities. The first series, approximately US\$700 million at issuance, matures in 2010 and bears interest at 101.75% of the accumulated variation of the Brazilian CDI (interbank certificate of deposit) interest rate. The second series, approximately US\$1.9 billion at issuance, matures in 2013 and bears interest at the Brazilian CDI interest rate plus 0.25% per year. At December 31, 2008, the total amount of these two series was US\$2.353 billion.
- *Perpetual notes (US\$83 million at December 31, 2008).* We have issued perpetual notes that are exchangeable for 48.000 billion preferred shares of MRN. Interest is payable on the notes in an amount equal to dividends paid on the underlying preferred shares.
- *Other debt (US\$2.383 billion at December 31, 2008).* We have outstanding debt, principally owed to BNDES and Brazilian commercial banks, and loans and financing in other currencies.

Some of our long-term debt instruments contain financial covenants. Our principal covenants require us to maintain certain ratios, such as debt to equity, net debt to EBITDA and interest coverage. We were in full compliance with our financial covenants as of December 31, 2008, and we believe that our existing covenants will not significantly restrict our ability to borrow additional funds as needed to meet our capital requirements. We believe we will be able to operate within the terms of our financial covenants for the foreseeable future. None of these covenants directly restricts our ability to pay dividends on equity securities at the parent-company level.

Shareholder Debentures

At the time of the first stage of our privatization in 1997, we issued shareholder revenue interests known in Brazil as “*debentures participativas*” to our then-existing shareholders. The terms of the debentures were established to ensure that our pre-privatization shareholders, including the Brazilian government, would participate alongside us in potential future financial benefits that we derive from exploiting certain mineral resources that were not taken into account in determining the minimum purchase price of our shares in the privatization. In accordance with the debentures deed, holders have the right to receive semi-annual payments

equal to an agreed percentage of our net revenues (revenues less value-added tax, transport fee and insurance expenses related to the trading of the products) from certain identified mineral resources that we owned at the time of the privatization, to the extent that we exceed defined thresholds of sales volume relating to certain mineral resources, and from the sale of mineral rights that we owned at that time. Our obligation to make payments to the holders will cease when the relevant mineral resources are exhausted.

The total payments made under the shareholder debentures amounted to US\$6 million in 2006, US\$11 million in 2007 and US\$11 million in 2008. See Note 20 to our consolidated financial statements for a description of the terms of the debentures.

CONTRACTUAL OBLIGATIONS

The following table summarizes our long-term debt, short-term debt, operating lease obligations, purchase obligations and take-or-pay obligations of our subsidiary MRN at December 31, 2008. This table excludes other common non-contractual obligations that we may have, including pension obligations, deferred tax liabilities and contingent obligations arising from uncertain tax positions, all of which are discussed in the notes to our consolidated financial statements.

| | Payments due by period | | | | |
|---|-------------------------------|-----------------------------|-----------------------|------------------|-------------------|
| | Total | Less than 1 year | 2010-2011 | 2012-2013 | Thereafter |
| | | | (US\$ million) | | |
| Long-term debt(1) | US\$17,857 | US\$322 | US\$4,922 | US\$3,693 | US\$8,920 |
| Short-term debt | — | — | — | — | — |
| Interest payments(2) | 12,595 | 1,161 | 2,108 | 1,868 | 7,458 |
| Operating lease obligations(3) | 2,238 | 134 | 268 | 268 | 1,568 |
| Ferrovía Norte Sul S.A. subconcession | 400 | 400 | — | — | — |
| Purchase obligations(4) | 13,520 | 4,170 | 2,662 | 1,398 | 5,290 |
| Take-or-pay obligation (MRN)(5) | 1,041 | 281 | 378 | 382 | — |
| Total | US\$47,651 | US\$6,468 | US\$10,338 | US\$7,609 | US\$23,236 |

- (1) Amounts include the current portion of long-term debt and do not include accrued charges.
- (2) Consists of estimated future payments of interest on our loans, financings and debentures, calculated based on interest rates and foreign exchange rates applicable at December 31, 2008 and assuming (i) that all amortization payments and payments at maturity on our loans, financings and debentures will be made on their scheduled payments dates, and (ii) that our perpetual bonds are redeemed on the first permitted redemption date.
- (3) Amounts include fixed payments related to the operating lease contracts for the pelletizing plants.
- (4) Obligations to purchase materials. Amounts are based on contracted prices, except for purchases of iron ore from mining companies located in Brazil, which are based on 2008 average prices.
- (5) Our subsidiary Alunorte is committed under a take-or-pay agreement to purchase bauxite from MRN at a price that is determined by a formula based on prevailing world prices of aluminum. The values in the table are based on year-end 2008 prices.

OFF-BALANCE SHEET ARRANGEMENTS

At December 31, 2008, our off-balance sheet arrangements consisted primarily of the following items. For more information on our off-balance sheet arrangements see Note 20 to our consolidated financial statements.

- Sumic Nickel Netherlands B.V. (“Sumic”), owner of 21% of the shares of Goro, has a put option to sell to Vale Inco 25%, 50%, or 100% of its shares of Goro. The put option can be exercised if the cost of the Goro project exceeds US\$4.2 billion at projected exchange rates and an agreement cannot be reached on how to proceed with the project.
- We provided a guarantee to cover potential termination payments under an energy supply agreement for the Goro project. The amount of any termination payment depends on a number of factors, including the date of any termination. The maximum amount of any termination payment would be €145 million, decreasing over the term of the agreement.

- We provided certain guarantees on behalf of Goro in connection with the Girardin tax-advantaged lease financing. We guaranteed payments due from Goro of up to a maximum amount of US\$100 million in connection with an indemnity, and provided an additional guarantee covering the payments due from Goro of (a) amounts exceeding the maximum amount in connection with the indemnity and (b) certain other amounts payable by Goro under a lease agreement covering certain assets.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

We believe that the following are our critical accounting policies. We consider an accounting policy to be critical if it is important to our financial condition and results of operations and if it requires significant judgments and estimates on the part of our management. For a summary of all of our significant accounting policies, see Note 3 to our consolidated financial statements.

Mineral reserves and useful life of mines

We regularly evaluate and update our estimates of proven and probable mineral reserves. Our proven and probable mineral reserves are determined using generally accepted estimation techniques. Calculating our reserves requires us to make assumptions about future conditions that are highly uncertain, including future ore prices, currency prices, inflation rates, mining technology, availability of permits and production costs. Changes in some or all of these assumptions could have a significant impact on our recorded proven and probable reserves.

One of the ways we make our ore reserve estimates is to determine the mine closure dates used in recording the fair value of our asset retirement obligations for environmental and site reclamation costs and the periods over which we amortize our mining assets. Any change in our estimates of total expected future mine or asset lives could have an impact on the depreciation, depletion and amortization charges recorded in our consolidated financial statements under cost of goods sold. Changes in the estimated lives of our mines could also significantly impact our estimates of environmental and site reclamation costs, which are described in greater detail below.

Environmental and site reclamation costs

Expenditures relating to ongoing compliance with environmental regulations are charged against earnings or capitalized as appropriate. These ongoing programs are designed to minimize the environmental impact of our activities.

SFAS 143, "Accounting for Asset Retirement Obligations," requires that we recognize a liability for the fair value of our estimated asset retirement obligations in the period in which they are incurred, if a reasonable estimate can be made. We consider the accounting estimates related to reclamation and closure costs to be critical accounting estimates because:

- we will not incur most of these costs for a number of years, requiring us to make estimates over a long period;
- reclamation and closure laws and regulations could change in the future or circumstances affecting our operations could change, either of which could result in significant changes to our current plans;
- calculating the fair value of our asset retirement obligations in accordance with SFAS 143 requires us to assign probabilities to projected cash flows, to make long-term assumptions about inflation rates, to determine our credit-adjusted risk-free interest rates and to determine market risk premiums that are appropriate for our operations; and
- given the significance of these factors in the determination of our estimated environmental and site reclamation costs, changes in any or all of these estimates could have a material impact on net income. In particular, given the long periods over which many of these charges are discounted to

present value, changes in our assumptions about credit-adjusted risk-free interest rates could have a significant impact on the size of our provision.

Our Environmental Department defines the rules and procedures that should be used to evaluate our asset retirement obligations. The future costs of retirement of all of our mines and sites are reviewed annually, considering the actual stage of exhaustion and the projected exhaustion date of each mine and site. The future estimated retirement costs are discounted to present value using a credit-adjusted risk-free interest rate. At December 31, 2008, we estimated the fair value of our aggregate total asset retirement obligations to be US\$887 million.

Impairment of long-lived assets and goodwill

We have made acquisitions that included a significant amount of goodwill, as well as intangible and tangible assets. Under generally accepted accounting principles, except for goodwill and indefinite-life intangible assets, all long-lived assets, including these acquired assets, are amortized over their estimated useful lives, and are tested to determine if they are recoverable from operating earnings on an undiscounted cash flow basis over their useful lives whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors that could trigger an impairment review include the following:

- significant underperformance relating to expected historical or projected future operating results of entities or business units;
- significant changes in the manner in which we use the acquired assets or our overall business strategy; or
- significant negative industry or economic trends.

When we determine that the carrying value of definite-life intangible assets and long-lived assets may not be recoverable based upon verification of one or more of the above indicators of impairment, we measure any impairment loss based on a projected discounted cash flow method using a discount rate determined by our management to be commensurate with the risk inherent in our current business model.

We are required to assign goodwill to reporting units and to test each reporting unit's goodwill for impairment at least annually and whenever circumstances indicating that recognized goodwill might not be fully recovered are identified. In the first step of a goodwill impairment test, we compare a reporting unit's fair value with its carrying amount to identify any potential goodwill impairment loss. If the carrying amount of a reporting unit exceeds the unit's fair value, we must carry out the second step of the impairment test to measure the amount, if any, of the unit's goodwill impairment loss. Goodwill arising from a business combination with a continuing non-controlling interest must be tested for impairment by using an approach that is consistent with the approach that the entity used to measure the non-controlling interest at the acquisition date. For equity investees we determine annually whether there is an other-than-temporary decline in the fair value of the investment.

Following the downturn in the economy, which contributed to the decline in the prices of certain commodities produced by us during the last quarter of 2008, we updated our impairment test initiated during the fourth quarter and performed throughout the preparation of our 2008 annual financial statements, based on revised forecasted discounted cash flows. As a result, we determined that the goodwill associated with the acquisition of Vale Inco, included within the reportable segment "Non-ferrous — nickel," was partially impaired. The impairment charge recorded in operating results in the fourth quarter of 2008 was US\$950 million. At December 31, 2008, we had US\$1.9 billion of goodwill.

For impairment test purposes, management determined discounted cash flows based on approved budget assumptions. Gross margin projections were based on past performance and management's expectations of market developments. Information about sales prices is consistent with the forecasts included in industry reports, taking into account quoted prices when available and appropriate. The discount rates used reflect

specific risks relating to the relevant assets in each reporting unit, depending on their composition and location.

Recognition of additional goodwill impairment charges in the future would depend on several estimates, including market conditions, recent actual results and management's forecasts. This information will be obtained when our assessment is updated during the fourth quarter of 2009, or earlier if impairment indicators are identified.

It is not possible at this time to determine whether an impairment charge will be taken in the future and if it were to be taken, whether such charge would be material. However, if the global economy remains depressed, we could potentially face additional goodwill impairment charges.

Derivatives

SFAS 133, "Accounting for Derivative Financial Instruments and Hedging Activities," as amended by SFAS 137, SFAS 138 and SFAS 149, requires that we recognize all derivative financial instruments as either assets or liabilities on our balance sheet and measure such instruments at fair value. Changes in the fair value of derivatives are recorded in each period in current earnings or in other comprehensive income (outside net income), in the latter case depending on whether a transaction is designated as an effective cash flow hedge. Fair value adjustments to our derivatives are recorded in current net income, unless designated as cash flow hedges, as permitted under SFAS 133. The corresponding unrealized fair value adjustments to cash flow hedges are recognized directly to shareholders' equity. We use well-known market participants' valuation methodologies to compute the fair value of instruments. To evaluate the financial instruments, we use estimates and judgments related to present values, taking into account market curves, projected interest rates, exchange rates, forward market prices and their respective volatilities, when applicable. We consider non-performance risk on financial instruments and derivative transactions that are executed with financial institutions that we consider to have a high credit quality. The exposure limits to financial institutions are proposed annually by the Executive Risk Committee and approved by the Executive Board. The financial institution's credit risk tracking is performed making use of a credit risk valuation methodology that considers, among other information, published ratings provided by international rating agencies and other management judgments. At December 31, 2008, we did not have any derivative instruments designated as cash flow hedges. In 2008, we recorded to the income statement unrealized losses of US\$811 million in relation to fair value adjustments on derivative instruments.

Income taxes

In accordance with SFAS 109, "Accounting for Income Taxes," we recognize deferred tax effects of tax losses carryforward and temporary differences in our consolidated financial statements. We record a valuation allowance when we believe that it is more likely than not that tax assets will not be fully recoverable in the future.

When we prepare our consolidated financial statements, we estimate our income taxes based on regulations in the various jurisdictions where we conduct business. This requires us to estimate our actual current tax exposure and to assess temporary differences that result from deferring treatment of certain items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which we show on our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income. To the extent we believe that recovery is not likely, we establish a valuation allowance. When we establish a valuation allowance or increase this allowance in an accounting period, we record a tax expense in our statement of income. When we reduce the valuation allowance, we record a tax benefit in our statement of income.

Determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance to be recorded against our net deferred tax assets requires significant management judgment, estimates and assumptions about matters that are highly uncertain. For each income tax asset, we evaluate the likelihood of whether some portion or the entire asset will not be realized. The valuation allowance made in

relation to accumulated tax losses carryforward depends on our assessment of the probability of generation of future taxable profits within the legal entity in which the related deferred tax asset is recorded based on our production and sales plans, selling prices, operating costs, environmental costs, group restructuring plans for subsidiaries and site reclamation costs and planned capital costs.

Contingencies

We disclose material contingent liabilities unless the possibility of any loss arising is considered remote, and we disclose material contingent assets where the inflow of economic benefits is probable. We discuss our material contingencies in Note 20 to our financial statements.

We account for contingencies in accordance with SFAS 5, "Accounting for Contingencies," which requires that we record an estimated loss from a loss contingency when information available prior to the issuance of our financial statements indicates that it is probable that a future event will confirm that an asset has been impaired or a liability has been incurred at the date of the financial statements, and the amount of the loss can be reasonably estimated. In particular, given the nature of Brazilian tax legislation, the assessment of potential tax liabilities requires significant management judgment. By their nature, contingencies will only be resolved when one or more future events occurs or fails to occur, and typically those events will occur a number of years in the future. Assessing such liabilities, particularly in the Brazilian legal environment, inherently involves the exercise of significant management judgment and estimates of the outcome of future events.

The provision for contingencies at December 31, 2008, totaling US\$1.685 billion, consists of provisions of US\$458 million, US\$386 million, US\$828 million and US\$13 million for labor, civil, tax and other claims, respectively.

Employee post-retirement benefits

We sponsor a defined benefit pension plan covering some of our employees. We account for these benefits in accordance with SFAS No. 132, "Employers' Disclosure about Pensions and Other Post-Retirement Benefits" and SFAS No. 158, "Employees' Accounting for Defined Benefit Pension and Other Post-Retirement Plans," as amended.

The determination of the amount of our obligations for pension benefits depends on certain actuarial assumptions. These assumptions are described in Note 18 to our consolidated financial statements and include, among others, the expected long-term rate of return on plan assets and increases in salaries. In accordance with U.S. GAAP, actual results that differ from our assumptions and are not a component of net benefit costs for the year are recorded in other comprehensive income (loss).

Item 6. *Directors, senior management and employees*

BOARD OF DIRECTORS

Overview

Our Board of Directors sets general guidelines and policies for our business and monitors the implementation of those guidelines and policies by our executive officers. The Board of Directors holds regularly scheduled meetings on a monthly basis and holds additional meetings when called by its chairman, vice-chairman or any two directors. Decisions of the Board of Directors require a quorum of a majority of the directors and are taken by majority vote.

Under Brazilian corporate law, the board of directors must have at least three members. Each director and his or her respective alternate, who must be a shareholder of Vale, are elected at a general shareholders' meeting and are subject to removal at any time. Our bylaws state that the Board of Directors consists of eleven members and eleven alternates. Our employees have the right to appoint one director and an alternate. Members of the Board of Directors are elected for two-year terms and can be re-elected. Each alternate

director serves on behalf of a specific board member. In the absence of the director for whom an alternate director is acting, that alternate director may attend and vote at meetings of the Board of Directors.

Nine of our 11 current directors and nine of our current alternate directors were appointed to their positions by Valepar, our controlling shareholder, pursuant to Valepar's shareholders' agreement and the provisions of Brazilian corporate law. For a description of the procedures under which our directors are elected, see *Item 10*.

Additional information—Memorandum and articles of incorporation—Common shares and preferred shares—General. For a description of Valepar's shareholders' agreement, see *Item 7. Major shareholders and related party transactions—Major shareholders—Controlling shareholder.*

Directors of Vale

The following table lists the current members of the Board of Directors. All of our directors were elected or re-elected, as the case may be, at our annual shareholders' meeting in April 2009. The terms of all of our directors will expire in 2011. The alternate position corresponding to Mr. Francisco Augusto da Costa e Silva is vacant.

| | <u>Year first elected</u> | <u>Position</u> | <u>Age</u> |
|--|---------------------------|-----------------|------------|
| Sérgio Ricardo Silva Rosa(1) | 2003 | Chairman | 49 |
| Mário da Silveira Teixeira Júnior(1). | 2003 | Vice-Chairman | 63 |
| José Ricardo Sasserón(1) | 2007 | Director | 52 |
| Jorge Luiz Pacheco(1) | 2003 | Director | 54 |
| Sandro Kohler Marcondes(1) | 2007 | Director | 45 |
| Renato da Cruz Gomes(1) | 2001 | Director | 56 |
| Ken Abe(1) | 2009 | Director | 61 |
| Oscar Augusto de Camargo Filho(1) | 2003 | Director | 71 |
| Luciano Galvão Coutinho(1). | 2007 | Director | 62 |
| Eduardo Fernando Jardim Pinto(2). | 2009 | Director | 46 |
| Francisco Augusto da Costa e Silva(3). | 2005 | Director | 60 |

(1) Appointed by Valepar and approved at the shareholders' meeting.

(2) Appointed by our employees and approved at the shareholders' meeting.

(3) Nominated by Vale's non-controlling shareholders in 2005 and reappointed in 2007 and 2009.

The following table lists the alternate members of the Board of Directors.

| | <u>Year first elected</u> | <u>Position</u> | <u>Age</u> |
|---|---------------------------|--------------------|------------|
| Luiz Felix de Freitas(1) | 2009 | Alternate Director | 50 |
| João Moisés de Oliveira(1). | 2000 | Alternate Director | 64 |
| Rita de Cássia Paz Andrade Robles(1). | 2005 | Alternate Director | 42 |
| Delí Soares Pereira(1) | 2009 | Alternate Director | 59 |
| Luiz Augusto Ckless Silva(1) | 2009 | Alternate Director | 49 |
| Luiz Carlos de Freitas(1) | 2007 | Alternate Director | 56 |
| Hidehiro Takahashi(1) | 2005 | Alternate Director | 53 |
| Wanderlei Viçoso Fagundes(1) | 2003 | Alternate Director | 62 |
| Paulo Sérgio Moreira da Fonseca | 2007 | Alternate Director | 58 |
| Raimundo Nonato Alves Amorim(2) | 2009 | Alternate Director | 50 |

(1) Appointed by Valepar and approved at the shareholders' meeting.

(2) Appointed by our employees and approved at the shareholders' meeting.

Below is a summary of the business experience, areas of expertise, and principal outside business interests of our current directors.

Sérgio Ricardo Silva Rosa. Mr. Rosa joined our Board of Directors in April 2003 and was designated as chairman in May 2003. Mr. Rosa is currently the chief executive officer of Caixa de Previdência dos

Funcionários do Banco do Brasil (“Previ”), where he has been an executive officer since 2000. He is also a director and chief executive officer of Valepar and chief executive officer of Litel Participações S.A. Mr. Rosa has been a director of Brasil Telecom Participações since December 2000, and of Sauípe S.A. since May 2001. Prior to joining Previ, Mr. Rosa served as president of the Confederação Nacional dos Bancários from June 1994 to May 2000. From January 1995 to December 1996, Mr. Rosa was an alderman of the municipality of São Paulo. He received his degree in journalism from the Universidade de São Paulo.

Mário da Silveira Teixeira Júnior. Mr. Teixeira joined our Board of Directors in April 2003, and was designated vice-chairman in May 2003. He started his career at Bradesco Organization in July 1971, at Bradesco S.A. Corretora de Títulos e Valores Mobiliários, and served as an officer there from March 1983 to January 1984; he was subsequently transferred to Banco Bradesco de Investimento S.A. and Banco Bradesco S.A. (“Banco Bradesco”). At Banco Bradesco, he was elected department director in January 1984; executive managing officer in March 1992 and executive vice-president in March 1998. He was also a member of the board of directors of Banco Bradesco from March 1999 to July 2001, when he resigned to preside over Bradespar S.A., a company created after partial spin-off of Banco Bradesco. He returned as member of the board directors of Banco Bradesco in March 2002, a position he holds to date. Currently, he is a member of the board of directors of Bradesco Leasing S.A.—Arrendamento Mercantil. He is a member of the managing body and managing director of Fundação Bradesco. He is also a member of the board of directors and managing director of Foundation Institute for Digestive System and Nutrition Diseases (“FIMADEN”). In addition to these activities, he is member of the board of directors of Bradespar S.A., vice-chairman of the board of directors of Valepar S.A., and a sitting member of the board of directors of Banco Espírito Santo de Investimentos S.A., headquartered in Lisbon, Portugal. He was executive vice-president of the National Association of the Investment Banks (“ANBID”); member of the board of directors of the Brazilian Association of Publicly-Held Companies (“ABRASCA”); vice-chairman of the board of directors of BES Investimento do Brasil—Banco de Investimento, member of the board of directors of Companhia Paulista de Força e Luz—CPFL, Companhia Piratininga de Força e Luz, Companhia Siderúrgica Nacional, CPFL Energia S.A., CPFL Geração de Energia S.A., Latasa S.A., São Paulo Alpargatas S.A., Tigre S.A. Tubos e Conexões, VBC Energia S.A. and VBC Participações S.A. He received his degree in civil engineering and business administration.

José Ricardo Sasseron. Mr. Sasseron joined our Board of Directors in April 2007. Mr. Sasseron is currently an officer of Previ. He began his career in 1980 at Banco do Brasil S.A. (Banco do Brasil). From 1996 to 1998, he was chairman of the fiscal council of Previ. Since 2001, he has been a member of the Conselho de Gestão e Previdência Complementar (“CGPC”) and president of the Associação Nacional dos Participantes de Fundo de Pensão (“ANAPAR”). From 2005 to 2007, he was chairman of the board of directors of Sauípe S.A., and in 2004 he returned to Previ, where he was a member of the *Conselho Deliberativo* until 2006. He received his degree in history from the Universidade de São Paulo.

Jorge Luiz Pacheco. Mr. Pacheco joined our Board of Directors in April 2003. Mr. Pacheco has been manager of strategic investments at Previ since December 2000. From 1973 to 2000, he worked at Banco do Brasil. He has also served as a director of Valepar and an officer of Litel, and has held an officer position in the fiscal council of Companhia Siderúrgica Belgo-Mineira. He received his degree in economics from Universidade Cândido Mendes, and post-graduate degrees in finance and business management from Instituto Brasileiro de Mercado de Capitais (“IBMEC”) in Rio de Janeiro.

Sandro Kohler Marcondes. Mr. Marcondes joined our Board of Directors in April 2007. He is currently an officer of Banco do Brasil, where he has worked in various capacities both in Brazil and abroad since 1982. Since 2005, he has been an officer of BB Leasing, Banco do Brasil Securities in New York, BB Securities in London and BB Tur. Mr. Marcondes received his bachelor’s degree in business administration from the Universidade Estadual de Guarapuava and a master’s degree from Fundação Getúlio Vargas in São Paulo.

Renato da Cruz Gomes. Mr. Gomes joined our Board of Directors in April 2001. Mr. Gomes has been an executive officer of Bradespar S.A. since 2000. From 1976 to 2000, Mr. Gomes held a variety of positions at BNDES and he has served on the boards of directors of Aracruz Celulose S.A., Iochpe Maxion S.A., Bahia

Sul Celulose S.A., Globo Cabo S.A. and Latasa. He was also a member of the advisory board of Fator Sinergia—Fundo de Investimento de Valores Mobiliários em Ações and the investment committee of Bradesco Templeton Value and Liquidity Fund. Mr. Gomes has been an executive officer of Valepar since April 2001 and is a member of Valepar’s board of directors. He received his degree in engineering from the Universidade Federal do Rio de Janeiro, and his post-graduate degree in management development from Sociedade de Desenvolvimento Empresarial (“SDE”).

Ken Abe. Mr. Abe joined our Board of Directors in April 2009. From October 2003 to April 2006, Mr. Abe served as member of the board of directors of Valepar. He joined Mitsui & Co., Ltd. in 1970, where he has held a variety of positions, and is currently its executive director, executive vice-president. Mr. Abe has a degree in economics from Waseda University.

Oscar Augusto de Camargo Filho. Mr. Camargo Filho joined our Board of Directors in October 2003. He is currently a partner of CWH Consultoria Empresarial. From 1999 to 2003, Mr. Camargo Filho served as chairman of the board of directors of MRS. From 1973 to 2003, he held various positions with CAEMI—Mineração e Metalurgia S.A. (“CAEMI”), including chief executive officer and member of its board of directors. From 1963 until 1973, he held a variety of positions at Motores Perkins S.A., including commercial officer and sales and services manager. He received his law degree from the Universidade de São Paulo.

Luciano Galvão Coutinho. Mr. Coutinho joined our Board of Directors in August 2007. Mr. Coutinho is the president of BNDES. He holds a Ph.D. in economics from Cornell University and is an invited professor at Universidade Estadual de Campinas (“UNICAMP”). A specialist in international and industrial economics, he has written and edited several books and articles, that have been published in Brazil and abroad. In 1994, Mr. Coutinho coordinated a study on the competitiveness of the Brazilian industry, which entailed an extensive mapping of the Brazilian industrial sector by nearly one hundred specialists. He was executive secretary of the Ministry of Science and Technology from 1985 to 1988, where he participated in the restructuring of the ministry and in policy-making with respect to complex areas such as biotechnology, information technology, chemistry, mechanics and new materials. Mr. Coutinho holds an undergraduate degree in economics from the Universidade de São Paulo, where he received the Gastão Vidigal award for best economics student. He holds a master’s degree in economics from the Economic Research Institute of the Universidade de São Paulo. Mr. Coutinho has been a visiting professor at the Universidade de São Paulo, the University of Paris XIII, the University of Texas and the Ortega y Gasset Institute. Before assuming the presidency of BNDES, Mr. Coutinho was a partner of LCA Consultores, where he provided expert advice on antitrust, international trade and economics.

Eduardo Fernando Jardim Pinto. Mr. Jardim Pinto joined our Board of Directors in April 2009. He also served on our Board from 2005 to 2007. Since 1983 he has held several positions at Vale, including specialized train conductor. Currently, he is a coordinator of CUTVALE, and since August 1997 he has been president of the railroad employees union in the states of Pará, Maranhão and Tocantins. He received a law degree from Faculdade São Luís.

Francisco Augusto da Costa e Silva. Mr. Costa e Silva joined our Board of Directors in April 2005. He is also a partner of Bocater, Camargo, Costa e Silva Advogados Associados, a law firm in Rio de Janeiro. Mr. Costa e Silva also serves as a director of the *Comitê de Ética de Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais* (“APIMEC”) of Banco de Brasil, and of the development committee of Pontifícia Universidade Católica in Rio de Janeiro. He started his career at BNDES, where he held a variety of positions, including executive officer. Previously, he served on the board of directors of several companies and entities, namely Solpart Participações S.A., Aracruz Celulose S.A., Pisa Papel de Imprensa S.A., *Fundação de Assistência e Previdência Social do BNDES* and the Rio de Janeiro Stock Exchange. Mr. Costa e Silva also served as president of the CVM and of the Council of Securities Regulators of the Americas (“COSRA”) joined *Comissão da Moeda e do Crédito* (“COMOC”) and the Supplemental Pension Plan Council and served on the executive committee of the International Organization of Securities Commissions (“IOSCO”). Mr. Costa e Silva received his law degree from the Universidade do Estado da Guanabara, currently UERJ, and an MBA degree from the Universidade Federal do Rio de Janeiro.

EXECUTIVE OFFICERS

Overview

The executive officers are our legal representatives and are responsible for day-to-day operations and the implementation of the general policies and guidelines set forth by the Board of Directors. Our bylaws provide for a minimum of six and a maximum of eleven executive officers. The Board of Directors appoints executive officers for two-year terms and may remove them at any time. Under Brazilian corporate law, executive officers must be Brazilian residents. The executive officers hold regularly scheduled meetings on a weekly basis and hold additional meetings when called by any executive officer.

Executive officers

The following table lists our current executive officers. The term of each of our executive officers expires in May 2009.

| | <u>Year of appointment</u> | <u>Position</u> | <u>Age</u> |
|--|--------------------------------|---|------------|
| Roger Agnelli | 2001 | Chief Executive Officer | 49 |
| Fabio de Oliveira Barbosa | 2002 | Chief Financial Officer | 48 |
| José Carlos Martins | 2004 | Executive Officer (Ferrous Minerals) | 59 |
| Eduardo de Salles Bartolomeo | 2006 | Executive Officer (Logistics, Project Management and Sustainability) | 45 |
| Carla Grasso | 2001 | Executive Officer (Human Resources & Corporate Services) | 47 |
| Tito Botelho Martins | 2006 | Executive Officer (Non-ferrous Minerals) | 46 |

We have summarized below the experience, areas of expertise, and principal outside business interests of our current executive officers.

Roger Agnelli. Mr. Agnelli was appointed as our chief executive officer and president in July 2001. Prior to his appointment, he was the chairman of our Board of Directors from May 2000 until July 2001. Mr. Agnelli developed his professional career at the Bradesco Financial Group, one of the largest private financial institutions in Brazil, from 1981 to 2001, where he served as executive director of Banco Bradesco from 1998 until 2000. Given his experience in the areas of investment, mergers & acquisitions and asset management, he was director of UGB and vice-president of Brazil's National Association of Investment Banks ("ANBID"). Mr. Agnelli was also president and chief executive officer of Bradespar from March 2000 to July 2001 and a member of the board of directors of several major companies in Brazil and abroad, such as Companhia Paulista de Força e Luz, CSN, Latasa S.A., VBC Energia, Brasmotor, Mahle Metal Leve, Rio Grande Energia, Suzano Petroquímica, Serra da Mesa Energia, Duke Energy, Spectra Energy and Petrobras. From 2003 until 2007, he was a member of the Economic and Social Development Council ("CDES"), an advisory body to the president of Brazil. He is presently a member of the Private Sector Advisory Council ("CONEX") of the foreign trade chamber of the presidency of Brazil and a member of the international advisory investment council to the president of the Republic of Mozambique, Dr. Armando Guebuza. He is vice-president of the center of industries of the state of Rio de Janeiro, and a member of the strategic superior council of the Federation of Industries of the State of São Paulo ("FIESP"). He is also a member of the board of directors of ABB Ltd, Anadarko's Global Advisory Board and the international advisory committee of the NYSE. Mr. Agnelli has a degree in economics from the Fundação Armando Álvares Penteado in São Paulo.

Carla Grasso. Ms. Grasso was appointed as our executive officer for human resources and corporate services in October 2001. She joined us in 1997 as chief of personnel, management and information technology officer of our corporate centre, a post she held until assuming her current position. Prior to joining us, Ms. Grasso was chairperson of Brazil's Pension Fund Authority and head of the office of international affairs of the Ministry of Social Welfare. She was also head of the department of fiscal policies of the Ministry of Finance and coordinator of the social and macroeconomic areas in the office of the president of Brazil. She is vice-president of Vale Inco's executive board of directors and member of Curator's Council of

Fundação Vale. Ms. Grasso holds a degree in economics from the Universidade de Brasília and a master's degree in economic policies, and has attended other executive education programs. For three years, she lectured economics and advanced mathematics at the Centro Universitário do Distrito Federal and at the Universidade Católica de Brasília.

Eduardo de Salles Bartolomeo. Mr. Bartolomeo was appointed as our executive officer of logistics, engineering and projects management in January 2007. From August to December 2006, Mr. Bartolomeo was president of Petroflex. Between January 2004 and July 2006, he was an officer of our logistics operations department. Mr. Bartolomeo began his career as a trainee in 1988 at COSIPA, and a year later he became head of the steel conversion sector, a position he held until 1991. His next professional experience was at Americas Brewery Co. ("AMBEV"), the world's third largest brewery company, where he worked from 1994 until 2003. At AMBEV, he held several executive positions such as manager of corporate planning, plant manager, corporate logistics manager and regional director. Mr. Bartolomeo is a member of the boards of directors of Log-in and MRS. Mr. Bartolomeo graduated in metallurgical engineering from the Universidade Federal Fluminense, and an MBA from the Katholieke University at Leuven in Belgium.

Fabio de Oliveira Barbosa. Mr. Barbosa was appointed as our chief financial officer and investor relations officer in May 2002, and he is also responsible for the new business development area. From April 2000 to March 2002, Mr. Barbosa served as a member of our Board of Directors. Prior to joining Vale, Mr. Barbosa has served as Secretary of the National Treasury at the Ministry of Finance from July 1999 until January 2002, after having held the position of assistant secretary in previous years. From 1992 to 1995, he served as advisor to the executive board of directors of the World Bank, in Washington, DC. From 1985 to 1990, Mr. Barbosa held various relevant positions at different public institutions, such as Institute for Applied Economic Research ("IPEA"), the Ministry of Industry and Commerce, the institute for development of the state of Paraná, the Ministry of Labor, and the Ministry of Federal Planning, where he worked as an economic advisor and head of the unit for economic analysis. From 1990 to 1992, he was first a deputy and then a head of the fiscal policy unit at the Ministry of Finance. He has also been the chairman of the board of directors of CAEMI, Banco do Estado de São Paulo S.A., and member of the boards of Banco do Brasil, Caixa Econômica Federal, Companhia Siderúrgica de Tubarão and Telecomunicações de São Paulo ("TELESP"). He is also a member of the Board of Directors of BM&F Bovespa. Mr. Barbosa holds a degree in economics from the Universidade Federal de Minas Gerais and concluded a master's (all but dissertation) in economics from the Universidade de Brasília. He has attended several executive educational programs at INSEAD (France), IMD (Switzerland), Sloan School of Management, MIT (USA), and a specialized course in financial programming and policy at the International Monetary Fund.

José Carlos Martins. Mr. Martins was appointed as our executive officer for ferrous minerals in April 2005. From April 2004 until March 2005, he was our executive officer for new business development. With more than 40 years of solid experience in the metal industry, he held, from 1986 until 1996, several important positions at Aços Villares, including the position of officer and later on chief executive officer. From 1997 to 1999, he was the executive officer for steel production of CSN. In 1999, he became president of Latasa, one of the largest producers of aluminum beverage cans of Latin America. When Rexam UK bought Latasa in 2003, he became the president of Rexam in South America for the aluminum can production and marketing. He holds a degree in economics from Pontifícia Universidade Católica in São Paulo.

Tito Botelho Martins. Mr. Martins was appointed Vale Inco's president and chief executive officer as of January 1, 2009, and continues to serve as our executive officer for non-ferrous minerals. He oversees our nickel, copper, aluminum and coal operations. He previously served as the executive officer for corporate affairs and energy. Prior to that, he served as the managing officer of the corporate finance department from August 1999 to September 2003. Previously, from 1985 to 1999, he held various positions in our financial departments. Mr. Martins was also the chief executive officer of CAEMI and chairman and chief executive officer of MBR from 2003 to 2006. As a result of his expertise in the fields of administration and finance, Mr. Martins has been a member of the board of directors of several corporations both in Brazil and abroad, including Fundação Vale do Rio Doce de Seguridade Social ("Valia"), FCA, Samarco Mineração S.A., FERROBAN — Ferrovias Bandeirantes S.A., Aço Minas Gerais S.A. ("Açominas"), Gulf Industrial Investment Company ("GIIC") in Bahrain, Itabasco and Hispanobras. He is the chairman of the boards of

directors of MRN, Alunorte and Albras. Mr. Martins holds a degree in economics from the Universidade Federal de Minas Gerais and a master's degree in management from the Universidade Federal do Rio de Janeiro. He has attended executive education programs at INSEAD, France, and at the Kellogg School of Management of Northwestern University.

FISCAL COUNCIL

Under Brazilian corporate law, corporations may have a fiscal council, a corporate body whose members are elected by shareholders and are independent of our management and external auditors. The primary responsibility of the fiscal council under Brazilian corporate law is to monitor management's activities and review the financial statements, reporting its findings to the shareholders. We have established a permanent fiscal council, which may have from three to five members. In addition, Vale's bylaws have empowered our Fiscal Council to take responsibility for additional matters as described below.

In compliance with the listed company audit committee rules of the NYSE and the SEC, effective July 31, 2005, we have designated and empowered our Fiscal Council to perform the role of the audit committee in reliance on the exemption set forth in Exchange Act Rule 10A-3(c)(3). This measure was undertaken pursuant to an amendment to our bylaws approved by the shareholders on July 19, 2005.

Under our bylaws, our Fiscal Council is responsible for establishing procedures for the receipt, retention and treatment of any complaints related to accounting, controls and audit issues, as well as procedures for the confidential, anonymous submission of concerns regarding such matters; recommending and assisting our Board of Directors in the appointment, establishment of compensation and dismissal of the independent auditors; pre-approving the services to be rendered by our independent auditors; and overseeing the work performed by the external auditors, with powers to suspend the payment of compensation to the independent auditors and to resolve disagreements between management and the auditors regarding financial reporting.

The members of our Fiscal Council must meet applicable eligibility requirements under Brazilian corporate law. A member of our Fiscal Council cannot (i) hold office as a member of the Board of Directors, fiscal council or advisory committee of any company that competes with Vale or otherwise has conflicting interests with Vale, unless compliance with this requirement is expressly waived by a decision taken by the shareholders in a shareholders' meeting, (ii) be an employee or member of the management of Vale or its subsidiaries and affiliates, or (iii) be a spouse or relative within the third degree by affinity or consanguinity of an officer or director of Vale.

