



2010 Sustainability Report

Vale's 2010 Sustainability Report is guided by ten material topics identified by internal and external stakeholders as the most relevant to the company's operations. Each topic is represented by an icon that appears throughout this publication in order to demonstrate the company's performance and actions related to them.



communities



climate change



energy



water



health and safety



emissions



waste



talent management



developing suppliers



land use

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Profile

Vale is a global mining company that values business ethics, economic, social and environmental responsibility and, above all, people. The company's goal is to help build a positive legacy for future generations in the regions where it operates

Headquartered in Brazil and operating on five continents,

Vale employs over 174,000 people including employees and contractors. The world leader in iron ore and pellet production, and the second biggest nickel producer, Vale researches, produces and sells a variety of products, notably iron ore and pellets, manganese, ferroalloys, nickel, copper, metallurgical and thermal coal, phosphates, potash, cobalt, bauxite, kaolin and platinum group metals. The company is also active in the logistics, energy and steelmaking sectors, which are considered strategic and integrated with mining operations.

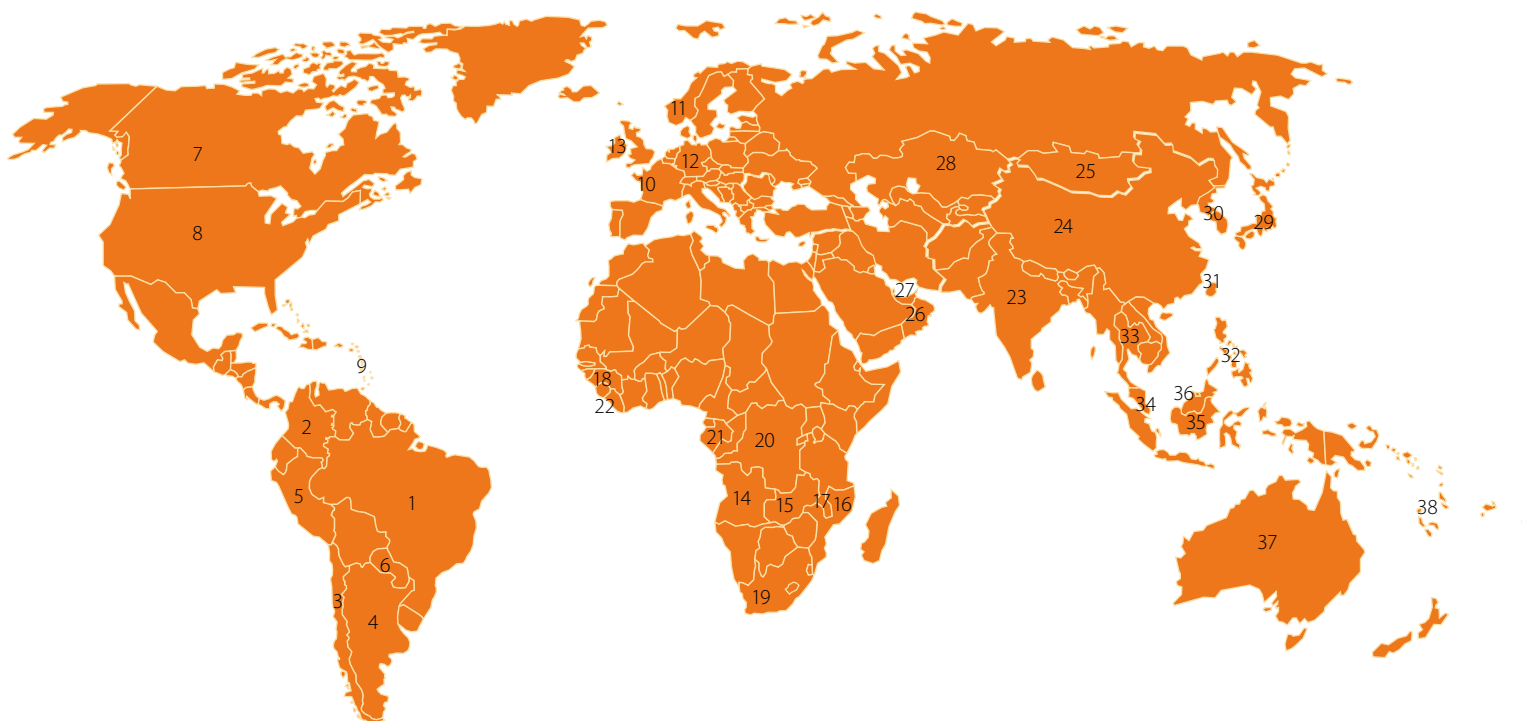
Vale's products are part of the lives of countless people. By transforming mineral resources, Vale produces ingredients employed in the making of essential products used in the modern world, like cell phones, cars and household appliances. The company produces steel for use in heavy industry, construction and transportation, and now operates in fertilizers, thereby helping to boost agricultural yields. Vale's investments generate benefits for the regions where it operates as part of the company's policy to work in an integrated manner with governments and society to promote local and regional development.

Vale around the world

Americas	
1. Brazil – Vale's worldwide headquarters	Operations, Offices, Joint ventures, Exploration/Project under development
2. Colombia	Operations, Offices, Joint ventures, Exploration/Project under development
3. Chile	Operations, Offices, Joint ventures, Exploration/Project under development
4. Argentina	Operations, Offices, Joint ventures, Exploration/Project under development
5. Peru	Operations, Offices, Joint ventures, Exploration/Project under development
6. Paraguay	Operations, Offices, Joint ventures, Exploration/Project under development
7. Canada	Operations, Offices, Joint ventures, Exploration/Project under development
8. United States	Operations, Offices, Joint ventures, Exploration/Project under development
9. Barbados	Operations, Offices, Joint ventures, Exploration/Project under development

Europe	
10. France	Operations, Offices, Joint ventures, Exploration/Project under development
11. Norway	Operations, Offices, Joint ventures, Exploration/Project under development
12. Switzerland	Operations, Offices, Joint ventures, Exploration/Project under development
13. United Kingdom	Operations, Offices, Joint ventures, Exploration/Project under development
Africa	
14. Angola	Operations, Offices, Joint ventures, Exploration/Project under development
15. Zambia	Operations, Offices, Joint ventures, Exploration/Project under development
16. Mozambique	Operations, Offices, Joint ventures, Exploration/Project under development
17. Malawi	Operations, Offices, Joint ventures, Exploration/Project under development
18. Guinea	Operations, Offices, Joint ventures, Exploration/Project under development
19. South Africa	Operations, Offices, Joint ventures, Exploration/Project under development
20. Democratic Republic of Congo	Operations, Offices, Joint ventures, Exploration/Project under development
21. Gabon	Operations, Offices, Joint ventures, Exploration/Project under development
22. Liberia	Operations, Offices, Joint ventures, Exploration/Project under development

Asia	
23. India	Operations, Offices, Joint ventures, Exploration/Project under development
24. China	Operations, Offices, Joint ventures, Exploration/Project under development
25. Mongolia	Operations, Offices, Joint ventures, Exploration/Project under development
26. Oman	Operations, Offices, Joint ventures, Exploration/Project under development
27. Dubai	Operations, Offices, Joint ventures, Exploration/Project under development
28. Kazakhstan	Operations, Offices, Joint ventures, Exploration/Project under development
29. Japan	Operations, Offices, Joint ventures, Exploration/Project under development
30. South Korea	Operations, Offices, Joint ventures, Exploration/Project under development
31. Taiwan	Operations, Offices, Joint ventures, Exploration/Project under development
32. Philippines	Operations, Offices, Joint ventures, Exploration/Project under development
33. Thailand	Operations, Offices, Joint ventures, Exploration/Project under development
34. Singapore	Operations, Offices, Joint ventures, Exploration/Project under development
35. Indonesia	Operations, Offices, Joint ventures, Exploration/Project under development
36. Malaysia	Operations, Offices, Joint ventures, Exploration/Project under development
Oceania	
37. Australia	Operations, Offices, Joint ventures, Exploration/Project under development
38. New Caledonia	Operations, Offices, Joint ventures, Exploration/Project under development



Operations	
Offices	
Joint ventures	
Exploration/Project under development	

Mission and Values

Our Mission

To transform mineral resources into prosperity and sustainable development.