On April 16, 2009, the shareholders elected the current members of the Fiscal Council and their respective alternates. The members of the Fiscal Council are elected for one-year terms. Holders of preferred shares, including the golden shares, may elect one member of the Fiscal Council and the respective alternate. Minority holders of common shares comprising at least 10% of the common shares outstanding may also elect one member of the Fiscal Council and the respective alternate. The terms of the members of the Fiscal Council expire at the next annual shareholders' meeting following their election. The following table lists the current members of the Fiscal Council.

| | <u>First year of appointment</u> |
|---|----------------------------------|
| Bernard Appy(1) | 2006 |
| Antônio José Figueiredo Ferreira(2) | 2008 |
| Marcelo Amaral Moraes(2) | 2004 |
| Aníbal Moreira dos Santos(2) | 2005 |

(1) Appointed by the preferred shareholders.

(2) Appointed by Valepar.

The following table lists the alternate members of the Fiscal Council.

| | <u>First year of appointment</u> |
|---|----------------------------------|
| Marcus Pereira Aucélio(1) | 2008 |
| Cícero da Silva(2) | 2009 |
| Oswaldo Mário Pêgo de Amorim Azevedo(2) | 2004 |
| Vacant | – |

(1) Appointed by the preferred shareholders.

(2) Appointed by Valepar.

We have summarized below the experience, areas of expertise, and principal outside business interests of the current members of our Fiscal Council.

Bernard Appy. Mr. Appy was elected as a member of our Fiscal Council in April 2006. Since August 2008, he has served as secretary for economic and fiscal reforms to the Brazilian Ministry of Finance. From January 2003 to May 2005 and from March 2006 to April 2007, he was deputy minister at the Brazilian Ministry of Finance. From May 2005 to March 2006 and from April 2007 to August 2008, he held the position of secretary for economic policies at the Ministry of Finance. Mr. Appy is a member of faculty of the economics department of Pontifícia Universidade Católica in São Paulo since 1997. From 1995 to 2002, he was a partner of LCA Consultores Ltda., a consulting firm in economics. Mr. Appy received a graduate degree in economics from the Universidade de São Paulo, and concluded a masters program in economics at the Universidade Estadual de Campinas.

Antônio José de Figueiredo Ferreira. Mr. Ferreira was appointed as a member of our Fiscal Council in April 2008. From May 2005 until April 2008, he was chairman of our accounting committee, (previously known as the audit committee). Mr. Ferreira worked for Banco do Brasil for 32 years, where he held positions in the audit and information technology areas. From 1996 until May 2007, Mr. Ferreira served as internal audit chief of Previ. Mr. Ferreira received a degree in mechanical engineering from the Universidade do Estado do Rio de Janeiro, and a law degree from the Universidade Federal do Rio de Janeiro. He also concluded an MBA in internal auditing at the Universidade de São Paulo and in finance and corporate law at Fundação Getúlio Vargas in Rio de Janeiro. Mr. Ferreira has also concluded an MBA in management and private pension programs from the Wharton School of the University of Pennsylvania.

Marcelo Amaral Moraes. Mr. Moraes has served as a member of our Fiscal Council since 2004. He joined Grupo Stratus in August 2006 as the officer responsible for specialized funds area. Prior to that, Mr. Moraes worked at Bradespar as an investment manager for six years. From 1995 to 2000, he worked in the mergers and acquisitions and capital markets departments of Banco Bozano, Simonsen. In 2004, he was an alternate member of the board of directors of Net Serviços S.A., and in 2003, he was an alternate member of our Board of Directors. Mr. Moraes has a graduate degree in economics from the Universidade Federal do Rio de Janeiro and an MBA from Universidade Federal do Rio de Janeiro/COPPEAD.

Aníbal Moreira dos Santos. Mr. Santos has served as a member of our Fiscal Council since 2005. He was an executive officer of Caemi Canada Inc., Caemi Canada Investments Inc., CMM Overseas, Ltd., Caemi International Holdings BV and Caemi International Investments NV, subsidiaries of Caemi from 1998 to 2003, when he retired. From 1983 to 2003, he was chief accounting officer of CAEMI. From 1999 to 2003, he was a member of the fiscal council of CADAM S.A., and from 1998 to 2003, he was an alternate member of the board of directors of MBR and EBM. Mr. Santos has a degree in accounting from Fundação Getúlio Vargas.

ADVISORY COMMITTEES

Advisory committees

Our bylaws establish the following technical and advisory committees to the Board of Directors.

- *The Executive Development Committee* is responsible for reporting on general human resources policies, analyzing and reporting on the adequacy of compensation levels for our executive officers, proposing and updating guidelines for evaluating the performance of our executive officers, and reporting on policies relating to health and safety.
- *The Strategy Committee* is responsible for reviewing and making recommendations to the Board of Directors concerning: the strategic guidelines and plan submitted annually to the board by our executive officers, our annual and multi-annual investment budgets, investment or divestiture opportunities submitted by executive officers, and mergers and acquisitions.
- *The Finance Committee* is responsible for reviewing and making recommendations to the Board of Directors concerning: our corporate risks and financial policies and the internal financial control systems, compatibility between the level of distributions to shareholders and the parameters established in the annual budget, and the consistency between our general dividend policy and capital structure.
- *The Accounting Committee* is responsible for: nominating an employee to be responsible for our internal auditing, reporting on auditing policies and the execution of our annual auditing plan, tracking the results of our internal auditing, and identifying, prioritizing, and submitting recommendations to the executive officers, and analyzing and making recommendations with regard to our annual report and financial statements.
- *The Governance and Sustainability Committee* is responsible for: evaluating and recommending improvements to the effectiveness of our corporate governance practices and the functioning of our Board of Directors, recommending improvements to the code of ethical conduct and our management system in order to avoid conflicts of interests between Vale and its shareholders or management, issuing reports on potential conflicts of interest between Vale and its shareholders or management, and reporting on policies relating to corporate responsibility, such as environmental and social responsibility.

COMPENSATION OF DIRECTORS, EXECUTIVE OFFICERS, AND MEMBERS OF THE FISCAL COUNCIL AND ADVISORY COMMITTEES

General

Under our bylaws, our shareholders are responsible for establishing the aggregate compensation we pay to the members of our Board of Directors and our executive officers. Our shareholders determine this annual aggregate compensation at the general shareholders' meeting each year. In order to establish aggregate director and officer compensation, our shareholders usually take into account various factors, which range from attributes, experience and skills of our directors and executive officers to the recent performance of our operations. Once aggregate compensation is established, the members of our Board of Directors are then responsible for distributing such aggregate compensation in compliance with our bylaws among the directors and executive officers, in the latter case, at the recommendation of the Chief Executive Officer. The Executive Development Committee of our Board of Directors makes recommendations to the board concerning the annual aggregate compensation of the executive officers. In addition to fixed compensation, our executive officers are also eligible for bonuses and incentive payments.

For the year ended December 31, 2008, we paid US\$33 million in aggregate to the executive officers, of which US\$9 million was fixed compensation and US\$24 million was variable compensation and benefits in kind granted, and US\$0.9 million in aggregate to the members of our Board of Directors for services in all

capacities, all of which was fixed compensation. The amounts accrued to provide pension, retirement or similar benefits for our executive officers was US\$0.8 million. There are no similar benefits for the members of our Board of Directors.

As of March 31, 2009, the total number of common shares owned by our directors and executive officers was 158,535, and the total number of preferred shares owned by our directors and executive officers was 1,051,416. None of our directors or executive officers beneficially owns 1% or more of any class of our shares.

Fiscal Council

We paid an aggregate of US\$475,400 to members of the Fiscal Council in 2008. In addition, the members of the Fiscal Council are reimbursed for travel expenses related to the performance of their functions.

Advisory committees

We paid an aggregate of US\$148,900 to members of our advisory committees in 2008. Under article 15 of our bylaws, those members who are directors or officers of Vale are not entitled to additional compensation for participating on a committee. Members of our advisory committees are reimbursed for travel expenses related to the performance of their functions.

EMPLOYEES

General

The following table sets forth the number of our employees by category as of the dates indicated.

| | At December 31, | | |
|--------------------------------|------------------------|---------------|---------------|
| | 2006 | 2007 | 2008 |
| Ferrous minerals | 21,143 | 21,700 | 23,859 |
| Logistics | 10,661 | 11,679 | 13,049 |
| Non-ferrous minerals | 18,126 | 20,955 | 22,902 |
| Administrative | <u>2,716</u> | <u>2,709</u> | <u>2,680</u> |
| Total(1) | <u>52,646</u> | <u>57,043</u> | <u>62,490</u> |

(1) The increase in the number of employees is mainly due to organic growth and the strategic decision to move in-house certain previously outsourced services.

Labor relations

We negotiate wages and benefits with a large number of unions worldwide that represent our employees. We have experienced strikes and work stoppages at our Voisey's Bay operations as recently as September 2006, at our Sudbury operations as recently as April 2007 and at our Indonesian operations as recently as November 2007. We have collective agreements with unionized employees at our Australian, Brazilian, Canadian, Indonesian, New Caledonian and U.K. operations.

Wages and benefits

Wages and benefits for Vale and its subsidiaries are generally established on a company-by-company basis. Vale establishes its wage and benefits programs for Vale and its subsidiaries other than Vale Inco in periodic negotiations with its unions. In November 2007, Vale reached a two-year agreement with the Brazilian unions, which is valid until November 2009. A salary increase of 7% was implemented in November 2008 for our employees in Brazil as part of a two-year agreement reached in 2007. The provisions of Vale's collective bargaining agreements with its unions also apply to Vale's non-unionized employees. Vale Inco establishes wages and benefits for unionized employees through collective agreements. For non-unionized employees, Vale Inco establishes its annual wage program in January of each year for all locations other than

the U.K., which establishes its annual wage program in August. Vale and its subsidiaries provide their employees and their dependents with other benefits, including supplementary medical assistance.

Pension plans

Brazilian employees of Vale and of most of its Brazilian subsidiaries are eligible to participate in pension plans managed by Fundação Vale do Rio Doce de Seguridade Social (“Valia”). Sponsored by Vale and such subsidiaries, Valia is a closed, nonprofit, complementary social security foundation with financial and administrative autonomy. Most of the participants in plans held by Valia are participants in a plan named “Vale Mais,” which Valia implemented in May 2000. This plan is primarily a defined contribution plan with a defined benefit feature relating to service prior to May 2000 and another defined benefit feature relating to the risk coverage events such as temporary or permanent disability and death. Valia also holds the “old plan” which is a defined benefit plan, with benefits based on years of service, salary and social security benefits. This plan covers retired participants and their beneficiaries, as well as a relatively small number of employees that declined to transfer from the old plan to the “Vale Mais” plan when it was established in May 2000. Employees of Albras and Alunorte participate in different pension plans maintained by Bradesco Vida e Previdência S.A.

Vale Inco sponsors defined benefit pension plans principally in Canada, the United States, the United Kingdom and Indonesia. Each of the jurisdictions in which these plans is offered has legislation which, among other statutory requirements, cover minimum contributions to be made to these plans to meet their potential liabilities as calculated in accordance with such legislation. Effective January 1, 2009 the defined benefit plan for non-unionized staff employees in Canada was closed to new participants and effective February 1, 2009 the defined benefit plan in Indonesia was closed to new participants. A defined contribution plan will be introduced for new employees effective July 1, 2009, and existing employees will have the opportunity to elect to move from the defined benefit to the defined contribution plan effective January 1, 2010. Vale Inco’s subsidiary, Vale Inco Newfoundland and Labrador Limited, has a defined contribution pension plan. In addition, Vale Inco provides supplemental retirement benefits arrangements for eligible employees.

Performance-based compensation

All Vale parent-company employees receive incentive compensation each year in an amount based on the performance of Vale, the performance of the employee’s department and the performance of the individual employee. Similar incentive compensation arrangements are in place at our subsidiaries.

Certain Vale employees also receive deferred bonuses with vesting periods of three years based on Vale’s performance as measured by total shareholder return relative to a group of peer companies over the vesting period. Since 2008, qualifying management personnel are eligible to participate in a bonus program tied to share ownership. Under the program, an employee may elect to invest part of his bonus in Vale shares. If the employee continues to be employed by us and to hold all the shares, after three years the employee will receive an additional bonus payment sufficient to purchase for his account, in the open market, a number of additional shares equal to the number of shares the employee purchased under the program. In 2008, 883 employees elected to participate in the program, and in 2009 1,144 employees elected to participate in the program.

Item 7. Major shareholders and related party transactions

MAJOR SHAREHOLDERS

Overview

Major Vale Shareholders. The following table sets forth certain information regarding beneficial ownership of our common and preferred shares as of March 31, 2009, by each person we know to be the beneficial owner of more than 5% of any class of our outstanding capital stock, and by all directors and executive officers as a group.

| | <u>Shares owned</u> | <u>% of class</u> |
|---|---------------------|-------------------|
| <i>Common shares</i> | | |
| Valepar(1) | 1,716,435,045 | 52.7% |
| BNDESPAR(2) | 218,386,481 | 6.7 |
| Directors and executive officers as a group | 158,535 | * |
| <i>Preferred shares(3)</i> | | |
| Directors and executive officers as a group | 1,051,416 | * |
| <i>Golden shares</i> | | |
| Brazilian government | 12 | 100% |

- (1) See the following table for more information on Valepar's shareholders. Because each of the shareholders of Valepar has the right to veto the transfer by Valepar of any shares it holds in Vale, each of the Valepar shareholders may be deemed a beneficial owner of the entire Valepar stake under the rules of the SEC. In general, a person who has or shares voting power or investment power with respect to securities is treated as a beneficial owner of those securities. This does not imply that the person has the economic or other benefits of ownership.
- (2) Excludes common shares owned directly by Valepar, in which BNDESPAR has an ownership interest.
- (3) The Brazilian government (National Treasury) owns, through Fundo Garantidor das Parcerias Público-Privadas, 60,904,092 preferred shares, representing 2.9% of the outstanding preferred shares, and BNDESPAR owns 8,528,679 preferred shares, representing 0.4% of the outstanding preferred shares.
- (*) Represents less than 1% of the outstanding shares of the class.

Valepar shareholders. The tables below set forth information as of March 31, 2009 regarding share ownership of the common shares of Valepar and of its shareholder Litel Participações S.A.

| | <u>Number of Valepar common shares owned</u> | <u>Percent of Valepar common shares owned</u> |
|---------------------------------------|--|---|
| <i>Valepar</i> | | |
| Litel Participações S.A.(1) | 637,443,857 | 49.00% |
| Eletron S.A.(2) | 380,708 | 0.03 |
| Bradespar S.A.(3) | 275,965,821 | 21.21 |
| Mitsui & Co. Ltd.(4) | 237,328,059 | 18.24 |
| BNDESPAR(5) | 149,787,385 | 11.51 |
| Total | <u>1,300,905,830</u> | <u>100%</u> |

- (1) Litel owns 200,864,272 preferred class A shares of Valepar, which represents 71.41% of the preferred class A shares. Litela, an affiliate of Litel, owns 80,416,931 preferred class A shares of Valepar, which represents 28.59% of the preferred class A shares. LitelB, also an affiliate of Litel, owns 25,862,068 preferred class C shares of Valepar, which represents 29.25% of the preferred class C shares.
- (2) Elétron owns 32,729 preferred class C shares of Valepar, which represents 0.04% of the preferred class C shares.
- (3) Bradespar is controlled by a control group consisting of Cidade de Deus—Cia. Comercial Participações, Fundação Bradesco, NCF Participações S.A. and Nova Cidade de Deus Participações S.A. Bradespar owns 23,724,193 preferred class C shares of Valepar, which represents 26.83% of the preferred class C shares.
- (4) Mitsui owns 20,402,587 preferred class C shares of Valepar, which represents 23.08% of the preferred class C shares.
- (5) BNDESPAR owns 18,394,143 preferred class C shares of Valepar, which represents 20.80% of the preferred class C shares.

| | <u>Number of Litel common shares owned</u> | <u>Percent of Litel common shares owned</u> |
|---|--|---|
| <i>Litel Participações S.A.</i> (1) | | |
| BB Carteira Ativa | 193,740,121 | 78.40% |
| Carteira Ativa II | 53,387,982 | 21.60% |
| Previ | 19 | 0% |
| Others | 219 | — |
| Directors and executive officers as a group | 4 | — |
| Total | <u>247,128,345</u> | <u>100%</u> |

(1) Each of BB Carteira Ativa and Carteira Ativa II is a Brazilian investment fund. BB Carteira Ativa is 100% owned by Previ. Carteira Ativa II is 59.36% owned by Funcef, 35.81% owned by Petros and 4.84% owned by Fundação Cesp. Each of Previ, Petros, Funcef and Fundação Cesp is a Brazilian pension fund.

Brazilian government holdings. In 1997, we were privatized by the Brazilian government, which sold its controlling interest to Valepar. The National Treasury and BNDES, the state-owned development bank, subsequently sold additional shares in 2002. Currently, BNDESPAR, a wholly-owned subsidiary of BNDES, owns common shares representing 6.7% of our outstanding common shares and 0.4% of our outstanding preferred shares. The Brazilian government now owns 2.9% of our outstanding preferred shares (not counting shares held by BNDESPAR), and 12 golden shares of Vale, which give it veto powers over certain actions that we could propose to take, such as changes to our name, the location of our headquarters and our corporate purpose as it relates to mining activities. For a detailed description of the veto powers granted to the Brazilian government by virtue of its ownership of the golden shares, see *Item 10. Additional information—Common shares and preferred shares—General.*

Controlling shareholder

Valepar S.A. is our controlling shareholder. The shareholders of Valepar are parties to a shareholders' agreement, ending in 2017. This agreement:

- grants rights of first refusal on any transfer of Valepar shares and preemptive rights on any new issue of Valepar shares;
- prohibits the direct acquisition of Vale shares by Valepar's shareholders unless authorized by the other shareholders party to the agreement;
- prohibits encumbrances on Valepar shares (other than in connection with financing an acquisition of Vale shares);
- requires each party generally to retain control of its special purpose company holding its interest in shares of Valepar, unless the rights of first refusal mentioned above are observed;
- allocates seats on Valepar's and Vale's boards among representatives of the parties;
- commits the Valepar shareholders to support a Vale dividend policy of distributing 50% of Vale's net profit for each fiscal year, unless the Valepar shareholders commit to support a different dividend policy for a given year;
- provides for the maintenance by Vale of a capital structure that does not exceed specified debt to equity thresholds;
- requires the Valepar shareholders to vote their indirectly held Vale shares and to cause their representatives on Vale's Board of Directors to vote only in accordance with decisions made at Valepar meetings held prior to meetings of Vale's Board of Directors or shareholders; and
- establishes supermajority voting requirements for certain significant actions relating to Valepar and to Vale.

Pursuant to the Valepar shareholders' agreement, Valepar cannot support any of the following actions with respect to Vale without the consent of at least 75% of the holders of Valepar's common shares:

- any amendment of Vale's bylaws;
- any increase of Vale's capital stock by share subscription, creation of a new class of shares, change in the characteristics of the existing shares or any reduction of Vale's capital stock;
- any issuance of any debentures of Vale, whether convertible into shares of Vale, participation certificates upon compensation, call options or any other security of Vale;
- any determination of issuance price for any new shares of capital stock or other security of Vale;
- any amalgamation, spin-off or merger to which Vale is a party, as well as any change to Vale's corporate form;
- any dissolution, receivership, bankruptcy or any other voluntary act for financial reorganization or any suspension thereof;
- the election and replacement of Vale's Board of Directors, including the chairman of the board, and any executive officer of Vale;
- the disposal or acquisition by Vale of equity interest in any company, as well as the acquisition of any shares of capital stock of Vale or Valepar;
- the participation by Vale in a group of companies or in a consortium of any kind;
- the execution by Vale of agreements relating to distribution, investment, sales exportation, technology transfer, trademark license, patent exploration, license to use and leases;
- the approval and amendment of Vale's business plan;
- the determination of the compensation of the executive officers and directors of Vale, as well as the duties of the Board of Directors and the Board of Executive Officers;
- any profit sharing among the administrators of Vale;
- any change in the corporate purpose of Vale;
- the distribution or non-distribution of any dividends (including distributions classified as interest on shareholders' equity) on any shares of capital stock of Vale other than as provided in Vale's bylaws;
- the appointment and replacement of Vale's independent auditor;
- the creation of any "in rem" guarantee, granting of guarantees including rendering of sureties by Vale with respect to obligations of any unrelated party, including any affiliates or subsidiaries;
- the passing of any resolution on any matter which, pursuant to applicable law, entitles a shareholder to withdrawal rights;
- the appointment and replacement by the Board of Directors of any representative of Vale in subsidiaries, companies related to Vale or other companies in which Vale is entitled to appoint directors and officers; and
- any change in the debt to equity threshold, as defined in the shareholders' agreement.

In addition, the shareholders' agreement provides that any issuance of participation certificates by Vale and any disposition by Valepar of Vale shares requires the unanimous consent of all of Valepar's shareholders.

American Depositary Shares

As of March 31, 2009, our ADSs represented 23.0% of our outstanding common shares and 37.7% of our outstanding preferred shares.

RELATED PARTY TRANSACTIONS

We have arm's-length commercial relationships in the ordinary course of our business with Mitsui, a shareholder of Valepar (our controlling shareholder), and with a number of companies that are affiliated with shareholders of Valepar, such as Cemig and Usiminas (in each of which Previ holds an interest). We also have arm's-length commercial relationships in the ordinary course of our business with subsidiaries of companies on whose boards our CEO currently serves or has served as a director, such as Asea Brown Boveri and Petrobras.

BNDES is the parent company of one of our major shareholders, BNDESPAR. We and BNDES, the Brazilian state-owned development bank, are parties to a contract relating to authorizations for mining exploration. This contract, which we refer to as the Mineral Risk Contract, provides for the joint development of certain unexplored mineral deposits that form part of our Northern System (Carajás), as well as proportional participation in any profits earned from the development of such resources. Iron ore and manganese ore deposits already identified at the time we entered into the Mineral Risk Contract (in March 1997) were specifically excluded from the contract. In 2007, the Mineral Risk Contract was extended indefinitely, with specific rules for all exploration projects and exploration targets and mineral rights covered under the contract. In addition, BNDES has participated in certain of our financing arrangements. For more information on our transactions with BNDES, see *Item 5. Liquidity and capital resources—Sources of funds*.

For information regarding investments in affiliated companies and joint ventures and for information regarding transactions with major related parties, see Notes 12 and 24 to our consolidated financial statements.

Item 8. Financial information

LEGAL PROCEEDINGS

We and our subsidiaries are defendants in numerous legal actions in the normal course of business, including civil, administrative, tax, social security and labor proceedings. See Note 20 to our consolidated financial statements.

CADE proceedings

The primary Brazilian antitrust regulator, *Conselho Administrativo de Defesa Econômica*, or CADE, conducts post-transaction reviews of nearly all of our acquisitions and joint ventures. In August 2005, CADE issued a decision in connection with its post-transaction review of our acquisitions of Mineração Socoimex S.A., Mineração Trindade-Samitri, Ferteco Mineração S.A., Belém-Administrações e Participações Ltda. and CAEMI Mineração e Metalurgia S.A., as well as the unwinding of our former cross-shareholdings with Companhia Siderúrgica Nacional ("CSN"). CADE approved these transactions subject to the condition that we either: (i) fully waive our preemptive rights relating to the Casa de Pedra iron ore mine and restructure our stake in MRS or (ii) sell all of our assets previously owned by Ferteco Mineração S.A., a company we acquired in 2001 and consolidated in August 2003. Pursuant to the conditions imposed by CADE on its approval of these transactions, we decided to waive our preemptive rights relating to the Casa de Pedra iron ore mine, and we restructured our stake in MRS. In April 2009, we signed an agreement with CSN pursuant to which we suspended for a period of 30 days our action against it to recover the value of the Casa de Pedra preemptive rights. The agreement provides that if during this period CSN and certain direct and indirect shareholders of Valepar (Previ, Litel and Bradespar), which agreed in 2000 to unwind their cross-shareholdings with CSN, execute an agreement that settles pending issues relating to the unwinding, then (i) we will formerly terminate our action against CSN, and (ii) CSN will grant us an option to suspend or terminate a 2005 contract pursuant to which CSN supplies us with iron ore from Casa de Pedra. If CSN and Previ, Litel and Bradespar do not execute an agreement, then CSN may elect during an additional 30-day period to continue the agreement in effect with us. In January 2008, CADE fined us R\$41 million (US\$17.5 million) for 631 days of non-compliance with its decision, even though a valid injunction was in effect during that period. We filed an action with the federal circuit court to annul the penalty, which is pending.

In two other proceedings, CADE is alleging that we have engaged in illegal anticompetitive conduct in connection with our logistics business. If CADE were to find that we have engaged in anticompetitive conduct, it could order us to cease the conduct and/or to pay fines.

Privatization-related suits

Numerous lawsuits challenging the legality of the minimum auction price fixed in our 1997 privatization are pending, including a number of class action lawsuits. The lower courts issued favorable decisions in these lawsuits, which were appealed by the respective plaintiffs. Certain cases were resolved in our favor by the higher courts. In the remaining cases, in which the plaintiffs have challenged the price paid for the controlling block of Vale and other aspects of the privatization, the higher courts overruled (in 2005) the lower courts and ordered that the proceedings be re-submitted to the lower courts to continue with discovery on the issue of the basis for establishing the minimum price in the privatization program. We have jointly appealed these decisions to the Brazilian Supreme Court (“STJ”). We do not believe that, individually or in the aggregate, these actions will adversely affect the outcome of the privatization process or otherwise have a material adverse effect on us.

Praia Mole suit

We were a defendant in a public civil action seeking to annul the concession agreement through which we and certain other defendants operate the Praia Mole maritime terminal in the Brazilian state of Espírito Santo. This case was decided in our favor in November 2007, but the plaintiff filed an appeal with the federal circuit court in April 2008, which is still pending.

Itabira suits

We are a defendant in two separate actions brought by the municipality of Itabira, in the Brazilian state of Minas Gerais. In one of the actions, filed in August 1996, the municipality of Itabira alleges that our Itabira iron ore mining operations have caused environmental and social damages and claims damages with respect to the degradation of the site of one of our mines, as well as the immediate restoration of the affected ecological complex and the performance of compensatory environmental programs in the region. The damages sought, as adjusted from the date of the claim, amount to approximately R\$2.029 billion (US\$868 million). In the other action, the municipality of Itabira is claiming the right to be reimbursed for expenses it has incurred in connection with public services rendered as a consequence of our mining activities. The damages sought, as adjusted from the date of the claim, amount to approximately R\$2.350 billion (US\$1.006 billion). We believe these suits are without merit.

CFEM-related proceedings

We are currently a defendant in a series of administrative and judicial proceedings brought by the National Mineral Production Department (Departamento Nacional de Produção Mineral), or DNPM, an agency of the Ministry of Mines and Energy of the Brazilian government. The most significant of these proceedings was brought against us in March 2006, alleging that we have failed to pay the full amount of a mining royalty, known as the CFEM, on revenues generated by our iron ore and manganese activities. (For details about the CFEM, see *Item 4. Information on the company—Regulatory matters—Mining regulation.*) We believe that the DNPM’s allegations are without merit. The aggregate amount claimed in the administrative and judicial proceedings is approximately R\$3.9 billion (US\$1.7 billion).

We are a defendant in a judicial proceeding brought in 2002 by the Municipality of Mariana, alleging that we owe CFEM on our pelletization activities. We do not believe pelletization activities are subject to CFEM.

We are also involved in litigation with the DNPM regarding the applicable CFEM rate for potash. Brazilian legislation establishes a 2% rate for fertilizers. As the potash commercialized by Vale is used as fertilizer, we believe the applicable rate is 2%. The DNPM believes that the end-use of potash is irrelevant for purposes of determining the applicable rate and that the rate applicable to our potash products is 3%. For more information about the CFEM, see *Item 4. Information on the company—Regulatory matters—Mining regulation.*

Tax litigation

As previously disclosed in the 2007 20-F, we are engaged in litigation with respect to Article 74 of the Brazilian Provisional Measure 2,158-34/2001, a tax regulation requiring payment of income tax in Brazil on net income from foreign subsidiaries. In 2003, we initiated a legal proceeding challenging the applicability of this regulation to us, on the basis of the following arguments: (i) Article 74 of the Provisional Measure is inconsistent with double taxation treaties between Brazil and the countries where certain of our subsidiaries are based; (ii) the Brazilian Tax Code prohibits the establishment of conditions on and timing of any tax assessment by means of a regulation such as Article 74 of the Provisional Measure; (iii) even if Article 74 of the Provisional Measure is valid, exchange gain and loss must be excluded from the net income of our foreign subsidiaries in the calculation of taxes owed (in accordance with new Brazilian accounting principles and IFRS); and (iv) the constitutional principle prohibiting retroactive application of tax laws would be violated if this regulation were applied to net income generated before December 2001. We did not obtain a favorable decision on the merits of the case, but we did obtain an injunction suspending our obligation to pay the disputed amounts. We appealed from the lower court decision in July 2005, and the injunction remains in effect pending the resolution of this appeal. The appeals court's decision on the merits is suspended until final resolution of a parallel lawsuit filed by the Brazilian Industry Association challenging the constitutionality of Article 74 of the Provisional Measure.

Meanwhile, the tax authorities filed two administrative proceedings claiming payment of R\$10.997 billion (US\$4.706 billion) from us, of which R\$5.928 billion (US\$2.536 billion) represents fines and interest for non-payment of taxes and the remainder of which represents unpaid income tax on the net income of our foreign subsidiaries. We have filed our answer to these proceedings. We believe the suits are without merit and are vigorously contesting them. In accordance with our criteria for establishing provisions, we have not made any provisions for these claims.

Valesul litigation

In accordance with a resolution of ANEEL, the Brazilian electricity regulatory agency, the electricity company of the state of Rio de Janeiro (LIGHT—Serviços de Eletricidade S.A.) was authorized to charge certain larger consumers in Rio de Janeiro, including our aluminum subsidiary Valesul, several additional fees as part of the tariff for the use of the distribution system. Valesul began a challenge to the legality of this charge in January 2004 and obtained a favorable decision in June of that year. On appeal, this decision was overruled, in September 2004, and Valesul was required to resume making payments. The appeal to the STJ was unfavorable to Valesul.

Gold forward contracts

In 1988 and 1989, we entered into gold forward contracts with various Brazilian private pension funds. Under the terms of these contracts, settlement was permitted by either physical delivery or cash payment. In 1990, however, the Brazilian government passed a law prohibiting settlement by delivery, and the funds were consequently prohibited from settling other than in cash. During these years, Brazil experienced severe inflation, and beginning in 2005, some of the pension funds sued Vale, claiming that the inflation adjustment provided for in the contracts did not adequately compensate them for monetary losses arising from the government's measures to control inflation during this period. There are 11 such suits pending final court decisions.

DISTRIBUTIONS

Under our dividend policy, our Board of Executive Officers proposes to our Board of Directors, no later than January 31 of each year, a minimum value, expressed in U.S. dollars, that will be distributed in that year to our shareholders. Distributions may be classified for tax purposes either as dividends or interest on shareholders' equity, and references to "dividends" should be understood to include all distributions regardless of their tax classification, unless stated otherwise. We determine the minimum dividend payment in U.S. dollars, considering our expected free cash flow generation in the year of distribution. The proposal establishes two installments to be paid in the months of April and October of each year. Each installment is submitted to the Board of Directors at meetings in April and October. Once approved, dividends are converted into and paid in *reais* at prevailing exchange rates on the last business day before the board meetings in April and October of each year. The Board of Executive Officers can also propose to the Board of Directors, depending on the evolution of our cash flow performance, an additional payment to shareholders of an amount over and above the minimum dividend initially established.

For 2009, our Executive Officers Board, has proposed a minimum dividend of US\$2.5 billion. Historically, we have paid the same amount on both common and preferred shares in accordance with our bylaws. The first installment of this dividend of US\$1.250 billion is expected to be paid on April 30, 2009.

Under Brazilian law and our bylaws, we are required to distribute to our shareholders an annual amount equal to not less than 25% of the distributable amount, referred to as the mandatory dividend, unless the Board of Directors advises our shareholders at our shareholders' meeting that payment of the mandatory dividend for the preceding year is inadvisable in light of our financial condition. For a discussion of dividend distribution provisions under Brazilian corporate law and our bylaws, see *Item 10. Additional information*.

Distributions classified for tax purposes as dividends which are paid to ADR holders and to non-resident shareholders will not be subject to Brazilian withholding tax, unless the distribution is paid from profits generated prior to December 31, 1995. These distributions will be subject to Brazilian withholding tax at varying rates. Distributions classified for tax purposes as interest on shareholders' equity which are paid to ADR holders and to non-resident shareholders are currently subject to Brazilian withholding tax. See *Item 10. Additional information—Taxation—Brazilian tax considerations*.

By law, we are required to hold an annual shareholders' meeting by April 30 of each year at which an annual dividend may be declared. Additionally, our Board of Directors may declare interim dividends. Under Brazilian corporate law, dividends are generally required to be paid to the holder of record on a dividend declaration date within 60 days following the date the dividend was declared, unless a shareholders' resolution sets forth another date of payment, which, in either case, must occur prior to the end of the fiscal year in which the dividend was declared. A shareholder has a three-year period from the dividend payment date to claim dividends (or payments of interest on shareholders' equity) in respect of its shares, after which we will have no liability for such payments. From 1997 to 2003, all distributions took the form of interest on shareholders' equity. In each year since 2004, part of the distribution was made in the form of interest on shareholders' equity and part as dividends. See *Item 10. Additional information—Common shares and preferred shares—Payments on shareholders' equity*.

We make cash distributions on the common shares and preferred shares underlying the ADSs in *reais* to the custodian on behalf of the depositary. The custodian then converts such proceeds into U.S. dollars and transfers such U.S. dollars to be delivered to the depositary for distribution to holders of American Depositary Receipts. The depositary charges a fee of up to US\$0.02 per ADS for each distribution. For more information on Brazilian tax policies regarding dividend distributions, see *Item 10. Additional information—Taxation—Brazilian tax considerations*.

The following table sets forth the cash distributions we paid to holders of common shares and preferred shares for the periods indicated. Amounts have been restated to give effect to forward stock splits that we have carried out in subsequent periods. We have calculated U.S. dollar conversions using the commercial selling rate in effect on the date of payment. Amounts are stated before any applicable withholding tax.

| <u>Year</u> | <u>Payment date</u> | <u>Reais per share at payment date</u> | <u>U.S. dollars per share at payment date</u> |
|----------------|---------------------|--|---|
| 2002 | April 30 | 0.19 | 0.08 |
| | December 10 | 0.22 | 0.06 |
| 2003 | April 30 | 0.14 | 0.05 |
| | October 31 | 0.29 | 0.10 |
| 2004 | April 30 | 0.17 | 0.06 |
| | October 29(1) | 0.32 | 0.11 |
| 2005 | April 29 | 0.28 | 0.11 |
| | October 31(2) | 0.39 | 0.18 |
| 2006 | April 28(3) | 0.29 | 0.14 |
| | October 31(4) | 0.29 | 0.14 |
| 2007 | April 30(5) | 0.35 | 0.17 |
| | October 31(6) | 0.39 | 0.22 |
| 2008 | April 30(7) | 0.44 | 0.26 |
| | October 31(8) | 0.65 | 0.30 |

- (1) R\$0.26 per share classified for tax purposes as interest on shareholders' equity and R\$0.06 per share classified as dividends.
- (2) R\$0.17 per share classified for tax purposes as interest on shareholders' equity and R\$0.22 per share classified as dividends.
- (3) R\$0.17 per share classified for tax purposes as interest on shareholders' equity and R\$0.12 per share classified as dividends.
- (4) R\$0.28 per share classified for tax purposes as interest on shareholders' equity and R\$0.01 per share classified as dividends.
- (5) R\$0.13 per share classified for tax purposes interest on shareholders' equity and R\$0.22 per share classified as dividends.
- (6) R\$0.38 per share classified as interest on shareholders' equity and R\$0.01 per share classified as dividends.
- (7) R\$0.24 per share classified as interest on shareholders' equity and R\$0.20 per share classified as dividends.
- (8) R\$0.51 per share classified as interest on shareholders' equity and R\$0.14 per share classified as dividends.

Item 9. *The offer and listing*

SHARE PRICE HISTORY

The following table sets forth trading information for our ADSs, as reported by the New York Stock Exchange and our shares, as reported by the BOVESPA, for the periods indicated. Share prices in the table have been adjusted to reflect stock splits.

| | <i>Reais per common share</i> | | <i>Reais per preferred share</i> | | <i>US\$ per preferred ADS</i> | | <i>US\$ per common ADS</i> | |
|---------------|-------------------------------|------------|----------------------------------|------------|-------------------------------|------------|----------------------------|------------|
| | <u>High</u> | <u>Low</u> | <u>High</u> | <u>Low</u> | <u>High</u> | <u>Low</u> | <u>High</u> | <u>Low</u> |
| 2003 | 14.24 | 6.74 | 12.34 | 6.46 | 4.33 | 2.03 | 4.97 | 2.15 |
| 2004 | 19.38 | 10.84 | 16.05 | 9.42 | 6.10 | 3.03 | 7.26 | 3.52 |
| 2005 | 24.98 | 16.00 | 21.75 | 13.75 | 9.89 | 5.49 | 11.27 | 6.40 |
| 2006 | 32.50 | 21.86 | 27.50 | 18.55 | 13.13 | 8.05 | 15.17 | 9.88 |
| 2007 | 65.90 | 29.40 | 55.62 | 25.42 | 31.59 | 11.83 | 37.75 | 13.76 |
| 1Q | 38.58 | 29.40 | 32.95 | 25.42 | 15.91 | 11.83 | 18.80 | 13.76 |
| 2Q | 45.35 | 38.10 | 37.95 | 32.08 | 19.98 | 15.78 | 23.78 | 18.69 |
| 3Q | 63.00 | 40.01 | 52.87 | 33.67 | 28.58 | 15.73 | 33.98 | 19.11 |
| 4Q | 65.90 | 56.60 | 55.62 | 47.60 | 31.59 | 25.80 | 37.75 | 31.00 |
| 2008 | | | | | | | | |
| 1Q | 62.50 | 45.00 | 52.50 | 40.61 | 31.22 | 23.90 | 37.22 | 26.57 |
| 2Q | 72.09 | 55.44 | 58.70 | 46.75 | 35.84 | 28.61 | 43.91 | 34.44 |
| 3Q | 55.01 | 33.80 | 46.04 | 30.30 | 28.56 | 15.32 | 34.50 | 16.70 |
| 4Q | 36.39 | 22.10 | 32.70 | 20.24 | 17.70 | 7.95 | 18.61 | 8.80 |
| 1Q 2009 | 38.75 | 27.69 | 32.48 | 23.89 | 14.70 | 10.36 | 17.70 | 11.90 |
| December 2008 | 30.30 | 23.55 | 26.39 | 21.50 | 11.67 | 8.72 | 13.57 | 9.65 |
| January 2009 | 33.94 | 27.69 | 29.37 | 23.89 | 13.21 | 10.56 | 15.11 | 11.90 |
| February 2009 | 38.75 | 30.50 | 32.48 | 26.51 | 14.70 | 10.36 | 17.70 | 12.00 |
| March 2009 | 33.32 | 29.12 | 28.40 | 25.25 | 12.78 | 10.40 | 14.96 | 11.94 |
| April 2009(1) | 35.89 | 31.50 | 30.42 | 27.05 | 13.97 | 11.93 | 16.37 | 13.82 |

(1) Until April 16, 2009.