To the company's **shareholders**, Vale aims to provide a total return greater than the market average in the markets where the company operates.

To the company's **customers**, Vale aims to provide superior minerals, reliability and value, based on constant innovation and development.

To the company's **employees**, Vale aims to provide an ethical, transparent and challenging work environment that offers opportunities and engenders pride in the company, by following a competitive merit-based compensation system.

To the company's **suppliers**, through the company's long-term vision and willingness to enter into win-win partnerships, Vale aims to provide a continuous market for quality goods and services at a competitive cost.

To the **communities** and countries in which we operate, through our ethical and socially and environmentally respectful operations, Vale aims to ensure that our presence makes a positive contribution towards sustainable development.

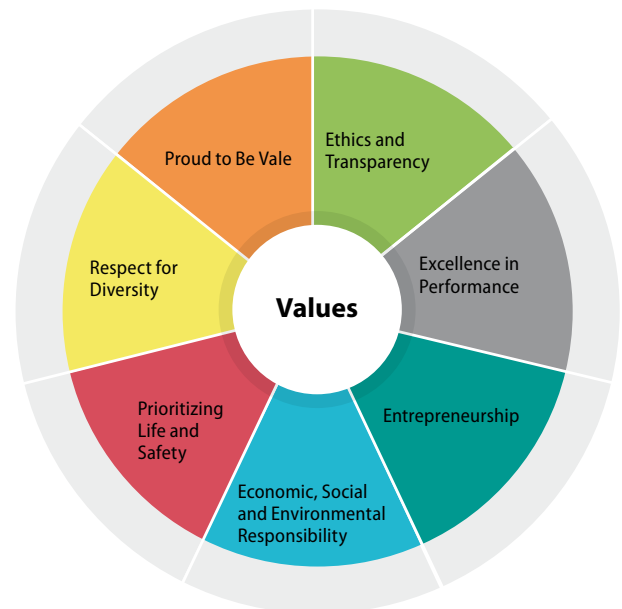
For all the **countries where we operate**, by contributing to economic prosperity, creating jobs and income, improving people's quality of life and participating in regional and national development.

Our Values

Ethics and Transparency – Our behavior as an organization, by acting with integrity, abiding by the law, moral principles and behavioral covenants established and accepted by society, and by clearly communicating our policies and results.

Excellence in Performance – The quest for continuous improvement and process control, using performance indicators acknowledged as best practice, promoting a high-performance culture and ensuring that long-lasting competitive advantages are obtained and sustained.

Entrepreneurship – Our determined mindset as an organization that rapidly and unrelentingly seeks new opportunities and innovative solutions in the face of shifting challenges and needs, ensuring the execution of strategies that contribute to Vale's growth.



Economic, Social and Environmental Responsibility – We acknowledge the need for these dimensions to be constantly in balance, promoting development and ensuring sustainability.

Prioritizing Life and Safety – We will never forgo safety. People are more important than results and material goods. There is never a choice to be made regarding someone's life – our only choice is the life, health, and safety of our customers, employees, and communities.

Respect for Diversity – Acknowledging one another as equals, respecting differences and promoting competitive inclusion – and recognizing differences as opportunities for integration and growth.

Proud to "Be Vale" – The result of all these values. We behave as owners of the business, in the relentless quest to achieve our defined goals, sharing and celebrating results and strengthening relationships. We are proud to build something that will make a difference. This is why we are proud to be Vale – all of us, management and other employees of the Company.

Vale's Aspirations

To be the best company in terms of shareholder returns, sustainable development and organizational climate.

Corporate Information

Name	Vale
Corporate name	Vale S.A.
Legal Form	Publicly traded company
Shares traded on Stock Exchanges	BM&FBovespa: VALE3, VALES
	NYSE: VALE, VALE.P
	Euronext Paris: VALE3, VALES
	Latibex: XVALO, XVALP
	HKEx: 6210, 6230
Worldwide headquarters	Rio de Janeiro, Brazil
Social and environmental investments in 2010	US\$1.136 billion
Total workforce (Dec. 2010)	174,100 (Employees: 70,800 and Contractors: 103,300)
Corporate credit rating	Rating Baa2 by Moody's Investors Service
	BBB+ by Standard & Poor's Ratings Services
	BBB+ by Fitch Ratings
	BBB (high) by Dominion Bond Rating Service
Recognition and Awards	Mining company listed in the Corporate Sustainability Index (Índice de Sustentabilidade Empresarial, or ISE) of the São Paulo Stock Exchange (Bovespa). This investment portfolio aims to highlight companies that have strategies and practices linked to sustainability, contributing to build a fairer and more inclusive society (environmentally balanced and economically viable). Vale's inclusion in the ISE as of 2011
	World leader among mining companies in a climate change ranking produced by Goldman Sachs
	The 2009 Sustainability Report was classified as one of the five best Brazilian reports, in a study produced by Sustainability (a recognized institution in the sector) and the Brazilian Foundation for Sustainable Development (FBDS), called "Rumo à Credibilidade" (Road to Credibility)
	2010 GRI Readers' Choice Awards in the Civil Society category awarded to Vale's 2008 Sustainability Report. Vale was also rated among the five best companies in the world in the Investors and Overall Winner categories
	Awards from The New Economy, a British magazine, rating Vale the best company in terms of greenhouse gas emissions reduction in Brazil
	Gold Standard in the "GHG Protocol Brazil Program", which establishes standardized methodologies for measuring carbon emissions in the country
	The only Brazilian company listed in the Carbon Disclosure Leadership Index (CDLI), a ranking produced by the Carbon Disclosure Project (CDP) that evaluates business reports' quality and coverage
	One of the four most sustainable global companies in the mining sector according to Goldman Sachs' GS Sustain report, in terms of return on capital, industry positioning and sustainability
	Winner in 2010 of the award for Best Strategy for Cutting Greenhouse Gas Emissions in Brazilian Industry, presented by magazine Época
	Winner of three awards in the 2010 edition of the IR Magazine Awards: best investor relations website, best annual report for investors and best conference call in Brazil

Message from the Board of Directors

While obtaining record results in 2010, Vale also advanced in its mission to transform mineral resources into prosperity and sustainable development and in its intention to become a global sustainability agent.

In 2010, Vale earned record operating revenue of US\$46.5 billion, operating income of US\$21.7 billion as measured by EBIT (earnings before interest and tax), an operating margin of 47.9%, and net income attributable to the company's shareholders of US\$17.3 billion. It also allocated more resources to finance the development of new platforms for growth and value creation than any other mining company.

Vale invested US\$12.7 billion in new opportunities for growth and the maintenance of existing assets, delivering six projects in 2010. Another US\$6.7 billion financed acquisitions, mainly fertilizer assets in Brazil. US\$5 billion of capital was returned to shareholders – US\$3 billion in dividend distribution and US\$2 billion through a share buyback.

Reflecting its commitment to sustainability, Vale invested US\$737 million in environmental protection and conservation, and US\$399 million in social projects, adding up to spending of US\$1.136 billion on corporate social responsibility, representing 6.5% of net earnings. The company continues to develop technological solutions to balance excellence in operational and financial performance with sustainability, generating opportunities for social and economic development for the communities where it operates.

Vale seeks continuous engagement with its different stakeholders in various forms, for example by participating in industry associations and through continual dialog with neighboring communities. Demonstrating its commitment to workforce training – an essential element in its development – approximately US\$45 million was invested in 2010 alone in employee training.

“Vale is the first mining company to join the São Paulo Stock Exchange's Corporate Sustainability Index (ISE)”



Ricardo Flores

Chairman of the Board of Directors

In addition, the company is working to help develop its supply chain, spreading best practices concerning human rights and the sustainable use of natural resources, and strengthening Vale's global engagement in the fight against reprehensible labor practices such as compulsory and child labor. Vale also has a supplier lending mechanism, providing US\$129 million of credit in 2010.

The company's corporate governance structure meets global requirements, promotes Vale's values and ensures alignment with best international management practices. In 2010, Vale approved 11 new regulatory documents of global scope (two policies, four norms and five instructions), helping it to continue globalizing its best practices and reinforcing its commitment to sustainable development.

In 2010, Vale became the first mining company to join the São Paulo Stock Exchange's Corporate Sustainability Index (ISE). It was one of six companies selected to join the portfolio as of January 3, 2011. This portfolio, which is reviewed every year, is composed of the shares of companies committed to sustainability and social responsibility in their businesses and practices. Vale's entry to the portfolio reflects its commitment to continuous improvement in sustainability-related issues.

Another notable fact was Vale's listing in December 2010 on the Main Board of the Hong Kong Stock Exchange (HKEx), in the form of Hong Kong Depositary Receipts (HDRs). Through this listing on one of Asia's most important stock exchanges, investors across the world gained the opportunity to trade in the company almost 24 hours a day, in the Americas, Europe and Asia, strengthening Vale's position as a global company.

For the fifth consecutive year, the company maintained its Sarbanes-Oxley Act internal control certification, demonstrating the maturity and transparency of its governance practices in line with the requirements for companies with ADRs (American Depositary Receipts) listed on the New York Stock Exchange.

The following report, the fourth produced in accordance with Global Reporting Initiative (GRI) guidelines, has the role of ensuring transparency with respect to the way we work, the challenges that lie ahead and the results obtained by Vale's management, demonstrating the company's alignment with Principles for Responsible Investment (PRI).

On behalf of the Board of Directors and all shareholders, I thank the Executive Board and all of Vale's employees and partners for their work and the results presented. Finally, I would like to emphasize Vale's corporate governance model, grounded in transparency, fairness and ethics, which has contributed greatly to Vale's positive trajectory. I am confident that the company will remain on the right path, committed to the ethical values that have always guided its conduct.

Message from the CEO

Commitment to Sustainability

On May 22, 2011, I returned to Vale after two years away, now as CEO. My reencounter with the company and its employees across the world has been a source of great happiness for me. I am more enthusiastic than ever before and ready to lead this great institution through its challenges and achievements.

Vale is now in an excellent position, in terms of both our own sector and industry in general, thanks to the hard work of all our colleagues around the world and the competent management of my predecessor, Roger Agnelli. Let us make the most of the great moment that the company is experiencing to prepare ourselves to face the challenges of the future, which will not necessarily be the same as past ones. The world is changing constantly and it is important for us to improve our own performance and to always be ready to go beyond where we have gone in the past. This will require innovative solutions, both for ourselves and in our relations with the communities where we operate, emphasizing a culture of dialog and acceptance of differences.

It is in this positive, optimistic and open context that I present you with Vale's 2010 Sustainability Report, produced in line with Global Reporting Initiative (GRI) guidelines and classified as A+, the maximum level of transparency. The report sets out information essential to the company's accountability to its stakeholders, in

economic, environmental and social dimensions. Clearly and precisely, the publication shows that the company's actions are consistent with its guidelines and commitments.

In our actions, we seek alignment with the sustainability standards presented by the International Council on Mining and Metals (ICMM), of which we are a member. We have also been a signatory to the United Nations Global Compact since 2007, and in 2010 we were invited by the UN to join the Global Compact LEAD platform, composed of companies that are leaders on sustainability issues. We are also a member of the World Business Council for Sustainable Development (WBCSD), where we discuss scenarios for the future of the planet and propose strategic drivers that should determine the sustainability actions of governments and companies in the pursuit of solutions to contemporary critical issues.

Our Sustainable Development Policy guides our activities, supported by three pillars: being a Sustainable Operator, a Local Sustainable Development Catalyst and a Global Sustainability Agent. In line with these principles, we act with socioeconomic and environmental responsibility in the locations where we are present, throughout the life cycles of our undertakings. We also aim to build a positive legacy, taking global sustainability issues into account and helping promote best practices.

In 2010, Vale
invested more than
US\$1 billion in
corporate social
responsibility



Murilo Ferreira
Chief Executive Officer

Vale made a number of advances in 2010 as part of the process of continuously improving its sustainability management. After publishing global documents more directly related to sustainability, such as its Sustainable Development Policy, Human Rights Policy, and Accountabilities Norm Health, Safety and Environment (HSE), in 2010 Vale continued the process of globalizing its practices by issuing 11 new global documents, including its Global Health and Safety Policy. In addition, the company launched its Human Rights Guide, a tool designed to facilitate the application of its Human Rights Policy.

Vale's entry as the first mining company to join the São Paulo Stock Exchange's Corporate Sustainability Index (ISE) confirms its strategic commitment to sustainable development. This is also seen by the evolution in the company's Sustainability Action Plan (SAP), a program involving actions to improve eco-efficiency, such as increasing the rate of water reuse and cutting energy consumption in operations. SAP sustainability performance targets are now one of the criteria for setting our executives' variable remuneration.

In 2010, Vale achieved new records. We obtained operating revenue of US\$46.5 billion and an operating income of US\$21.7 billion, and we invested US\$12.7 billion. Specifically in corporate social responsibility, we invested more than US\$1 billion.

I would also like to underline our commitment to people. The prioritization of life and safety is a strategic imperative for us. As part of our commitment to be recognized globally as a model of excellence in health and safety management, Vale continually improves its systems, processes and policies, and has now surpassed mining industry benchmark standards, for example by reducing our rates for total accidents, accident severity and lost-time accidents. Notwithstanding our progress and our strategy focused on achieving zero fatalities, unfortunately there were 11 fatalities in 2010 at operations and projects involving Vale employees and contractors. In addition to conducting a thorough investigation of each accident, we work to implement more effective preventive tools, as well as promoting changes in behavior and running awareness-raising campaigns in our value chain.

As local sustainable development catalysts, we are expanding the Vale Foundation's frontiers and aligning its social investment internationally. In 2010, Vale Foundations were created and implemented in Colombia and Mozambique, and Foundations are currently being established in New Caledonia and Chile. In 2011, there are plans to create Vale Foundations in Guinea and Australia.

Vale's responsibility for sustainable development extends to its supply chain. The Inove program, run in partnership with industry federations, seeks to develop local suppliers through training, the provision of credit and encouragement of business expansion, making them more competitive in the market.

As a reflection of its efforts in the area of climate change, it is notable that in 2010, Vale was the only Latin American company rated as a leader in greenhouse gas management transparency by the Carbon Disclosure Project, an initiative composed of 500 investors with US\$64 trillion in assets.

I offer my sincere thanks to all of you, in the many locations where we are present, who have helped to strengthen Vale's commitment to sustainability by conducting your activities with greater transparency and continually improving our performance.