TRADING MARKETS

Our publicly traded share capital consists of common shares and preferred shares, each without par value. Our common shares and our preferred shares are publicly traded in Brazil on the BOVESPA, under the ticker symbols VALE3 and VALE5, respectively. Our common shares and preferred shares also trade on the LATIBEX, under the ticker symbols XVALO and XVALP, respectively. The LATIBEX is a non-regulated electronic market created in 1999 by the Madrid stock exchange in order to enable trading of Latin American equity securities.

Our common ADSs, each representing one common share, are traded on the New York Stock Exchange (“NYSE”), under the ticker symbol RIO. Our preferred ADSs, each representing one preferred share, are traded on the NYSE, under the ticker symbol RIOPR. Our common ADSs and preferred ADSs are traded on Euronext Paris, under the ticker symbols VALE3 and VALE5, respectively. JPMorgan Chase Bank serves as the depositary for both the common and the preferred ADSs.

On March 31, 2009, there were 1,542,052,176 ADSs outstanding, representing 37.7% of our preferred shares and 23.0% of our common shares, or 28.7% of our total share capital.

Item 10. *Additional information*

Vale’s legal name is Companhia Vale do Rio Doce. Vale is a stock corporation, or *sociedade por ações*, duly organized on January 11, 1943, and existing under the laws of the Federative Republic of Brazil. Vale

was privatized in three stages between 1997 and 2002, beginning with the sale by the Brazilian government of a controlling stake in Vale to Valepar in 1997. The last stage of the privatization process took place in 2002, when the Brazilian government sold its remaining minority stake of common shares through a global equity offering. Vale is organized for an unlimited period of time. Its head offices are located at Avenida Graça Aranha, No. 26, 20030-900 Rio de Janeiro, RJ, Brazil, and its telephone number is 55-21-3814-4477.

MEMORANDUM AND ARTICLES OF ASSOCIATION

Company objectives and purposes

Our corporate purpose is defined by our bylaws to include:

- the exploitation of mineral deposits in Brazil and abroad by means of extraction, processing, industrialization, transportation, shipment and commerce of mineral goods;
- the building and operation of railways and the exploitation of own or unrelated-party rail traffic;
- the building and operation of our own or unrelated-party maritime terminals, and the exploitation of nautical activities for the provision of support within the harbor;
- the provision of logistics services integrated with cargo transport, comprising generation, storage, transshipment, distribution and delivery within the context of a multimodal transport system;
- the production, processing, transport, industrialization and commerce of all and any source and form of energy, also involving activities of production, generation, transmission, distribution and commerce of its products, derivatives and sub products;
- the carrying-on, in Brazil or abroad, of other activities that may be of direct or indirect consequence for the achievement of its corporate purpose, including research, industrialization, purchase and sale, importation and exportation, the exploitation, industrialization and commerce of forest resources and the provision of services of any kind whatsoever; and
- constituting or participating in any fashion in other companies, consortia or associations directly or indirectly related to its business purpose.

Directors' powers

Under Brazilian corporate law, if a director or an executive officer has a conflict of interest with the company in connection with any proposed transaction, the director or executive officer may not vote in any decision of the board of directors or of the board of executive officers regarding such transaction and must disclose the nature and extent of the conflicting interest for transcription in the minutes of the meeting. In any case, a director or an executive officer may not transact any business with the company, including any borrowings, except on reasonable or fair terms and conditions that are identical to the terms and conditions prevailing in the market or offered by unrelated parties. Under our bylaws, shareholders set the aggregate compensation payable to directors and executive officers. The Board of Directors allocates the compensation among its members and the executive officers. See *Item 6. Directors, management and employees—Compensation*. Our bylaws do not establish any mandatory retirement age limits.

COMMON SHARES AND PREFERRED SHARES

Set forth below is certain information concerning our authorized and issued share capital and a brief summary of certain significant provisions of our bylaws and the Brazilian corporate law. This description does not purport to be complete and is qualified by reference to our bylaws (an English translation of which has been filed with the SEC) and to the Brazilian corporate law.

General

Our bylaws authorize the issuance of up to 3.6 billion common shares and up to 7.2 billion preferred shares, in each case based solely on the approval of the Board of Directors without any additional shareholder approval.

Each common share entitles the holder thereof to one vote at meetings of our shareholders. Holders of common shares are not entitled to any preference relating to our dividends or other distributions.

Holders of preferred shares and the golden shares are generally entitled to the same voting rights as holders of common shares, except with respect to the election of members of the Board of Directors, and are entitled to a minimum annual non-cumulative preferential dividend of (i) at least 3% of the book value per share, calculated in accordance with the financial statements, which serve as reference for the payment of dividends, or (ii) 6% of their pro rata share of our paid-in capital, whichever is higher. Non-controlling shareholders holding common shares representing at least 15% of our voting capital, and preferred shares representing at least 10% of our total share capital, have the right to appoint each one member and an alternate to our Board of Directors. If no group of common or preferred shareholders meets the thresholds described above, shareholders holding preferred or common shares representing at least 10% of our total share capital are entitled to combine their holdings to appoint one member and an alternate to our Board of Directors. Holders of preferred shares, including the golden shares, may elect one member of the permanent Fiscal Council and the respective alternate. Non-controlling holders of common shares comprising at least 10% of the common shares outstanding may also elect one member of the Fiscal Council and an alternate.

The Brazilian government holds 12 golden shares of Vale. The golden shares are preferred shares that entitle its holder to the same rights (including with respect to voting and dividend preference) as holders of preferred shares. In addition, the holder of the golden shares is entitled to veto any proposed action relating to the following matters:

- (1) a change in our name;
- (2) a change in the location of our head office;
- (3) a change in our corporate purpose as regards the mining activities;
- (4) any liquidation of our company;
- (5) any disposal or winding up of activities of any one or more of the following stages of our iron ore mining integrated systems:
 - (a) mineral deposits, ore deposits, mines;
 - (b) railways; or
 - (c) ports and maritime terminals;
- (6) any change in the bylaws relating to the rights accorded to the classes of capital stock issued by us; and
- (7) any change in the bylaws relating to the rights accorded the golden shares.

Calculation of distributable amount

At each annual shareholders' meeting, the Board of Directors is required to recommend, based on the executive officers' proposal, how to allocate our earnings for the preceding fiscal year. For purposes of the Brazilian corporate law, a company's net income after income taxes and social contribution taxes for such fiscal year, net of any accumulated losses from prior fiscal years and amounts allocated to employees' and management's participation in earnings represents its "net profits" for such fiscal year. In accordance with the Brazilian corporate law, an amount equal to our "net profits," as further reduced by amounts allocated to the legal reserve, to the contingency reserve or to the unrealized income reserve established by us in compliance

with applicable law (discussed below) and increased by reversals of reserves constituted in prior years, will be available for distribution to shareholders in any particular year. Such amount, the adjusted net profits, is herein referred to as the distributable amount. We may also establish discretionary reserves, reserves for investment projects and fiscal investment reserves, as discussed below.

Legal reserve. Under Brazilian corporate law, we are required to maintain a legal reserve to which we must allocate 5% of our “net profits” for each fiscal year until the amount of the reserve equals 20% of our paid-in capital. Capital increases and net losses, if any, may be charged against the legal reserve.

Depletion reserve. Our bylaws provide for one depletion reserve, which has not been used since 1996, when the related tax incentive expired.

Reserve for investment in projects. Under Brazilian corporate law, we may allocate a portion of our “net profits” to discretionary appropriations for plant expansion and other capital investment projects. Our bylaws provide for a reserve for investment in projects, but whenever the amount allocated to this reserve exceeds 50% of distributable net profits, such allocation has to be based on a capital budget approved by shareholders. Capital budgets with a duration longer than one year must be reviewed at each annual shareholders’ meeting. After completion of the relevant capital projects, we may retain the appropriation until our shareholders vote to transfer all or a portion of the reserve to capital or retained earnings.

Contingency reserve. Under Brazilian corporate law, a portion of our “net profits” may also be discretionally allocated to a “contingency reserve” for an anticipated loss of an estimated amount that is deemed probable in future years. Any amount so allocated in a prior year must be either reversed in the fiscal year in which the loss was anticipated if such loss does not in fact occur or charged off in the event that the anticipated loss occurs. We have never allocated an amount to the contingency reserve.

Unrealized income reserve. Under Brazilian corporate law, the amount by which the mandatory dividend exceeds the “realized” portion of net profits for any particular year may be allocated to the unrealized income reserve. The “realized” portion of net profits is the amount by which net profits exceed the sum of: (i) our net positive results, if any, from the equity method of accounting for earnings and losses of our subsidiaries and certain affiliates, and (ii) the profits, income or net gains obtained on transactions, or the accounting for assets and liabilities at market value, where the financial realization occurs after the end of the following fiscal year.

Tax incentive investment reserve. Under Brazilian corporate law, a portion of “net profits” may also be allocated to a general “tax incentive investment reserve” in amounts corresponding to reductions in our income tax generated by credits for particular government-approved investments.

The Brazilian corporate law provides that all discretionary allocations of “net profits,” including discretionary reserves, the contingency reserve, the unrealized income reserve and the reserve for investment projects, are subject to approval by the shareholders voting at the annual meeting and can be transferred to capital or used for the payment of dividends in subsequent years. The fiscal incentive investment reserve and legal reserve are also subject to approval by the shareholders voting at the annual meeting and may be transferred to capital but are not available for the payment of dividends in subsequent years.

The sum of the legal reserve, the depletion reserve and the reserve for investment in projects may not exceed the amount of our paid-in capital. When such limit is reached, our shareholders may vote to use the excess to pay in capital, increase capital or distribute dividends.

Our calculation of “net profits” and allocations to reserves for any fiscal year are determined on the basis of financial statements prepared in accordance with Brazilian corporate law. Our consolidated financial statements have been prepared in accordance with U.S. GAAP and, although our allocations to reserves and dividends will be reflected in these financial statements, investors will not be able to calculate such allocations or required dividend amounts from our consolidated financial statements.

Mandatory dividend

Brazilian corporate law and our bylaws prescribe that we must distribute to our shareholders in the form of dividends or interest on shareholders' equity an annual amount equal to not less than 25% of the distributable amount, referred to as the mandatory dividend, unless the Board of Directors advises our shareholders at our general shareholders' meeting that payment of the mandatory dividend for the preceding year is inadvisable in light of our financial condition. To date, our Board of Directors has never determined that payment of the mandatory dividend was inadvisable. The Fiscal Council must review any such determination and report it to the shareholders. In addition to the mandatory dividend, our Board of Directors may recommend to the shareholders payment of dividends from other funds legally available therefore. Any payment of interim dividends will be netted against the amount of the mandatory dividend for that fiscal year. The shareholders must also approve the recommendation of the Board of Directors with respect to any required distribution. The amount of the mandatory dividend is subject to the size of the legal reserve, the contingency reserve, and the unrealized income reserve. The amount of the mandatory dividend is not subject to the size of the discretionary depletion reserve. See *Item 10. Additional information—Common shares and preferred shares—Calculation of distributable amount.*

Dividend preference of preferred shares

Pursuant to our bylaws, holders of preferred shares and the golden shares are entitled to a minimum annual non-cumulative preferential dividend equal to (i) at least 3% of the book value per share, calculated in accordance with the financial statements which serve as reference for the payment of dividends, or (ii) 6% of their pro rata share of our paid-in capital, whichever is higher. To the extent that we declare dividends in any particular year in amounts which exceed the preferential dividends on preferred shares, and after holders of common shares have received distributions equivalent, on a per share basis, to the preferential dividends on preferred shares, holders of common shares and preferred shares shall receive the same additional dividend amount per share. Since the first step of our privatization in 1997, we have had sufficient distributable amounts to be able to distribute equal amounts to both common and preferred shareholders.

Other matters relating to our preferred shares

Our bylaws do not provide for the conversion of preferred shares into common shares. In addition, the preferred shares do not have any preference upon our liquidation and there are no redemption provisions associated with the preferred shares.

Distributions classified as shareholders' equity

Pursuant to a change in Brazilian tax law effective January 1, 1996, Brazilian companies are permitted to pay limited amounts to shareholders and treat such payments as an expense for Brazilian income tax purposes. In accordance with Law No. 9,249 dated December 26, 1995, our bylaws provide for the distribution of interest on shareholders' equity as an alternative form of payment to shareholders. The interest rate applied is limited to the Brazilian long-term interest rate, or TJLP, for the applicable period. The deduction of the amount of interest paid cannot exceed the greater of (1) 50% of net income (after the deduction of the provision of social contribution on net profits and before the deduction of the provision of the corporate income tax) before taking into account any such distribution for the period in respect of which the payment is made or (2) 50% of the sum of retained earnings and profit reserves. Any payment of interest on shareholders' equity to shareholders is subject to Brazilian withholding income tax at the rate of 15%, except for a beneficiary located in a tax haven jurisdiction (*i.e.* a country that does not impose income tax or that imposes it at a maximum rate lower than 20%), in which case the rate is 25%. Under our bylaws, the amount paid to shareholders as interest on shareholders' equity (net of any withholding tax) may be included as part of any mandatory and minimum dividend. Under Brazilian corporate law, we are obligated to distribute to shareholders an amount sufficient to ensure that the net amount received, after payment by us of applicable Brazilian withholding taxes in respect of the distribution of interest on shareholders' equity, is at least equal to the mandatory dividend.

Mandatorily convertible notes

In 2007, our wholly-owned subsidiary Vale Capital Limited issued mandatorily convertible notes in two series, both due June 15, 2010. The series RIO notes (US\$1.296 billion principal amount) are mandatorily convertible into ADSs representing an aggregate maximum of 56,582,040 common shares. The series RIO P notes (US\$584 million principal amount) are mandatorily convertible into ADSs representing an aggregate maximum of 30,295,456 preferred shares. Both series can convert before maturity under specified circumstances. The conversion rate for both series will depend on the market price of the ADSs on the conversion date. Under the indentures governing the notes, additional interest is due to each noteholder in an amount in U.S. dollars equal to any cash distribution net of any applicable withholding tax and fees paid by the Depository of our ADSs to the holder of one ADS, multiplied by the number of ADSs that would be received by the noteholder upon conversion of the notes at the conversion rate specified in the applicable indenture.

Voting rights

Each common share entitles the holder thereof to one vote at meetings of our shareholders. Holders of preferred shares are entitled to the same voting rights as holders of common shares except that they may not vote on the election of members of the Board of Directors, except in the event of dividend arrearages, as described below. One of the members of the permanent Fiscal Council and his or her alternate are elected by majority vote of the holders of preferred shares. Holders of preferred shares and common shares may, in certain circumstances, combine their respective holdings to elect members of our Board of Directors, as described under *Item 10. Additional information—Common shares and preferred shares—General*.

The golden shares entitle the holder thereof to the same voting rights as holders of preferred shares. The golden shares also confer certain other significant voting rights in respect of particular actions, as described under *Item 10. Additional information—Common shares and preferred shares—General*.

Brazilian corporate law provides that non-voting or restricted-voting shares, such as the preferred shares, acquire unrestricted voting rights beginning when a company has failed for three consecutive fiscal years (or for any shorter period set forth in a company's constituent documents) to pay any fixed or minimum dividend to which such shares are entitled and continuing until payment thereof is made. Our bylaws do not set forth any such shorter period.

Any change in the preferences or advantages of our preferred shares, or the creation of a class of shares having priority over the preferred shares, would require the approval of the holder of the golden shares, who can veto such matters, as well as the approval of the holders of a majority of the outstanding preferred shares, voting as a class at a special meeting.

Shareholders' meetings

A general shareholders' meeting convenes each year to decide all matters relating to our corporate purposes and to pass such resolutions as they deem necessary for our protection and well being.

Pursuant to Brazilian corporate law, shareholders voting at a general shareholders' meeting have the power, among other powers, to:

- amend the bylaws;
- elect or dismiss members of the Board of Directors and members of the Fiscal Council at any time;
- establish the remuneration of senior management and members of the Fiscal Council;
- receive annual reports by management and accept or reject management's financial statements and recommendations including the allocation of net profits and the distributable amount for payment of the mandatory dividend and allocation to the various reserve accounts;

- authorize the issuance of convertible and secured debentures;
- suspend the rights of a shareholder in default of obligations established by law or by the bylaws;
- accept or reject the valuation of assets contributed by a shareholder in consideration for issuance of capital stock;
- pass resolutions to reorganize our legal form, to merge, consolidate or split us, to dissolve and liquidate us, to elect and dismiss our liquidators and to examine their accounts; and
- authorize management to file for bankruptcy or to request a *concordata*.

All shareholders' meetings, including the annual shareholders' meeting, are convened by publishing, no fewer than 15 days prior to the scheduled meeting date and no fewer than three times, a notice in the *Diário Oficial do Estado do Rio de Janeiro* and in a newspaper with general circulation in the city where we have our registered office, in Rio de Janeiro. Our shareholders have previously designated *Jornal do Commercio* for this purpose. Also, as our shares are traded on the BOVESPA, we must publish a notice in a São Paulo based newspaper. Such notice must contain the agenda for the meeting and, in the case of an amendment to our bylaws, an indication of the subject matter. In addition, under our bylaws, the holder of the golden shares is entitled to a minimum of 15 days prior formal notice to its legal representative of any general shareholders' meeting to consider any proposed action subject to the veto rights accorded to the golden shares. See *Item 10. Additional information—Common shares and preferred shares—General*.

A shareholders' meeting may be held if shareholders representing at least one-quarter of the voting capital are present except for meetings convened to amend our bylaws, which require a quorum of at least two-thirds of the voting capital. If no such quorum is present, notice must again be given in the same manner as described above except for the eight-days prior notice, and a meeting may then be convened without any specific quorum requirement, subject to the minimum quorum and voting requirements for certain matters, as discussed below. A shareholder without a right to vote may attend a general shareholders' meeting and take part in the discussion of matters submitted for consideration.

Except as otherwise provided by law, resolutions of a shareholders' meeting are passed by a simple majority vote, abstentions not being taken into account. Under Brazilian corporate law, the approval of shareholders representing at least one-half of the issued and outstanding voting shares is required for the types of action described below, as well as, in the case of clause (a) and clause (b), a majority of issued and outstanding shares of the affected class:

- (a) creating a new class of preferred shares or disproportionately increasing an existing class of preferred shares relative to the other classes of shares, other than to the extent permitted by the bylaws;
- (b) changing a priority, preference, right, privilege or condition of redemption or amortization of any class of preferred shares or creating any class of non-voting preferred shares that has a priority, preference, right, condition or redemption or amortization superior to an existing class of shares, such as the preferred shares;
- (c) reducing the mandatory dividend;
- (d) changing the corporate purposes;
- (e) merging us with another company or consolidating or splitting us;
- (f) dissolving or liquidating us;
- (g) participating in a centralized group of companies as defined under Brazilian corporate law; and
- (h) canceling any ongoing liquidation of us.

Whenever the shares of any class of capital stock are entitled to vote, each share is entitled to one vote. Annual shareholders' meetings must be held by April 30 of each year. Shareholders' meetings are called, convened and presided over by the chairman or by the vice-chairman of our Board of Directors. A shareholder may be represented at a general shareholders' meeting by an attorney-in-fact appointed not more than one year before the meeting, who must be a shareholder, a company officer or a lawyer. For a public company, such as us, the attorney-in-fact may also be a financial institution.

Redemption rights

Our common shares and preferred shares are not redeemable, except that a dissenting shareholder is entitled under Brazilian corporate law to obtain redemption upon a decision made at a shareholders' meeting by shareholders representing at least 50% of the voting shares:

- (1) to create a new class of preferred shares or to disproportionately increase an existing class of preferred shares relative to the other classes of shares (unless such actions are provided for or authorized by the bylaws);
- (2) to modify a preference, privilege or condition of redemption or amortization conferred on one or more classes of preferred shares, or to create a new class with greater privileges than the existing classes of preferred shares;
- (3) to reduce the mandatory distribution of dividends;
- (4) to change our corporate purposes;
- (5) to merge us with another company or consolidate us;
- (6) to transfer all of our shares to another company in order to make us a wholly-owned subsidiary of such company, a stock merger;
- (7) to approve the acquisition of control of another company at a price which exceeds certain limits set forth in Brazilian corporate law;
- (8) to approve our participation in a centralized group of companies as defined under Brazilian corporate law; or
- (9) in the event that the entity resulting from (a) a merger, (b) a stock merger as described in clause (6) above or (c) a spin-off that we conduct fails to become a listed company within 120 days of the general shareholders' meeting at which such decision was taken.

Only holders of shares adversely affected by the changes mentioned in items (1) and (2) above may require us to redeem their shares. The right of redemption mentioned in items (5), (6) and (8) above may only be exercised if our shares do not satisfy certain tests of liquidity at the time of the shareholder resolution. The right of redemption lapses 30 days after publication of the minutes of the relevant general shareholders' meeting, unless, in the case of items (1) and (2) above, the resolution is subject to confirmation by the preferred shareholders (which must be made at a special meeting to be held within one year), in which case the 30-day term is counted from the publication of the minutes of the special meeting.

We would be entitled to reconsider any action giving rise to redemption rights within 10 days following the expiration of such rights if the redemption of shares of dissenting shareholders would jeopardize our financial stability. Law No. 9,457, dated May 5, 1997, which amended the Brazilian corporate law, contains provisions, which, among other provisions, restrict redemption rights in certain cases and allow companies to redeem their shares at their economic value, subject to certain requirements. Our bylaws currently do not provide that our capital stock will be redeemable at its economic value and, consequently, any redemption pursuant to Brazilian corporate law would be made at no less than the book value per share, determined on the basis of the last balance sheet approved by the shareholders; *provided* that if the general shareholders' meeting giving rise to redemption rights occurred more than 60 days after the date of the last approved

balance sheet, a shareholder would be entitled to demand that his or her shares be valued on the basis of a new balance sheet dated within 60 days of such general shareholders' meeting.

Preemptive rights

Each of our shareholders has a general preemptive right to subscribe for shares in any capital increase, in proportion to his or her shareholding. A minimum period of 30 days following the publication of notice of a capital increase is assured for the exercise of the right, and the right is negotiable. Under our bylaws and Brazilian corporate law, our Board of Directors may decide not to extend preemptive rights to our shareholders, or to reduce the 30-day period for the exercise of preemptive rights, in each case with respect to any issuance of shares, debentures convertible into shares or warrants in the context of a public offering, subject to the limit on the number of shares that may be issued with the approval of the board without any additional shareholder approval. In the event of a capital increase that would maintain or increase the proportion of capital represented by preferred shares, holders of preferred American Depositary Receipts will have preemptive rights to subscribe only to newly issued preferred shares. In the event of a capital increase that would reduce the proportion of capital represented by preferred shares, shareholders will have preemptive rights to subscribe for preferred shares, in proportion to their shareholdings, and for common shares only to the extent necessary to prevent dilution of their overall interest in us. In the event of a capital increase that would maintain or increase the proportion of capital represented by common shares, shareholders will have preemptive rights to subscribe only to newly issued common shares. In the event of a capital increase that would reduce the proportion of capital represented by common shares, holders of common shares will have preemptive rights to subscribe for preferred shares only to the extent necessary to prevent dilution of their overall interest in us.

Tag-along rights

According to Brazilian corporate law, in the event of a sale of control of a company, the acquirer is obliged to offer to holders of common voting shares the right to sell their shares for a price equal to at least 80% of the price paid for the common voting shares representing control.

Form and transfer

Our preferred shares and common shares are in book-entry form registered in the name of each shareholder or its nominee. The transfer of such shares is made under Brazilian corporate law, which provides that a transfer of shares is effected by our transfer agent, Banco Bradesco S.A., upon presentation of valid share transfer instructions to us by a transferor or its representative. When preferred shares or common shares are acquired or sold on a Brazilian stock exchange, the transfer is effected on the records of our transfer agent by a representative of a brokerage firm or the stock exchange's clearing system. Transfers of shares by a foreign investor are made in the same way and are executed by the investor's local agent, who is also responsible for updating the information relating to the foreign investment furnished to the Central Bank.

The BOVESPA operates a central clearing system through *Companhia Brasileira de Liquidação e Custódia*, or CBLC. A holder of our shares may participate in this system and all shares elected to be put into the system will be deposited in custody with CBLC (through a Brazilian institution that is duly authorized to operate by the Central Bank and maintains a clearing account with CBLC). The fact that such shares are subject to custody with the relevant stock exchange will be reflected in our registry of shareholders. Each participating shareholder will, in turn, be registered in the register of our beneficial shareholders that is maintained by CBLC and will be treated in the same way as registered shareholders.

MATERIAL CONTRACTS

For information concerning our material contracts, see *Item 4. Information on the company*, *Item 5. Operating and financial review and prospects*, and *Item 7. Related party transactions*.

EXCHANGE CONTROLS AND OTHER LIMITATIONS AFFECTING SECURITY HOLDERS

There are no restrictions on ownership of our capital stock by individuals or legal entities domiciled outside Brazil. However, the right to convert dividend payments and proceeds from the sale of preferred shares or common shares into foreign currency and to remit such amounts outside Brazil is subject to restrictions under foreign investment legislation which generally requires, among other things, that the relevant investment be registered with the Central Bank of Brazil. These restrictions on the remittance of foreign capital abroad could hinder or prevent the custodian for the preferred shares or common shares represented by ADSs, or holders who have exchanged ADSs for preferred shares or common shares, from converting dividends, distributions or the proceeds from any sale of preferred shares or common shares, as the case may be, into U.S. dollars and remitting such U.S. dollars abroad. Delays in, or refusal to grant any required government approval for conversions of Brazilian currency payments and remittances abroad of amounts owed to holders of ADSs could adversely affect holders of ADRs.

Under Resolution No. 2,689/2000, foreign investors may invest in almost all financial assets and engage in almost all transactions available in the Brazilian financial and capital markets, provided that certain requirements are fulfilled. In accordance with Resolution No. 2,689/2000, the definition of foreign investor includes individuals, legal entities, mutual funds and other collective investment entities, domiciled or headquartered outside Brazil.

Under Resolution No. 2,689/2000, a foreign investor must:

- appoint at least one representative in Brazil, with powers to perform actions relating to its investment,
- complete the appropriate foreign investor registration form,
- register as a foreign investor with the CVM, and
- register its foreign investment with the Central Bank.

Securities and other financial assets held by foreign investors pursuant to Resolution No. 2,689/2000 must be registered or maintained in deposit accounts or under the custody of an entity duly licensed by the Central Bank or the CVM. In addition, securities trading is restricted to transactions carried out on stock exchanges or through organized over-the-counter markets licensed by the CVM, except for subscription, bonification, conversion of debentures into shares, securities indexes, purchase and sale of investment funds quotas and, if permitted by the CVM, going-private transactions, canceling or suspension of trading. Moreover, the offshore transfer or assignment of the securities or other financial assets held by foreign investors pursuant to Resolution No. 2,689/2000 is prohibited, except for transfers resulting from a corporate reorganization, or occurring upon the death of an investor by operation of law or will.

Resolution No. 1,927/1992 of the National Monetary Council, which is the restated and amended Annex V to Resolution No. 1,289/1997, provides for the issuance of depositary receipts in foreign markets in respect of shares of Brazilian issuers. It provides that the proceeds from the sale of ADSs by holders of ADRs outside Brazil are free of Brazilian foreign investment controls and holders of ADSs who are not resident in a tax haven jurisdiction (*i.e.*, a country or location that does not impose taxes on income or where the maximum income tax rate is lower than 20%, or where the legislation imposes restrictions on disclosure of the shareholding composition or the ownership of the investment) will be entitled to favorable tax treatment.

An electronic registration has been issued to the custodian in the name of the depositary with respect to the ADSs. Pursuant to this electronic registration, the custodian and the depositary are able to convert dividends and other distributions with respect to the underlying shares into foreign currency and to remit the proceeds outside Brazil. If a holder exchanges ADSs for preferred shares or common shares, the holder may continue to rely on the custodian's electronic registration for only five business days after the exchange. After

that, the holder must seek to obtain its own electronic registration with the Central Bank under Law No. 4,131/1962 or Resolution No. 2,689/2000. Thereafter, unless the holder has registered its investment with the Central Bank, such holder may not convert into foreign currency and remit outside Brazil the proceeds from the disposition of, or distributions with respect to, such preferred shares or common shares.

Under Brazilian law, whenever there is a serious imbalance in Brazil's balance of payments or reasons to foresee a serious imbalance, the Brazilian government may impose temporary restrictions on the remittance to foreign investors of the proceeds of their investments in Brazil, and on the conversion of Brazilian currency into foreign currencies. Such restrictions may hinder or prevent the custodian or holders who have exchanged ADSs for underlying preferred shares or common shares from converting distributions or the proceeds from any sale of such shares, as the case may be, into U.S. dollars and remitting such U.S. dollars abroad. In the event the custodian is prevented from converting and remitting amounts owed to foreign investors, the custodian will hold the *reais* it cannot convert for the account of the holders of American Depositary Receipts who have not been paid. The depositary will not invest the *reais* and will not be liable for interest on those amounts. Furthermore, any *reais* so held will be subject to devaluation risk against the U.S. dollar.

TAXATION

The following summary contains a description of the principal Brazilian and U.S. federal income tax consequences of the ownership and disposition of preferred shares, common shares or ADSs. You should know that this summary does not purport to be a comprehensive description of all the tax considerations that may be relevant to a holder of preferred shares, common shares or ADSs.

Holders of preferred shares, common shares, or ADSs should consult their own tax advisors to discuss the tax consequences of the purchase, ownership and disposition of preferred shares, common shares or ADSs, including, in particular, the effect of any state, local or other national tax laws.

Although there is at present no treaty to avoid double taxation between Brazil and the United States, but only a common understanding between the two countries according to which income taxes paid in one may be offset against taxes to be paid in the other, both countries' tax authorities have been having discussions that may result in the execution of such a treaty. In this regard, the two countries signed a Tax Information Exchange Agreement on March 20, 2007. We cannot predict whether or when such a treaty will enter into force or how, if entered into, such a treaty will affect the U.S. holders, as defined below, of preferred shares, common shares, or ADSs.

Brazilian tax considerations

The following discussion summarizes the principal Brazilian tax consequences of the acquisition, ownership and disposition of preferred shares, common shares or ADSs by a holder not deemed to be domiciled in Brazil for purposes of Brazilian taxation ("Non-Brazilian Holder"). It is based on the tax laws of Brazil and regulations thereunder in effect on the date hereof, which are subject to change (possibly with retroactive effect). This discussion does not specifically address all of the Brazilian tax considerations applicable to any particular Non-Brazilian Holder. Therefore, each Non-Brazilian Holder should consult his or her own tax advisor concerning the Brazilian tax consequences of an investment in preferred shares, common shares, or ADSs.

Shareholder distributions

Brazilian corporations, such as us, classify for tax purposes distributions to shareholders as either dividends or interest on shareholders' equity.

Dividends. Amounts distributed as dividends, including distributions in kind, will generally not be subject to income tax withholding if the distribution is paid by us from profits of periods beginning on or after January 1, 1996 (1) to the depositary in respect of the preferred shares or common shares underlying the ADSs or (2) to a Non-Brazilian Holder in respect of preferred shares or common shares. Dividends paid from

profits generated before January 1, 1996 may be subject to Brazilian withholding income tax at varying rates depending on the year the profits were generated.

Interest on shareholders' equity. Amounts distributed as interest on shareholders' equity are generally subject to income tax withholding at the rate of 15%, except if:

- the beneficiary is exempt from tax in Brazil, in which case the distribution is free of Brazilian tax, or
- the beneficiary is located in a Tax Haven Jurisdiction (as defined below) (a "Tax Haven Holder"), in which case the applicable income tax withholding rate is 25%.

Interest on shareholders' equity is calculated as a percentage of shareholders' equity, as stated in the statutory accounting records. The interest rate applied may not exceed the TJLP, as determined by the Central Bank of Brazil from time to time. In addition, the amount of distributions classified as interest on shareholders' equity may not be more than the greater of (1) 50% of net income (after the deduction of the provision of social contribution on net profits but before taking into account such payment of interest and the provision of corporate income tax) for the period in respect of which the payment is made, or (2) 50% of the sum of retained earnings and profit reserves as of the date of the beginning of the fiscal year in respect of which the payment is made. Payments of interest on shareholders' equity are deductible for corporate income tax and social contribution on net profit purposes, to the extent of the limits described above. Therefore, the benefit to us, as opposed to making a distribution classified as a dividend payment, is a reduction in our corporate taxes charge equivalent to 34% of such amount.

Taxation of capital gains. Taxation of Non-Brazilian Holders for capital gains depends on the status of the holder as either:

- (1) not resident or domiciled in a Tax Haven Jurisdiction (as defined below) and registered with the Central Bank of Brazil and the CVM to invest in Brazil in accordance with Resolution No. 2,689, or a holder of ADSs; or
- (2) any other Non-Brazilian Holder whose investment is not registered with the Central Bank and Non-Brazilian Holders resident in a Tax Haven Jurisdiction (*i.e.*, a jurisdiction that does not impose income tax or where the maximum income tax rate is lower than 20% or where internal legislation imposes restrictions on the disclosure of share or investment ownership).

Investors identified in item (1) are subject to favorable tax treatment, as described below.

According to Law No. 10,833, dated December 29, 2003, capital gains realized by a Non-Brazilian Holder from the disposition of "assets located in Brazil" are subject to taxation in Brazil.

Preferred shares and common shares qualify as assets located in Brazil, and the disposition of such assets by a Non-Brazilian Holder may be subject to income tax on the gains assessed, in accordance with the rules described below, regardless of where or with whom the transaction is carried out.

There is some uncertainty as to whether ADSs qualify as "assets located in Brazil" for purposes of Law No. 10,833/03. Arguably, ADSs do not constitute assets located in Brazil and therefore the gains realized by a Non-Brazilian Holder on the disposition of ADSs to another Non-Brazilian resident should not be subject to tax in Brazil. However, we cannot assure you that the Brazilian courts would uphold this interpretation of the definition of "assets located in Brazil" in connection with the taxation of gains realized by a Non-Brazilian Holder on the disposition of ADSs. Consequently, gains on a disposition of ADSs by a Non-Brazilian Holder (whether in a transaction carried out with another Non-Brazilian Holder or a person domiciled in Brazil) may be subject to income tax in Brazil in accordance with the rules applicable to a disposition of shares.

Although there are grounds to sustain otherwise, the deposit of preferred shares or common shares in exchange for ADSs may be subject to Brazilian income tax if the acquisition cost of the preferred shares or common shares is lower than the average price of such shares, which is calculated as either:

- (i) the average price per preferred share or common share on the Brazilian stock exchange in which the greatest number of such shares were sold on the day of deposit; or
- (ii) if no preferred shares or common shares were sold on that day, the average price on the Brazilian stock exchange in which the greatest number of preferred shares or common shares were sold in the 15 trading sessions immediately preceding such deposit.

The difference between the acquisition cost and the average price of the preferred shares or common shares calculated as described above will be considered to be a capital gain subject to taxation. There are grounds to sustain that such taxation is not applicable with respect to investors registered under the rules of Resolution No. 2,689/2000, provided these are not Tax Haven Holders.

The withdrawal of ADSs in exchange for preferred shares or common shares is not subject to Brazilian income tax, assuming compliance with applicable regulations regarding the registration of the investment with the Brazilian Central Bank.

For purposes of Brazilian taxation, the income tax rules on gains related to disposition of preferred shares or common shares vary depending on:

- the domicile of the Non-Brazilian Holder;
- the method by which such Non-Brazilian Holder has registered its investment with the Central Bank; and/or
- how the disposition is carried out, as described below.

The gain realized as a result of a transaction on a Brazilian stock, future and commodities exchange is the difference between: (i) the amount in Brazilian currency realized on the sale or disposition and (ii) the acquisition cost, without any adjustment for inflation, of the shares sold.

Capital gains realized by a Non-Brazilian Holder on a sale or disposition of preferred shares or common shares carried out on a Brazilian stock exchange (which includes the transactions carried out on the organized over-the-counter market) are:

- exempt from income tax when the Non-Brazilian Holder (i) has registered its investment in Brazil with the Central Bank in accordance with Resolution No. 2,689/2000 (a “2,689 holder”) and (ii) is not a Tax Haven Holder; or
- in all other cases, subject to income tax at a 15% rate. In these cases, a withholding income tax at a rate of 0.005% of the sale value is levied on the transaction and can be offset with the eventual income tax due on the capital gain.

Any other gains assessed on a sale or disposition of preferred shares or common shares that is not carried out on a Brazilian stock exchange are subject to income tax at a 15% rate — except for gains realized by Tax Haven Holders, which are subject to income tax at a 25% rate.

With respect to transactions conducted on the Brazilian non-organized over-the-counter market, with brokerage, a withholding income tax at a rate of 0.005% on the sale value is also levied on the transaction and can be offset against the eventual income tax due on the capital gain. There can be no assurance that the current favorable treatment of 2,689 holders will continue in the future.

In the case of a redemption of preferred shares, common shares, or ADSs or a capital reduction by a Brazilian corporation, the positive difference between the amount received by the Non-Brazilian Holder and

the acquisition cost of the preferred shares, common shares or ADSs redeemed is treated as capital gain derived from the sale or exchange of shares not carried out on a Brazilian stock exchange market and is therefore generally subject to income tax at the rate of 15%, while the 25% rate applies to Tax Haven Holders.

Any exercise of preemptive rights relating to the preferred shares or common shares will not be subject to Brazilian taxation. Any gains realized by a Non-Brazilian Holder on the disposition of preemptive rights relating to preferred shares or common shares in Brazil will be subject to Brazilian income taxation in accordance with the same rules applicable to the sale or disposition of preferred shares or common shares.

Tax on foreign exchange and financial transactions

Foreign exchange transactions. Brazilian law imposes a tax on foreign exchange transactions, or the IOF/Exchange Tax. The IOF/Exchange Tax applies to the conversion of *reais* into foreign currency and to the conversion of foreign currency into *reais*. Currently, for most foreign currency exchange transactions, the IOF/Exchange Tax is assessed at a rate of 0.38%, although other rates may apply to particular operations. Starting March 17, 2008, certain foreign exchange transactions are not subject to the IOF/Exchange Tax, namely those relating to share transactions carried out on a stock exchange or in a public offering registered with the CVM, or for the underwriting of shares, provided that the issuer is authorized to trade its shares at the stock exchange and, as long as supported by Decree No 6,391 of the National Monetary Council. The same applies for dividends and interest on shareholders' equity. The Brazilian government may increase the rate at any time up to 25% of the foreign exchange transaction amount. However, any increase in rates cannot be applied retroactively.

Transactions involving bonds and securities. Brazilian law imposes a tax on transactions involving bonds and securities, or the IOF/Bonds Tax, including those carried out on a Brazilian stock exchange. The rate of IOF/Bonds Tax applicable to transactions involving preferred shares, common shares or ADSs is currently zero. The Brazilian government may increase such rate at any time up to 1.5% of the transaction amount per day, but the tax cannot be applied retroactively.

Temporary contribution on financial transactions. Until December 31, 2007, as a general rule, transactions carried out in Brazil that resulted in the transfer of funds from an account maintained with a Brazilian financial institution were subject to the temporary contribution on financial transactions, or the CPMF Tax, which was levied at a rate of 0.38% on any bank account withdrawals.

However, as of January 1, 2008, the CPMF Tax is no longer in force and is not applicable to any transaction carried out after that date.

Other Brazilian taxes. There are no Brazilian inheritance, gift or succession taxes applicable to the ownership, transfer or disposition of preferred shares, common shares or ADSs by a Non-Brazilian Holder, except for gift and inheritance taxes which are levied by some states of Brazil on gifts made or inheritances bestowed by a Non-Brazilian Holder to individuals or entities resident or domiciled within such states in Brazil. There are no Brazilian stamp, issue, registration, or similar taxes or duties payable by holders of preferred shares or common shares or ADSs.

U.S. federal income tax considerations

This summary does not purport to be a comprehensive description of all the U.S. federal income tax consequences of the acquisition, holding or disposition of the preferred shares, common shares or ADSs. This summary applies to U.S. holders, as defined below, who hold their preferred shares, common shares or ADSs as capital assets and does not apply to special classes of holders, such as:

- certain financial institutions,
- insurance companies,

- dealers in securities or foreign currencies,
- tax-exempt organizations,
- securities traders who elect to account for their investment in preferred shares, common shares or American Depository Shares on a mark-to-market basis,
- persons holding preferred shares, common shares or ADSs as part of hedge, straddle, conversion or other integrated financial transaction for tax purposes,
- holders whose functional currency for U.S. federal income tax purposes is not the U.S. dollar,
- partnerships or other holders treated as “pass-through entities” for U.S. federal income tax purposes,
- persons subject to the alternative minimum tax, or
- persons owning, actually or constructively, 10% or more of our voting shares.

This discussion is based on the Internal Revenue Code of 1986, as amended to the date hereof, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury Regulations, all as in effect on the date hereof. These authorities are subject to differing interpretations and may be changed, perhaps retroactively, so as to result in U.S. federal income tax consequences different from those discussed below. There can be no assurance that the U.S. Internal Revenue Service (the “IRS”) will not challenge one or more of the tax consequences discussed herein or that a court will not sustain such a challenge in the event of litigation. This summary does not address any aspect of state, local or non-U.S. tax law.

HOLDERS SHOULD CONSULT THEIR TAX ADVISORS WITH REGARD TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION.

This discussion is also based, in part, on representations of the depositary and the assumption that each obligation in the deposit agreement and any related agreement will be performed in accordance with its terms.

As used herein, the term “U.S. holder” means a beneficial owner of preferred shares, common shares, or ADSs that is, for U.S. federal income tax purposes:

- a citizen or resident alien individual of the United States,
- a corporation created or organized in or under the laws of the United States or of any political subdivision thereof, or
- otherwise subject to U.S. federal income taxation on a net income basis with respect to the preferred shares, common shares, or ADSs.

The term U.S. holder also includes certain former citizens of the United States.

The U.S. federal income tax treatment of a partner in a partnership (or any other entity classified as a “pass through entity” for U.S. federal income tax purposes) that holds preferred shares, common shares or ADSs generally will depend on such partner’s particular circumstances and on the activities of the partnership. Partners in such partnerships (or other pass-through entities) should consult their own tax advisors.

In general, for U.S. federal income tax purposes, holders of American depositary receipts evidencing ADSs will be treated as the beneficial owners of the preferred shares or common shares represented by those ADSs. Deposits and withdrawals of preferred shares or common shares by holders in exchange for ADSs will not result in the realization of gain or loss for U.S. federal income tax purposes.

Taxation of dividends

The gross amount of a distribution paid on ADSs, preferred shares or common shares, including distributions paid in the form of payments of interest on capital for Brazilian tax purposes, out of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) will be taxable to you as foreign source dividend income and will not be eligible for the dividends-received deduction allowed to corporate shareholders under U.S. federal income tax law. The amount of any such distribution will include the amount of Brazilian withholding taxes, if any, withheld on the amount distributed. To the extent that a distribution exceeds our current and accumulated earnings and profits, such distribution will be treated as a nontaxable return of capital to the extent of your basis in the ADSs, preferred shares or common shares, as the case may be, with respect to which such distribution is made, and thereafter as a capital gain.

You will be required to include dividends paid in *reais* in income in an amount equal to their U.S. dollar value calculated by reference to an exchange rate in effect on the date such distribution is received by the depository, in the case of ADSs, or by you, in the case of common shares or preferred shares. If the depository or you do not convert such *reais* into U.S. dollars on the date they are received, it is possible that you will recognize foreign currency loss or gain, which would be ordinary loss or gain, when the *reais* are converted into U.S. dollars. If you hold ADSs, you will be considered to receive a dividend when the dividend is received by the depository.

Subject to certain exceptions for short-term and hedged positions, the U.S. dollar amount of dividends received by certain noncorporate taxpayers, including individuals, prior to January 1, 2011 with respect to the ADSs will be subject to taxation at a maximum rate of 15% if the dividends are “qualified dividends.” Dividends paid on the ADSs will be treated as qualified dividends if (i) the ADSs are readily tradable on an established securities market in the United States and (ii) the company was not, in the year prior to the year in which the dividend was paid, and is not, in the year in which the dividend is paid, a passive foreign investment company (“PFIC”). The ADSs are listed on the New York Stock Exchange and will qualify as readily tradable on an established securities market in the United States so long as they are so listed. Based on Vale’s audited financial statements and relevant market and shareholder data, Vale believes that it was not treated as a PFIC for U.S. federal income tax purposes with respect to its 2007 or 2008 taxable year. In addition, based on Vale’s audited financial statements and its current expectations regarding the value and nature of its assets, the sources and nature of its income, and relevant market and shareholder data, Vale does not anticipate becoming a PFIC for its 2009 taxable year.

Based on existing guidance, it is not entirely clear whether dividends received with respect to the preferred shares and common shares will be treated as qualified dividends (and therefore whether such dividends will qualify for the maximum rate of taxation of 15%), because the preferred shares and common shares are not themselves listed on a U.S. exchange. In addition, the U.S. Treasury has announced its intention to promulgate rules pursuant to which holders of ADSs, preferred shares or common stock and intermediaries through whom such securities are held will be permitted to rely on certifications from issuers to establish that dividends are treated as qualified dividends. Because such procedures have not yet been issued, it is unclear whether we will be able to comply with them. Holders of ADSs, preferred shares and common shares should consult their own tax advisors regarding the availability of the reduced dividend tax rate in the light of their own particular circumstances.

Subject to generally applicable limitations and restrictions, you will be entitled to a credit against your United States federal income tax liability, or a deduction in computing your U.S. federal taxable income, for Brazilian income taxes withheld by us. You must satisfy minimum holding period requirements to be eligible to claim a foreign tax credit for Brazilian taxes withheld on dividends. The limitation on foreign taxes eligible for credit is calculated separately for specific classes of income. For this purpose dividends paid by us on our shares will generally constitute “passive income”. Foreign tax credits may not be allowed for withholding taxes imposed in respect of certain short-term or hedged positions in securities or in respect of arrangements in which a U.S. holder’s expected economic profit is insubstantial. U.S. holders should consult their own tax advisors concerning the implications of these rules in light of their particular circumstances.

Taxation of capital gains

Upon a sale or exchange of preferred shares, common shares or ADSs, you will recognize a capital gain or loss for U.S. federal income tax purposes equal to the difference, if any, between the amount realized on the sale or exchange and your adjusted tax basis in the preferred shares, common shares or ADSs. This gain or loss will be long-term capital gain or loss if your holding period in the preferred shares, common shares or ADSs exceeds one year. The net amount of long-term capital gain recognized by individual U.S. holders prior to January 1, 2011 generally is subject to taxation at a maximum rate of 15%. Your ability to use capital losses to offset income is subject to limitations.

Any gain or loss will be U.S. source gain or loss for U.S. foreign tax credit purposes. Consequently, if a Brazilian withholding tax is imposed on the sale or disposition of ADSs, preferred shares or common shares, and you do not receive significant foreign source income from other sources you may not be able to derive effective U.S. foreign tax credit benefits in respect of such Brazilian withholding tax. You should consult your own tax advisor regarding the application of the foreign tax credit rules to your investment in, and disposition of, ADSs, preferred shares or common shares.

If a Brazilian tax is withheld on the sale or disposition of shares, the amount realized by a U.S. holder will include the gross amount of the proceeds of such sale or disposition before deduction of the Brazilian tax. See *Item 10. Additional information—Taxation—Brazilian tax considerations.*

Information reporting and backup withholding

Information returns may be filed with the Internal Revenue Service in connection with distributions on the preferred shares, common shares or ADSs and the proceeds from their sale or other disposition. You may be subject to United States backup withholding tax on these payments if you fail to provide your taxpayer identification number or comply with certain certification procedures or otherwise establish an exemption from backup withholding. If you are required to make such a certification or to establish such an exemption, you generally must do so on IRS Form W-9.

The amount of any backup withholding from a payment to you will be allowed as a credit against your U.S. federal income tax liability and may entitle you to a refund, provided that the required information is timely furnished to the Internal Revenue Service.

DOCUMENTS ON DISPLAY

We are subject to the information requirements of the Securities Exchange Act of 1934, as amended, and accordingly file reports and other information with the SEC. Reports and other information filed by us with the SEC may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You can obtain further information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. You may also inspect Vale's reports and other information at the offices of the New York Stock Exchange, 11 Wall Street, New York, New York 10005, on which Vale's ADSs are listed. Our SEC filings are also available to the public from the SEC's website at <http://www.sec.gov>. For further information on obtaining copies of Vale's public filings at the New York Stock Exchange, you should call (212) 656-5060. We also file financial statements and other periodic reports with the CVM.

Item 11. *Quantitative and qualitative disclosures about market risk*

RISK MANAGEMENT

The aim of our risk management strategy is to promote enterprise-wide risk management, through an integrated framework that considers the impact on our business of not only market risks but also of credit and operational risks. The benefit of this integrated framework, which accounts for all kinds of corporate risks as well as the correlations among different market risk factors, is to enable us to accurately evaluate risk after accounting for all of the natural hedges in Vale's portfolio. Using this framework highlights the diversification of our mix of products and currencies, which tends to reduce our overall risk.

We consider the effective management of risk a key objective to support our growth strategy and financial flexibility. Mitigating future cash flow risk enhances our credit quality, improves our ability to access different credit markets and reduces our cost of capital. In furtherance of this objective, our Board of Directors has established an enterprise-wide risk management policy and a risk management committee. Our risk management strategy is designed to address market risk as well as credit and operational risks to our business. Our strategy is intended to promote the following principles: (1) enhance the capital structure, (2) support the long-term corporate strategy, (3) maintain financial flexibility, and (4) implement best practices in corporate governance.

Our risk management policy requires that we regularly evaluate cash flow risk and, when necessary, analyze and propose risk mitigation strategies to reduce cash flow volatility. It explicitly prohibits speculative transactions with derivatives and requires diversification of transactions types and of counterparties.

The risk management committee is responsible for assisting our executive officers in overseeing and reviewing information regarding our enterprise risk management activities, including principles, significant policies, risk management processes and procedures, and risk management instruments. The risk management committee reports periodically to the Executive Board, and the Executive Board is responsible for the evaluation and approval of long-term risk mitigation strategies recommended by the risk management committee. As of April 2009, the members of the risk management committee were: Fabio de Oliveira Barbosa, Chief Financial Officer, Tito Martins, Executive Officer (Non-ferrous Minerals), Guilherme Cavalcanti, Corporate Finance Director, and Jennifer Maki, Vale Inco Chief Financial Officer.

In addition to our risk management governance model, we also rely on a well-defined corporate structure. Different and independent departments recommend and implement derivative transactions. The risk management department is responsible for defining and proposing to the risk management committee market risk mitigation strategies consistent with our corporate strategy. The corporate finance department is responsible for the execution of risk mitigation strategies through the use of derivatives. The independence of these departments provides effective control over these operations.

The consolidated market risk exposure and portfolio of derivatives are measured monthly and monitored in order to evaluate the financial results and the possible risk impacts on our cash flows, monitoring achievement of the initial goals. The mark-to-market on the derivatives portfolio is reported weekly to management. We also periodically review the credit limits and creditworthiness of our hedging counterparties.

Considering the nature of our business and operations, the principal market risks we face are:

- interest rate risk,
- exchange rate risk,
- product price risk, and
- input price risk.

We mitigate operational risk by establishing new controls, improving existing ones, obtaining insurance and establishing financial provisions. As a result, we have a clear view of our major operational risks, the best mitigation plans on a cost-benefit basis, and the controls to monitor them.

We recognize all derivatives on our balance sheet at fair value, and the gain or loss in fair value is accrued in our current earnings, in accordance with SFAS 133, "Accounting for Derivative Financial Instruments and Hedging Activities," as amended by SFAS 137 and SFAS 138. Fair value accounting and the mark-to-market of derivatives may introduce unintended volatility in our quarterly earnings. However, it does not generate volatility in our cash flows, given the nature of our derivatives transactions.

The asset (liability) balances at December 31, 2008 and 2007 and the movement in fair value of derivative financial instruments are shown in the following table.

| | Interest rates (LIBOR)/ currencies | Aluminum products | Copper | Nickel | Platinum | Gold | Total |
|---|---|------------------------------|------------------|----------------|-----------------|-----------------|------------------|
| Fair value at January 1, 2007 | US\$ (10) | US\$(318) | US\$(298) | US\$ 16 | US\$(20) | US\$(53) | US\$(683) |
| Financial settlement | (290) | 112 | 240 | (38) | 13 | 33 | 70 |
| Unrealized gains (losses) in the | | | | | | | |
| year | 854 | 153 | (129) | 63 | (17) | (7) | 917 |
| Effect of exchange rate changes . . . | 72 | (45) | (1) | 1 | — | (9) | 18 |
| Unrealized gain (loss) at | | | | | | | |
| December 31, 2007 | <u>US\$ 626</u> | <u>US\$ (98)</u> | <u>US\$(188)</u> | <u>US\$ 42</u> | <u>US\$(24)</u> | <u>US\$(36)</u> | <u>US\$ 322</u> |
| Fair value at January 1, 2008 | US\$ 626 | US\$ (98) | US\$(188) | US\$ 42 | US\$(24) | US\$(36) | US\$ 322 |
| Financial settlement | (394) | 120 | 173 | 38 | 27 | 41 | 5 |
| Unrealized gains (losses) in the | | | | | | | |
| year | (682) | (18) | (29) | (46) | (6) | (30) | (811) |
| Effect of exchange rate changes . . . | (123) | (4) | 44 | (2) | 3 | 25 | (57) |
| Unrealized gain (loss) | | | | | | | |
| December 31, 2008 | <u>US\$(573)</u> | <u>US\$ 0</u> | <u>US\$ 0</u> | <u>US\$ 32</u> | <u>US\$ 0</u> | <u>US\$ 0</u> | <u>US\$(541)</u> |

Interest rate and exchange rate risks

Our cash flows are exposed to the volatility of several different currencies. While most of our product prices, representing around 91% of total revenue, are denominated or indexed to the U.S. dollar, most our costs, disbursements and investments are denominated or indexed to other currencies, mainly *reais* and Canadian dollars.

Derivative instruments may be used in order to reduce potential cash flow volatility arising from the currency mismatch between our debt service and our revenues. Our currency and interest rate derivative portfolio consists basically of swaps to convert floating cash flows in *reais* to fixed or floating U.S. dollar cash flows, without any leverage.

We are also exposed to interest rate risk on loans and financings. Our U.S. dollar-denominated floating rate debt consists mainly of loans, including export pre-payments, commercial bank loans and multilateral organization loans. In general, interest on our U.S. dollar floating rate debt is based on LIBOR (London Interbank Offer Rate in U.S. dollars). To mitigate the impact of interest rate volatility on our cash flows, we take advantage of natural hedges resulting from the positive correlation of metal prices and U.S. dollar floating rates. Where natural hedges are not present, we may opt to realize the same effect using financial instruments.

Our floating rate debt denominated in *reais* includes debentures, loans obtained from BNDES and property and service acquisition financing in the Brazilian market. Interest on these obligations is mainly

based on the CDI (Interbank Deposit Certificate), the benchmark interest rate in the Brazilian interbank market, and the TJLP, the benchmark Brazilian long-term interest rate.

The following table sets forth our floating and fixed rate long-term debt, categorized by Brazilian local and foreign currency, and as a percentage of our total long-term debt portfolio at the dates indicated, including loans from unrelated parties, except for accrued charges and translation adjustments, as reflected in our consolidated financial statements.

| | At December 31, | | | |
|---|---|--------------|----------------------|--------------|
| | 2007 | | 2008 | |
| | (US\$ million, except percentages) | | | |
| Floating rate debt: | | | | |
| <i>Real</i> -denominated | 5,071 | 27.4% | 4,374 | 24.5% |
| Denominated in other currencies | <u>6,272</u> | <u>33.8%</u> | <u>6,612</u> | <u>37.0%</u> |
| Subtotal | 11,343 | — | 10,987 | — |
| Fixed rate debt: | | | | |
| <i>Real</i> -denominated | 1 | 0% | 1 | 0% |
| Denominated in other currencies | <u>7,180</u> | <u>38.8%</u> | <u>6,868</u> | <u>38.5%</u> |
| Subtotal | 18,525 | 100% | 17,857 | 100% |
| Accrued charges | <u>331</u> | — | <u>311</u> | — |
| Total | <u><u>18,856</u></u> | — | <u><u>18,168</u></u> | — |

The following table provides information about our debt obligations as of December 31, 2008. It presents the principal cash flows and related weighted average interest rates of these obligations by expected maturity date. Weighted average variable interest rates are based on the applicable reference rate at December 31, 2008. Actual cash flows of these debt obligations are denominated mainly in U.S. dollars or *reais*, as indicated.

| | Weighted average interest rate(1)(2) | (US\$ million) | | | | | | | Fair value cash flow at 12/31/08(3) |
|--|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|--|
| | | 2009 | 2010 | 2011 | 2012 | 2013 | To 2036 | Total | |
| US\$-denominated | | | | | | | | | |
| <i>Fixed rate:</i> | | | | | | | | | |
| Bonds | 6.83% | | 5.7 | 5.7 | 407.5 | 123.4 | 5,965.7 | 6,508.0 | 5,752.7 |
| Loans | 2.74% | 12.4 | 4.8 | 1.6 | 1.5 | — | 30.3 | 50.6 | 50.6 |
| Securitization notes | 5.58% | 55.2 | 57.5 | 30.0 | 32.5 | 30.0 | — | 205.2 | 210.4 |
| <i>Floating rate:</i> | | | | | | | | | |
| Loans | 2.74% | 199.4 | 290.4 | 505.3 | 262.8 | 245.7 | 683.8 | 2,187.4 | 1,996.5 |
| Trade finance | 2.40% | — | <u>1,250.0</u> | <u>2,025.0</u> | <u>375.0</u> | <u>400.0</u> | — | <u>4,050.0</u> | <u>3,698.7</u> |
| Subtotal | | 267.0 | 1,608.4 | 2,567.6 | 1,079.3 | 799.1 | 6,679.8 | 13,001.2 | 11,708.8 |
| <i>Real</i>-denominated | | | | | | | | | |
| Fixed rate loans | 12.90% | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| Floating rate loans | 12.90% | <u>32.5</u> | <u>674.3</u> | <u>34.3</u> | <u>45.4</u> | 1,744.9 | <u>1,842.8</u> | <u>4,374.3</u> | <u>4,400.5</u> |
| Subtotal | | 32.5 | 674.3 | 34.3 | 45.4 | 1,744.9 | 1,843.9 | 4,375.4 | 4,401.6 |
| Denominated in other currencies | | | | | | | | | |
| Fixed rate loans | 9.33% | 6.24 | 10.84 | 5.45 | 5.60 | 5.30 | 71.5 | 104.5 | 105.0 |
| Floating rate loans | 3.88% | <u>16.3</u> | <u>10.0</u> | <u>10.2</u> | <u>7.4</u> | <u>7.5</u> | <u>32.1</u> | <u>83.6</u> | <u>128.6</u> |
| Subtotal | | 23 | 21 | 16 | 13 | 13 | 104 | 189 | 234 |
| No maturity | | — | — | — | — | — | 291.4 | 291.4 | 291.4 |
| Total | | <u><u>322.0</u></u> | <u><u>2,303.6</u></u> | <u><u>2,617.6</u></u> | <u><u>1,137.7</u></u> | <u><u>2,556.8</u></u> | <u><u>8,918.7</u></u> | <u><u>17,857</u></u> | <u><u>16,635</u></u> |

(1) Weighted average interest rates do not take into account the effect of the derivatives.

(2) Weighted average variable interest rates are based on the applicable reference rate at December 31, 2008.

(3) Includes only long-term debt obligations.

We have entered into swaps to convert *real*-denominated debt instruments linked to CDI or TJLP to U.S. dollar fixed or floating rates. In fixed rate swaps, we pay fixed rates in U.S. dollars and receive payments in *reais* linked to the CDI or to the TJLP. In floating rate swaps, we pay a floating rate in U.S. dollars linked to LIBOR and receive payments in *reais* linked either to the CDI or the TJLP.

As of December 31, 2008, the value of our debt denominated in *reais* swapped to U.S. dollars was US\$4.2 billion, with an average cost of 4.9% per year after the currency swap. Our *real*-denominated debt matures from November 2010 to December 2027, and interest payments are mainly due on a semi-annual basis.

These swap transactions have settlement dates similar to the interest and principal payment dates, taking into account the liquidity restrictions of the market. At each settlement date the results of the settlement of the swap transaction offset part of the impact of the *real*/U.S. dollar exchange rate in our obligations, contributing to a stable flow of cash disbursements in U.S. dollars for the interest and/or principal payment of our *real*-denominated debt.

In the event of appreciation (depreciation) of the *real* against the U.S. dollar, the negative (positive) impact on our *real*-denominated debt obligations (interest and/or principal payment) measured in U.S. dollars will be largely offset by a positive (negative) effect from any existing swap transaction, regardless of the *real*/U.S. dollar exchange rate on the payment date.

In the event of a sharp depreciation of the *real* against the U.S. dollar, there would be the following effects:

- Quarterly earnings: In the short term, the variation of mark-to-market of the currency swaps would produce a negative impact on our quarterly accounting earnings without any cash effect.
- Cash disbursement: Starting November 2010, at the settlement date of the currency swap involving debt principal, we would have a lower equivalent in U.S. dollar disbursement, with the payment of debt principal offset by a disbursement with the liquidation of the currency swap.

We have also entered into swaps to convert euro-denominated debt with interest based on EURIBOR to U.S. dollar debt with interest based on to LIBOR, and to convert U.S. dollar floating rate debt with interest based on LIBOR into U.S. dollar fixed rate debt.

We used to convert our Brazilian payroll denominated in *reais* to U.S. dollars, employing currency swaps with monthly settlement, hedging our cash flow. We decided on an early settlement of our outstanding payroll hedging since part of the cash obtained from our 2008 global equity offering was invested in *reais*. The cash invested in *real* hedges our cash flow to protect us against *real* volatility mostly affecting our costs and investments.

The following table sets forth certain information about our cross-currency swap transactions.

| | At December 31, 2007 | | | At December 31, 2008 | | | | | |
|---|----------------------|---------------------------------|-------------------------|------------------------|------------------|-----------------------|--------------------------------------|------------------------|----------------|
| | Notional value | Rate range (payable) | Rate range (receivable) | Unrealized gain (loss) | Notional value | Rate range (payable) | Rate range (receivable) | Unrealized gain (loss) | Final maturity |
| (US\$ million, except interest rate ranges) | | | | | | | | | |
| <i>Real-denominated debt:</i> | | | | | | | | | |
| CDI vs. US\$ floating rate swap | 180 | Libor+ 0.676% | CDI+0.40% | 30.7 | 430.0 | Libor + (0.676-0.99)% | CDI + 0.40%/ 103.5% CDI (100-103.5%) | (95) | Jan 2015 |
| CDI vs. US\$ fixed rate swap | 3,248 | US\$+(5.25 -5.98)% | (100-101.75%) CDI | 502.2 | 3,672 | US\$+ (0.90-5.98)% | CDI | (375) | Jan 2015 |
| TJLP vs. US\$ floating rate swap | 56.3 | Libor+ -(0.86-1)% | TJLP+1.80% | (1.4) | 378 | Libor + -(1.89-0.86)% | TJLP + (0.8-1.8)% | (29) | Dec 2019 |
| TJLP vs. US\$ fixed rate swap | 85.2 | US\$+(3.57 -4.05)% | TJLP+1.8% | (4.3) | 304 | US\$+ (2.83-4.30)% | TJLP +(0.8-1.8)% | (61) | Dec 2019 |
| Euro-denominated floating rate debt | 10.8 | Euribor+ 0.875% | Libor+ 1.0425% | 3.3 | 8 | Euribor + 0.875% | Libor + 1.0425% | 2 | Dec 2011 |
| US\$ floating rate debt | 200 | US\$+ 4.795% R\$+(-0.02 -17.4)% | Libor 3M | (4.9) | 200 | US\$+4.76% | Libor 3M | (14) | Dec 2011 |
| Cash flow hedging | 814 | | 100% CDI | 105.8 | - | - | | - | - |
| Total | <u>US\$4,594</u> | | | <u>US\$631.4</u> | <u>US\$4,992</u> | | | <u>US\$(572)</u> | |

Product price risk

We are exposed to various market risks relating to the volatility of world market prices for the following products:

- iron ore and iron ore pellets, which represented 57.4% of our 2008 gross consolidated revenues;
- nickel, which represented 15.5% of our 2008 gross consolidated revenues;
- copper products, which represented 5.3% of our 2008 gross consolidated revenues;
- aluminum products, which represented 7.9% of our 2008 gross consolidated revenues;
- PGMs and other precious metals, which represented 1.3% of our 2008 gross consolidated revenues; and
- other products.

Nickel

In order to maintain our exposure to nickel price fluctuations, despite having fixed-price contracts to sell nickel, we entered into derivative transactions converting our fixed-price contracts to floating-price contracts. These transactions aim to guarantee that when we deliver the product to the client, it has the same average prices negotiated in the LME. This process normally involves buying nickel forwards (over-the-counter) or futures (exchange traded). These operations are usually settled before maturity in order to match the settlement dates of the fixed-price commercial contracts.

The following table sets forth certain information with respect to our nickel derivatives related to our sales at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|--------------------------------------|------------------------|-------------------------------------|---------------------------------------|------------------------|-----------------------------------|---------------------------------------|----------------|
| | Quantity (metric tons) | Average price (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Quantity (metric tons) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Nickel fixed-price program | 8,229 | 19,950-46,300 | (37.4) | 10,140 | 9,355-37,480 | (50) | Mar. 2011 |

Aluminum

We entered into hedging transactions aiming to reduce cash flow volatility due to changes in LME aluminum prices. Usually these transactions are implemented by the sale of forward over-the-counter or future contracts, at the LME or by using zero-cost collar contracts (purchase of put options associated with the sale of call options). These transactions matured in December 2008. The following table sets forth certain information with respect to our aluminum derivatives portfolio at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|-----------------------------|---------------------------------|--------------------------------------|--|---------------------------------|--------------------------------------|--|----------------|
| | Notional value (metric tons) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Notional value (metric tons) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Puts purchased | 354,000 | 2,000-2,550 | 8.1 | — | — | — | — |
| Forwards sold | 48,000 | 2,200-2,750 | (5.2) | — | — | — | — |
| Calls sold | 354,000 | 2,300-3,150 | (28.9) | — | — | — | — |
| Other instruments | 69,000 | 1,400-1,700 | (54.7) | — | — | — | — |
| Total | | | <u>(80.7)</u> | | | — | |

Copper

We entered into hedging transactions to reduce cash flow volatility due to changes in LME copper prices. These transactions are usually implemented by the sale of forward over-the-counter or future contracts, at the LME or the COMEX, or by using zero-cost collar contracts. These transactions were settled in December 2008. The following table sets forth certain information with respect to our copper derivatives portfolio.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|---------------------------------|--------------------------|--------------------------------------|--|---------------------------|--------------------------------------|--|----------------|
| | Quantity (metric ton) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Quantity (metric tons) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Puts purchased | 78,000 | 5,800-6,000 | 17.3 | — | — | — | — |
| Calls sold | 78,000 | 7,650-8,500 | (18.1) | — | — | — | — |
| Total | | | <u>(0.8)</u> | — | — | — | |
| Puts purchased | 9,996 | 2,485-2,500 | — | — | — | — | — |
| Range forward options | 48,384 | 2,205-2,855 | (186.8) | — | — | — | — |

Gold

We entered into hedging transactions to reduce cash flow volatility due to changes in gold prices, as gold is a by-product of our copper production. These transactions are usually implemented by the sale of forward contracts or zero-cost collar contracts. These transactions matured in December 2008. The following table sets forth certain information with respect to our gold derivatives portfolio at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|--------------------------|----------------------|-------------------------------|--|----------------------|-------------------------------|--|----------------|
| | Quantity (oz.) | Price range (US\$ per oz.) | Unrealized gain (loss) (US\$ million) | Quantity (oz.) | Price range (US\$ per oz.) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Puts purchased | 77,700 | 305-345 | — | — | — | — | — |
| Calls sold | 82,740 | 353-426 | (36.5) | — | — | — | — |

Platinum

We entered into hedging transactions to reduce cash flow volatility due to changes in platinum prices. These transactions are usually implemented by the sale of forward contracts over-the-counter or at the LME and the COMEX or by using zero-cost collar contracts. These transactions matured in December 2008. The

following table sets forth certain information with respect to our platinum derivatives portfolio at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|---------------------------------|----------------------|----------------|------------------------|----------------------|----------------|------------------------|----------------|
| | Quantity | Price range | Unrealized gain (loss) | Quantity | Price range | Unrealized gain (loss) | Final maturity |
| | (oz.) | (US\$ per oz.) | (US\$ million) | (oz.) | (US\$ per oz.) | (US\$ million) | |
| Range forward options | 34,644 | 675-830 | (24.1) | – | – | – | |

Input price risk

We are exposed to various market risks relating to the volatility of world market prices for the following inputs, among others:

- outsourced services, which represented 16.3% of our 2008 cost of goods sold;
- material, which represented 16.4% of our 2008 cost of goods sold;
- energy, which represented 16.6% of our 2008 cost of goods sold;
- acquisition of products, which represented 12.6% of our 2008 cost of goods sold; and
- personnel, which represented 12.1% of our 2008 cost of goods sold.

We may hedge certain input price risk with swap contracts, long-term contracts, embedded derivatives or backward integration.

Energy

As a large consumer of electricity, we are investing in power generation projects and gas exploration to protect us against volatility in the price of energy, regulatory uncertainties and the risk of energy shortages. We own hydroelectricity power generation plants in Brazil, Canada and Indonesia, and we currently generate 34% of our worldwide electricity needs from our own hydroelectric power plants.

We are developing hydroelectric and thermal power plants and engaging in natural gas exploration programs in order to increase our energy production and reduce our future exposure to energy price and supply volatility.

Our subsidiary Albras has an embedded energy derivative, with its electricity price linked to the price of aluminum. Albras has a 20-year contract, expiring in 2024, with Eletronorte, which provides for a basic purchase price, in *reais* per MWh. In addition to the basic price, there is a clause in the contract that requires us to pay a premium if the price of primary aluminum trades in the US\$1,450 per metric ton to the US\$2,773 per metric ton range in the LME. This clause is an embedded derivative. It had an unrealized loss of US\$48 million as of December 31, 2008 and US\$191 million as of December 31, 2007.

We have entered into derivatives in order to minimize the impact of natural gas price volatility on the costs of our Canadian nickel operations. These transactions are usually implemented using swaps or by the purchase of forward contracts.

Under these contracts, we pay fixed prices for natural gas and receive amounts based on monthly average spot prices. The following table sets forth certain information about our natural gas derivatives portfolio at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|-----------------|----------------------|---------------------|------------------------|----------------------|---------------------|------------------------|----------------|
| | Quantity | Price range | Unrealized gain (loss) | Quantity | Price range | Unrealized gain (loss) | Final maturity |
| | (gigajoule) | (CAD per gigajoule) | (US\$ million) | (gigajoule) | (CAD per gigajoule) | (US\$ million) | |
| Swaps | 5,476,500 | 7.34-8.48 | (6.1) | 1,773,000 | 7.34-7.97 | (2) | Oct. 2009 |

Acquisition of products

Nickel

The purchases of concentrate, cathode or other nickel metal for use as feed in our processing facilities create price risk since the feed price is generally fixed before the refined nickel is available for sale. We have entered into hedging transactions that aim to reduce cash flow volatility due to the price mismatch. We enter into LME sell contracts to match the pricing on the sale to the pricing of the purchase, or we sell nickel forward or future contracts over-the-counter.

The following table sets forth certain information with respect to our nickel purchase protection program at December 31, 2007 and 2008.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|--|--------------------------|--|---|--------------------------|--|---|-------------------|
| | Quantity (metric ton) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Quantity (metric ton) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Nickel purchase protection program | 3,072 | 25,565-32,890 | 15.9 | 4,944 | 9,117-16,900 | (7) | Sep. 2009 |

Copper

We enter into hedging transactions to reduce cash flow volatility due to the quotational period mismatch between the pricing period of copper scrap purchases and the pricing period of final product sales to the clients, as we buy copper scrap to combine with other raw materials or inputs to produce copper. This program is usually implemented by the sale of forwards over-the-counter or futures at the LME.

The following table sets forth certain information with respect to our copper scrap purchase protection program.

| | At December 31, 2007 | | | At December 31, 2008 | | | |
|------------------------|--------------------------|--|---|--------------------------|--|---|-------------------|
| | Quantity (metric ton) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Quantity (metric ton) | Price range (US\$ per metric ton) | Unrealized gain (loss) (US\$ million) | Final maturity |
| Futures sold | 159 | 6,622-8,080 | 0.09 | 136 | 3,743-6,895 | 0.4 | March 2009 |

As of December 31, 2008, we had outstanding contracts to purchase intermediate nickel and copper at provisional prices based on commodity indices. For accounting purposes, we treated the provisional pricing aspect of the contracts as an embedded derivative. The unrealized gain on such embedded derivatives was US\$22 million at December 31, 2008 and US\$23 million at December 31, 2007.

Credit risk

We are exposed to credit risk arising from trade receivables, derivative transactions, payment guarantees and cash investments. The credit risk process was implemented through a set of credit risk governance documents that establish the guidelines for granting counterparty limits and for measuring and controlling credit exposure. The credit risk policy provides a framework for assessing and managing counterparties' credit risk and for maintaining our risk at an acceptable level. The policy also defines the role of the risk management committee and the Executive Board. The risk management committee analyzes and recommends to the Executive Board the maximum credit risk exposure to trade receivables and the maximum credit risk exposure to financial institutions that are acceptable at both the counterparty and at the portfolio level.

We analyze and propose to the risk management committee credit risk mitigation strategies to hedge our portfolio to avoid concentration issues and, when necessary, to comply with the acceptable risk levels established by the Executive Board. The credit risk transactions implemented are strictly focused on risk mitigation; speculative credit derivative transactions are not permitted.

Customer credit quality is evaluated considering default probability, measured by financial statements, company size, past performance, country risk, credit rating, and equity and credit market performance. A credit limit is established for each customer in each business unit according to the guidelines defined in our credit risk policy. Customers' credit limits are monitored according to their credit exposure and their creditworthiness. Customer credit limits are updated annually. If there are significant changes in the marketplace, we may reevaluate the credit limits.

We are also exposed to financial institution credit risk arising from our derivative transactions and our cash investments. Financial institution credit quality is evaluated considering default probability, evaluated by financial statements, foreign and local currency credit ratings, and equity and credit market performance. Financial institution credit quality is evaluated at least annually according to our internal policy. Credit exposure limits are submitted to the risk management committee and to the Executive Board for approval. Our strategy may not be effective in managing risks due to market fluctuations, particularly those related to commodity prices, exchange rate fluctuations, and changes in the composition of our sales.

Item 12. *Description of securities other than equity securities*

None.

PART II

Item 13. *Defaults, dividend arrearages and delinquencies*

None.

Item 14. *Material modifications to the rights of security holders and use of proceeds*

None.

Item 15. *Controls and procedures*

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2008. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Our chief executive officer and chief financial officer have concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide

reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on the financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of the effectiveness to future periods are subject to the risk that controls may become inadequate and that the degree of compliance with the policies or procedures may deteriorate.

Our management has assessed the effectiveness of Vale’s internal control over financial reporting as of December 31, 2008 based on the criteria established in “Internal Control—Integrated Framework” issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on such assessment and criteria, Our management has concluded that our internal control over financial reporting was effective as of December 31, 2008. The effectiveness of our internal control over financial reporting as of December 31, 2008 has been audited by PricewaterhouseCoopers Auditores Independentes, an independent registered public accounting firm, as stated in their report which appears herein.