Vale's Executive Officers

From May 2011



Murilo Ferreira
Chief Executive Officer (CEO)



Vania Somavilla
Executive Officer of Human
Resources and Corporate Services



Tito Martins
Executive Officer of
Base Metals Operations



Mário Barbosa
Executive Officer of Fertilizers



José Carlos Martins
Executive Officer of
Marketing, Sales and Strategy



Guilherme Cavalcanti
Chief Financial Officer (CFO)



Eduardo Ledsham
Executive Officer of Exploration,
Energy and Projects



Eduardo Bartolomeo
Executive Officer of
Integrated Operations

Changes in Vale's Executive Officers – 2010/2011

Roger Agnelli

Chief Executive Officer (CEO)
(until May 2011)

Carla Grasso

Executive Officer of Human Resources and Corporate
Services (until May 2011)

Fabio Barbosa

Chief Financial Officer (CFO)
(until June 2010)

How to read the report

In this report, Vale aims to transparently and clearly present the progression of its sustainability practices by providing objective information based on the GRI methodology

GRI guidelines – For the fourth consecutive year, Vale is publishing its sustainability report according to the guidelines of the Global Reporting Initiative (G3 version), including the Mining and Metals Sector Supplement (G2 version).



Global Compact, ICMM and ISE – Vale's operations, as presented in this report, are aligned with the principles of the UN Global Compact and the International Council on Mining and Metals (ICMM)¹, and in producing the report, Vale followed the ICMM's own assurance procedure. The 2010 Sustainability Report also serves as Vale's Communication on Progress (COP) for the UN Global Compact. In addition, the report aims to supply part of the information required by the São Paulo Stock Exchange Corporate Sustainability Index's (ISE- Bovespa) questionnaire. Vale participates voluntarily in all three of these initiatives. The index starting on page 133 can help you to find information in the report concerning them.

Period – This edition covers the 2008 to 2010 period.

Structure – The way the report's chapters have been organized allows monitoring of the results achieved by Vale in the three main areas of action set out in its Sustainable Development Policy: being a Sustainable Operator, a Local Sustainable Development Catalyst and a Global Sustainability Agent. This structure reflects Vale's commitment to integrate economic, social and environmental aspects, with a cross-cutting approach to the ten most material issues – Communities, Climate Change, Energy, Water, Health and Safety, Emissions, Waste, Talent Management, Developing Suppliers, and Land Use (for details, refer to the Materiality Matrix in the Sustainability Strategy chapter, which starts on page 12).

Indicators – The report covers 90 indicators, of which 49 are core, 27 are additional and 14 are from the Mining and Metals Sector Supplement. The number of indicators reported demonstrates Vale's continuous improvement in sustainability management. 51 were reported in 2007, 73 in 2008 and 86 in 2009.

Management approach – Vale is globalizing its processes and documents in order to reconcile local culture and the dynamics of each business. This complex process, which involves integrating and empowering the various teams involved, has been advancing year by year (read more in the Corporate Governance chapter, starting on page 26).

GRI application level – Through this report, Vale has once again achieved the A+ GRI application level (obtained for the first time by the 2009 Sustainability Report), as verified by an independent audit company (for more details, refer to the assurance letter on page 128). In addition, the report has been checked by the GRI itself (see page 131 for more details). Vale reported all GRI profile items, management approach information and G3 performance indicators, including indicators from the Mining and Metals Sector Supplement (G2 version), in accordance with the GRI's approach to the materiality principle.

Boundary – In addition to information about companies already covered in previous reports, this edition also presents information about Vale Fertilizantes, whose assets were acquired in 2010. The scope of Vale Fertilizantes' reported information was partial, in line with the incremental approach adopted. For more details, refer to the report scope table on page 126.

External assurance – The 2010 Sustainability Report's information was verified by independent audit firm KPMG, as shown by the declaration on page 128. The assurance scope included compliance with the GRI methodology, assurance of information on profile items, management approach and performance, and the application level statement. In addition, KPMG checked Vale's adherence to the ICMM principles, as indicated in the declaration on page 128.

Assessment form – As in previous years, an assessment form for the 2010 Sustainability Report is available at www.vale.com. The aim of this form is to learn more about Vale stakeholders' opinions, allowing us to enhance the company's sustainability management and performance reporting process.

Contact – For more information on sustainability, visit www.vale.com and contact us through the Talk to Us channel, selecting the Sustainability category.

¹ For further information, see the Public Policy section in the Corporate Governance chapter.

Materiality

Vale's Sustainability Report follows the Global Reporting Initiative (GRI) methodology. The principle of materiality means that companies should direct their communications toward topics of greatest relevance to the sectors in which they operate and the stakeholders with whom they interact.

A materiality analysis was carried out through an independent survey of internal and external stakeholders, which identified the most relevant sustainability aspects. Vale's materiality matrix consolidates the analysis of the risks and opportunities related to the company's business and to the mining sector. Society's needs, the relationship between Vale's strategic commitments and the environmental, social and economic impacts of the company's activities were also considered.

The survey was divided into three approaches:

1 – Interviews featuring open-ended questions and answers classified in accordance with the GRI methodology, with:

- internal stakeholders, such as leaders from Vale's corporate and operational areas, including senior management;
- external stakeholders, such as specialists, academics, NGOs, opinion makers (representatives from entities related to sustainability and media professionals), consultants specializing in sustainability, investors and banks.

2 – An analysis of Vale's exposure:

An examination of the company's ecological footprint and global trends, highlighting future challenges and opportunities as Vale's businesses and investments grow in quantity and geographical range.

3 – Mining sector benchmark analysis.

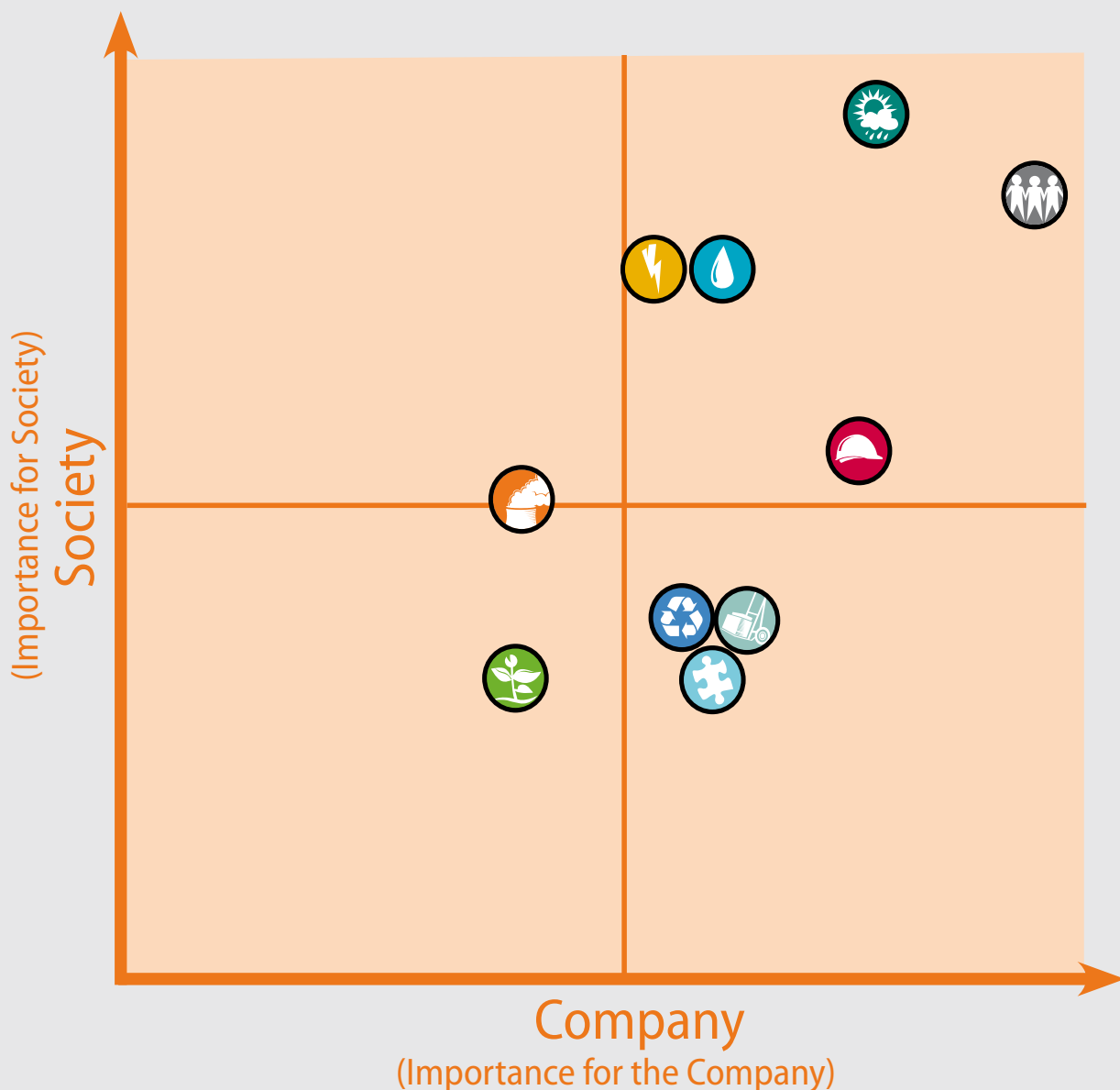
The approaches presented were classified as either internal or external, and the ten most material topics were identified. The top five material issues – situated in the quadrant of greatest internal and external relevance – were Communities, Climate Change, Energy, Water and Health and Safety. The next five topics of greatest materiality were Emissions, Waste, Talent Management, Developing Suppliers, and Land Use. Vale's sustainability performance related to the selected material topics is the subject of this report. The topics are identified by the icons presented in the matrix to the right.

Two other instruments were used to identify relevant issues, namely: feedback on the 2009 Sustainability Report from different stakeholders who, as in previous years, completed an assessment form (available at www.vale.com); and an online survey of Vale employees, which helped to identify the most relevant GRI issues. These two instruments reinforced the results obtained by the Matrix and identified two additional topics, Biodiversity and Business Performance, which are addressed in their own chapters.

2010 Report describes the company's performance with regard to the most material topics

10 material topics

As the chart shows, the result of this process is the following classification, in quadrants, according to the level of relevance obtained for each topic:



Sustainable Development Policy

In line with its sustainability strategy, Vale seeks to act with socioeconomic and environmental responsibility in the regions where it is present, throughout the lifecycle of its projects. Vale also aims to build a positive legacy in the regions where it operates, and in this process it considers global sustainability issues and helps to promote best practices.

With the prospect of strong growth through capital projects over the next five years, Vale has been improving the alignment between its Project Development and Sustainability sectors. This process is being accomplished through the development of a methodology that involves social and environmental diagnoses in the areas where the company operates, consultation with stakeholders, and the development of sustainability indicators applicable to projects. The main goal of the methodology is to ensure alignment between projects, technologies and sustainability issues.

The implementation of the Sustainable Development Policy, created in 2009, has been intensified together with Vale's internal sustainability management. As a growing company, Vale has the challenge of disseminating social, economic and environmental responsibility in its different businesses and activities.

This means promoting improvements in processes, developing synergies between business areas and spreading good practices. Vale's Sustainable Development Policy¹ guides the company's action based on three principles: being a Sustainable Operator, a Local Sustainable Development Catalyst and a Global Sustainability Agent.

¹ The full text of Vale's Sustainable Development Policy is available at www.vale.com, in the Sustainability section.

Sustainable Operator

To work sustainably is to act in a conscientious and socio-economic and environmentally responsible manner throughout the complete life cycle of our activities - from the conception, project implementation, operational cycle and commercialization until the closure phase. It is **VALUE** creation.

- V**alue added to stakeholders
- A**nticipation and prevention
- L**egislation as baseline: continuous improvement
- U**phold organization and discipline
- E**thics and respect in businesses

Local Sustainable Development Catalyst

As a catalyst of **LOCAL** development we seek to go beyond the impact management of our operations and projects, contributing voluntarily through partnerships with governments, other companies and civil society - to build a sustainable regional legacy.

- L**icense to operate
- O**rders for development
- C**ommunication and engagement
- A**lliances with key stakeholders
- L**egacy for the region

Global Sustainability Agent

The **GLOBAL** sustainability agent pillar is based on the acknowledgment, on one side, that certain global sustainability aspects may directly affect our businesses and, on the other side, that Vale - as one of the leading global companies in the mining sector - may contribute to international promotion of sound sustainability practices.

- G**uaranteed transparency
- L**eadership
- O**bservation of trends
- B**est practices
- A**ct local, think global
- L**egacy for future generations

Joint work

ICMM

In its operations, Vale seeks alignment with sustainability issues raised by the International Council on Mining & Metals (ICMM), of which it has been a member since 2006. The alignment of the company's prevailing practices and policies is in the process of being implemented progressively internationally.

The ICMM's sustainable development structure consists of three elements: ten principles to be followed; commitment to reporting performance relating to these principles in line with GRI guidelines; and external assurance by independent audits. Since Vale's 2009 Sustainability Report, its alignment with the ICMM has been assessed by independent audit firms to ensure that the ICMM commitments are met. The respective letter of assurance is on page 128.

Vale shares its best practices at ICMM events, permitting valuable exchange of information for the continuous improvement of its sustainability performance and management.

An example of Vale's joint work with the ICMM is the company's Social Responsibility Area's contribution to the ICMM's Community Development initiatives, helping to create guidelines such as the "Good Practice Guide: Indigenous Peoples and Mining," "Mining Partnerships for Development" and "Mining Together," produced by the ICMM and Community and Small-Scale Mining (CASM).

Through the ICMM, Vale also participates in discussions on climate change, with the company supporting the formulation of principles and the sector's initiatives concerning the issue. This support was reinforced in 2009 through the company's participation in approving the ICMM's climate change policy, which involved establishing principles and commitments for members of the organization. In addition, Vale takes part in a climate change management program, which aims to ensure that companies contribute in an individual manner to challenges related to the issue, in order to guarantee the industry's competitiveness in a low-carbon economy.

Regarding Health and Safety, Vale also participates in the ICMM in the search for excellence engaging in discussion of cultural change in the mining industry. It also acts to promote preventive measures, emphasizing the need to develop proactive indicators and the sharing of best practices (more information in the Health and Safety chapter on page 48). Vale's Health and Safety corporate documents are aligned with guidelines established at the ICMM. Vale proactively presented, discussed and applied to its top management a questionnaire to evaluate ICMM guidelines for fatal risk management.



With regard to biodiversity, Vale adheres to the principles established by the ICMM and follows the Good Practice Guidance for Mining and Biodiversity, published by the Council in 2006. The company reports its own case studies of best practices in documents distributed in Brazil and in international publicity materials.

WBCSD

Vale is a member company of the World Business Council for Sustainable Development (WBCSD), an institution founded during the 1992 Rio Earth Summit to promote sustainability issues among companies and ensure them a role in discussions on the topic. In 2010, the WBCSD launched its Vision 2050 report, which presents scenarios for the future of the planet and proposes strategic guidelines that should support the sustainability actions of governments and companies in finding solutions to critical issues. Through its participation in the Brazilian Business Council for Sustainable Development (CEBDS), the WBCSD's partner organization in Brazil, and directly in the WBCSD itself, Vale is engaged in discussions within the context of Vision 2050.

United Nations Global Compact

A signatory to the UN Global Compact since 2007, Vale was invited by the UN in 2010 to join the Global Compact LEAD Platform, composed of companies that are leaders on sustainability issues and already engaged in the Global Compact initiative. The objectives are: to strengthen the participants' commitment to cutting-edge work on the subject; to achieve higher levels of corporate sustainability performance through the implementation of the Blueprint for Corporate Sustainability Leadership; to inspire other participants in the Global Compact; to increase integration between the thematic areas of the Global Compact; and to improve collaboration between companies and the UN system.