CHANGES IN INTERNAL CONTROLS

Our management identified no change in our internal control over financial reporting during our fiscal year ended December 31, 2008 that has materially affected or is reasonably likely to materially affect our internal control over financial reporting.

Item 16A. *Audit committee financial expert*

As described in Item 16D of this Form 20-F, in lieu of establishing an independent audit committee, we have given our Fiscal Council the necessary powers to qualify for the exemption from the audit committee requirements set forth in Exchange Act Rule 10A-3(c)(3). Our Board of Directors has determined that one of the members of our Fiscal Council, Mr. Aníbal Moreira dos Santos, is an audit committee financial expert. Mr. Moreira dos Santos meets the applicable independence requirements for Fiscal Council membership under Brazilian law. He also meets the NYSE independence requirements that would apply to audit committee members in the absence of our reliance on the exemption set forth in Exchange Act Rule 10A-3(c)(3).

Item 16B. *Code of ethics*

Vale has adopted a code of ethical conduct that applies to all board members, executive officers and employees, including the chief executive officer, the chief financial officer and the principal accounting officer. We have posted this code of ethical conduct on our website at: <http://www.vale.com> (under English Version/Investors/Corporate Governance/Code of Ethics). Copies of our code of ethical conduct may be obtained without charge by writing to us at the address set forth on the front cover of this Form 20-F. We have not granted any implicit or explicit waivers from any provision of our code of ethical conduct since its adoption.

Item 16C. *Principal accountant fees and services*

PRINCIPAL ACCOUNTANT FEES

PricewaterhouseCoopers Auditores Independentes billed the following fees to us for professional services in 2007 and 2008.

| | <u>Year Ended</u> <u>December 31,</u> | |
|------------------------------|--|--------------|
| | <u>2007</u> | <u>2008</u> |
| | <u>(US\$ thousand)</u> | |
| Audit fees | 7,385 | 8,327 |
| Audit-related fees | 614 | 777 |
| Tax fees | 327 | 512 |
| All other fees | <u>386</u> | <u>246</u> |
| Total fees | <u>8,712</u> | <u>9,862</u> |

“Audit fees” are the aggregate fees billed by PricewaterhouseCoopers for the audit of our annual financial statements and reviews of interim financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements. “Audit-related fees” are fees charged by PricewaterhouseCoopers for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and are not reported under “Audit fees.” In 2007 and 2008, “Audit-related fees” consisted primarily of fees for services related to due diligence and special reviews. “Tax fees” relate primarily to the review of the annual federal tax return and review of accuracy of the tax computation procedures with respect to income tax and sales taxes.

AUDIT COMMITTEE PRE-APPROVAL POLICIES AND PROCEDURES

Our Fiscal Council currently serves as our audit committee for purposes of the Sarbanes-Oxley Act of 2002. Pursuant to a written policy, our Fiscal Council requires management to obtain the Fiscal Council’s approval before engaging any external auditor to provide any audit or permitted non-audit services to us or our consolidated subsidiaries.

Under the policy, the Fiscal Council has pre-approved a detailed list of services based on detailed proposals from our auditors up to specified monetary limits set forth in the policy. Services that are not listed or that exceed the specified limits must be separately pre-approved by the Fiscal Council. The Fiscal Council is provided with reports on the services provided under the policy on a periodic basis, and the list of pre-approved services is updated periodically. The policy also sets forth a list of prohibited services. Internal control related services must be specifically pre-approved by the Fiscal Council.

Item 16D. *Exemptions from the listing standards for audit committees*

We have designated and empowered our Fiscal Council to perform the role of an audit committee pursuant to Exchange Act Rule 10A-3. We are required by both the SEC and the NYSE listed company audit committee rules to comply with Exchange Act Rule 10A-3, which requires that we either establish an audit committee composed of members of the Board of Directors that meets specified requirements or designate and empower our Fiscal Council to perform the role of the audit committee in reliance on the exemption set forth in Exchange Act Rule 10A-3(c)(3). We believe our Fiscal Council satisfies the independence and other requirements of Exchange Act Rule 10A-3 that would apply in the absence of our reliance on the exemption.

Item 16E. *Purchases of equity securities by the issuer and affiliated purchasers*

On October 16, 2008, our Board of Directors approved a share buy-back program for the acquisition of up to 69,944,380 common shares and up to 169,210,249 preferred shares, to be executed during 360 days. As of December 31, 2008, we had acquired 18,355,859 common shares and 46,513,400 preferred shares held in treasury for subsequent disposal or cancellation at an average weighted unit cost of US\$11.59.

| <u>Period</u> | <u>Total number of shares (or units) purchased</u> | <u>Average price paid per share (or units)</u> | <u>Total number of shares (or units) purchased as part of publicly announced plans or programs</u> | <u>Maximum number (or approximate US\$ value) of shares (or units) that may yet be purchased under the program</u> |
|-------------------------|--|--|--|--|
| <i>Common shares</i> | | | | |
| October 2008 | 988,900 | 11.03 | 988,900 | 68,955,480 |
| November 2008 | 16,593,759 | 12.45 | 16,593,759 | 52,361,721 |
| December 2008 | <u>773,200</u> | <u>11.61</u> | <u>773,200</u> | <u>51,588,521</u> |
| Total | <u>18,355,859</u> | <u>12.34</u> | <u>18,355,859</u> | <u>51,588,521</u> |
| <i>Preferred shares</i> | | | | |
| October 2008 | 1,819,500 | 9.94 | 1,819,500 | 167,390,749 |
| November 2008 | 43,284,400 | 11.39 | 43,284,400 | 124,106,349 |
| December 2008 | <u>1,409,500</u> | <u>10.33</u> | <u>1,409,500</u> | <u>122,696,849</u> |
| Total | <u>46,513,400</u> | <u>11.30</u> | <u>46,513,400</u> | <u>122,696,849</u> |
| <i>Total shares</i> | | | | |
| October 2008 | 2,808,400 | 10.33 | 2,808,400 | 236,346,229 |
| November 2008 | 59,878,159 | 11.68 | 59,878,159 | 176,468,070 |
| December 2008 | <u>2,182,700</u> | <u>10.78</u> | <u>2,182,700</u> | <u>174,285,370</u> |
| Total | <u>64,869,259</u> | <u>11.59</u> | <u>64,869,259</u> | <u>174,285,370</u> |

Item 16F. Change in registrant's certifying accountant

Not applicable.

Item 16G. Corporate governance

Under NYSE rules, foreign private issuers are subject to a more limited set of corporate governance requirements than U.S. domestic issuers. As a foreign private issuer, we must comply with four principal NYSE corporate governance rules: (1) we must satisfy the requirements of Exchange Act Rule 10A-3; (2) our chief executive officer must promptly notify the NYSE in writing after any executive officer becomes aware of any material non-compliance with the applicable NYSE corporate governance rules; (3) we must provide the NYSE with annual and interim written affirmations as required under the NYSE corporate governance rules; and (4) we must provide a brief description of any significant differences between our corporate governance practices and those followed by U.S. companies under NYSE listing standards. The table below briefly describes the significant differences between our domestic practice and the NYSE corporate governance rules.

| <u>Section</u> | <u>NYSE corporate governance rule for U.S. domestic issuers</u> | <u>Our approach</u> |
|----------------|--|--|
| 303A.01 | A listed company must have a majority of independent directors. "Controlled companies" are not required to comply with this requirement. | We are a controlled company because more than a majority of our voting power for the appointment of directors is controlled by Valepar. As a controlled company, we would not be required to comply with the majority of independent directors requirements if we were a U.S. domestic issuer. There is no legal provision or policy that requires us to have independent directors. |
| 303A.03 | The non-management directors of a listed company must meet at regularly scheduled executive sessions without management. | Our non-management directors do not meet at regularly scheduled executive sessions without management. |

Section

**NYSE corporate governance rule for
U.S. domestic issuers**

Our approach

303A.04 A listed company must have a nominating/corporate governance committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. “Controlled companies” are not required to comply with this requirement.

We do not have a nominating committee. All but two of the members of the Board of Directors are nominated by Valepar. As a controlled company, we would not be required to comply with the nominating/corporate governance committee requirements if we were a U.S. domestic issuer. However, we do have a Governance and Sustainability Committee, which is an advisory committee to the Board of Directors. It has three members, two of whom are directors. According to its charter, this committee is responsible for:

- evaluating and recommending improvements to the effectiveness of our corporate governance practices and the functioning of the Board of Directors;
- recommending improvements to our code of ethical conduct and management system in order to avoid conflicts of interest between us and our shareholders or management;
- issuing reports on potential conflicts of interest between us and our shareholders or management; and
- reporting on policies relating to corporate responsibility, such as environmental and social responsibility

Moreover, the committee’s charter requires at least one of its members to be independent. For this purpose, an independent member is a person who:

- does not have any current relationship with us other than being part of a committee, or being a shareholder of the our company;
- does not participate, directly or indirectly, in the sales efforts or provision of services by Vale;
- is not a representative of the controlling shareholders;
- has not been an employee of the controlling shareholder or of entities affiliated with a controlling shareholder;
- has not been an executive officer of the controlling shareholder.

303A.05 A listed company must have a compensation committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. “Controlled companies” are not required to comply with this requirement.

As a controlled company, we would not be required to comply with the compensation committee requirements if we were a U.S. domestic issuer. However, we have an Executive Development Committee, which is an advisory committee to the Board of Directors. This committee has three members, all of whom are directors. According to its charter, at least one of its members is required to be independent (as defined above). This committee is responsible for:

- reporting on general human resources policies;
- analyzing and reporting on the adequacy of compensation levels for our executive officers;

| <u>Section</u> | <u>NYSE corporate governance rule for U.S. domestic issuers</u> | <u>Our approach</u> |
|----------------|--|---|
| 303A.06 | A listed company must have an audit committee with a minimum of three independent directors who satisfy | <ul style="list-style-type: none"> • proposing and updating guidelines for evaluating the performance of our executive officers; and • reporting on policies relating to health and safety. <p>In lieu of appointing an audit committee composed of independent members of the Board of Directors, we have established a permanent <i>conselho fiscal</i>, or fiscal council, in accordance with the applicable provisions of Brazilian corporate law, and provided the fiscal council with additional powers to permit it to meet the requirements of Exchange Act Rule 10A-3(c)(3).</p> <p>The Fiscal Council currently has four members. Under Brazilian corporate law, which provides standards for the independence of the Fiscal Council from us and our management, none of the members of the Fiscal Council may be a member of the Board of Directors or an executive officer. Management does not elect any Fiscal Council member. One of the members of our Fiscal Council meets the New York Stock Exchange independence requirements that would apply to audit committee members in the absence of our reliance on Exchange Act Rule 10A-3(c)(3).</p> <p>The responsibilities of the Fiscal Council are set forth in its charter. Our bylaws require the charter to give the Fiscal Council, at a minimum, responsibility for the matters required under Brazilian corporate law, as well as responsibility for:</p> <ul style="list-style-type: none"> • establishing procedures for the receipt, retention and treatment of complaints related to accounting, controls and audit issues, as well as procedures for the confidential, anonymous submission of concerns regarding such matters; • recommending and assisting the Board of Directors in the appointment, establishment of compensation and dismissal of independent auditors; • pre-approving services to be rendered by the independent auditors; • overseeing the work performed by the independent auditors, with powers to suspend the payment of compensation to the independent auditors; and • resolving disagreements between management and the independent auditors regarding financial reporting. |
| 303A.07 | the independence requirements of Rule 10A-3 under the Exchange Act, with a written charter that covers certain minimum specified duties. | <p>Under Brazilian corporate law, shareholder pre-approval is required for the adoption of any equity compensation plans.</p> |
| 303A.08 | Shareholders must be given the opportunity to vote on all equity-compensation plans and material revisions thereto, with limited exemptions set forth in the NYSE rules. | <p>We do not have formal corporate governance guidelines that address all of the matters specified in the NYSE rules.</p> |
| 303A.09 | A listed company must adopt and disclose corporate governance guidelines that cover certain minimum specified subjects. | |

| <u>Section</u> | <u>NYSE corporate governance rule for U.S. domestic issuers</u> | <u>Our approach</u> |
|----------------|--|--|
| 303A.10 | A listed company must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers. | We have adopted a formal code of ethical conduct, which applies to our directors, officers and employees. We report each year under Item 16B of our annual report on Form 20-F any waivers of the code of ethical conduct granted for directors and executive officers. Our code of ethical conduct has a scope that is similar, but not identical, to that required for a U.S. domestic company under the NYSE rules. We also have a code of ethics that applies specifically to employees in the corporate finance, investor relations and accounting departments. |
| 303A.12 | Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by the company of NYSE corporate governance listing standards. | Our CEO will promptly notify the NYSE in writing if any executive officer becomes aware of any material non-compliance with any applicable provisions of the NYSE corporate governance rules. |

PART III

Item 17. *Financial statements*

We have responded to Item 18 in lieu of responding to this Item.

Item 18. *Financial statements*

Reference is made to pages F-1 to F-47.

Item 19. *Exhibits*

Exhibit Number

- 1 Bylaws of Companhia Vale do Rio Doce, as amended August 30, 2007, incorporated by reference to our report on Form 6-K furnished to the SEC on September 4, 2007
- 8 List of subsidiaries
- 12.1 Certification of Chief Executive Officer of Vale pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934
- 12.2 Certification of Chief Financial Officer of Vale pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934
- 13.1 Certification of Chief Executive Officer and Chief Financial Officer of Vale, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 15.1 Consent of PricewaterhouseCoopers
- 15.2 Consent of Mr. Colin Coxhead
- 15.3 Consent of SRK Consulting
- 15.4 Consent of MB Mining Consultants
- 15.5 Consent of Hoskings Resource Management
- 15.6 Consent of Snowden Mining Industry Consultants Pty Ltd

The amount of long-term debt securities of Vale or its subsidiaries authorized under any individual outstanding agreement does not exceed 10% of Vale's total assets on a consolidated basis. Vale hereby agrees to furnish the SEC, upon its request, a copy of any instruments defining the rights of holders of its long-term debt or of its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed.

GLOSSARY

| | |
|--|---|
| Alumina | Aluminum oxide. It is the main component of bauxite, and extracted from bauxite ore in a chemical refining process. It is the principal raw material in the electro-chemical process from which aluminum is produced. |
| Anthracite | The hardest coal type, which contains a high percentage of fixed carbon and a low percentage of volatile matter. Anthracite is the highest rank coal and it contains approximately 90% fixed carbon, more than any other form of coal. Anthracite has a semi-metallic luster and is capable of burning with little smoke. Mainly used for metallurgical purposes. |
| Austenitic stainless steel | Steel that contains a significant amount of chromium and sufficient nickel to stabilize the austenite microstructure, giving to the steel good formability and ductibility and improving its high temperature resistance. On average, austenitic stainless steels usually contain 8-10% nickel. They are used in a wide variety of applications, ranging from consumer products to industrial process equipment, as well as for power generation and transportation equipment, kitchen appliances and many other applications where strength, corrosion and high temperature resistance are required. |
| Austenitic stainless steel ratio | The ratio of nickel-based stainless steels (austenitic steels) relative to all stainless steels produced. |
| Bauxite | A rock composed primarily of hydrated aluminum oxides. It is the principal ore of alumina, the raw material from which aluminum is made. |
| Beneficiation | A variety of processes whereby extracted ore from mining is reduced to particles that can be separated into ore-mineral and waste, the former suitable for further processing or direct use. |
| BOF | The vast majority of steel manufactured in the world is produced using the basic oxygen furnace ("BOF"). Basic oxygen steelmaking is a method of primary steelmaking in which carbon-rich molten pig iron is made into steel. High purity oxygen is blown through the molten bath to lower carbon, silicon, manganese, and phosphorous content of the iron, while various fluxes are used to reduce the sulfur and phosphorous levels. |
| Coal | Coal is a black or brownish-black solid combustible substance formed by the decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal (both are called hard coal), sub-bituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. |
| Cobalt | Cobalt is a hard, lustrous, silver-gray metal found in ores, and used in the preparation of magnetic, wear-resistant, and high-strength alloys (particularly for jet engines and turbines). Its compounds are also used in the production of inks, paints, and varnishes. |
| Coke | Coal that has been processed in a coke oven, for use as a reduction agent in blast furnaces and in foundries for the purposes of transforming iron ore into pig iron. |

| | |
|-------------------------------------|--|
| Concentration | Physical, chemical or biological process to increase the grade of the metal or mineral of interest. |
| Copper | A reddish brown metallic element. Copper is highly conductive, both thermally and electrically. It is highly malleable and ductile and is easily rolled into sheet and drawn into wire. |
| Copper anode | Copper anode is a metallic product of the converting stage of smelting process that is cast into blocks and generally contains 99% copper grade, which requires further processing to produce refined copper cathodes. |
| Copper cathode | Copper plate with purity higher than or equal to 99.9% that is produced by an electrolytic process. |
| Copper concentrate | Material produced by concentration of copper minerals contained in the copper ore. It is the raw material used in smelters to produce copper metal. |
| DR | Direct reduction. Process that removes oxygen from iron ore by using natural gas or coal. The resulting product has an iron grade of 90-92%. |
| DRI | Direct reduced iron. Iron ore lumps or pellets converted by the direct reduction process, used mainly as a scrap substitute in electric arc furnace steelmaking. |
| DWT | Deadweight ton. The measurement unit of a vessel's capacity for cargo, fuel oil, stores and crew, measured in metric tons of 1,000 kg. A vessel's total deadweight is the total weight the vessel can carry when loaded to a particular load line. |
| EAF | The electric arc furnace ("EAF") is the principle furnace type for the electric production of steel. The primary application of the EAF is for the re-melting of steel scrap; however, EAFs can be charged with limited amounts of iron scrap, pig iron and direct reduced iron. |
| Electrowon copper cathode | Refined copper cathode is a metallic product produced by an electrochemical process in which copper is recovered by dissolving copper anode in an electrolyte and plating it onto an electrode. Electrowon copper cathodes generally contain 99.99% copper grade. |
| Embedded derivatives | A financial instrument within a contractual arrangement such as leases, purchase agreements, and guarantees. Its function is to modify some or all of the cash flow that would otherwise be required by the contract, such as caps, floors or collars. |
| Fe unit | A measure of the iron grade in the iron ore that is equivalent to 1% iron grade in one metric ton of iron ore. |
| Ferritic stainless steel | Steel that contains significant amount of chromium, but does not contain sufficient nickel and/or manganese to stabilize the austenite microstructure. |
| Ferroalloys | Ferroalloys are alloys of iron that contain one or more other chemical elements. These alloys are used to add these other |

| | |
|-----------------------------------|---|
| | elements into molten metal, usually in steelmaking. The principal ferroalloys are those of manganese, silicon and chromium. |
| FOB | Free on board. It indicates that the purchaser pays for shipping, insurance and all the other costs associated with transportation of the goods to their destination. |
| Gold | A precious metal sometimes found free in nature, but usually found in conjunction with silver, quartz, calcite, lead, tellurium, zinc or copper. It is the most malleable and ductile metal, a good conductor of heat and electricity and unaffected by air and most reagents. |
| Grade | The proportion of metal or mineral present in ore or any other host material. |
| Hard metallurgical coal | Metallurgical coking coal with the required properties to produce a stronger/harder metallurgical coke. |
| Hematitinha | A lump ore originated from our Southern System with the coarsest particle size in the range of 6.35 mm to 19 mm in diameter, varying from 75 to 90% between different mines and ores, that is only sold in the Brazilian domestic market. |
| HBI | Hot briquetted iron. Direct reduced iron that has been processed into briquettes. Because DRI may spontaneously combust during transportation, HBI is preferred when the metallic material must be stored or moved. |
| Iridium | A dense, hard, brittle, silvery-white transition metal of the platinum family that occurs in natural alloys with platinum or osmium. Iridium is used in high-strength alloys that can withstand high temperatures, primarily in high-temperature apparatus, electrical contacts, and as a hardening agent for platinum. |
| Iron ore pellets | Agglomerated ultra-fine iron ore particles of a size and quality suitable for particular iron making processes. Our iron ore pellets range in size from 8 mm to 18 mm. |
| Kaolin. | A fine white aluminum silicate clay derived from rock composed chiefly of feldspar, which is used as a coating agent, filler, extender and absorbent in the paper, paint, ceramics and other industries. |
| Lump ore | Iron ore or manganese ore with the coarsest particle size in the range of 6.35 mm to 50 mm in diameter, but varying slightly between different mines and ores. |
| Manganese | A hard brittle metallic element found primarily in the minerals pyrolusite, hausmannite and manganate. Manganese is essential to the production of virtually all steels and is important in the production of cast iron. |
| Metallurgical coal | A bituminous hard coal with a quality that allows the production of coke. Normally used in coke ovens for metallurgical purposes. |
| Methanol. | An alcohol fuel largely used in the production of chemical and plastic compounds. |

| | |
|---|--|
| Mineral deposit(s) or mineralized material(s) | A mineralized body that has been intersected by a sufficient number of closely spaced drill holes and/or underground/surface samples to support sufficient tonnage and grade of metal(s) or mineral(s) of interest to warrant further exploration-development work. |
| Mineral resource | A concentration or occurrence of minerals of economic interest in such form and quantity that could justify an eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence through drill holes, trenches and/or outcrops. mineral resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured Resources. |
| MK copper concentrate | MK copper concentrate, or MK chalcocite copper concentrate, is an intermediate copper product. The smelting process of combined nickel-copper concentrate produces a nickel-copper matte product, which is separated into two streams of intermediate products, including MK chalcocite copper concentrate, for further processing and refining. MK chalcocite copper concentrate, which contains 70-75% copper, is the feedstock material for copper smelter, producing copper anodes. |
| Nickel | A silvery white metal that takes on a high polish. It is hard, malleable, ductile, somewhat ferromagnetic, and a fair conductor of heat and electricity. It belongs to the iron-cobalt group of metals and is chiefly valuable for the alloys it forms, such as stainless steel and other corrosion-resistant alloys. |
| Nickel matte | An intermediate smelter product that must be further refined to obtain pure metal. |
| Nickel pig iron | A low-grade nickel product, made from lateritic ores, suitable primarily for use in stainless steel production. Nickel pig iron typically has a nickel grade of 1.5-6% if produced from blast furnaces and 10-25% if produced from electric furnaces, with iron accounting for most of the balance. Nickel pig iron can also contain chrome, manganese, and impurities such as silica, phosphorus, sulfur and carbon. |
| Ntk | Net ton (the weight of the goods being transported excluding the weight of the wagon) kilometer. |
| Open-pit mining | Method of extracting rock or minerals from the earth by their removal from an open pit. Open-pit mines for extraction of ore are used when deposits of commercially useful minerals or rock are found near the surface; that is, where the overburden (surface material covering the valuable deposit) is relatively thin or the material of interest is structurally unsuitable for underground mining. |
| Oxides | Compounds of oxygen with another element. For example, magnetite is an oxide mineral formed by the chemical union of iron with oxygen. |

| | |
|---|--|
| Palladium | A silver-white metal that is ductile and malleable, used primarily in automobile-emissions control devices, jewelry, electrical and chemical applications. |
| Pellet feed fines | Ultra-fine iron ore (less than 0.15 mm) generated by mining and grinding. This material is aggregated into iron ore pellets through an agglomeration process. |
| Pelletizing | Iron ore pelletizing is a process of agglomeration of ultra-fines produced in iron ore exploitation and concentration steps. The three basic stages of the process are: (i) ore preparation (to get the correct fineness); (ii) mixing and balling (additive mixing and ball formation); and (iii) firing (to get ceramic bonding and strength). |
| Phosphate | A phosphorous compound, which occurs in natural ores and is used as a raw material for primary production of fertilizers, animal feeds and detergents. |
| Pig iron. | Product of smelting iron ore usually with coke and limestone in a blast furnace. |
| Platinum | A dense, precious, grey-white transition metal that is ductile and malleable and occurs in some nickel and copper ores. Platinum is resistant to corrosion and is used in jewelry, laboratory equipment, electrical contacts, dentistry, automobile-emissions control devices, flat panel TVs and hard disk drives. |
| Platinum-group metals (“PGMs”). | Consist of platinum, palladium, rhodium, ruthenium, osmium and iridium, of which osmium has no industrial application and no economic value, while platinum and palladium have the greatest economic value. |
| Potash. | A potassium chloride compound, chiefly KCL, used as simple fertilizer and in the production of mixture fertilizer. |
| Precious metals | Metals valued for their color, malleability, and rarity, with a high economic value driven not only by their practical industrial use, but also by their role as investments. The widely-traded precious metals are gold, silver, platinum and palladium. |
| Primary aluminum. | White metal that is obtained in the electro-chemical process of reduction of the aluminum oxide. |
| Probable (indicated) reserves | Reserves for which quantity and grade and/or quality are computed from information similar to that used for proven (measured) reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven (measured) reserves, is high enough to assume continuity between points of observation. |
| Proven (measured) reserves | Reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches, working or drill holes; grade and/or quality are computed from the results of detailed sampling and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well-established. |

| | |
|---|---|
| Pulverized coal injection (“PCI”) | Type of coal with specific properties ideal for direct injection via the tuyeres of blast furnaces. This type of coal does not require any processing or coke making, and can be directly injected into the blast furnaces, replacing lump cokes to be charged from the top of the blast furnaces. |
| Reserves | The part of a mineral deposit that could be economically and legally extracted or produced at the time of the reserve determination. |
| Rhodium | A hard, silvery-white, durable metal that has a high reflectance and is primarily used in combination with platinum for automobile-emission control devices and as an alloying agent for hardening platinum. |
| Run-of-mine (“ROM”) | Ore in its natural (unprocessed) state, as mined, without having been crushed. |
| Ruthenium | A hard, white metal that can harden platinum and palladium used to make severe wear-resistant electrical contacts and in other applications in the electronics industry. |
| Secondary or scrap nickel | Stainless steel or other nickel containing scrap. |
| Seaborne market | Comprises the total ore trade between countries using ocean bulk vessels. |
| Silver | A ductile and malleable metal used in photography, coins and medal fabrication, and in industrial applications. |
| Sinter feed (also known as fines) | Iron ore fines with particles in the range of 0.15 mm to 6.35 mm in diameter. Suitable for sintering. |
| Sintering | The agglomeration of sinter feed, binder and other materials, into a coherent mass by heating without melting, to be used as metallic charge into a blast furnace. |
| Slabs | The most common type of semi-finished steel. Traditional slabs measure 10 inches thick and 30-85 inches wide (and average approximately 20 feet long), while the output of the recently developed “thin slab” casters is approximately two inches thick. Subsequent to casting, slabs are sent to the hot-strip mill to be rolled into coiled sheet and plate products. |
| Stainless steel | Alloy steel containing at least 10% chromium and with superior corrosion resistance. It may also contain other elements such as nickel, manganese, niobium, titanium, molybdenum, copper, in order to improve mechanical, thermal properties and service life. It is primarily classified as austenitic (200 and 300 series), ferritic (400 series), martensitic, duplex or precipitation hardening grades. |
| Stainless steel scrap ratio | The ratio of secondary nickel units (either in the form of nickel-bearing, stainless steel scrap, or in alloy steel, foundry and nickel-based alloy scrap) relative to all nickel units consumed in the manufacture of new stainless steel. |
| Thermal coal | A type of coal that is suitable for energy generation in thermal power stations. |
| Troy ounce | One troy ounce equals 31.103 grams. |
| Underground mining | Mineral exploitation in which extraction is carried out beneath the earth’s surface. |

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

COMPANHIA VALE DO RIO DOCE

By: /s/ Roger Agnelli

Name: Roger Agnelli

Title: Chief Executive Officer

By: /s/ Fabio de Oliveira Barbosa

Name: Fabio de Oliveira Barbosa

Title: Chief Financial Officer

Date: April 28, 2009



**COMPANHIA VALE DO RIO DOCE
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
Companhia Vale de Rio Doce

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, of cash flows and of changes in stockholders' equity present fairly, in all material respects, the financial position of Companhia Vale do Rio Doce and its subsidiaries at December 31, 2008 and 2007, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on internal control over financial reporting. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance, of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

PricewaterhouseCoopers
Auditores Independentes

Rio de Janeiro, Brazil
February 19, 2009



Consolidated Balance Sheets
Expressed in millions of United States Dollars

| | As of December 31, | |
|---|---------------------------|---------------|
| | 2008 | 2007 |
| Assets | | |
| Current assets | | |
| Cash and cash equivalents | 10,331 | 1,046 |
| Short-term investments | 2,308 | — |
| Accounts receivable | | |
| Related parties | 137 | 281 |
| Unrelated parties | 3,067 | 3,671 |
| Loans and advances to related parties | 53 | 64 |
| Inventories | 3,896 | 3,859 |
| Deferred income tax | 583 | 603 |
| Recoverable taxes | 1,993 | 1,159 |
| Other | 870 | 697 |
| | 23,238 | 11,380 |
| Property, plant and equipment, net, and intangible assets | 49,329 | 54,625 |
| Investments in affiliated companies, joint ventures and other investments | 2,408 | 2,922 |
| Other assets | | |
| Goodwill on acquisition of subsidiaries | 1,898 | 3,791 |
| Loans and advances | | |
| Related parties | — | 3 |
| Unrelated parties | 77 | 127 |
| Prepaid pension cost | 622 | 1,009 |
| Prepaid expenses | 223 | 200 |
| Judicial deposits | 1,141 | 1,124 |
| Advances to suppliers - energy | 408 | 574 |
| Recoverable taxes | 394 | 199 |
| Unrealized gains on derivative instruments | 32 | 673 |
| Other | 161 | 90 |
| | 4,956 | 7,790 |
| TOTAL | 79,931 | 76,717 |



Consolidated Balance Sheets
Expressed in millions of United States Dollars
(Except number of shares)

| | (Continued) | |
|---|--------------------|---------------|
| | As of December 31, | |
| | 2008 | 2007 |
| Liabilities and stockholders' equity | | |
| Current liabilities | | |
| Suppliers | 2,261 | 2,430 |
| Payroll and related charges | 591 | 734 |
| Current portion of long-term debt | 633 | 1,249 |
| Short-term debt | – | 167 |
| Loans from related parties | 77 | 6 |
| Provision for income taxes | 502 | 1,198 |
| Taxes payable and royalties | 55 | 322 |
| Employees post-retirement benefits | 102 | 131 |
| Railway sub-concession agreement payable | 400 | 210 |
| Unrealized losses on derivative instruments | – | 346 |
| Provisions for asset retirement obligations | 48 | 64 |
| Minimum mandatory dividends payable | 2,068 | 2,683 |
| Other | 500 | 543 |
| | <u>7,237</u> | <u>10,083</u> |
| Long-term liabilities | | |
| Employees post-retirement benefits | 1,485 | 2,204 |
| Long-term debt | 17,535 | 17,608 |
| Provisions for contingencies (Note 20 (b)) | 1,685 | 2,453 |
| Unrealized losses on derivative instruments | 573 | 5 |
| Deferred income tax | 4,005 | 5,725 |
| Provisions for asset retirement obligations | 839 | 911 |
| Railway sub-concession agreement payable | – | 210 |
| Other | 1,525 | 1,687 |
| | <u>27,647</u> | <u>30,803</u> |
| Minority interests | <u>2,491</u> | <u>2,555</u> |
| Commitments and contingencies (Note 20) | | |
| Stockholders' equity | | |
| Preferred class A stock - 7,200,000,000 no-par-value shares authorized and 2,108,579,618 (2007 - 1,919,516,400) issued | 9,727 | 4,953 |
| Common stock - 3,600,000,000 no-par-value shares authorized and 3,256,724,482 (2007 - 2,999,797,716) issued | 15,262 | 7,742 |
| Treasury stock - 76,854,304 (2007 - 30,341,144) preferred and 74,937,899 (2007 - 56,582,040) common shares | (1,141) | (389) |
| Additional paid-in capital | 393 | 498 |
| Mandatorily convertible notes - common shares | 1,288 | 1,288 |
| Mandatorily convertible notes - preferred shares | 581 | 581 |
| Other cumulative comprehensive income (loss) | (11,510) | 1,655 |
| Undistributed retained earnings | 18,340 | 15,317 |
| Unappropriated retained earnings | 9,616 | 1,631 |
| | <u>42,556</u> | <u>33,276</u> |
| TOTAL | <u>79,931</u> | <u>76,717</u> |

The accompanying notes are an integral part of these consolidated financial statements.



Consolidated Statements of Income
Expressed in millions of United States Dollars
(Except per share amounts)

| | Year ended December 31, | | |
|---|-------------------------|-----------------|-----------------|
| | 2008 | 2007 | 2006 |
| Operating revenues, net of discounts, returns and allowances | | | |
| Sales of ores and metals | 32,779 | 28,441 | 16,511 |
| Aluminum products | 3,042 | 2,722 | 2,381 |
| Revenues from logistic services | 1,607 | 1,525 | 1,376 |
| Other products and services | 1,081 | 427 | 95 |
| | 38,509 | 33,115 | 20,363 |
| Taxes on revenues | (1,083) | (873) | (712) |
| Net operating revenues | 37,426 | 32,242 | 19,651 |
| Operating costs and expenses | | | |
| Cost of ores and metals sold | (14,055) | (13,628) | (7,946) |
| Cost of aluminum products | (2,267) | (1,705) | (1,355) |
| Cost of logistic services | (930) | (853) | (777) |
| Other | (389) | (277) | (69) |
| | (17,641) | (16,463) | (10,147) |
| Selling, general and administrative expenses | (1,748) | (1,245) | (816) |
| Research and development expenses | (1,085) | (733) | (481) |
| Impairment of goodwill | (950) | - | - |
| Other | (1,254) | (607) | (570) |
| | (22,678) | (19,048) | (12,014) |
| Operating income | 14,748 | 13,194 | 7,637 |
| Non-operating income (expenses) | | | |
| Financial income | 602 | 295 | 327 |
| Financial expenses | (1,765) | (2,517) | (1,222) |
| Gains (losses) on derivatives, net | (812) | 931 | (116) |
| Foreign exchange and indexation gains (losses), net | 364 | 2,553 | 529 |
| Gain on sale of investments | 80 | 777 | 674 |
| | (1,531) | 2,039 | 192 |
| Income before income taxes, equity results and minority interests | 13,217 | 15,233 | 7,829 |
| Income taxes | | | |
| Current | (1,338) | (3,901) | (1,134) |
| Deferred | 803 | 700 | (298) |
| | (535) | (3,201) | (1,432) |
| Equity in results of affiliates, joint ventures and other investments | 794 | 595 | 710 |
| Minority interests | (258) | (802) | (579) |
| Net income | 13,218 | 11,825 | 6,528 |
| Basic and diluted earnings per share | | | |
| Earnings per preferred share | 2.58 | 2.41 | 1.35 |
| Earnings per common share | 2.58 | 2.41 | 1.35 |
| Earnings per preferred share linked to convertible note(*) | 4.09 | 3.30 | - |
| Earnings per common share linked to convertible note(*) | 4.29 | 3.51 | - |

(*) Basic earnings per share only, as dilution assumes conversion.

The accompanying notes are an integral part of these consolidated financial statements.



Consolidated Statements of Cash Flows Expressed in millions of United States Dollars

| | Year ended December 31, | | |
|--|-------------------------|----------------|-----------------|
| | 2008 | 2007 | 2006 |
| Cash flows from operating activities: | | | |
| Net income | 13,218 | 11,825 | 6,528 |
| Adjustments to reconcile net income to cash from operations: | | | |
| Depreciation, depletion and amortization | 2,807 | 2,186 | 997 |
| Dividends received | 513 | 394 | 516 |
| Equity in results of affiliates, joint ventures and other investments | (794) | (595) | (710) |
| Deferred income taxes | (803) | (700) | 298 |
| Impairment of goodwill | 950 | - | - |
| Loss on disposal of property, plant and equipment | 376 | 168 | 106 |
| Gain on sale of investments | (80) | (777) | (674) |
| Foreign exchange and indexation losses (gains), net | 451 | (2,827) | (917) |
| Unrealized derivative losses (gains), net | 812 | (917) | 116 |
| Minority interests | 258 | 802 | 579 |
| Unrealized interest (income) expense, net | 116 | 102 | 36 |
| Others | (3) | 115 | (93) |
| Decrease (increase) in assets: | | | |
| Accounts receivable | (466) | 235 | (438) |
| Inventories | (467) | (343) | 859 |
| Others | (242) | (292) | (12) |
| Increase (decrease) in liabilities: | | | |
| Suppliers | 703 | 998 | (47) |
| Payroll and related charges | 1 | 170 | (86) |
| Income taxes | (140) | 393 | 84 |
| Others | (96) | 75 | 90 |
| Net cash provided by operating activities | <u>17,114</u> | <u>11,012</u> | <u>7,232</u> |
| Cash flows from investing activities: | | | |
| Short term investments | (2,308) | - | - |
| Loans and advances receivable: | | | |
| Related parties | | | |
| Loan proceeds | (37) | (33) | (18) |
| Repayments | 58 | 10 | 11 |
| Others | (15) | 1 | (16) |
| Judicial deposits | (133) | (125) | (78) |
| Investments | (128) | (324) | (107) |
| Property, plant and equipment | (8,972) | (6,651) | (4,431) |
| Proceeds from disposal of investments | 134 | 1,042 | 837 |
| Proceeds from disposals of property, plant and equipment | - | - | 49 |
| Acquisition of subsidiaries, net of cash acquired | - | (2,926) | (13,201) |
| Net cash used in investing activities | <u>(11,401)</u> | <u>(9,006)</u> | <u>(16,954)</u> |
| Cash flows from financing activities: | | | |
| Short-term debt, additions | 1,076 | 4,483 | 4,912 |
| Short-term debt, repayments | (1,311) | (5,040) | (4,233) |
| Loans | | | |
| Related parties | | | |
| Loan proceeds | 54 | 259 | 10 |
| Repayments | (20) | (273) | (50) |
| Issuances of long-term debt | | | |
| Related parties | | | |
| Others | 1,890 | 7,212 | 21,993 |
| Repayments of long-term debt | | | |
| Others | (1,130) | (11,130) | (7,635) |
| Treasury stock | (752) | - | (301) |
| Mandatorily convertible notes | - | 1,869 | - |
| Capital increase | 12,190 | - | - |
| Dividends and interest attributed to stockholders | (2,850) | (1,875) | (1,300) |
| Dividends to minority interest | (143) | (714) | (65) |
| Net cash provided by (used in) financing activities | <u>9,004</u> | <u>(5,209)</u> | <u>13,345</u> |
| Increase (decrease) in cash and cash equivalents | 14,717 | (3,203) | 3,623 |
| Effect of exchange rate changes on cash and cash equivalents | (5,432) | (199) | (216) |
| Cash and cash equivalents, beginning of period | 1,046 | 4,448 | 1,041 |
| Cash and cash equivalents, end of period | <u>10,331</u> | <u>1,046</u> | <u>4,448</u> |
| Cash paid during the period for: | | | |
| Interest on short-term debt | (11) | (49) | (9) |
| Interest on long-term debt | (1,255) | (1,289) | (565) |
| Income tax | (2,867) | (3,284) | (586) |
| Non-cash transactions | | | |
| Interest capitalized | 230 | 78 | 126 |
| Issuance of preferred stock for the acquisition of Caemi, net of cash acquired | - | - | 2,552 |

The accompanying notes are an integral part of these consolidated financial statements.