Highlights in 2010

Vale's entry in the São Paulo Stock Exchange's Corporate Sustainability Index and its establishment of SAP targets confirm the company's commitment to sustainable development



Vale made a number of advances in 2010 as part of the process of continuously improving its sustainability management. After publishing global documents more directly related to sustainability, such as its Sustainable Development Policy, Human Rights Policy, and Accountabilities Norm Health, Safety and Environment (HSE), in 2010 Vale published its Global Health and Safety Policy.

In addition, Vale's entry as the first mining company to join the São Paulo Stock Exchange's Corporate Sustainability Index (Índice de Sustentabilidade Empresarial, ISE), and the evolution of its Sustainability Action Plan (SAP), whose targets are now one of the criteria for setting variable remuneration, once more confirm the company's commitment to sustainable development as part of its strategy.

Sustainability issues have received growing attention from investors as essential factors to companies' long-term financial success. This trend has been seen in the Brazilian market, as exemplified by the performance of the ISE, which rose 5.8% during 2010, while the São Paulo Stock Exchange's Index (Ibovespa) increased by 1.04%.

In this context, various banks, research institutions and investor support organizations have requested a wide range of information that, allied with the consolidation of the GRI methodology, serves as a guide for continuous improvement actions and the pursuit of best practices.

Vale's entry to the ISE index was a further step in this direction, given that the index highlights companies committed to sustainability and social responsibility.



Global documents guide the company's activities with regard to sustainability

Vale was one of six additional companies selected to join the ISE as of January 3, 2011, based on responses by companies to a questionnaire produced by the Sustainability Study Center (GVces) at the Getulio Vargas Foundation's Business Administration School (EAESP-FGV).

In 2011, the portfolio, which is renewed annually, is made up of 38 companies committed to the sustainability of their business and practices. Vale's goal is to remain in the ISE and seek constant improvements in its sustainability management.

Sustainability Action Plan (SAP)

Created in 2008, Vale's Sustainability Action Plan (SAP) was based on the results identified in the company's 2007 Sustainability Report. It aims to establish targets and actions for improving performance related to sustainability. Initially, the SAP was concerned with standardizing and consolidating social and environmental indicators, and carrying out structured actions, such as policies on Sustainable Development and Human Rights. After that, the program set performance indicators, which are considered priority for establishing goals.

The range of business units covered by SAP indicators is being extended progressively. In 2010, Vale's Brazilian iron ore, pelletizing, logistics, manganese, copper and potash operations were included. For 2011, there are plans to expand the program to the company's coal, nickel, kaolin and fertilizer units, including international operations.

The selected sustainability indicators are related to the following issues: fuel supplies, consumption and recirculation of water, waste generation and disposal, mine closure, local development and human resources. Targets were established for these issues. For environmental indicators, the targets were set in line with specific consumption (such as water consumption per metric ton produced). For 2011, the tracking and implementation of targets for Final Waste Disposal will be incorporated.

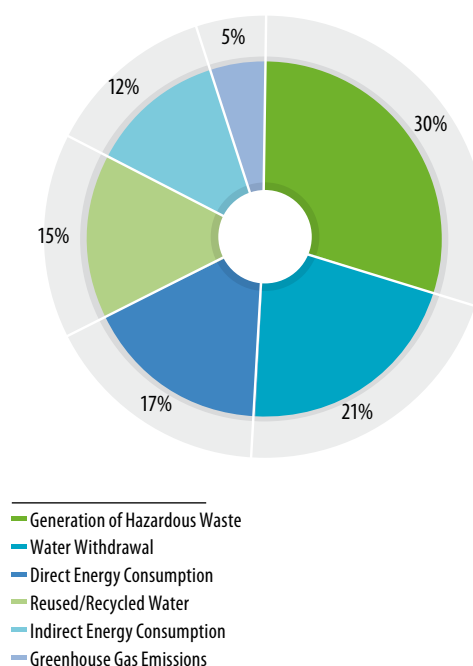
The inclusion of SAP targets as one of the criteria for Variable Remuneration in 2010 reflects Vale business areas' commitment to the continual improvement of results and advances in the management of sustainability. The SAP's issues are aligned with Vale's Materiality Matrix, as shown in the table on page 13. In relation to the subjects of health & safety and atmospheric emissions in general, the first is already part of Vale's Variable Remuneration scheme (together with other issues of different kinds considered strategic by the company) and the second will be included in the 2011 SAP.

The plan is revised annually, with the establishment of new targets and actions for subsequent years. As of 2011, the targets will be tracked monthly by directors, reinforcing Vale's commitment to sustainability.

According to an analysis conducted in 2010, Vale plans to invest approximately US\$335 million¹ in initiatives set out in the SAP, between 2010 and 2012. There are plans for 880 actions to improve indicators, particularly related to cutting the generation of hazardous waste and using natural resources such as water and energy more efficiently.

The main actions are shown in the chart below:

Breakdown of Actions per Indicator






¹ Throughout this report, values were converted from Brazilian reais to US dollars at the average rate of 1.7593.

Sustainability Action Plan (SAP)

The following chart shows the results for the targets established in 2010 and plans for 2011, for Brazilian operations, consolidated for each business unit

Business unit	Metric (specific consumption)	2010 target (average reduction/increase proposed by units)	Average result in 2010	2011 target (average reduction/increase proposed by units)
EN3 – Objective: Reduce specific fuel consumption ¹				
Iron ore and pellets	liters / metric ton transported	1.5%	 Target partially achieved. Two iron ore operations, representing 46% of the indicator, achieved the target	Proposed average reduction of 1.8%
Potash	liters / metric ton produced	2.0%	 Target not achieved	Proposed average reduction of 1.7%
Copper	liters / metric ton transported	8.2%	 Target not achieved	Proposed average reduction of 1.8%
EN4 – Objective: Reduce specific electricity consumption ²				
Iron ore and pellets	MWh / metric ton produced	0.9%	 Target achieved	Proposed reduction of 3.5% for two iron ore operations, accounting for 29% of the indicator
Manganese	MWh / metric ton produced	Maintain	 Target not achieved	Proposed average reduction of 5.3%
Potash ³	MWh / metric ton of ore excavated	1.7%	 Target achieved	Proposed reduction of 1.9% in relation to electricity consumption in 2009
Copper	MWh / metric ton produced	Maintain	 Target not achieved	Proposed average reduction of 5%
EN8 – Objective: Reduce specific water consumption				
Iron ore and pellets	m ³ / metric ton produced	1.3%	 Target achieved	Proposed reduction of 4.8% for one iron ore operation, accounting for 3% of the indicator
Logistics	m ³ / MGTK (railroad) ⁴ m ³ / metric ton transported (ports and shipping)	6.8%	 Target achieved	Proposed reduction of 7.5% for three logistics operations, accounting for 60% of the indicator
Manganese	m ³ / metric ton produced	3.3%	 Target achieved	*
Copper	m ³ / metric ton produced	1.0%	 Target achieved	Proposed reduction of 2% in relation to specific consumption in 2009

-  Target achieved
-  Target partially achieved
-  Target not achieved

Business unit	Metric (specific consumption)	2010 target (average reduction/increase proposed by units)	Average result in 2010	2011 target (average reduction/increase proposed by units)
EN10 – Objective: Increase percentage of water reused/recycled				
Iron ore and pellets	%	2.2%	✓ Target achieved	Proposed reduction of 5.3% for two iron ore operations, accounting for 13% of the indicator
Manganese	%	3.0%	✓ Target achieved	Proposed reduction of 3.6% for one of two manganese operations, accounting for 98% of the indicator
Copper	%	27.4%	✓ Target achieved	*
EN22 – 2010 objective: Reduce specific generation of oily hazardous waste. 2011 objective: Reduce generation of total hazardous waste				
Iron ore and pellets	t/Mt transported	3.6%	● Target partially achieved. One iron ore operation, according for 27% of the indicator, achieved the target	Proposed reduction of 7.9% in total hazardous waste for three iron ore operations accounting for 43% of the indicator
Logistics	m ³ / MGTK (railroad) ⁴ m ³ / metric ton transported (ports and shipping)	15.6%	✓ Target achieved	Proposed reduction of 13% in total hazardous waste for three logistics operations accounting for 93% of the indicator
Manganese	t/Mt transported	3.0%	✓ Target achieved	*
Copper	t/Mt transported	1.0%	✓ Target achieved	Proposed average reduction of 5.9% in total hazardous waste
EN22 – Objective: Increase recycling, composting and re-refining of waste				
All business units in Brazil	% of waste allocated for reuse/re-refining, reprocessing/recycling and composting	No target in 2010	No target in 2010	Proposed average increase of 5.5% in mentioned categories
LA10 – Objective: Increase number of hours dedicated to training				
All business units in Brazil	2010: % of supervisors trained 2011: % of hours of training in relation to hours worked	50% of supervisors trained at Vale and group companies in Brazil	✓ Target achieved	Guarantee rate of 2.4% training hours in relation to the number of hours worked per employee
EC6 – Objective: Raise percentage of local purchases				
Shared Services Organization (SSO)	% of purchases made in the state where the operation is located	39% local purchases in Maranhão and Pará, in monetary value terms	✓ Targets surpassed in the states of Pará and Maranhão	Achieve 59.1% local purchases in monetary value terms for the states of Pará, Maranhão, Espírito Santo and Minas Gerais
MM10 – Objective: Raise percentage of operations with mine closure plan				
All business units in Brazil with mining activities	NA	Conduct pilot projects based on Terms of Reference for Producing Mine Closure Concept Plans	✓ Seven pilot projects were planned, and all actions planned for these projects in 2010 were implemented	All units must adapt to conclude the Concept Plan based on the Terms of Reference for Producing Mine Closure Plans by the end of 2013

* In the case of business areas whose 2011 targets was not shown in the chart, targets were set to either limit increases or maintain current levels due to various operational factors.

¹ Logistics operations were not included here as they already have an operational energy efficiency target.

² These operations represent 24% of Vale's total indirect energy consumption.

³ These operations represent 1% of Vale's total indirect energy consumption.

⁴ MGTK – Million Gross Ton- Kilometers.

Sustainable Operator

For Vale, sustainability means creating value throughout its activities – whether communicating with stakeholders, managing risks, complying with legislation, paying constant attention to environmental issues, or upholding respect and ethical business conduct



View of Timbopeba iron ore mine (Minas Gerais, Brazil)







Plant at Brucutu Complex (Minas Gerais, Brazil)



Extraordinary results

2010's net income was the highest in mining history

In its best ever annual results, Vale obtained record operating revenues of US\$46.5 billion, an operating income of US\$21.7 billion as measured by EBIT (earnings before interest and taxes), an operating margin of 47.9%, cash flow of US\$26.1 billion, as measured by adjusted EBITDA (earnings before interest, taxes, depreciation and amortization) and net income attributable to the company's shareholders of US\$17.3 billion. At the same time, it allocated more resources to finance the development of new platforms for growth and value creation than any other mining company.

Although Vale's 2009 results were weaker than those of the preceding two years, the company's strong recovery resulted in excellent performance in 2010, due to measures taken in 2009 in response to the international crisis and also to the growth of the global economy, which raised demand for minerals and metals, notably in emerging countries.

Through strong cash generation and strict capital allocation discipline, Vale succeeded in financing its growth while maintaining a solid balance sheet and meeting its stockholders' dividend-related expectations.

In 2010, the company achieved a strong recovery in terms of production. Iron ore reached 297 Mt¹ in 2010, 29.5% above 2009. Carajás (Pará, Brazil), which has the best iron ore reserves in the world, yielded 101 Mt last year, hitting unprecedented numbers. Several other products also reached record levels, such as pellets (36.3 Mt), bauxite (7.5 Mt) and coal (6.9 Mt).

In Canada, despite the strike that started in the third quarter of 2009 in the Ontario (Sudbury) and Newfoundland & Labrador (Voisey's Bay) divisions, operations were maintained with low level of installed capacity utilization. As the Sudbury strike ended, refined nickel production started rising in the last two quarters of the year until it reached nearly normal levels.

In 2010, Vale sold its Valesul aluminum assets and its 86.2% stake in Pará Pigmentos SA (PPSA). In the second quarter, Vale made a deal with Norsk Hydro ASA (Hydro) to transfer its aluminum smelting (Albras), alumina refining (Alunorte and CAP) and bauxite mining (Paragominas and mining rights) interests. This was completed in the first quarter of 2011. In contrast, Vale invested US\$6.7 billion to finance acquisitions, mainly fertilizer assets in Brazil. These assets were part of the scope of the company's operations in 2010 and so feature in this report, as described in the Report Scope (Boundary) chapter on page 126.

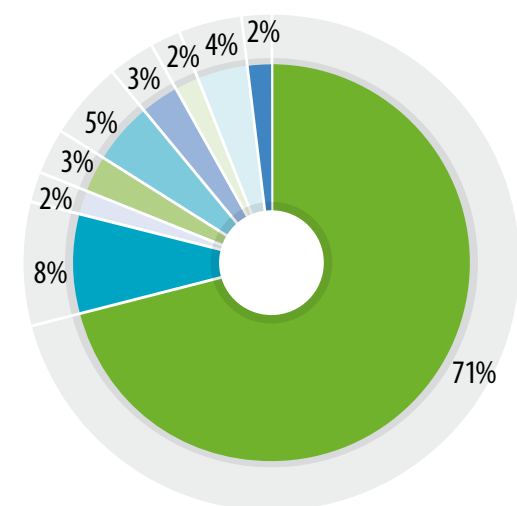
Production (USGAAP)

Production volume in thousand metric tons (unless stated otherwise)	2009	2010
Iron ore	229,338	296,995
Pellets	15,253	36,291
Manganese ore	1,657	1,841
Ferroalloys	223	451
Nickel	187	179
Copper	198	207
Bauxite	6,203	7,524
Alumina	5,910	5,805
Aluminum	459	447
Metallurgical coal	2,527	3,057
Thermal coal	2,892	3,832
Potash	717	662
Kaolin	781	na
Cobalt (metric tons)	1,575	1,066
Platinum (thousand troy ounces)	103	35
Palladium (thousand troy ounces)	152	60
Gold (thousand troy ounces)	50	42
Silver (thousand troy ounces)	1,245	1,492

Volumes relating to Vale's affiliated companies are not included. For further details about Vale's performance and other accounting information, read the Form 20-F report, available at www.vale.com > Investors > Press Releases.

Revenue by Product 2010

(US\$46.5 billion)

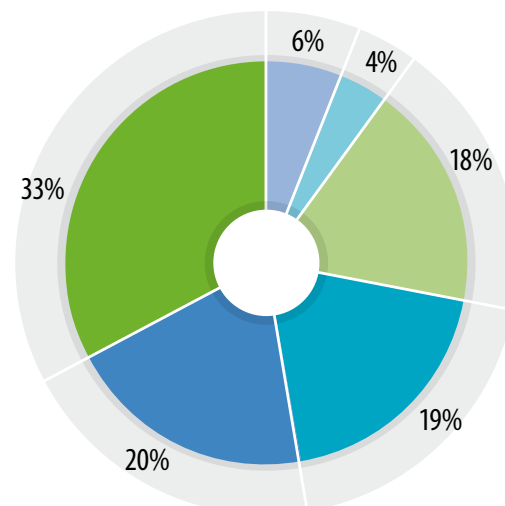


- Iron ore and Pellets
- Nickel
- Manganese and Ferroalloys
- Copper
- Aluminum
- Logistics Services
- Coal
- Fertilizers
- Others

¹ Mt: million metric tons.