Consolidated Statements of Changes in Stockholders' Equity
Expressed in millions of United States Dollars
(except number of shares and per share amounts)

| | Year ended December 31, | | |
|---|-------------------------|----------------------|----------------------|
| | 2008 | 2007 | 2006 |
| Preferred class A stock (including twelve special shares) | | | |
| Beginning of the period | 4,953 | 4,702 | 2,150 |
| Capital increase | 4,774 | – | 2,552 |
| Transfer from undistributed retained earnings | – | 251 | – |
| End of the period | <u>9,727</u> | <u>4,953</u> | <u>4,702</u> |
| Common stock | | | |
| Beginning of the period | 7,742 | 3,806 | 3,806 |
| Capital increase | 7,520 | – | – |
| Transfer from undistributed retained earnings | – | 3,936 | – |
| End of the period | <u>15,262</u> | <u>7,742</u> | <u>3,806</u> |
| Treasury stock | | | |
| Beginning of the period | (389) | (389) | (301) |
| Acquisitions | (752) | – | (88) |
| End of the period | <u>(1,141)</u> | <u>(389)</u> | <u>(389)</u> |
| Additional paid-in capital | | | |
| Beginning and end of the period | 498 | 498 | 498 |
| Change in the period | (105) | – | – |
| End of the period | <u>393</u> | <u>498</u> | <u>498</u> |
| Mandatorily convertible notes - common shares | | | |
| Beginning and end of the period | <u>1,288</u> | <u>1,288</u> | – |
| Mandatorily convertible notes - preferred shares | | | |
| Beginning and end of the period | <u>581</u> | <u>581</u> | – |
| Other cumulative comprehensive income (deficit) | | | |
| Cumulative translation adjustments | | | |
| Beginning of the period | 1,340 | (1,628) | (2,856) |
| Change in the period | (12,833) | 2,968 | 1,228 |
| End of the period | <u>(11,493)</u> | <u>1,340</u> | <u>(1,628)</u> |
| Unrealized gain (loss) - available-for-sale securities, net of tax | | | |
| Beginning of the period | 211 | 271 | 127 |
| Change in the period | (194) | (60) | 144 |
| End of the period | <u>17</u> | <u>211</u> | <u>271</u> |
| Surplus (deficit) accrued pension plan | | | |
| Beginning of the period | 75 | 353 | 460 |
| Change in the period | (109) | (278) | (107) |
| End of the period | <u>(34)</u> | <u>75</u> | <u>353</u> |
| Cash flow hedge | | | |
| Beginning of the period | 29 | – | – |
| Change in the period | (29) | 29 | – |
| End of the period | – | 29 | – |
| Total other cumulative comprehensive income (deficit) | <u>(11,510)</u> | <u>1,655</u> | <u>(1,004)</u> |
| Undistributed retained earnings | | | |
| Beginning of the period | 15,317 | 9,555 | 4,357 |
| Transfer from/to unappropriated retained earnings | 3,023 | 9,949 | 5,198 |
| Capitalized earnings | – | (4,187) | – |
| End of the period | <u>18,340</u> | <u>15,317</u> | <u>9,555</u> |
| Unappropriated retained earnings | | | |
| Beginning of the period | 1,631 | 2,505 | 3,983 |
| Net income | 13,218 | 11,825 | 6,528 |
| Interest on mandatorily convertible debt | | | |
| Preferred class A stock | (46) | (22) | – |
| Common stock | (96) | (45) | – |
| Dividends and interest attributed to stockholders' equity | | | |
| Preferred class A stock | (806) | (1,049) | (1,098) |
| Common stock | (1,262) | (1,634) | (1,710) |
| Appropriation from/to undistributed retained earnings | (3,023) | (9,949) | (5,198) |
| End of the period | <u>9,616</u> | <u>1,631</u> | <u>2,505</u> |
| Total stockholders' equity | <u>42,556</u> | <u>33,276</u> | <u>19,673</u> |
| Number of shares: | | | |
| Preferred class A stock (including twelve special shares) | 2,108,579,618 | 1,919,516,400 | 1,919,516,400 |
| Common stock | 3,256,724,482 | 2,999,797,716 | 2,999,797,716 |
| Buy-backs | | | |
| Beginning of the period | (86,923,184) | (86,927,072) | (56,627,872) |
| Acquisitions | (64,869,259) | – | (30,299,200) |
| Sales | 240 | 3,888 | – |
| End of the period | <u>(151,792,203)</u> | <u>(86,923,184)</u> | <u>(86,927,072)</u> |
| | <u>5,213,511,897</u> | <u>4,832,390,932</u> | <u>4,832,387,044</u> |

The accompanying notes are an integral part of these consolidated financial statements.



Notes to the Consolidated Financial Statements
Expressed in millions of United States Dollars, unless otherwise stated

1 The Company and its operation

Companhia Vale do Rio Doce (“Vale,” the “Company” or “we”) is a limited liability company incorporated in Brazil. Operations are carried out through Vale and our subsidiary companies, joint ventures and affiliates, and mainly consist of mining, non-ferrous metal production, logistics and steel activities.

At December 31, 2008, our principal consolidated operating subsidiaries are the following:

| <u>Subsidiary</u> | <u>% ownership</u> | <u>% voting capital</u> | <u>Head office location</u> | <u>Principal activity</u> |
|---|--------------------|-------------------------|-----------------------------|---------------------------|
| Alumina do Norte do Brasil S.A. (“Alunorte”) | 57.03 | 59.02 | Brazil | Alumina |
| Alumínio Brasileiro S.A. (“Albras”) | 51.00 | 51.00 | Brazil | Aluminum |
| CADAM S.A. (“CADAM”) | 61.48 | 100.00 | Brazil | Kaolin |
| CVRD Overseas Ltd. | 100.00 | 100.00 | Cayman Islands | Trading |
| Ferrovia Centro-Atlântica S.A. | 99.99 | 100.00 | Brazil | Logistics |
| Minerações Brasileiras Reunidas S.A. (“MBR”) | 92.99 | 92.99 | Brazil | Iron ore |
| Pará Pigmentos S.A. (“PPSA”) | 86.17 | 85.57 | Brazil | Kaolin |
| PT International Nickel Indonesia Tbk (“PT Inco”) | 61.16 | 61.16 | Indonesia | Nickel |
| Vale Manganês S.A. (formerly Rio Doce Manganês S.A.) | 100.00 | 100.00 | Brazil | Manganese and Ferroalloys |
| Vale Manganèse France (formerly Rio Doce Manganèse Europe - RDME) | 100.00 | 100.00 | France | Ferroalloys |
| Rio Doce Manganese Norway (“RDMN”) | 100.00 | 100.00 | Norway | Ferroalloys |
| Vale Australia Pty Ltd. | 100.00 | 100.00 | Australia | Coal |
| Vale Inco Limited | 100.00 | 100.00 | Canada | Nickel |
| Vale International S.A. (formerly CVRD International S.A.) | 100.00 | 100.00 | Switzerland | Trading |
| Valesul Alumínio S.A. | 100.00 | 100.00 | Brazil | Aluminum |

2 Basis of consolidation

All majority-owned subsidiaries in which we have both share and management control are consolidated. All significant intercompany accounts and transactions are eliminated. Our variable interest entities in which we are the primary beneficiary are consolidated. Investments in unconsolidated affiliates and joint ventures are accounted for under the equity method (Note 12).

We evaluate the carrying value of our equity accounted investments in relation to publicly quoted market prices when available. If the quoted market price is below book value, and such decline is considered other than temporary, we write-down our equity investments to quoted market value.

We define joint ventures as businesses in which we and a small group of other partners each participate actively in the overall entity management, based on a shareholders agreement. We define affiliates as businesses in which we participate as a minority stockholder but with significant influence over the operating and financial policies of the investee.

Our participation in hydroelectric projects are made via consortium contracts under which we have undivided interests in the assets and are liable for our proportionate share of liabilities and expenses, which are based on our proportionate share of power output. We do not have joint liability for any obligations. No separate legal or tax status is granted to consortia under Brazilian law. Accordingly, we recognize our proportionate share of costs and our undivided interest in assets relating to hydroelectric projects (Note 11).

3 Summary of significant accounting policies

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Estimates are used for, but not limited to, the selection of useful lives of property, plant and equipment, impairment, provisions necessary for contingent liabilities, fair values assigned to assets and liabilities acquired in business combinations, income tax valuation allowances, employee post-retirement benefits and other similar evaluations. Actual results could differ from those estimates.

(a) Basis of presentation

We have prepared our consolidated financial statements in accordance with United States generally accepted accounting principles (“U.S. GAAP”), which differ in certain respects from the accounting practices adopted in Brazil (“Brazilian GAAP”) which are the basis for our statutory financial statements.

In December 2007, significant modifications were made to Brazilian GAAP as part of a convergence project with International Financial Reporting Standards (“IFRS”). Such changes became effective for the fiscal year ended December 31, 2008, whereas other changes will be introduced subsequently.

The Brazilian Real is the parent Company’s functional currency. We have selected the U.S. dollar as our reporting currency. The financial statements have been translated in accordance with the criteria set forth in Statement of Financial Accounting Standards No. (“SFAS”) 52 – “Foreign Currency Translation.”

All assets and liabilities have been translated to U.S. dollars at the closing rate of exchange at each balance sheet date (or, if unavailable, the first available exchange rate). All statement of income accounts have been translated to U.S. dollars at the average exchange rates prevailing during the respective periods. Capital accounts are recorded at historical exchange rates. Translation gains and losses are recorded in the Cumulative Translation Adjustments account (“CTA”) in stockholders’ equity. The results of operations and financial position of our entities that have a functional currency other than the U.S. dollar have been translated in accordance with SFAS 52.

The exchange rates used to translate the assets and liabilities of the Brazilian operations at December 31, 2008 and December 31, 2007, were R\$2.3370 and R\$1.7713, respectively.

The net transaction gain (loss) included in our statement of income (“Foreign exchange and indexation gains (losses), net”) was US\$(1,011), US\$1,639 and US\$452 for the years ended December 31, 2008, 2007 and 2006, respectively.

(b) Cash equivalents and short-term investment

Cash flows from overnight investments and fundings are reported net. Short-term investments that have a ready market and original maturities of 90 days or less are classified as “Cash equivalents.” The remaining investments, with longer maturities are stated at fair value and presented as “Short-term investments.”

(c) Long-term

Assets and liabilities that are realizable or due more than 12 months after the balance sheet date are classified as long-term.

(d) Inventories

Inventory is recorded at the average cost of purchase or production, reduced to market value (net realizable value less a reasonable margin) when lower.

We classify proven and probable reserve quantities attributable to stockpiled inventories as inventories and account for them as processed when they are removed from the mine. These reserve quantities are not included in the total proven and probable reserve quantities used in the units of production, depreciation, depletion and amortization calculations.

We periodically assess our inventories to identify obsolete or slow-moving inventories, and if needed we recognize definitive allowances for them.

(e) Removal of waste materials to access mineral deposits

Stripping costs (the costs associated with the removal of overburden and other waste materials) incurred during the development of a mine, before production commences, are capitalized as part of the depreciable cost of developing the property. Such costs are subsequently amortized over the useful life of the mine based on proven and probable reserves.

Post-production stripping costs are included in the cost of the inventory produced (that is extracted), at each mine individually during the period that the stripping cost is incurred.

(f) Property, plant and equipment and intangible assets

Property, plant and equipment are recorded at cost, including interest cost incurred during the construction of major new facilities. We compute depreciation on the straight-line basis at annual average rates which take into consideration the useful lives of the assets, as follows: 3.03% for railroads, 3.65% for buildings, 3.78% for installations and 7.30% for other equipment. Expenditures for maintenance and repairs are charged to operating costs and expenses as incurred.

We capitalize the costs of developing major new ore bodies or expanding the capacity of operating mines and amortize these to operations on the unit-of-production method based on the total probable and proven quantity of ore to be recovered. Exploration costs are expensed. Once the economic viability of mining activities is established, subsequent development costs are capitalized.

Separately acquired intangible assets are shown at historical cost. Intangible assets acquired in a business combination are recognized at fair value at the acquisition date. All our intangible assets have definite useful lives and are carried at cost less accumulated amortization, which is calculated using the straight-line method over their estimated useful lives.

(g) Business combinations

We adopt SFAS 141 “Business Combinations” to record acquisitions of interests in other companies. This “purchase method” requires that we reasonably determine the fair value of the identifiable tangible and intangible assets and liabilities of acquired companies and segregate goodwill as an intangible asset.

We assign goodwill to reporting units and test each reporting unit’s goodwill for impairment at least annually, and whenever circumstance indicating that recognized goodwill may not be fully recovered are identified. We perform the annual goodwill impairment tests during the last quarter of the year using September 30 as our base date.

Goodwill is reviewed for impairment utilizing a two-step process. In the first step, we compare a reporting unit’s fair value with its carrying amount to identify any potential goodwill impairment loss. If the carrying amount of a reporting unit exceeds the unit’s fair value, based on a discounted cash flow analysis, we carry out the second step of the impairment test, measuring and recording the amount, if any, of the unit’s goodwill impairment loss.

(h) Impairment of long-lived assets

All long-lived assets, are tested to determine if they are recoverable from operating earnings on an undiscounted cash flow basis over their useful lives whenever events or changes in circumstance indicate that the carrying value may not be recoverable.

When we determine that the carrying value of long-lived assets and definite-life intangible assets may not be recoverable, we measure any impairment loss based on a projected discounted cash flow method using a discount rate determined to be commensurate with the risk inherent in our current business model.

(i) Available-for-sale equity securities

Equity securities classified as “available-for-sale” are recorded pursuant to SFAS 115 “Accounting for Certain Investments in Debt and Equity Securities.” Accordingly, we classify unrealized holding gains and losses, net of taxes, as a separate component of stockholders’ equity until realized.

(j) Compensated absences

The liability for future compensation for employee vacations is fully accrued as earned.

(k) Derivatives and hedging activities

We apply SFAS 133 “Accounting for Derivative Financial Instruments and Hedging Activities,” as amended. This standard requires that we recognize all derivative financial instruments as either assets or liabilities on our balance sheet and measure such instruments at fair value. Changes in the fair value of derivatives are recorded in each period in current earnings or in other comprehensive income, in the latter case depending on whether a transaction is designated as an effective hedge and has been effective during the period.

(l) Asset retirement obligations

Our retirement obligations consist primarily of estimated closure costs, the initial measurement of which is recognized as a liability discounted to present value and subsequently accreted through earnings. An asset retirement cost equal to the initial liability is capitalized as part of the related asset’s carrying value and depreciated over the asset’s useful life.

(m) Revenues and expenses

Revenues are recognized when title is transferred to the customer or services are rendered. Revenue from exported products is recognized when such products are loaded on board the ship. Revenue from products sold in the domestic market is recognized when delivery is made to the customer. Revenue from logistic services is recognized when the service order has been fulfilled. Expenses and costs are recognized on the accrual basis.

(n) Income taxes

The deferred tax effects of tax loss carryforwards and temporary differences are recognized pursuant to SFAS 109 “Accounting for Income Taxes.” A valuation allowance is made when we believe that it is more likely than not that tax assets will not be fully recovered in the future.

(o) Earnings per share

Earnings per share are computed by dividing net income by the weighted average number of common and preferred shares outstanding during the period.

(p) Interest attributed to stockholders’ equity (dividend)

Brazilian corporations are permitted to distribute interest attributable to stockholders’ equity. The calculation is based on the stockholders’ equity amounts as stated in the statutory accounting

records and the interest rate applied may not exceed the long-term interest rate (TJLP) determined by the Brazilian Central Bank. Also, such interest may not exceed 50% of net income for the year nor 50% of retained earnings plus revenue reserves as determined by Brazilian GAAP.

As the notional interest charge is tax deductible in Brazil, the benefit to us, as opposed to making a dividend payment, is a reduction in our income tax charge. Income tax of 15% is withheld on behalf of the stockholders relative to the interest distribution. Under Brazilian law, interest attributed to stockholders' equity is considered as part of the annual minimum mandatory dividend (Note 16). This notional interest distribution is treated for accounting purposes as a deduction from stockholders' equity in a manner similar to a dividend and the tax credit recorded in income.

(q) Comprehensive income

We present comprehensive income as part of the Statement of Changes in Stockholders' Equity, in compliance with SFAS 130 "Reporting Comprehensive Income," net of taxes.

(r) Pension and other post-retirement benefits

We sponsor private pension and other post-retirement benefits for our employees which are actuarially determined and recognized as an asset or liability or both depending on the funded or unfunded status of each plan in accordance with SFAS 158 "Employees' Accounting for Defined Benefit Pension and Other Post-retirement Plans." The cost of our defined benefit and prior service costs or credits that arise during the period and are not components of net periodic benefit costs are recorded in other cumulative comprehensive income (deficit).

4 Recently-issued accounting pronouncements

In January 2009, the Financial Accounting Standards Board ("FASB") issued EITF 99-20-1 "Amendments to the Impairment Guidance of EITF Issue No. 99-20," to achieve more consistent determination of whether an other-than-temporary impairment has occurred. It is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. We are currently studying the effects of this pronouncement.

In December 2008, the FASB issued Staff Position No. FAS 132(R)-1, "Employers' Disclosures about Post-Retirement Benefit Plan Assets." It is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2009. We are currently studying the effects of this pronouncement.

In November 2008, the FASB issued EITF 08-08, "Accounting for an Instrument (or an Embedded Feature) with a Settlement Amount That Is Based on the Stock of an Entity's Consolidated Subsidiary," which addresses the fair value of an outstanding instrument and its presentation. It is effective for fiscal years and interim periods beginning after December 15, 2008. We are currently studying the effects of this pronouncement.

In November 2008, the FASB issued EITF 08-06, "Equity Method Investment Accounting Considerations," which clarifies the accounting for certain transactions and impairment considerations involving equity method investments. It is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. We are currently studying the effects of this pronouncement.

In October 2008, the FASB issued Staff Position No. FAS 157-3, "Determining the Fair Value of a Financial Asset in a Market That Is Not Active" (FSP 157-3), which clarifies the application of SFAS 157 when the market for a financial asset is inactive. Specifically, FSP 157-3 clarifies how (1) management's internal assumptions should be considered in measuring fair value when observable data are not present, (2) observable market information from an inactive market should be taken into account, and (3) the use of broker quotes or pricing services should be considered in assessing the relevance of observable and unobservable data to measure fair

value. The guidance in FSP 157-3 was effective immediately upon issuance and did not generate impact on our Financial Statements.

In June 2008, the FASB issued FSP EITF 03-6-1, “Determining Whether Instruments Granted in Share-Based Payment Transactions are Participating Securities.” The FSP provides that instruments granted in share-based payment transactions that contain nonforfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities prior to vesting and, therefore, need to be included in the earnings allocation in computing earnings per share (EPS) under the two-class method described in paragraphs 60 and 61 of FASB Statement No. 128, Earnings per Share. It is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early application is not permitted. We are currently studying the effects of this pronouncement.

In May 2008, the FASB issued FSP APB 14-1, “Accounting for Convertible Debt Instruments That May Be Settled in Cash upon Conversion (Including Partial Cash Settlement).” According to this FSP these debt instruments are not addressed by paragraph 12 of APB Opinion No. 14, Accounting for Convertible Debt and Debt Issued with Stock Purchase Warrants. Additionally, it specifies that issuers of such instruments should separately account for the liability and equity components in a manner that will reflect the entity’s nonconvertible debt borrowing rate when interest cost is recognized in subsequent periods. This FSP is effective for financial statements issued for fiscal years beginning after December 15, 2008. We are currently studying the effects of this pronouncement.

In May 2008, the FASB issued FAS 162, “The Hierarchy of Generally Accepted Accounting Principles.” The objective of this Statement is to identify the sources of accounting principles and the framework for selecting the principles used in the preparation of financial statements of nongovernmental entities that are presented in conformity with U.S. GAAP (the GAAP hierarchy). This Statement shall be effective 60 days following the SEC’s approval of the Public Company Accounting Oversight Board (PCAOB) amendments to AU Section 411, “The Meaning of Present Fairly in Conformity With Generally Accepted Accounting Principles.” There are no specific disclosure requirements with this statement. We are currently assessing the effects of this Statement and believe that it will not have a material impact on our Consolidation Financial Statements.

In April 2008, the FASB issued FSP FAS 142-3, “Determination of the Useful Life of Intangible Assets.” The objective of this FSP is to address situations of renewing or extending the useful life of a recognized intangible asset. It is effective for financial statements issued for fiscal years and interim periods beginning after December 15, 2008. Early application is not permitted. We are currently studying the effects of this pronouncement.

In December 2007, the FASB issued SFAS 160, which clarifies that a no controlling interest in a subsidiary is an ownership interest in the consolidated entity that should be reported as equity in the consolidated financial statements. SFAS 160 is effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2008 (that is, in the case of Vale, January 1, 2009).

In December 2007, the FASB issued SFAS 141(R), that applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008 (that is, in the case of Vale, January 1, 2009).

5 Major acquisitions and dispositions

In February 2008, we sold our interest in Jubilee Mines N.L. (held through Vale Inco), representing 4.83% of its common shares, for US\$134 generating a gain of US\$80.

In October 2007, we were awarded, in a public auction, a 30-year sub-concession agreement to operate the Ferrovia Norte Sul S.A. – FNS railway for R\$1,482 million equivalent to US\$837 at the exchange rate in effect on that date, payable in three installments. The first installment, equivalent to US\$412 and corresponding to 50% was paid in December 2007. The second and third installments, each representing 25% of the total amount, are to be paid upon the completion of the railroad. The outstanding installments are indexed to the general price index (IGP-DI) and accrue interest of 12% p.a. This sub-concession right has been accounted for as an intangible asset (Note 11).

In July 2007, we sold our interest in Lion Ore Mining International Ltd. (held through Vale Inco), representing 1.80% of its common shares for US\$105, generating a gain of US\$80.

In June 2007, we sold 25,213,664 common shares, representing 57.84% of the total capital of our subsidiary Log-In Logística Intermodal S.A. (“Log-In”) for US\$179, recording a gain of US\$155. In July 2007, we sold an additional 5.10% stake in Log-In for US\$24 recording a gain of US\$21. At December 31, 2008, we held 31.33% of the voting and total capital of this entity, which is accounted for under the equity method.

In May 2007, we sold part (12.43%) of our stockholding in Usinas Siderúrgicas de Minas Gerais S.A. - Usiminas, an available-for-sale investee, for US\$728, recording a gain of US\$456. We have retained 5.89% of the ordinary shares the minimum number of shares required to participate in the current shareholders agreement of the investee, representing 2.93% of the total capital.

In May 2007, we acquired a further 6.25% of the total share capital of Empreendimentos Brasileiros de Mineração S.A. - EBM, whose main asset is its interest in MBR, for US\$231 and as a result, our direct and indirect stake in MBR increased to 92.99% of total and voting capital. We simultaneously entered into a usufruct agreement with minority shareholders whereby they transferred to us all rights and obligations with respect to their shares, including rights to dividends for the next 30 years, for which we will make an initial payment of US\$61 plus an annual fee of US\$48 for each of the next 29 years. The present value of the future obligation is recorded as a liability and the corresponding charge recorded to minority interests in the balance sheet.

In April 2007, we concluded the acquisition of 100% of Vale Australia (formerly AMCI Holdings Australia Pty – AMCI HA), a private company based in Australia, which owns and operates coal mines in that country, for US\$656.

6 Income taxes

Income taxes in Brazil comprise federal income tax and social contribution, which is an additional federal tax. The statutory composite enacted tax rate applicable in the periods presented is 34%. In other countries where we have operations, the applicable tax rates vary from 1.67% to 40%.



The amount reported as income tax expense in our consolidated financial statements is reconciled to the statutory rates as follows:

| | 2008 | | | Year ended December 31, | | | |
|---|--------------|---------------|---------------|-------------------------|----------------|----------------|----------------|
| | Brazil | Foreign | Total | Brazil | Foreign | 2007 | 2006 |
| Income before income taxes, equity results and minority interests | <u>2,434</u> | <u>10,783</u> | <u>13,217</u> | <u>7,769</u> | <u>7,464</u> | <u>15,233</u> | <u>7,829</u> |
| Tax at Brazilian composite rate | (828) | (3,667) | (4,495) | (2,641) | (2,538) | (5,179) | (2,662) |
| Adjustments to derive effective tax rate: | | | | | | | |
| Tax benefit on interest attributed to stockholders | 692 | – | 692 | 474 | – | 474 | 343 |
| Difference on tax rates of foreign income | – | 1,728 | 1,728 | – | 1,729 | 1,729 | 1,129 |
| Exchange variation - not taxable | – | 982 | 982 | – | (290) | (290) | (125) |
| Tax incentives | 53 | – | 53 | 173 | – | 173 | 194 |
| Valuation allowance reversal (provision) | – | – | – | 16 | – | 16 | (21) |
| Other non-taxable gains (losses) | 287 | 218 | 505 | 64 | (188) | (124) | (290) |
| Income taxes per consolidated statements of income | <u>204</u> | <u>(739)</u> | <u>(535)</u> | <u>(1,914)</u> | <u>(1,287)</u> | <u>(3,201)</u> | <u>(1,432)</u> |

We have certain Brazilian income tax incentives relating to our manganese operations in Carajás, our potash operations in Rosario do Catete, our alumina and aluminum operations in Barcarena and our kaolin operations in Ipixuna and Mazagão. The incentives relating to manganese, aluminum and kaolin comprise partial exemption up to 2013. The incentive relating to alumina and potash comprises full income tax exemption on defined production levels, which expires in 2009 and 2013, respectively. An amount equal to the tax saving is appropriated from retained earnings to a reserve account within stockholders' equity and may not be distributed in the form of cash dividends.

We also have income tax incentives related to our Goro Project under development in New Caledonia ("The Goro Project"). These incentives include an income tax holiday during the construction phase of the project and throughout a 15-year period commencing in the first year in which commercial production, as defined by the applicable legislation, is achieved followed by a five-year, 50% income tax holiday. The Goro Project also qualifies for certain exemptions from indirect taxes such as import duties during the construction phase and throughout the commercial life of the project. Certain of these tax benefits, including the income tax holiday, are subject to an earlier phase out should the project achieve a specified cumulative rate of return. We are subject to a branch profit tax commencing in the first year in which commercial production is achieved, as defined by the applicable legislation. To date, we have not recorded any taxable income for New Caledonian tax purposes. The benefits of this legislation are expected to apply with respect to taxes payable once the Goro project is in operation.

We are subject to examination by the tax authorities for up to five years regarding our operations in Brazil, ten years for Indonesia, and five and six years for Canada, except for Newfoundland which has no limit.

Brazilian tax loss carryforwards have no expiration date though offset is restricted to 30% of annual taxable income.

Effective January 1, 2007, the Company adopted the provisions of FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes."

The reconciliation of the beginning and ending amounts of unrecognized tax benefits is as follows:

| | <u>As of December 31,</u> | |
|---|---------------------------|--------------|
| | <u>2008</u> | <u>2007</u> |
| Beginning of the period | 1,046 | 663 |
| Increase resulting from tax positions taken | 103 | 264 |
| Decrease resulting from tax positions taken | (261) | (47) |
| Changes in tax legislation | 2 | 29 |
| Cumulative translation adjustments | (233) | 137 |
| End of the period | 657 | 1,046 |

Recognized deferred income tax assets and liabilities are composed as follows:

| | <u>As of December 31,</u> | |
|--|---------------------------|----------------|
| | <u>2008</u> | <u>2007</u> |
| Current deferred tax assets | | |
| Accrued expenses deductible only when disbursed | | |
| Long-term deferred tax assets and liabilities | 583 | 603 |
| Assets | | |
| Employee post-retirement benefits provision | 171 | 461 |
| Tax loss carryforwards | 119 | 348 |
| Other temporary differences | 548 | – |
| Asset retirement obligation | 207 | 195 |
| | 1,045 | 1,004 |
| Liabilities | | |
| Fair value of financial instruments | (326) | (173) |
| Unrealized tax indexation effects | (108) | (138) |
| Property, plant and equipment | (47) | (150) |
| Prepaid retirement benefit | (199) | (203) |
| Fair value adjustments in business combinations | (4,446) | (5,770) |
| Other temporary differences | 198 | (191) |
| | (4,928) | (6,625) |
| Valuation allowance | | |
| Beginning balance | (104) | (113) |
| Translation adjustments | 18 | (20) |
| Change in allowance | (36) | 29 |
| Ending balance | (122) | (104) |
| Net long-term deferred tax liabilities | (4,005) | (5,725) |

7 Cash and cash equivalents

| | <u>As of December 31,</u> | |
|--|---------------------------|--------------|
| | <u>2008</u> | <u>2007</u> |
| Cash | 767 | 424 |
| Short-term investments denominated in Brazilian Reais | 7,548 | 123 |
| Short-term investments denominated in other currencies, mainly U.S. dollars | 2,016 | 499 |
| | 10,331 | 1,046 |

The increase in cash and cash equivalents corresponds mainly to the proceeds received from the global equity offering (Note 16).

8 Accounts receivable

| | As of December 31, | |
|--|---------------------------|--------------|
| | 2008 | 2007 |
| Customers | | |
| Denominated in Brazilian Reais | 461 | 750 |
| Denominated in other currencies, mainly U.S. dollars | 2,828 | 3,311 |
| | 3,289 | 4,061 |
| Allowance for doubtful accounts | (85) | (100) |
| Allowance for ore weight credits | - | (9) |
| Total | 3,204 | 3,952 |

Accounts receivable from customers in the steel industry represent 47% of receivables at December 31, 2008.

No single customer accounted for more than 10% of total revenues.

Additional allowances for doubtful accounts charged to the statement of income as expenses in 2008 and 2007 totaled US\$9 and US\$31, respectively. We did not make any write-offs in 2008, and we wrote-off US\$6 in 2007.

9 Inventories

| | As of December 31, | |
|--|---------------------------|--------------|
| | 2008 | 2007 |
| Finished products | | |
| Nickel (co-products and by-products) | 1,514 | 1,812 |
| Iron ore and pellets | 728 | 588 |
| Manganese and ferroalloys | 199 | 176 |
| Aluminum products | 150 | 106 |
| Kaolin | 40 | 42 |
| Copper concentrate | 26 | 15 |
| Coal | 43 | 38 |
| Others | 80 | 36 |
| Spare parts and maintenance supplies | 1,116 | 1,046 |
| | 3,896 | 3,859 |

At December 31, 2008, we recorded an adjustment of US\$77, to reduce nickel inventory to its market value (nil in 2007 and 2006).

10 Recoverable taxes

| | As of December 31, | |
|----------------------------------|---------------------------|--------------|
| | 2008 | 2007 |
| Income tax | 1,646 | 643 |
| Value-added tax – ICMS | 258 | 294 |
| PIS and COFINS | 380 | 354 |
| Others | 103 | 67 |
| Total | 2,387 | 1,358 |
| Current | 1,993 | 1,159 |
| Non-current | 394 | 199 |
| | 2,387 | 1,358 |

11 Property, plant and equipment and intangible assets

| | As of December, 31 2008 | | | As of December, 31 2007 | | |
|---------------------------------------|----------------------------|-----------------------------|---------------|----------------------------|-----------------------------|---------------|
| | Cost | Accumulated depreciation | Net | Cost | Accumulated depreciation | Net |
| Land | 182 | – | 182 | 110 | – | 110 |
| Buildings | 3,742 | 905 | 2,837 | 4,086 | 842 | 3,244 |
| Installations | 9,990 | 2,748 | 7,242 | 10,974 | 2,889 | 8,085 |
| Equipment | 5,391 | 1,626 | 3,765 | 5,703 | 1,709 | 3,994 |
| Railroads | 5,830 | 1,358 | 4,472 | 5,819 | 1,614 | 4,205 |
| Mine development costs | 15,976 | 2,062 | 13,914 | 19,270 | 1,632 | 17,638 |
| Others | 4,974 | 1,639 | 3,335 | 7,146 | 1,813 | 5,333 |
| | 46,085 | 10,338 | 35,747 | 53,108 | 10,499 | 42,609 |
| Construction in progress | 13,582 | – | 13,582 | 12,016 | – | 12,016 |
| Total | 59,667 | 10,338 | 49,329 | 65,124 | 10,499 | 54,625 |

Losses on disposal of property, plant and equipment totaled US\$376, US\$168 and US\$106 in 2008, 2007 and 2006, respectively. These losses mainly related to losses on sales of ships and trucks, locomotives and other equipment, which were replaced in the normal course of business.

Assets given in guarantee of judicial processes totaled US\$141.

Hydroelectric assets

We participate in several jointly-owned hydroelectric plants, already in operation or under construction. We record our undivided interest in these assets as property, plant and equipment.

At December 31, 2008, the cost of hydroelectric plants in service totaled US\$1,162 (2007 US\$803) and the related depreciation in the year was US\$304 (2007 US\$68). The cost of hydroelectric plant under construction at December 31, 2008 totaled US\$206 (2007 US\$735). Income and operating expenses for such plants were not material.

Intangibles

All of the intangible assets recognized in our financial statements were acquired from third parties, either directly or through a business combination and have definite useful lives from 6 to 30 years.

At December 31, 2008 the intangibles amount to US\$875 (December 31, 2007 - US\$1,113), and are comprised of rights granted by the government – North-South Railroad of US\$671 and off-take agreements of US\$204.

12 Investments in affiliated companies and joint ventures

| | 2008 | | Net income (loss) for the year | Net equity | Participation in capital (%) | | Investments | | Equity in earnings (losses) of investee adjustments | | | Dividends received | | |
|--|--------|--------|--------------------------------|------------|------------------------------|--------------|---------------------------|------------|---|------------|------------|--------------------|------------|------------|
| | Voting | Total | | | 2008 | 2007 | Year ended of December 31 | | Year ended of December 31 | | 2008 | 2007 | 2008 | 2007 |
| | | | | | | | 2008 | 2007 | 2008 | 2007 | | | | |
| Ferrous | | | | | | | | | | | | | | |
| Companhia Nipo-Brasileira de Pelotização – NIBRASCO(1) | 51.11 | 51.00 | 166 | 215 | 110 | 61 | 84 | 12 | 18 | – | – | – | – | 22 |
| Companhia Hispano-Brasileira de Pelotização – HISPANOBRAS(1) | 51.00 | 50.89 | 117 | 143 | 73 | 43 | 59 | 9 | 15 | 6 | 6 | 16 | 16 | 13 |
| Companhia Coreano-Brasileira de Pelotização – KOBRASCO(1) | 50.00 | 50.00 | 88 | 109 | 55 | 45 | 44 | 19 | 17 | 13 | 13 | 21 | 21 | 21 |
| Companhia Italo-Brasileira de Pelotização – ITABRASCO(1) | 51.00 | 50.90 | 66 | 114 | 58 | 46 | 34 | 10 | 12 | – | – | 8 | 8 | 12 |
| Minas da Serra Geral S.A. – MSG | 50.00 | 50.00 | 3 | 42 | 21 | 30 | 1 | 3 | 2 | – | – | – | – | 1 |
| SAMARCO Mineração S.A. – SAMARCO(2) | 50.00 | 50.00 | 629 | 732 | 412 | 546 | 315 | 242 | 229 | 300 | 300 | 150 | 150 | 225 |
| Others | – | – | – | – | 26 | 30 | 6 | 6 | 19 | – | – | – | – | – |
| | | | | | 755 | 801 | 543 | 301 | 312 | 319 | 319 | 195 | 195 | 295 |
| Logistics | | | | | | | | | | | | | | |
| LOG-IN Logística Intermodal S.A.(3) | 31.33 | 31.33 | 37 | 282 | 94 | 107 | 20 | 8 | – | 3 | 3 | – | – | – |
| MRS Logística S.A. | 37.86 | 41.50 | 273 | 786 | 326 | 342 | 113 | 117 | 95 | 34 | 34 | 51 | 51 | 41 |
| | | | | | 420 | 449 | 133 | 125 | 95 | 37 | 37 | 51 | 51 | 41 |
| Holdings | | | | | | | | | | | | | | |
| Steel | | | | | | | | | | | | | | |
| California Steel Industries Inc. – CSI | 50.00 | 50.00 | 21 | 320 | 160 | 163 | 11 | (1) | 54 | 13 | 13 | 11 | 11 | 40 |
| THYSSENKRUPP CSA Companhia Siderúrgica (cost \$431) available-for-sale | 10.46 | 10.46 | – | – | 443 | 388 | – | – | – | – | – | – | – | – |
| Usinas Siderúrgicas de Minas Gerais S.A. – USIMINAS (cost \$180) – available-for sale(5) | – | – | – | – | 164 | 465 | 18 | 31 | 147 | 18 | 18 | 31 | 31 | 48 |
| | | | | | 767 | 1,016 | 29 | 30 | 201 | 31 | 31 | 42 | 42 | 88 |
| Bauxite | | | | | | | | | | | | | | |
| Mineração Rio do Norte S.A. – MRN | 40.00 | 40.00 | 156 | 347 | 140 | 184 | 62 | 84 | 64 | 99 | 99 | 64 | 64 | 77 |
| Valeul Alumínio S.A. – VALESUL(5) | 100.00 | 100.00 | – | – | – | – | – | – | 12 | – | – | – | – | – |
| | | | | | 140 | 184 | 62 | 84 | 76 | 99 | 99 | 64 | 64 | 77 |
| Coal | | | | | | | | | | | | | | |
| Henan Longyu Resources Co. Ltd. | 25.00 | 25.00 | 315 | 703 | 176 | 115 | 79 | 46 | 31 | 27 | 27 | 42 | 42 | 15 |
| Shandong Yankuang International Company Ltd. | 25.00 | 25.00 | (66) | 44 | 11 | 23 | (17) | – | (5) | – | – | – | – | – |
| | | | | | 187 | 138 | 62 | 46 | 26 | 27 | 27 | 42 | 42 | 15 |
| Nickel | | | | | | | | | | | | | | |
| Heron Resources Inc (cost \$25) available-for-sale | – | – | – | – | 2 | 34 | – | – | – | – | – | – | – | – |
| Jubilee Mines N.L. (cost \$5) available-for-sale(4) | – | – | – | – | 8 | 126 | – | – | – | – | – | – | – | – |
| Mirabela Nickel Ltd (cost \$24) available-for-sale | – | – | – | – | 9 | 72 | – | – | – | – | – | – | – | – |
| Hubbay Minerals (cost \$31) available-for-sale | – | – | – | – | 21 | – | – | – | – | – | – | – | – | – |
| Corea Nickel Corp | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Skye Resources(6) | – | – | – | – | 13 | 44 | (38) | 9 | – | – | – | – | – | – |
| Others | – | – | – | – | – | 23 | 4 | – | – | – | – | – | – | – |
| | | | | | 53 | 299 | (34) | 9 | – | – | – | – | – | – |
| Other affiliates and joint ventures | | | | | | | | | | | | | | |
| Others | – | – | – | – | 86 | 35 | (1) | – | – | – | – | – | – | – |
| | | | | | 86 | 35 | (1) | – | – | – | – | – | – | – |
| Total | | | | | 1,233 | 1,672 | 118 | 169 | 303 | 157 | 157 | 148 | 148 | 180 |
| | | | | | 2,408 | 2,922 | 794 | 595 | 710 | 513 | 513 | 394 | 394 | 516 |

(1) Although Vale held a majority of the voting interest of investees accounted for under the equity method, existing veto rights held by minority shareholders under shareholder agreements preclude consolidation.

(2) Investment includes goodwill of US\$46 in 2008 and US\$61 in 2007.

(3) Consolidation discontinued from June 2007.

(4) Sold in February 2008 (Note 5).

(5) Equity in results of affiliates refers to dividends received.

(6) Losses considered other than temporary.

13 Impairment of goodwill

As described in Note 3(g), we test goodwill and long-lived assets for impairment at least annually, or more frequently when events or changes in circumstances indicate that they might be impaired. For impairment test purposes goodwill is allocated to reporting units.

Following the downturn in the economy, which contributed to the decline in the prices of certain commodities produced by us during the last quarter of 2008, we updated our impairment test based on forecasted discounted cash flows. As a result, we determined that the goodwill associated with the acquisition of Vale Inco, included within the reportable segment “Non-ferrous–nickel” was partially impaired. In the case of Vale Inco, goodwill has been allocated by us to the finished products and intermediate products reporting units. The impairment charge recorded in operating results in the fourth quarter of 2008 was US\$950.

Management determined discounted cash flows based on approved financial budgets. Gross margin projections were based on past performance and management’s expectations of market developments. Information about sales prices are consistent with the forecasts included in industry reports, considering quoted prices when available and when appropriate. The discount rates used reflect specific risks relating to the relevant assets in each reporting unit, depending on their composition and location.

Recognition of additional goodwill impairment charges in the future would depend on several estimates including market conditions, recent actual results and management’s forecasts. This information shall be obtained at the time when our assessment is to be updated. It is not possible at this time to determine if any such future impairment charge would result or, if it does, whether such charge would be material.

14 Short-term debt

Short-term borrowings outstanding on December 31, 2007 were mainly from commercial banks for export financing denominated in U.S. dollars, with average annual interest rates of 5.5%.

15 Long-term debt

| | <u>Current liabilities</u> | | <u>Long-term liabilities</u> | |
|--|----------------------------|--------------|------------------------------|---------------|
| | <u>2008</u> | <u>2007</u> | <u>2008</u> | <u>2007</u> |
| Foreign debt | | | | |
| Loans and financing denominated in the following currencies: | | | | |
| U.S. dollars | 210 | 212 | 5,905 | 5,927 |
| Others | 23 | 64 | 167 | 214 |
| Fixed rate notes – U.S. dollar – denominated | – | – | 6,510 | 6,680 |
| Debt securities – export sales(*) – U.S. dollar – denominated | 55 | 53 | 149 | 205 |
| Perpetual notes | – | – | 83 | 87 |
| Accrued charges | 217 | 282 | – | – |
| | <u>505</u> | <u>611</u> | <u>12,814</u> | <u>13,113</u> |
| Brazilian debt | | | | |
| Brazilian Reais indexed to Long-Term Interest Rate - TJLP/CDI | 33 | 586 | 1,989 | 1,148 |
| Brazilian Reais indexed to General Price Index - Market (IGPM) | – | 1 | 1 | 1 |
| Basket of currencies | 1 | 2 | 4 | 6 |
| Non-convertible debentures. | – | – | 2,562 | 3,340 |
| U.S. dollar denominated | – | – | 165 | – |
| Accrued charges | 94 | 49 | – | – |
| | <u>128</u> | <u>638</u> | <u>4,721</u> | <u>4,495</u> |
| Total | <u>633</u> | <u>1,249</u> | <u>17,535</u> | <u>17,608</u> |

(*) Secured by receivables from future export sales.

The long-term portion at December 31, 2008 falls due as follows:

| | |
|--|---------------|
| 2010 | 2,304 |
| 2011 | 2,618 |
| 2012 | 1,137 |
| 2013 | 2,556 |
| 2014 and thereafter | 8,628 |
| No due date (perpetual notes and non-convertible debentures) | 292 |
| | <u>17,535</u> |

At December 31, 2008 annual interest rates on long-term debt were as follows:

| | |
|--------------------------------------|---------------|
| Up to 3% | 690 |
| 3.1% to 5% | 5,845 |
| 5.1% to 7%(*) | 5,596 |
| 7.1% to 9%(*) | 2,136 |
| 9.1% to 11% | 87 |
| Over 11%(*) | 3,729 |
| Variable (perpetual notes) | 85 |
| | <u>18,168</u> |

(*) Includes non-convertible debentures and other Brazilian Reais-denominated debt that bear interest at CDI (Brazilian interbank certificate of deposit) and TJLP (Brazilian government long-term interest) rates plus a spread. For these operations we have entered into derivative transactions to mitigate our exposure on the floating rate debt denominated in Brazilian Reais, totaling US\$4,169 of which US\$3,522 has original interest rate above 11%. The average cost after taking into account the derivative transactions is 4.9%.

The indexation indices/rates applied to our debt were as follows (unaudited):

| | Year ended December 31, | | |
|--|-------------------------|------|-------|
| | 2008 | 2007 | 2006 |
| TJLP - Long-Term Interest Rate (effective rate) | 6.3 | 6.4 | 7.9 |
| IGP-M - General Price Index - Market | 9.8 | 7.8 | 3.8 |
| Appreciation (devaluation) of Real against U.S. dollar | (24.2) | 20.7 | (8.7) |

In January 2008, we entered into a trade finance agreement with a Brazilian bank in the amount of US\$1,100 with final maturity in 2018.

During 2008, we entered into agreements with Banco Nacional de Desenvolvimento Econômico e Social - BNDES (the Brazilian National Development Bank), and with long-term Japanese financing agencies, Japan Bank for International Cooperation - JBIC and Nippon Export and Investment Insurance - NEXI related to future lines of credit to finance mining, logistics and power generation projects as part of our investment program for 2008-2012.

Additionally, we have revolving credit lines available under which amounts can be drawn down and repaid at the option of the borrower. At December 31, 2008, the total amount available under revolving credit lines was of US\$1,900, of which US\$1,150 was granted to Vale International and the balance to Vale Inco. As of December 31, 2008, neither Vale International nor Vale Inco had drawn any amounts under these facilities.

Vale Inco had drawn down US\$101 by way of letters of credit.

At December 31, 2008, the U.S. dollar denominated Fixed Rate Notes of US\$6,510 (December 31, 2007 – US\$6,680) and other debt of US\$11,102 (December 31, 2007 – US\$11,511) were unsecured. The export securitization of US\$204 (December 31, 2007 – US\$258) represents debt securities collateralized by receivables from future export sales of CVRD Overseas Ltd. Loans from international lenders of US\$57 (December 31, 2007 – US\$82) are guaranteed by the Brazilian Federal Government, to which we have provided like counter guarantees. The remaining long-term debt of US\$295 (December 31, 2007 – US\$326) is collateralized mainly by receivables.

Our principal covenants require us to maintain certain ratios, such as debt to EBITDA and interest coverage. We were in full compliance with our financial covenants as of December 31, 2008 and 2007.

16 Stockholders' equity

Each holder of common and preferred A stock is entitled to one vote for each share on all matters brought before stockholders' meetings, except for the election of the Board of Directors, which is restricted to the holders of common stock. The Brazilian government holds twelve preferred special shares which confer permanent veto rights over certain matters.

Both common and preferred stockholders are entitled to receive a mandatory minimum dividend of 25% of annual adjusted net income under Brazilian GAAP, once declared at the annual stockholders' meeting. In the case of preferred stockholders, this dividend cannot be less than 6% of the preferred capital as stated in the statutory accounting records or, if greater, 3% of the Brazilian GAAP equity value per share. For the year ended December 31, 2008, this dividend corresponded to US\$2,068, provided against stockholders' equity.

In July 2008, we issued 80,079,223 common ADS, 176,847,543 common shares, 63,506,751 preferred ADSs and 100,896,048 preferred shares through a global equity offering. Our capital increased by US\$11,666, upon subscription of preferred stock of US\$4,146 corresponding to 164,402,799 shares and common stock of US\$7,520 corresponding to 256,926,766 shares. In August 2008, we issued an additional 24,660,419 preferred shares, representing an increase of US\$628. After the closing of the operation, our capital stock increased by US\$12,294 in 2008; the transaction costs of US\$105 were recorded as a reduction of the additional paid-in capital account.



In September 2007, a stock split was effected whereby each existing common and preferred share was split into two shares. After the split our capital comprises 4,919,314,116 shares, of which 1,919,516,400 are preferred class A shares and 2,999,797,716 are common shares, including twelve golden shares without par value. All references to numbers of share and per share amounts included herein reflect retroactive application of the stock split.

In June 2007, we issued US\$1,880 of mandatorily convertible notes due June 15, 2010 for total proceeds of US\$1,869, net of commissions. The notes bear interest at 5.50% per year payable quarterly and additional interest which will be payable based on the net amount of cash distribution paid to ADS holders. A tranche of US\$1,296 notes are mandatorily convertible into an aggregate maximum of 56,582,040 common shares and a tranche of US\$584 notes are mandatorily convertible into an aggregate maximum of 30,295,456 preferred class A shares. On the maturity date (whether at stated maturity or upon acceleration following an event of default), the Series RIO Notes will automatically convert into ADSs, each ADS representing one common share of Vale, and the Series RIO P Notes will automatically convert into ADSs, each ADS representing one preferred class A share of Vale. We currently hold the shares to be issued on conversion in treasury. The notes are not repayable in cash. Holders of notes will have no voting rights. We will pay to the holders of our Series RIO Notes or RIO P Notes additional interest in the event that Vale makes cash distributions to all holders of common ADSs or preferred ADSs, respectively. We determined, using a statistical model, that the potential variability in the number of shares to be converted is not a predominant feature of this hybrid financial instrument and thus classified it as an equity instrument within stockholders' equity. Other than during the cash acquisition conversion period, holders of the notes have the right to convert their notes, in whole or in part, at any time prior to maturity in the case of the Series RIO Notes, into common ADSs at the minimum conversion rate of 0.8664 common ADSs per Series RIO Note, and in the case of Series RIO P Notes, into preferred ADSs at the minimum conversion rate of 1.0283 preferred ADSs per Series RIO P Note.

In April 2007, at an Extraordinary Shareholders' Meeting, paid-up capital was increased by US\$4,187 through transfer of reserves, without issuance of shares, to US\$12,695.

Brazilian law permits the payment of cash dividends only from retained earnings as stated in the BR GAAP statutory records and such payments are made in Brazilian Reais. Pursuant to the Company's statutory books, undistributed retained earnings at December 31, 2008 totaled US\$16,854, comprising the unrealized income and expansion reserves, which could be freely transferred to retained earnings and paid as dividends, if approved by the stockholders, after deducting the minimum annual mandatory dividend.

No withholding tax is payable on distribution of profits earned except for distributions in the form of interest attributed to stockholders' equity (Note 3(p)).



Brazilian law and our bylaws require that certain appropriations be made from retained earnings to reserve accounts on an annual basis, all determined in accordance with amounts stated in the statutory accounting records, as detailed below:

| | Year ended December 31, | | |
|---|-------------------------|---------------|--------------|
| | 2008 | 2007 | 2006 |
| Undistributed retained earnings | | | |
| Unrealized income reserve | | | |
| Beginning of the period | 73 | 57 | 101 |
| Transfer from (to) retained earnings | (28) | 16 | (44) |
| End of the period | 45 | 73 | 57 |
| Expansion reserve | | | |
| Beginning of the period | 13,881 | 8,485 | 3,621 |
| Transfer to capital stock | - | (3,776) | - |
| Transfer from (to) retained earnings | 2,928 | 9,172 | 4,864 |
| End of the period | 16,809 | 13,881 | 8,485 |
| Legal reserve | | | |
| Beginning of the period | 1,310 | 970 | 599 |
| Transfer to capital stock | - | (370) | - |
| Transfer from (to) retained earnings | 138 | 710 | 371 |
| End of the period | 1,448 | 1,310 | 970 |
| Fiscal incentive investment reserve | | | |
| Beginning of the period | 53 | 43 | 36 |
| Transfer to capital stock | - | (41) | - |
| Transfer from (to) retained earnings | (15) | 51 | 7 |
| End of the period | 38 | 53 | 43 |
| Total undistributed retained earnings | 18,340 | 15,317 | 9,555 |

The purpose and basis of appropriation to such reserves is described below:

Unrealized income reserve - this represents principally our share of the earnings of affiliates and joint ventures, not yet received in the form of cash dividends.

Expansion reserve - this is a general reserve for expansion of our activities.

Legal reserve - this reserve is a requirement for all Brazilian corporations and represents the appropriation of 5% of annual net income up to a limit of 20% of capital stock all determined under Brazilian GAAP.

Fiscal incentive investment reserve - this reserve results from an option to designate a portion of income tax otherwise payable for investment in government approved projects and is recorded in the year following that in which the taxable income was earned. Since 2000, this reserve basically contemplates income tax incentives (Note 6).

Basic and diluted earnings per share

Basic and diluted earnings per share amounts have been calculated as follows:

| | As of December 31, | | |
|--|--------------------|------------------|------------------|
| | 2008 | 2007 | 2006 |
| Net income for the period | 13,218 | 11,825 | 6,528 |
| Interest attributed to preferred convertible notes | (46) | (16) | — |
| Interest attributed to common convertible notes | (96) | (37) | — |
| Net income for the period adjusted | 13,076 | 11,772 | 6,528 |
| Basic and diluted earnings per share | | | |
| Income available to preferred stockholders | 5,027 | 4,552 | 2,568 |
| Income available to common stockholders | 7,823 | 7,092 | 3,960 |
| Income available to convertible notes linked to preferred shares | 78 | 45 | — |
| Income available to convertible notes linked to common shares | 148 | 83 | — |
| Weighted average number of shares outstanding (thousands of shares) - preferred shares | 1,946,454 | 1,889,171 | 1,908,852 |
| Weighted average number of shares outstanding (thousands of shares) - common shares | 3,028,817 | 2,943,216 | 2,943,216 |
| Treasury preferred shares linked to mandatorily convertible notes | 30,295 | 18,478 | — |
| Treasury common shares linked to mandatorily convertible notes | 56,582 | 34,510 | — |
| Total | 5,062,148 | 4,885,375 | 4,852,068 |
| Earnings per preferred share | 2.58 | 2.41 | 1.35 |
| Earnings per common share | 2.58 | 2.41 | 1.35 |
| Earnings per preferred share linked to convertible note(*) | 4.09 | 3.30 | — |
| Earnings per common share linked to convertible note(*) | 4.29 | 3.51 | — |

(*) Basic earnings per share only, as dilution assumes conversion.

Had the conversion of the convertible notes been included in the calculation of diluted earnings per share they would have generated the following dilutive effect as shown below:

| | As of December 31, | | |
|--|--------------------|-----------|------|
| | 2008 | 2007 | 2006 |
| Income available to preferred stockholders | 5,151 | 4,613 | — |
| Income available to common stockholders | 8,067 | 7,212 | — |
| Weighted average number of shares outstanding (thousands of shares) - preferred shares | 1,976,749 | 1,907,649 | — |
| Weighted average number of shares outstanding (thousands of shares) - common shares | 3,085,399 | 2,977,726 | — |
| Earnings per preferred share | 2.61 | 2.42 | — |
| Earnings per common share | 2.61 | 2.42 | — |

17 Other cumulative comprehensive income (deficit)

| | As of December 31, | | |
|--|--------------------|---------------|--------------|
| | 2008 | 2007 | 2006 |
| Comprehensive income (deficit) is comprised as follows: | | | |
| Net income | 13,218 | 11,825 | 6,528 |
| Cumulative translation adjustments | (12,833) | 2,968 | 1,228 |
| Unrealized gain (loss) - available-for-sale securities, net of tax | (194) | (60) | 144 |
| Surplus (deficit) accrued pension plan | (109) | (278) | (107) |
| Cash flow hedge | (29) | 29 | - |
| Total comprehensive income (deficit) | 53 | 14,484 | 7,793 |
| Tax effect on other comprehensive income allocated to each component | | | |
| Unrealized gain (loss) - available-for-sale securities, net of tax | | | |
| Gross balance as of the period end | 42 | 271 | 395 |
| Tax (expense) benefit | (25) | (60) | (124) |
| Net balance as of the period end | 17 | 211 | 271 |
| Surplus accrued pension plan | | | |
| Gross balance as of the period end | (63) | 134 | 540 |
| Tax (expense) benefit | 29 | (59) | (187) |
| Net balance as of the period end | (34) | 75 | 353 |

18 Pension plans

Since 1973, we sponsor a supplementary social security plan with characteristics of a defined benefit plan (the “Old Plan”) covering substantially all Brazilian employees, with benefits calculated based on years of service, age, contribution salary and supplementary social security benefits. This plan is administered by Fundação Vale do Rio Doce de Seguridade Social – VALIA and was funded by monthly contributions made by us and our employees, calculated based on periodic actuarial appraisals.

In May 2000, we implemented a new supplementary social security plan with characteristics of defined contribution, which complements the earnings of programmed retirements. The plan offers benefits to cover death, physical handicap and sickness, with defined benefit characteristics. Brazilian employees could opt to migrate to the “New Plan” (a Benefit Mix Plan – Vale Mais) which was taken up by over 98% of our employees. The Old Plan will continue in existence, covering almost exclusively retired participants and their beneficiaries.

Additionally, we provide supplementary payments to a specific group of former Brazilian employees in addition to the regular benefits from Valia. The plan provides represents a post-retirement health care, dental and pharmaceutical benefits.

Upon the acquisition of Inco, we assumed benefits through defined benefit pension plans that cover essentially all its employees and post-retirement benefits other than pensions that also provide certain health care and life insurance benefits for retired employees.

The following information details the status of the defined benefit elements of all plans in accordance with SFAS 132 “Employers’ Disclosure about Pensions and Other Post-Retirement Benefits” and SFAS 158 “Employers’ Accounting for Defined Benefit Pension and Other Post-Retirement Plans,” as amended.

(a) **Change in benefit obligation**

| | 2008 | | | As of December 31, 2007 | | |
|---|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Benefit obligation at beginning of year . . . | 3,178 | 4,436 | 1,671 | 2,531 | 3,743 | 1,287 |
| Liability recognized upon consolidation of Inco . . . | — | — | — | — | 100 | 213 |
| Service cost | 11 | 60 | 25 | 9 | 61 | 20 |
| Interest cost | 309 | 245 | 85 | 306 | 229 | 78 |
| Plan amendment | — | 16 | — | — | 4 | — |
| Benefits paid | (283) | (291) | (70) | (301) | (279) | (63) |
| Effect of exchange rate changes | (779) | (775) | (272) | 526 | 607 | 215 |
| Actuarial loss (gain) | (12) | (660) | (370) | 107 | (29) | (79) |
| Benefit obligation at end of year | 2,424 | 3,031 | 1,069 | 3,178 | 4,436 | 1,671 |

We use a measurement date of December 31 for our pension and post-retirement benefit plans.

(b) **Change in plan assets**

| | 2008 | | | As of December 31, 2007 | | |
|---|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Fair value of plan assets at beginning of year . . . | 4,187 | 3,762 | 10 | 3,508 | 3,078 | 4 |
| Actual return on plan assets | 57 | (603) | 1 | 250 | 85 | 1 |
| Employer contributions . . . | 41 | 272 | 70 | 33 | 372 | 67 |
| Benefits paid | (283) | (291) | (70) | (301) | (279) | (63) |
| Effect of exchange rate changes | (959) | (633) | (2) | 697 | 506 | 1 |
| Fair value of plan assets at end of year | 3,043 | 2,507 | 9 | 4,187 | 3,762 | 10 |

Plan assets at December 31, 2008 included US\$188 (US\$693 at December 31, 2007) and US\$53 (US\$73 at December 31, 2007) of portfolio investments in our own shares and debentures, respectively, and US\$44 (US\$48 at December 31, 2007) of shares of related parties. They also included US\$2,472 of Brazilian Federal Government securities (US\$1,116 at December 31, 2007) and US\$347 of Canada Federal Government securities (US\$475 at December 31, 2007).

(c) **Funded status and financial position**

| | 2008 | | | As of December 31, 2007 | | |
|---------------------------------|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Other assets | 619 | — | 3 | 1,009 | — | — |
| Current liabilities | — | 38 | 64 | — | 54 | 77 |
| Long-term liabilities | — | 486 | 999 | — | 620 | 1,584 |
| Funded status | 619 | 524 | 1,060 | 1,009 | 674 | 1,661 |

(d) Assumptions used (nominal terms)

| | 2008 | | | Brazil 2007 | | |
|--|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| | Discount rate | 11.28% p.a. | 11.28% p.a. | 11.28% p.a. | 10.24% p.a. | 10.24% p.a. |
| Expected return on plan assets | 12.22% p.a. | 13.00% p.a. | – | 12.78% p.a. | 11.70% p.a. | – |
| Rate of compensation increase – up to 47 years | 7.12% p.a. | – | – | 7.12% p.a. | – | – |
| Rate of compensation increase – over 47 years | 4.00% p.a. | – | – | 4.00% p.a. | – | – |
| Inflation | 4.00% p.a. | 4.00% p.a. | 4.00% p.a. | 4.00% p.a. | 4.00% p.a. | 4.00% p.a. |
| Health care cost trend rate | – | – | 7.12% p.a. | – | – | 7.64% p.a. |

| | 2008 | | | Foreign 2007 | | |
|--|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| | Discount rate | – | 5.58% p.a. | 7.32% p.a. | – | 5.21% p.a. |
| Expected return on plan assets | – | 6.99% p.a. | 7.35% p.a. | – | 7.18% p.a. | 7.50% p.a. |
| Rate of compensation increase – up to 47 years | – | 4.12% p.a. | 3.58% p.a. | – | 4.01% p.a. | 3.58% p.a. |
| Rate of compensation increase – over 47 years | – | 4.12% p.a. | 3.58% p.a. | – | 4.01% p.a. | 3.58% p.a. |
| Inflation | – | 2.00% p.a. | 2.00% p.a. | – | 2.00% p.a. | 2.00% p.a. |
| Health care cost trend rate | – | – | 6.19% p.a. | – | – | 6.35% p.a. |

(e) Investment targets and composition of plan assets

• Overfunded pension plans

The fair value of the Brazil overfunded pension plan assets was US\$3,043 and US\$4,187 at December 31, 2008 and 2007, respectively. There were no foreign overfunded pension plans assets at the period end. The asset allocation for these plans at December 31, 2008 and 2007, and the target allocation for 2009, by asset category, follows:

| | Percentage of plan assets - Brazil | | |
|------------------------|------------------------------------|-------------------------|-------------------------|
| | Target for 2009 (Unaudited) | At December 31, 2008 | At December 31, 2007 |
| | Equity securities | 26% | 20% |
| Real estate | 6% | 4% | 4% |
| Loans | 7% | 6% | 4% |
| Fixed income | 61% | 70% | 63% |
| Total | 100% | 100% | 100% |

• Underfunded pension plans

The fair value of the underfunded pension plan assets was US\$146 and US\$146 at the end of 2008 and 2007, respectively, for Brazilian plans and US\$2,361 and US\$3,616 at the end of 2008 and 2007, respectively, for foreign plans. The asset allocation for these plans at the end of 2008



(Brazil and foreign) and 2007 (Brazil and foreign), and the target allocation for 2009, by asset category, follows:

| | Percentage of plan assets - Brazil | | |
|------------------------|------------------------------------|-----------------|-------------|
| | Target for 2009 (Unaudited) | At December 31, | |
| | | 2008 | 2007 |
| Loans | 0% | 0% | 5% |
| Fixed income | 100% | 100% | 95% |
| Total | 100% | 100% | 100% |

| | Percentage of plan assets - Foreign | | |
|------------------------|-------------------------------------|-----------------|-------------|
| | Target for 2009 (Unaudited) | At December 31, | |
| | | 2008 | 2007 |
| Loans | 61% | 54% | 61% |
| Fixed income | 39% | 46% | 39% |
| Total | 100% | 100% | 100% |

The asset allocation policy follows the asset class targets determined by our ALM – Asset Allocation Modeling. The fixed income asset allocation target for the Brazilian plans was established in order to surpass the benefit obligation and to be used for the payment of short-term plans. The proposal for 2009 is to increase the investments in inflation-indexed bonds.

The target for equity securities of these plans reflects the expected appreciation of the Brazilian stock markets and its expected long term return.

The asset allocation policy for the foreign plans of 39% fixed income and 61% equity securities, approximates the policy mix through a rebalancing policy.

- **Underfunded other benefits**

The fair value of the foreign underfunded other benefit assets was US\$9 and US\$10 at the end of 2008 and 2007, respectively. There were no Brazilian underfunded other benefit assets in our post-retirement benefit other than pensions at the period end.

The asset allocation for these benefits at the end of 2008 and target allocation for 2009, by asset category, follows:

| | Percentage of plan assets - Foreign | | |
|-----------------------------|-------------------------------------|-----------------|-------------|
| | Target for 2009 (Unaudited) | At December 31, | |
| | | 2008 | 2007 |
| Equity securities | 61% | 61% | 61% |
| Fixed income | 39% | 39% | 39% |
| Total | 100% | 100% | 100% |

The asset allocation policy is the same for the foreign underfunded pension plan.

(f) Pension costs

| | 2008 | | | 2007 | | |
|--|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Service cost – benefits earned during the period | 11 | 60 | 25 | 9 | 61 | 20 |
| Interest cost on projected benefit obligation | 309 | 245 | 85 | 306 | 229 | 78 |
| Expected return on assets | (515) | (253) | (5) | (570) | (247) | (4) |
| Amortization of initial transition obligation | 15 | – | – | 14 | – | – |
| Net deferral | (5) | 11 | (2) | (17) | – | – |
| Net periodic pension cost | (185) | 63 | 103 | (258) | 43 | 94 |

(g) Expected contributions and benefits

Employer contributions expected for 2009 are US\$338.

The benefit payments, which reflect future service, are expected to be made as follows:

| | 2008 | | | Total |
|-------------------------------|--------------------------|---------------------------|----------------------------|-------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | |
| 2009 | 195 | 262 | 68 | 525 |
| 2010 | 197 | 263 | 72 | 532 |
| 2011 | 199 | 261 | 76 | 536 |
| 2012 | 200 | 260 | 79 | 539 |
| 2013 | 201 | 256 | 82 | 539 |
| 2014 and thereafter | 1,011 | 1,265 | 412 | 2,688 |

(h) Accumulated benefit obligation

| | 2008 | | | 2007 | | |
|--|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Accumulated benefit obligation | 2,415 | 2,955 | 1,069 | 3,166 | 4,293 | 1,671 |
| Projected benefit obligation | 2,424 | 3,031 | 1,069 | 3,178 | 4,436 | 1,671 |
| Fair value of plan assets | (3,043) | (2,507) | (9) | (4,187) | (3,762) | (10) |

(i) Impact of 1% variation in assumed health care cost trend rate

| | 1% increase | | 1% increase | |
|---|-------------|------|-------------|-------|
| | 2008 | 2007 | 2008 | 2007 |
| Accumulated post-retirement benefit obligation (APBO) | 134 | 261 | (110) | (201) |
| Interest and service costs | 18 | 15 | (14) | (12) |

(j) **Other cumulative comprehensive income (deficit)**

| | As of December 31, | | | | | |
|---|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | 2008 | | | 2007 | | |
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Net transition assets | (16) | – | – | (24) | – | – |
| Net actuarial loss/(gain) | (240) | (206) | 402 | (6) | (34) | 97 |
| Effect of exchange rate changes . . . | (18) | 10 | 3 | 94 | (7) | (2) |
| Deferred income tax | 94 | 83 | (146) | (22) | 14 | (35) |
| Amounts recognized in other cumulative comprehensive income (deficit) | <u>(180)</u> | <u>(113)</u> | <u>259</u> | <u>42</u> | <u>(27)</u> | <u>60</u> |

(k) **Change in other cumulative comprehensive income (deficit)**

| | As of December 31, | | | | | |
|---|--------------------------|---------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
| | 2008 | | | 2007 | | |
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Net transition obligation/(asset) not yet recognized in NPPC at beginning of period | (31) | – | – | (36) | – | – |
| Net actuarial loss/(gain) not yet recognized in NPPC at beginning of period | 94 | (41) | 95 | 491 | (33) | (11) |
| Deferred income tax at beginning of period | (21) | 14 | (35) | (154) | 11 | 4 |
| Effect of initial recognition of cumulative comprehensive income (deficit) | 42 | (27) | 60 | 290 | (22) | (7) |
| Change in the period | | | | | | |
| Amortization of net transition obligation/(asset) | 15 | – | – | 14 | – | – |
| Amortization of net actuarial loss/(gain) | (6) | – | – | (17) | – | – |
| Total net actuarial loss/(gain) arising during period | (328) | (166) | 307 | (480) | (1) | 108 |
| Effect of exchange rate changes . . . | (18) | 10 | 3 | 94 | (7) | (2) |
| Deferred income tax | 115 | 69 | (111) | 132 | 3 | (39) |
| Total recognized in other cumulative comprehensive income (deficit) | <u>(180)</u> | <u>(113)</u> | <u>259</u> | <u>42</u> | <u>(27)</u> | <u>60</u> |

(l) **Net periodic pension cost for 2009**

| | As of December 31, 2009 | | |
|--|--------------------------|---------------------------|----------------------------|
| | Overfunded pension plans | Underfunded pension plans | Underfunded other benefits |
| Service cost | 9 | 41 | 17 |
| Interest cost | 263 | 240 | 85 |
| Expected return on plan assets | (362) | (195) | (1) |
| Net transition obligation/(asset) amortization | 12 | – | – |
| Net prior service cost/(credit) amortization | – | 3 | – |
| Net actuarial loss/(gain) amortization | – | 1 | (23) |
| | <u>(78)</u> | <u>90</u> | <u>78</u> |

19 Long-term incentive compensation plan

In 2008, the Board of Directors approved a long-term incentive compensation plan, which was implemented in April 2008, over a three-year cycle (2008 to 2010).



Under the terms of the plan, the participants, restricted to certain executives, may elect to allocate part of their annual bonus to the plan. The allocation is applied to purchase preferred shares of Vale, through a predefined financial institution, at market conditions and with no benefit provided by Vale.

The shares purchased by each executive are unrestricted and may, at the participant's discretion, be sold at any time. However, the shares must be held for a three-year period and the executive must be continually employed by Vale during that period. The participant then becomes entitled to receive from Vale, a cash payment equivalent to the total amount of shares held, based on market rates.

We account for the compensation cost provided to our executives under this long-term incentive compensation plan, following the requirements of FAS 123(R) "Accounting for Stock-Based Compensation." Liabilities are measured at each reporting date at fair value, based on market rates. Compensation costs incurred are recognized, over the defined three-year vesting period. At December 2008, we recognized a long-term liability of US\$7, relating to 711,005 shares, through the Statements of Income.

20 Commitments and contingencies

- (a) We provided certain guarantees on behalf of the Goro Project pursuant to which we guaranteed payments due from Goro of up to a maximum amount of US\$100 ("Maximum Amount") in connection with an indemnity. We also provided additional guarantees covering the amounts payable by Goro regarding (a) amounts exceeding the Maximum Amount in connection with the indemnity and (b) certain other amounts under lease agreements.

Sumic Nickel Netherlands B.V. – Sumic, a 21% shareholder of Goro, has a put option to sell to Vale Inco 25%, 50% or 100% of its share in Goro. The put option can be exercised if the defined cost of the initial Goro project exceeds US\$4,200 at project rates and an agreement cannot be reached on how to proceed with the project.

We provided guarantees covering certain termination payments by Goro to a supplier under an electricity supply agreement ("ESA") entered into in October 2004 for the Goro nickel-cobalt project. The amount of the termination payments guaranteed depends upon a number of factors, including whether any termination of the ESA occurs as a result of a default by Goro and the date of such early termination. If Goro defaults under the ESA prior to the anticipated start date for electricity supply, the termination payment, which currently is at its maximum amount, would be €145 million. Once the supply of electricity under the ESA to the project begins, the guaranteed amounts will decrease over the life of the ESA.

- (b) We and our subsidiaries are defendants in numerous legal actions in the normal course of business. Based on the advice of our legal counsel, management believes that the amounts recognized are sufficient to cover probable losses in connection with such actions.

The provision for contingencies and the related judicial deposits are composed as follows:

| | As of December 31, | | | |
|--|-----------------------------|-------------------|-----------------------------|-------------------|
| | 2008 | | 2007 | |
| | Provision for contingencies | Judicial deposits | Provision for contingencies | Judicial deposits |
| Labor and social security claims | 458 | 378 | 519 | 372 |
| Civil claims | 386 | 242 | 311 | 135 |
| Tax-related actions | 828 | 518 | 1,605 | 613 |
| Others | 13 | 3 | 18 | 4 |
| | <u>1,685</u> | <u>1,141</u> | <u>2,453</u> | <u>1,124</u> |

Labor- and social security-related actions principally comprise claims by Brazilian employees and former employees for (i) payment of time spent traveling from their residences to the work-place, (ii) additional health and safety related payments and (iii) various other matters, often in connection with disputes about the amount of indemnities paid upon dismissal and the one-third extra holiday pay.

Civil actions principally related to claims made against us by contractors in Brazil in connection with losses alleged to have been incurred by them as a result of various past government economic plans during which full inflation indexation of contracts was not permitted, as well as for accidents and land appropriations disputes.

Tax-related actions principally comprise challenges initiated by us, on certain taxes on revenues and value-added taxes and uncertain tax positions. We continue to vigorously pursue our interests in all the above actions but recognize that we probably will incur some losses in the final instance, for which we have made provisions.

Judicial deposits are made by us following the court requirements, in order to be entitled to either initiate or continue a legal action. These amounts are released to us, upon receipt of a final favorable outcome from the legal action; in the case of an unfavorable outcome, the deposits are transferred to the prevailing party.

Contingencies settled in 2008, 2007 and 2006 totaled US\$148, US\$331, US\$424, respectively. Provisions recognized in the years ended December 31, 2008, 2007 and 2006, totaled US\$213, US\$364, US\$439, respectively, classified as other operating expenses. During 2008, we reversed a provision of US\$300 previously recognized, in connection with a favorable decision obtained for a process regarding income tax.

In addition to the contingencies for which we have made provisions, we are defendants in claims where in our opinion, and based on the advice of our legal counsel, the likelihood of loss is possible but not probable, in the total amount of US\$2,476 at December 31, 2008, and for which no provision has been made (2007 – US\$2,381).

- (c) At the time of our privatization in 1997, we issued shareholder revenue interest instruments known in Brazil as *debentures participativas* (“debentures”) to our then-existing shareholders, including the Brazilian government. The terms of the debentures, were set to ensure that our pre-privatization shareholders, including the Brazilian government, would participate alongside us in potential future financial benefits that we could be able to derive from exploiting our mineral resources.

In preparation for the issuance of the debentures, we issued series B preferred shares on a one-for-one basis to all holders of our common shares and series A preferred shares. We then exchanged all of the series B shares for the debentures at par value. The debentures are not redeemable or convertible, and do not trade on a stapled basis or otherwise with our common or preferred shares. During 2002 we registered the debentures with the Brazilian Securities Commission (“CVM”) in order to permit trading.

Under the terms of the debentures, holders will have the right to receive semi-annual payments equal to an agreed percentage of our net revenues (revenues less value-added tax) from certain identified mineral resources that we owned as of May 1997, to the extent that we exceed defined threshold production volumes of these resources, and from the sale of mineral rights that we owned as of May 1997. Our obligation to make payments to the holders will cease when the relevant mineral resources are exhausted at which time we are required to repay the original par value plus accrued interest.



The table below summarizes the amounts we will be required to pay under the debentures based on the net revenues we earn from the identified mineral resources and the sale of mineral rights.

| <u>Area</u> | <u>Mineral</u> | <u>Required payments by Vale</u> |
|--|---|--|
| Southeastern System | Iron ore | 1.8% of net revenue, after total sales from May 1997 exceeds 1.7 billion tons. |
| Northern System | Iron ore | 1.8% of net revenue, after total sales from May 1997 exceeds 1.2 billion tons. |
| Pojuca, Andorinhas, Liberdade and Sossego | Gold and copper | 2.5% of net revenue from the beginning of commercialization. |
| Igarapé Bahia and Alemão | Gold and copper | 2.5% of net revenue, after total sales from May 1997 exceeds 70 tons of gold. |
| Other areas, excluding Carajás/Serra Leste | Gold | 2.5% of net revenue. |
| Other areas owned as of May 1997 | Other minerals | 1% of net revenue, 4 years after the beginning of the commercialization. |
| All areas | Sale of mineral rights owned as of May 1997 | 1% of the sales price. |

In September 2008 and April 2008, we paid remuneration on these debentures of US\$6 and US\$5, respectively. During 2007, we paid a total of US\$11.

- (d) We are committed under a take-or-pay agreement to purchase approximately 32,300 metric tons of bauxite from Mineração Rio do Norte S.A. – MRN at a formula driven price, calculated based on the current London Metal Exchange – LME quotation for aluminum. Based on a market price of US\$32,26 per metric ton as of December 31, 2008, this arrangement represents the following total commitment per metric ton as of December 31, 2008:

| | |
|-----------|--------------|
| 2009..... | 281 |
| 2010..... | 191 |
| 2011..... | 187 |
| 2012..... | 190 |
| 2013..... | 192 |
| | 1,041 |

(e) Description of leasing arrangements

Part of our railroad operations includes leased facilities. The 30-year lease, renewable for an additional 30 years, expires in August 2026 and is classified as an operating lease. At the end of the lease term, we are required to return the concession and the lease assets. In most cases, management expects that in the normal course of business, leases will be renewed.

The following is a schedule by year of future minimum rental payments required under the railroad operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2008.

| <u>Year ending December 31,</u> | |
|--|------------|
| 2009 | 53 |
| 2010 | 53 |
| 2011 | 53 |
| 2012 | 54 |
| 2013 thereafter | 714 |
| Total minimum payments required | 927 |



The total expenses of operating leases for the years ended December 31, 2008, 2007 and 2006 was US\$53, US\$62 and US\$48, respectively.

During 2008, we leased four pelletizing plants that were previously operated by the joint ventures that own them, Nibrasco, Itabasco and Kobrasco. The lease terms are from 5 to 30 years.

The following is a schedule by year of future minimum rental payments required under the pellet plant operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2008:

| Year ending December 31: | |
|---------------------------------|---------------------|
| 2009 | 81 |
| 2010 | 81 |
| 2011 | 81 |
| 2012 | 81 |
| 2013 thereafter | 987 |
| Total | <u>1,311</u> |

(f) Asset retirement obligations

We use various judgments and assumptions when measuring our asset retirement obligations.

Changes in circumstances, law or technology may affect our estimates and we periodically review the amounts accrued and adjust them as necessary. Our accruals do not reflect unasserted claims because we are currently not aware of any such issues. Also the amounts provided are not reduced by any potential recoveries under cost sharing, insurance or indemnification arrangements because such recoveries are considered uncertain.

The changes in the provisions for asset retirement obligations are as follows:

| | As of December 31, | |
|---|---------------------------|-------------------|
| | 2008 | 2007 |
| Beginning of period | 975 | 676 |
| Accretion expense | 164 | 84 |
| Liabilities settled in the current period | (7) | (15) |
| Revisions in estimated cash flows | (47) | 83 |
| Cumulative translation adjustment | (198) | 147 |
| End of period | <u>887</u> | <u>975</u> |

21 Other expenses

The line item "Other operating expenses" totaled US\$1,254 in 2008 (US\$607 in 2007). During the last quarter of 2008, we recognized certain expenses considered to be one-off events which substantially caused the increase in 2008 as compared to 2007. The most significant items recognized during the last quarter of 2008 in this respect were: (i) a US\$204 expense relating to additional payment relating to tax assessments on transportation services, (ii) inventory market value write-down of US\$77, and (iii) write-off of intangible asset (patent right) in the amount of US\$65.

22 Fair value disclosure of financial assets and liabilities

In September 2006, the FASB issued SFAS 157, "Fair Value Measurements," which defines fair value, establishes a framework for measuring fair value and expands disclosures about fair value measurements. SFAS 157 does not require any new fair value measurements, but provides guidance on how to measure fair value by providing a fair value hierarchy used to classify the source of the information.



In February 2007, the FASB issued SFAS 159, “The Fair Value Option for Financial Assets and Financial Liabilities – Including an amendment of FASB Statement 115.” SFAS 159 permits the choice of measuring financial instruments and certain other items at fair value. SFAS 159 is effective for financial statements issued for fiscal years beginning after November 15, 2007.

On January 1, 2008, the Company adopted SFAS 159 and elected not to apply the provisions of SFAS 159 to its eligible financial assets and financial liabilities on the date of adoption. Accordingly, the initial application of both SFAS 157 and SFAS 159 had no effect on the Company.

Under SFAS 157, the inputs used to measure fair value must be classified into one of three levels as follows:

Level 1 – Quoted prices in an active market for identical assets or liabilities;

Level 2 – Observable inputs other than Level 1, quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, and model-derived prices whose inputs are observable or whose significant value drivers are observable; and

Level 3 – Assets and liabilities whose significant value drivers are unobservable. The valuation of assets measured at fair value in the Company’s Consolidated Balance Sheet at December 31, 2008 is summarized below:

| | Fair value measurements | | | |
|--|------------------------------------|---|---|--|
| | Fair value December 31, 2008 | Quoted prices in active markets for identical assets or liabilities, (Level 1) | Significant other observable inputs (Level 2) | Significant unobservable inputs (Level 3) |
| Available-for-sale securities | 2,408 | 2,408 | – | – |
| Unrealized losses on derivatives | (539) | – | (539) | – |
| Other financial liabilities | (380) | – | (380) | – |

Our long-term debt is reported at amortized cost, however its fair value measurement at December 31, 2008 was as follows:

| | Carrying amount | Fair value | Level 1 | Level 2 | Level 3 |
|---|--------------------|------------|---------|---------|---------|
| Long-term debt (less interests) | 17,857 | 16,635 | 7,833 | 8,802 | – |

The carrying amount of our current financial instruments generally approximates fair market value because of the short-term maturity or frequent repricing of these instruments.

The market value of our listed long-term investments, where available, is disclosed in Note 12.

23 Segment and geographical information

We adopt SFAS 131 “Disclosures about Segments of an Enterprise and Related Information” with respect to the information we present about our operating segments. SFAS 131 introduced a “management approach” concept for reporting segment information, whereby such information is required to be reported on the basis that the chief decision-maker uses internally for evaluating segment performance and deciding how to allocate resources to segments. We analyze our segment information on aggregated and disaggregated basis as follows:

Ferrous products – comprises iron ore mining and pellet production, as well as our Brazilian Northern and Southern transportation systems, including railroads, ports and terminals, as they pertain to mining operations. Manganese mining and ferroalloys are also included in this segment.



Non-ferrous – comprises the production of non-ferrous minerals, including nickel (co-products and by-products), potash, kaolin, copper and aluminum – comprises aluminum trading activities, alumina refining and aluminum metal smelting and investments in joint ventures and affiliates engaged in bauxite mining.

Logistics – comprises our transportation systems as they pertain to the operation of our ships, ports and railroads for third-party cargos.

Others – comprises our investments in joint ventures and affiliates engaged in other businesses.

Information presented to senior management with respect to the performance of each segment is generally derived directly from the accounting records maintained in accordance with accounting practices adopted in Brazil together with certain minor inter-segment allocations.

Consolidated net income and principal assets are reconciled as follows:

Results by segment – before eliminations (aggregated)

| | 2008 | | | | | 2007 | | | | | 2006 | | | | | | | | | | | | | |
|---|-----------------|---------------|--------------|--------------|--------------|-----------------|---------------|---------------|---------------|--------------|--------------|-----------------|-----------------|---------------|---------------|--------------|--------------|--------------|--------------|----------------|---------------|--|---------|--|
| | (*) Non ferrous | | Aluminum | | Logistics | Others | | Eliminations | | Consolidated | | (*) Non ferrous | | Aluminum | | Logistics | Others | | Eliminations | | Consolidated | | | |
| | Ferrous | | Ferrous | | | Ferrous | | Ferrous | | Ferrous | | Ferrous | | Ferrous | | | Ferrous | | Ferrous | | Ferrous | | Ferrous | |
| RESULTS | | | | | | | | | | | | | | | | | | | | | | | | |
| Gross revenues - Foreign | 33,369 | 9,752 | 3,916 | 51 | 588 | (15,842) | 31,834 | 21,126 | 13,338 | 3,506 | 61 | 242 | (10,437) | 27,836 | 15,729 | 4,199 | 3,125 | 67 | 54 | (7,029) | 16,145 | | | |
| Gross revenues - Domestic | 4,342 | 491 | 850 | 1,640 | 234 | (882) | 6,675 | 3,865 | 487 | 751 | 1,519 | 1 | (1,344) | 5,279 | 2,738 | 277 | 474 | 1,373 | 7 | (651) | 4,218 | | | |
| Cost and expenses | (24,143) | (5,838) | (3,948) | (1,097) | (617) | 16,724 | (18,919) | (16,882) | (7,301) | (3,307) | (983) | (310) | 11,781 | (17,002) | (12,004) | (3,301) | (2,597) | (970) | (56) | 7,680 | (11,248) | | | |
| Research and development | (338) | (380) | — | (101) | (266) | — | (1,085) | (175) | (329) | — | 39 | (190) | — | (733) | (123) | (166) | — | (10) | (182) | — | (481) | | | |
| Depreciation, depletion and amortization | (1,021) | (1,452) | (171) | (128) | (35) | — | (2,807) | (917) | (1,039) | (110) | (103) | (17) | — | (2,186) | (632) | (219) | (66) | (76) | (4) | — | (997) | | | |
| Impairment | — | (950) | — | — | — | — | (950) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | | |
| Operating income | 12,209 | 1,623 | 647 | 365 | (96) | — | 14,748 | 7,017 | 5,156 | 840 | 455 | (274) | — | 13,194 | 5,708 | 790 | 936 | 384 | (181) | — | 7,637 | | | |
| Financial income | 3,048 | 768 | 30 | 10 | 1 | (3,255) | 602 | 2,514 | 578 | 17 | 9 | 25 | (3,848) | 295 | 789 | 97 | 20 | 28 | 2 | (609) | 327 | | | |
| Financial expenses | (3,479) | (1,431) | (59) | (15) | (36) | 3,255 | (1,765) | (4,008) | (1,152) | (166) | (17) | (14) | 2,848 | (2,509) | (1,526) | (172) | (107) | (8) | (18) | 609 | (1,222) | | | |
| Gains (losses) on derivatives, net | (719) | (71) | (22) | — | — | — | (812) | 854 | (90) | 153 | — | — | — | 917 | (15) | 86 | (187) | — | — | — | (116) | | | |
| Foreign exchange and monetary gains (losses), net | 767 | 10 | (275) | (32) | (106) | — | 364 | 2,302 | 93 | 181 | (15) | (2) | — | 2,559 | 206 | 214 | 119 | (11) | 1 | — | 529 | | | |
| Gain on sale of investments | — | 80 | — | — | — | — | 80 | — | 81 | — | 237 | 459 | — | 777 | 443 | — | — | — | 231 | — | 674 | | | |
| Equity in results of affiliates and joint ventures and change in provision for losses on equity investments | 543 | (38) | 62 | 133 | 94 | — | 794 | 301 | 9 | 84 | 125 | 76 | — | 595 | 312 | — | 76 | 96 | 226 | — | 710 | | | |
| Income taxes | 130 | (626) | (71) | 23 | 9 | — | (535) | (1,959) | (1,005) | (231) | (16) | 10 | — | (3,201) | (976) | (250) | (187) | (18) | (1) | — | (1,432) | | | |
| Monthly interests | (8) | (151) | (105) | — | 6 | — | (258) | (31) | (444) | (326) | (1) | — | — | (802) | (157) | (190) | (232) | — | — | — | (579) | | | |
| Net income | 12,491 | 164 | 207 | 484 | (128) | — | 13,218 | 6,990 | 3,226 | 552 | 777 | 280 | — | 11,825 | 4,784 | 575 | 438 | 471 | 260 | — | 6,528 | | | |
| Sales classified by geographic destination | | | | | | | | | | | | | | | | | | | | | | | | |
| Foreign market | 1,805 | 1,051 | 1,164 | 1 | — | (1,201) | 2,820 | 1,449 | 1,555 | 850 | 23 | — | (1,026) | 2,851 | 1,249 | 438 | 726 | 30 | — | (823) | 1,620 | | | |
| America, except United States | 648 | 1,789 | 412 | 1 | 9 | (392) | 2,467 | 432 | 2,462 | 308 | — | 81 | (318) | 2,965 | 506 | 450 | 95 | — | 54 | (237) | 868 | | | |
| Europe | 11,215 | 2,598 | 1,534 | 26 | 9 | (5,933) | 9,449 | 6,823 | 2,589 | 1,606 | 33 | — | (3,716) | 7,335 | 5,465 | 1,020 | 1,346 | 19 | — | (2,667) | 5,183 | | | |
| Middle East/Africa/Oceania | 1,904 | 220 | 174 | — | 154 | (952) | 1,500 | 827 | 396 | 142 | — | 161 | (412) | 1,114 | 767 | 218 | 263 | 1 | — | (239) | 1,010 | | | |
| Japan | 4,516 | 1,293 | 600 | 1 | 245 | (1,918) | 4,737 | 2,131 | 2,041 | 584 | — | — | (929) | 3,827 | 1,779 | 523 | 548 | — | — | (662) | 2,188 | | | |
| China | 9,743 | 864 | 23 | 21 | 4 | (3,949) | 6,706 | 7,570 | 1,457 | — | 4 | — | (3,168) | 5,863 | 4,781 | 499 | 126 | 16 | — | (1,716) | 3,706 | | | |
| Asia, other than Japan and China | 3,538 | 1,937 | 9 | 1 | 167 | (1,497) | 4,155 | 1,894 | 2,838 | 16 | 1 | — | (868) | 3,881 | 1,182 | 1,050 | 21 | 1 | — | (684) | 1,570 | | | |
| Domestic market | 33,369 | 9,752 | 3,916 | 51 | 588 | (15,842) | 31,834 | 21,126 | 13,338 | 3,506 | 61 | 242 | (10,437) | 27,836 | 15,729 | 4,198 | 3,125 | 67 | 54 | (7,028) | 16,145 | | | |
| | 4,342 | 491 | 850 | 1,640 | 234 | (882) | 6,675 | 3,865 | 487 | 751 | 1,519 | 1 | (1,344) | 5,279 | 2,738 | 277 | 474 | 1,373 | 7 | (651) | 4,218 | | | |
| Net income | 37,711 | 10,243 | 4,766 | 1,691 | 822 | (16,724) | 38,509 | 24,991 | 13,825 | 4,257 | 1,580 | 243 | (11,781) | 33,115 | 18,467 | 4,475 | 3,599 | 1,440 | 61 | (7,679) | 20,363 | | | |

(*) Other than aluminum.

Operating segment – after eliminations (disaggregated)

| | As of and for the year ended December 31, 2008 | | | | | | | | | | | |
|-------------------------------------|--|--------------|---------------|-----------------|---------------|--|---------------|--|--------------|------------------|--|--|
| | Revenues | | | | | Property, plant and equipment, net and intangible assets | | | | | Investments | |
| | Foreign | Domestic | Total | Value added tax | Net revenues | Cost and expenses | Net | Depreciation, depletion and amortization | Impairment | Operating income | Property, plant and equipment, net and intangible assets | Addition to property, plant and equipment, net and intangible assets |
| Ferrous | | | | | | | | | | | | |
| Iron ore | 15,102 | 2,673 | 17,775 | (364) | 17,411 | (6,547) | 10,864 | (876) | – | 9,988 | 14,595 | 3,645 |
| Pellets | 3,481 | 820 | 4,301 | (189) | 4,112 | (2,394) | 1,718 | (112) | – | 1,606 | 645 | 127 |
| Manganese | 221 | 45 | 266 | (15) | 251 | (77) | 174 | (5) | – | 169 | 18 | 3 |
| Ferroalloys | 704 | 507 | 1,211 | (128) | 1,083 | (457) | 626 | (22) | – | 604 | 166 | 32 |
| Pig iron | 146 | – | 146 | – | 146 | (67) | 79 | (3) | – | 76 | 144 | 122 |
| | 19,654 | 4,045 | 23,699 | (696) | 23,003 | (9,542) | 13,461 | (1,018) | – | 12,443 | 15,568 | 3,929 |
| Non ferrous | | | | | | | | | | | | |
| Nickel and other products | 7,785 | 44 | 7,829 | – | 7,829 | (4,425) | 3,404 | (1,323) | (950) | 1,131 | 21,729 | 2,813 |
| Potash | – | 295 | 295 | (16) | 279 | (120) | 159 | (19) | – | 140 | 159 | 43 |
| Kaolin | 167 | 42 | 209 | (9) | 200 | (213) | (13) | (32) | – | (45) | 199 | 6 |
| Copper concentrate | 787 | 106 | 893 | (22) | 871 | (683) | 188 | (77) | – | 111 | 3,543 | 283 |
| Aluminum products | 2,681 | 361 | 3,042 | (66) | 2,976 | (2,288) | 688 | (172) | – | 516 | 3,831 | 440 |
| | 11,420 | 848 | 12,268 | (113) | 12,155 | (7,729) | 4,426 | (1,623) | (950) | 1,853 | 29,461 | 3,585 |
| Logistics | | | | | | | | | | | | |
| Railroads | – | 1,303 | 1,303 | (205) | 1,098 | (749) | 349 | (103) | – | 246 | 1,431 | 121 |
| Ports | 11 | 293 | 304 | (39) | 265 | (198) | 67 | (26) | – | 41 | 1,441 | 242 |
| Ships | – | – | – | – | – | – | – | – | – | – | 374 | 343 |
| | 11 | 1,596 | 1,607 | (244) | 1,363 | (947) | 416 | (129) | – | 287 | 3,246 | 706 |
| Others | 749 | 186 | 935 | (30) | 905 | (703) | 202 | (37) | – | 165 | 1,054 | 752 |
| | 31,834 | 6,675 | 38,509 | (1,083) | 37,426 | (18,921) | 18,505 | (2,807) | (950) | 14,748 | 49,329 | 8,972 |
| | | | | | | | | | | | | 2,408 |

(*) Includes nickel co-products (copper, precious metals, cobalt and others).

Operating segment – after eliminations (disaggregated)

| | As of and for the year ended December 31, 2007 | | | | | | | | | | | |
|--|--|--------------|---------------|-----------------|---------------|--|---------------|--|------------------|---------------|--------------|--------------|
| | Revenues | | | | | Property, plant and equipment, net and intangible assets | | | | | Investments | |
| | Foreign | Domestic | Total | Value added tax | Net revenues | Cost and expenses | Net | Depreciation, depletion and amortization | Operating income | Addition to | | |
| Ferrous | | | | | | | | | | | | |
| Iron ore | 9,873 | 2,035 | 11,908 | (286) | 11,622 | (4,520) | 7,102 | (777) | 6,325 | 17,031 | 2,496 | 60 |
| Pellets | 2,151 | 587 | 2,738 | (132) | 2,606 | (1,860) | 746 | (87) | 659 | 754 | 92 | 741 |
| Manganese | 48 | 21 | 69 | (5) | 64 | (66) | (2) | (7) | (9) | 79 | 2 | – |
| Ferroalloys | 445 | 274 | 719 | (70) | 649 | (442) | 207 | (25) | 182 | 168 | 22 | – |
| Pig iron | 81 | – | 81 | – | 81 | (57) | 24 | (5) | 19 | 198 | 34 | – |
| | 12,598 | 2,917 | 15,515 | (493) | 15,022 | (6,945) | 8,077 | (901) | 7,176 | 18,230 | 2,646 | 801 |
| Non ferrous | | | | | | | | | | | | |
| Nickel and other products(*) | 11,664 | 125 | 11,789 | – | 11,789 | (6,077) | 5,712 | (927) | 4,785 | 23,668 | 2,088 | 299 |
| Potash | – | 178 | 178 | (10) | 168 | (108) | 60 | (23) | 37 | 218 | 19 | – |
| Kaolin | 202 | 36 | 238 | (9) | 229 | (228) | 1 | (33) | (32) | 295 | 33 | – |
| Copper concentrate | 663 | 139 | 802 | (30) | 772 | (456) | 316 | (64) | 252 | 1,841 | 197 | – |
| Aluminum products | 2,418 | 304 | 2,722 | (66) | 2,656 | (1,717) | 939 | (111) | 828 | 4,448 | 856 | 184 |
| | 14,947 | 782 | 15,729 | (115) | 15,614 | (8,586) | 7,028 | (1,158) | 5,870 | 30,470 | 3,193 | 483 |
| Logistics | | | | | | | | | | | | |
| Railroads | – | 1,220 | 1,220 | (199) | 1,021 | (636) | 385 | (88) | 297 | 1,735 | 491 | 342 |
| Ports | 13 | 254 | 267 | (46) | 221 | (177) | 44 | (22) | 22 | 1,371 | 102 | – |
| Ships | 17 | 21 | 38 | (3) | 35 | (44) | (9) | (3) | (12) | 36 | 12 | 107 |
| | 30 | 1,495 | 1,525 | (248) | 1,277 | (857) | 420 | (113) | 307 | 3,142 | 605 | 449 |
| Others | 261 | 85 | 346 | (17) | 329 | (474) | (145) | (14) | (159) | 2,783 | 207 | 1,189 |
| | 27,836 | 5,279 | 33,115 | (873) | 32,242 | (16,862) | 15,380 | (2,186) | 13,194 | 54,625 | 6,651 | 2,922 |

(*) Includes nickel co-products (copper, precious metals, cobalt and others).

Operating segment – after eliminations (disaggregated)

| | As of and for the year ended December 31, 2006 | | | | | | | | | | | |
|--|--|--------------|---------------|-----------------|---------------|--|--------------|--|------------------|---------------|---|--------------|
| | Revenues | | | | | Property, plant and equipment, net and intangible assets | | | | | Addition to property, plant and equipment, net and intangible investments | |
| | Foreign | Domestic | Total | Value added tax | Net revenues | Cost and expenses | Net | Depreciation, depletion and amortization | Operating income | | | |
| Ferrous | | | | | | | | | | | | |
| Iron ore | 8,167 | 1,860 | 10,027 | (271) | 9,756 | (4,060) | 5,696 | (528) | 5,168 | 13,235 | 2,616 | 48 |
| Pellets | 1,590 | 389 | 1,979 | (86) | 1,893 | (1,210) | 683 | (53) | 630 | 593 | 110 | 529 |
| Manganese | 39 | 16 | 55 | (3) | 52 | (97) | (45) | (4) | (49) | 65 | 19 | – |
| Ferroalloys | 342 | 166 | 508 | (43) | 465 | (443) | 22 | (19) | 3 | 186 | 34 | – |
| | 10,138 | 2,431 | 12,569 | (403) | 12,166 | (5,810) | 6,356 | (604) | 5,752 | 14,079 | 2,779 | 577 |
| Non ferrous | | | | | | | | | | | | |
| Nickel and other products(*) | 2,786 | 16 | 2,802 | – | 2,802 | (2,267) | 535 | (124) | 411 | 17,193 | 483 | 222 |
| Potash | – | 143 | 143 | (8) | 135 | (84) | 51 | (23) | 28 | 178 | 16 | – |
| Kaolin | 188 | 30 | 218 | (9) | 209 | (182) | 27 | (27) | – | 249 | 19 | – |
| Copper concentrate | 690 | 89 | 779 | (20) | 759 | (246) | 513 | (49) | 464 | 1,386 | 150 | – |
| Aluminum products | 2,220 | 161 | 2,381 | (37) | 2,344 | (1,354) | 990 | (65) | 925 | 2,829 | 749 | 164 |
| | 5,884 | 439 | 6,323 | (74) | 6,249 | (4,133) | 2,116 | (288) | 1,828 | 21,835 | 1,417 | 386 |
| Logistics | | | | | | | | | | | | |
| Railroads | – | 1,011 | 1,011 | (177) | 834 | (488) | 346 | (72) | 274 | 720 | 95 | 222 |
| Ports | 15 | 246 | 261 | (44) | 217 | (137) | 80 | (16) | 64 | 222 | 12 | – |
| Ships | 52 | 52 | 104 | (8) | 96 | (97) | (1) | (5) | (6) | 45 | 2 | – |
| | 67 | 1,309 | 1,376 | (229) | 1,147 | (722) | 425 | (93) | 332 | 987 | 109 | 222 |
| Others | 56 | 39 | 95 | (6) | 89 | (352) | (263) | (12) | (275) | 1,106 | 126 | 1,168 |
| | 16,145 | 4,218 | 20,363 | (712) | 19,651 | (11,017) | 8,634 | (997) | 7,637 | 38,077 | 4,431 | 2,353 |

(*) Includes nickel co-products (copper, precious metals, cobalt and others).

24 Related-party transactions

Balances from transactions with major related parties are as follows:

| | As of December 31, | | | |
|---|--------------------|-------------|------------|-------------|
| | 2008 | | 2007 | |
| | Assets | Liabilities | Assets | Liabilities |
| AFFILIATED COMPANIES AND JOINT VENTURES | | | | |
| Companhia Hispano-Brasileira de Pelotização – HISPANOBRÁS | 7 | 34 | 59 | 46 |
| Companhia Ítalo-Brasileira de Pelotização – ITABRASCO . . . | 37 | 64 | 53 | 49 |
| Companhia Nipo-Brasileira de Pelotização – NIBRASCO | 29 | 71 | 108 | 30 |
| Companhia Coreano-Brasileira de Pelotização – KOBRASCO | 1 | 22 | 24 | 13 |
| Baovale Mineração S.A. | 2 | 20 | 16 | 41 |
| Usinas Siderúrgicas de Minas Gerais S.A. – USIMINAS | 18 | – | 34 | – |
| Minas da Serra Geral S.A. – MSG | – | 13 | – | 14 |
| MRS Logística S.A. | 8 | 219 | 11 | 35 |
| Mineração Rio Norte S.A. | 8 | 38 | – | 29 |
| Samarco Mineração S.A. | 10 | – | 10 | 0 |
| Korea Nickel Corporation | 38 | – | 9 | – |
| Mitsui & Co., Ltd. | – | – | – | 21 |
| Others | 32 | 24 | 24 | 10 |
| | 190 | 505 | 348 | 288 |
| Current | 190 | 414 | 345 | 287 |
| Long-term | – | 91 | 3 | 1 |

These balances are included in the following balance sheet classifications:

| | As of December 31, | | | |
|---|--------------------|-------------|------------|-------------|
| | 2008 | | 2007 | |
| | Assets | Liabilities | Assets | Liabilities |
| Current assets | | | | |
| Accounts receivable | 137 | – | 281 | – |
| Loans and advances to related parties | 53 | – | 64 | – |
| Other assets | | | | |
| Loans and advances to related parties | – | – | 3 | – |
| Current liabilities | | | | |
| Suppliers | – | 302 | – | 281 |
| Loans from related parties | – | 112 | – | 6 |
| Long-term debt | – | 91 | – | 1 |
| | 190 | 505 | 348 | 288 |



Income and expenses from the principal transactions and financial operations carried out with major related parties are as follows:

| | Year ended of December 31, | | | | | |
|---|----------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2008 | | 2007 | | 2006 | |
| | Income | Expense | Income | Expense | Income | Expense |
| Companhia Nipo-Brasileira de Pelotização – NIBRASCO | 10 | 393 | 386 | 328 | 363 | 292 |
| Samarco Mineração S.A. | 259 | – | 117 | – | 79 | – |
| Companhia Ítalo-Brasileira de Pelotização – ITABRASCO | 240 | 163 | 233 | 163 | 204 | 58 |
| Companhia Hispano-Brasileira de Pelotização – HISPANOBRÁS | 342 | 378 | 247 | 195 | 224 | 159 |
| Companhia Coreano-Brasileira de Pelotização – KOBRASCO | 101 | 234 | 220 | 270 | 226 | 191 |
| Usinas Siderúrgicas de Minas Gerais S.A. – USIMINAS | 651 | – | 442 | – | 410 | – |
| Valesul Alumínio S.A. | – | – | – | – | 11 | – |
| Mineração Rio Norte S.A. | – | 249 | – | 232 | – | 234 |
| Gulf Industrial Investment Company – GIC | – | – | – | – | 56 | 2 |
| MRS Logística S.A. | 9 | 829 | 17 | 593 | 14 | 516 |
| Others | 34 | 34 | 30 | 29 | 3 | 39 |
| | 1,741 | 2,280 | 1,692 | 1,810 | 1,590 | 1,491 |

These amounts are included in the following statement of income line items:

| | Year ended of December 31, | | | | | |
|---|----------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2008 | | 2007 | | 2006 | |
| | Income | Expense | Income | Expense | Income | Expense |
| Sales/cost of iron ore and pellets | 1,698 | 1,369 | 1,649 | 960 | 1,553 | 712 |
| Revenues/expense from logistical services | 25 | 624 | 17 | 593 | 13 | 516 |
| Sales/cost of aluminum products | – | 249 | – | 232 | 11 | 234 |
| Financial income/expenses | 18 | 38 | 26 | 24 | 13 | 16 |
| Others | – | – | – | 1 | – | 13 |
| | 1,741 | 2,280 | 1,692 | 1,810 | 1,590 | 1,491 |

Additionally, we have loans payable to Mitsui & Co., Ltd., Banco Nacional de Desenvolvimento Social and BNDES Participações S.A. in the amounts of US\$4, US\$604 and US\$305, accruing with interest at market rates, which fall due through 2013. We also maintain cash equivalent balances with Banco Bradesco S.A. in the amount of US\$18 at December 31, 2008.

25 Derivative financial instruments

Risk management policy

We consider the effective management of risk a key objective to support our growth strategy and financial flexibility. In furtherance of this objective, the Board of Directors has established an enterprise risk management policy and a risk management committee. Under the policy, we measure, monitor, and manage risk at the portfolio level, using a single framework, and consider the natural diversification of our portfolio.

The risk management committee is responsible to assist our executive officers in overseeing and reviewing information regarding our enterprise risk management activities including the principles, significant policies, risk management process and procedures and instruments employed to manage risk. The risk management committee reports periodically to the executive board how the risks have been monitored, what are the most important risks and their impact on our cash flows.

Any risk mitigation strategy will only be implemented, whenever necessary, to support our corporate strategy or to maintain our target level of financial flexibility. The risk management policy and the risk management norms, that complement the normatives of risk management governance model, explicitly prohibit speculative transactions with derivatives and require the diversification of operations and counterparties.

Under SFAS 133 “Accounting for Derivative Financial Instruments and Hedging Activities,” as amended by SFAS 137 and SFAS 138, we recognize all derivatives on our balance sheet at fair value, and the gain or loss in fair value is included in current earnings, unless designated as a cash flow hedge.

The main market risks we face are interest rate risk, exchange rate risk and product price risk. We manage some of these risks through the use of derivative instruments. Our risk management activities follow the risk management policy, which requires diversification of transactions and counter-parties. We monitor and evaluate our overall position regularly in order to evaluate financial results and impact on our cash flow. We also periodically review the credit limits and creditworthiness of our hedging counter-parties.

Foreign exchange and interest rate risk

Vale’s cash flows are exposed to volatility of several different currencies. While most of our product prices are indexed to U.S. dollars, representing around 94% of the total revenue, most of our costs, disbursements and investments are indexed to currencies other than the U.S. dollar, mainly Brazilian Reais and Canadian dollars.

Derivatives instruments may be used in order to reduce Vale’s potential cash flow volatility arising from the currencies mismatch between the currencies under which the debt is denominated and revenues are generated. Vale’s foreign exchange and interest rate derivative portfolio consists, basically, of interest rate swaps to convert floating cash flows in Brazilian Reais to fixed or floating U.S. dollar cash flows, without any leverage.

Vale is also exposed to interest rate risks on loans and financings. Our U.S. dollar denominated floating rate debt consists mainly of loans including export pre-payments, commercial banks and multilateral organizations loans. In general, our U.S. dollars floating rate debt is subject to changes in the LIBOR (London Interbank Offer Rate in U.S. dollars). To mitigate the impact of the interest rate volatility on its cash flows, Vale takes advantage of natural hedges resulting from the positive correlation of metal prices and U.S. dollar floating rates. When natural hedges are not present, we may opt to realize the same effect by using financial instruments.

Our Real denominated debt subject to floating interest rates are debentures, loans obtained from Banco Nacional de Desenvolvimento Econômico e Social (BNDES) and property and services acquisition financing in the Brazilian market. These debts are mainly linked to CDI and TJLP.

The swap transactions entered into have settlement dates similar to the interest and principal payment dates, taking into account the liquidity restrictions of the market. At each settlement date, the results on the swap transactions partially offset the impact of the U.S. dollar/Brazilian Real exchange rate in our obligations, contributing to a stable flow of cash disbursements in U.S. dollars for interest and/or principal payment of our Real denominated debt.

In the event of an appreciation (depreciation) of the Brazilian Real against the U.S. dollar, the negative (positive) impact on our Real denominated debt obligations (interest and/or principal payment) measured in U.S. dollars will be almost totally offset by a positive (negative) effect from any existing swap transaction, regardless of the U.S. dollar/Brazilian Real exchange rate on the payment date.

We have other exposures associated with our outstanding debt portfolio. In order to reduce cash flow volatility associated with a financing from KFW (Kreditanstalt Für Wiederaufbau) indexed to

Euribor, Vale entered into a swap contract where the cash flows in Euros are converted into cash flows in U.S. dollars.

Product price risk

Vale is also exposed to several market risks associated with global commodities prices volatilities.

Currently, derivative transactions entered into related to commodities prices are nickel, aluminum, copper, gold platinum and natural gas derivatives and all have the same purpose of mitigating Vale's cash flow volatility.

Nickel – The Company has purchased nickel future contracts in the London Metal Exchange (LME), with the purpose of maintaining its exposure to nickel price variation, regarding the fact that, in some cases, the commodity is sold at a fixed price to some customers. Vale has also sold nickel futures in the LME, in order to minimize the risk of mismatch between the pricing on the costs of intermediate products and finished goods.

Aluminum – In order to reduce cash flow volatility after Inco's acquisition when Vale increased its leverage, we entered in aluminum hedging operations, which matured in December 2008.

Copper – Vale Inco Ltd., Vale's wholly-owned subsidiary, makes use of hedging to protect the price mismatch between the date of copper scrap purchase and the date of selling the finished good.

Platinum-group metals (PGMs) and other precious metals – Transactions regarding gold and platinum are executed in order to manage the risk associated with the volatility of these commodities prices. Platinum and gold hedging transactions matured in December 2008.

Natural gas – Vale uses natural gas swap contracts to minimize the impact of price fluctuation of this input cost in the cash flow.

In addition to the contracts mentioned above, Vale Inco Ltd., Vale's wholly-owned subsidiary, has nickel concentrate and raw materials purchase agreements, where there are provisions based on nickel and copper future prices behavior. These provisions are considered embedded derivatives.

There is also an embedded derivative related to energy in our subsidiary Albras on which we have no unrealized gain as of December 31, 2008 and US\$17 as of December 31, 2007.



The asset (liability) balances and the change in fair value of derivative financial instruments are as follows (the quarterly information is unaudited):

| | Interest rates (LIBOR)/ Currencies | Gold | Products of aluminum area | Copper | Nickel | Platinum | Total |
|--|--|-------------|---------------------------------|--------------|-----------|-------------|--------------|
| Unrealized gains (losses) at January 1, 2008 | 626 | (36) | (98) | (188) | 42 | (24) | 322 |
| Financial settlement | (394) | 41 | 120 | 173 | 38 | 27 | 5 |
| Unrealized gains (losses) in the period | (682) | (30) | (18) | (29) | (46) | (6) | (811) |
| Effect of exchange rate changes | (123) | 25 | (4) | 44 | (2) | 3 | (57) |
| Unrealized gains (losses) at December 31, 2008 | (573) | — | — | — | 32 | — | (541) |
| Unrealized gains (losses) at January 1, 2007 | (10) | (53) | (318) | (298) | 16 | (20) | (683) |
| Financial settlement | (290) | 33 | 112 | 240 | (38) | 13 | 70 |
| Unrealized gains (losses) in the period | 854 | (7) | 153 | (129) | 63 | (17) | 917 |
| Effect of exchange rate changes | 72 | (9) | (45) | (1) | 1 | — | 18 |
| Unrealized gains (losses) at December 31, 2007(*) | 626 | (36) | (98) | (188) | 42 | (24) | 322 |
| Unrealized gains (losses) at January 1, 2006 | (3) | (46) | (210) | — | — | — | (259) |
| Gain (loss) recognized upon consolidation of Inco | 13 | — | — | (364) | 62 | (22) | (311) |
| Financial settlement | (4) | 19 | 102 | — | (87) | — | 30 |
| Unrealized gains (losses) in the period | (15) | (23) | (187) | 65 | 42 | 2 | (116) |
| Effect of exchange rate changes | — | (4) | (23) | — | — | — | (27) |
| Unrealized gains (losses) at December 31, 2006 | (9) | (54) | (318) | (299) | 17 | (20) | (683) |

(*) At December 31, 2007, US\$5 was recorded in long-term liabilities.

Unrealized gains (losses) in the period are included in our income statement under the caption of Financial expenses and Foreign exchange and monetary gains (losses), net.

Final maturity dates for the above instruments are as follows:

| | |
|--|---------------|
| Cross currency interest rate swaps | December 2019 |
| Copper concentrate | March 2009 |
| Nickel | March 2011 |

Under SFAS 133, all derivatives, whether designated in hedging relationships or not, are required to be recorded in the balance sheet at fair value. A derivative must be designated in a hedging relationship in order to qualify for hedge accounting. These requirements include a determination of what portions of hedges are deemed to be effective versus ineffective. In general, a hedging relationship is effective when a change in the fair value of the derivative is offset by an equal and opposite change in the fair value of the underlying hedged item. In accordance with these requirements, effectiveness tests are performed in order to assess effectiveness and quantify ineffectiveness for all designated hedges.

At December 31, 2008, we had no outstanding cash flow hedges. A cash flow hedge is a hedge of the exposure to variability in expected future cash flows that is attributable to a particular risk such as a forecasted purchase or sale. If a derivative is designated as a cash flow hedge, the effective portions of the changes in the fair value of the derivative are recorded in other comprehensive income and are recognized in earnings when the hedged item affects earnings. Ineffective portions of changes in the fair value of the derivatives designated as hedges are recognized

in earnings. If a portion of a derivative contract is excluded for purposes of effectiveness testing, such as time value, the value of such excluded portion is included in earnings. At December 31, 2008, unrealized net losses in respect of derivative instruments which were not qualified for hedge accounting amounted to US\$811. The unrealized net gain as of December 31, 2007 amounted to US\$869.

26 Subsequent events

On January 30, 2009 we entered into a purchase and sale agreement with Rio Tinto Plc to acquire iron ore (in Brazil) and potash (in Argentina and Canada) assets. The price to be paid for the iron assets amounts to US\$750, while the potash deposits will be acquired for US\$850.