Revenue by Destination 2010

(US\$46.5 billion)



- Brazil
- Europe
- Asia except China
- China
- Americas except Brazil
- Rest of the world

Economic value generated and distributed 2010 (in US\$ million) – Revenue by origin of product

	Brazil	South America, except Brazil	Canada	North America, except Canada	Australasia	Europe	Africa	TOTAL
Direct Economic Value Generated								
a) Revenues	40,879	244	3,130	0	2,165	353	0	46,771
Economic Value Distributed								
b) Operational costs	13,594	141	2,492	36	1,885	324	90	18,562
c) Employee salaries and benefits	2,094	31	458	0	255	36	26	2,900
d) Payments to capital providers	4,491			1,155				5,646
e) Payments to the government	3,097	0	-94	4	108	43	0	3,158
f) Investments in the community	349.4	1.6	20.2	0.7	20	1	5.6	398.5
Total	23,625	174	2,876	1,196	2,268	404	122	30,665
Economic value generated minus economic value distributed	17,254	70	254	-1,196	-103	-51	-122	16,107

USGAAP accounting standards are used, with some adjustments in accordance with the methodology established by GRI: in addition to gross operating revenue, item a) Revenues includes financial results and income originating from the sale of assets.

Tax incentives

Vale and certain subsidiaries in Brazil were granted tax incentives that provide for a partial reduction of the income tax due related to operations in Brazil's North and Northeast regions of iron ore, railroad, manganese, copper, bauxite, alumina, aluminum, kaolin and potash. The tax benefit is calculated based on taxable profit (so-called "exploration profit") taking into consideration the allocation of operational profit related to incentivized production levels during periods determined for each product, which generally expire in 2018. Part of the northern railroad operations have been granted tax incentives for a period of 10 years starting from 2009. The tax savings must be registered in a special capital (profit) reserve in the net equity of the entity that benefits from the tax incentive and cannot be distributed as dividends to the stockholders.

Vale is also allowed to reinvest part of the tax savings in the acquisition of new equipment to be used in the operations that enjoy the tax benefit subject to subsequent approval from the Brazilian regulatory agencies (Superintendência de Desenvolvimento da Amazônia – SUDAM and Superintendência de Desenvolvimento do Nordeste – SUDENE). When the reinvestment is approved, the tax benefit must also be accounted for in a special profit reserve and may not be distributed as dividends to the stockholders.

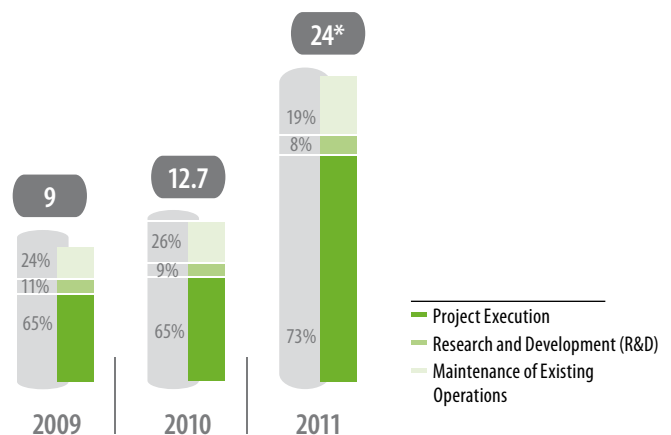
Tax incentives received in 2010 reduced the amount of taxes owed by US\$585 million, 14% of the total.

Investments

Vale invested US\$12.7 billion in maintaining existing assets and in harnessing multiple growth opportunities. Six projects were delivered in 2010:

- New facilities in Carajás, which added 20 million metric tons per year to iron ore production capacity;
- ThyssenKrupp Companhia Siderúrgica do Atlântico (TKCSA), a plant capable of producing 5 million metric tons of steel a year. Vale has a 26.87% stake in the venture and is its exclusive supplier of iron ore and pellets;
- Increased output at Bayóvar, a phosphate rock mine in Peru, capable of producing 3.9 million metric tons a year;
- Start of operations at Tres Valles, Chile, with two mines capable of producing 18,500 metric tons of copper per year;
- Commissioning of Onça Puma, in the state of Pará, Brazil, with a nominal annual production capability of 53,000 metric tons of nickel contained in ferronickel;
- Start of operations at Sohar industrial complex in Oman, comprising two pelletizing plants, each capable of producing 4.5 million metric tons a year.

Investments by Type



*Estimated Value of investment

Additionally, the company invested US\$6.7 billion in asset acquisitions, mainly fertilizers in Brazil. Overall, Vale's 2010 investments reached US\$19.4 billion. Nevertheless, a record amount of capital was returned to shareholders (see the following section on Capital Markets).

As a global sustainability agent, Vale invested US\$737 million in environmental protection and conservation and US\$399 million in social projects, totaling US\$1.136 billion in corporate social responsibility. The company continues to develop technological solutions to balance operational and financial performance with sustainability, creating social and economic mobility opportunities for the communities where it operates.

Financial strength

Vale enjoys a healthy financial position based on strong cash generation, ample liquidity, the availability of short and long-term credit lines, and a low-risk debt portfolio with low costs, high interest coverage and long maturity periods.

On December 31, 2010, total debt was US\$25.343 billion, with an average maturity of 9.6 years. This long average period is important to minimize refinancing risks. The recent financial stress in the Euro zone's peripheral economies, in which the concentration of maturing debts to be rolled over in the short term has played a prominent role, is a good example of how important it is to have a low-risk long-term debt portfolio.

The average debt cost was 4.85% a year, consistent with Vale's focus on minimizing the cost of capital. On December 31, 2010, Vale's cash position was US\$9.377 billion and net debt was US\$15.966 billion.

Mineral research

Vale is currently carrying out an extensive mineral research program that includes projects in 24 countries. Its prospecting activities focus on coal, copper, iron ore, manganese ore, nickel, phosphates, natural gas, PGMs, potash and uranium. The company works both through its own teams and by acquiring stakes in other companies.

Capital markets

In 2010, Vale was included for the first time in the São Paulo Stock Exchange's Corporate Sustainability Index (Índice de Sustentabilidade Empresarial, ISE), which is composed of the shares of companies committed to social responsibility and corporate sustainability (see Highlights, page 16).

In December, the company's stocks were listed on the Main Board of the Hong Kong Stock Exchange (HKEx), in the form of Hong Kong Depositary Receipts (HDRs). Through this listing on one of Asia's major stock exchanges, investors across the world gained the opportunity to trade in the company nearly 24 hours a day, in the Americas, Europe and Asia, strengthening Vale's position as a global company.

Over the past ten years, Vale generated US\$154.5 billion in value for shareholders and distributed US\$17.4 billion in dividends. Its total shareholder return was 38.2% per annum for 2001-2010, the highest among major mining companies.

In 2010 alone, Vale returned US\$5 billion of capital to shareholders, through the distribution of US\$3 billion in dividends, equivalent to US\$0.57 per share, and a US\$2 billion share buyback.

Consequently, Vale has resumed its long-term upward trend in the prices of its shares, which gained significant momentum over the past ten years. This positive record is the result of implementing a transparent corporate governance model, establishing a long-term strategy, making considerable investments based on disciplined capital allocation, and harnessing the effects of the mineral and metal cycle.



New facilities in Carajás added 20 million metric tons per year to Vale's iron ore production capacity.



Employees visiting Vale's nickel operation in Sudbury, Canada, which is of great importance to the company



Governance based on ethics

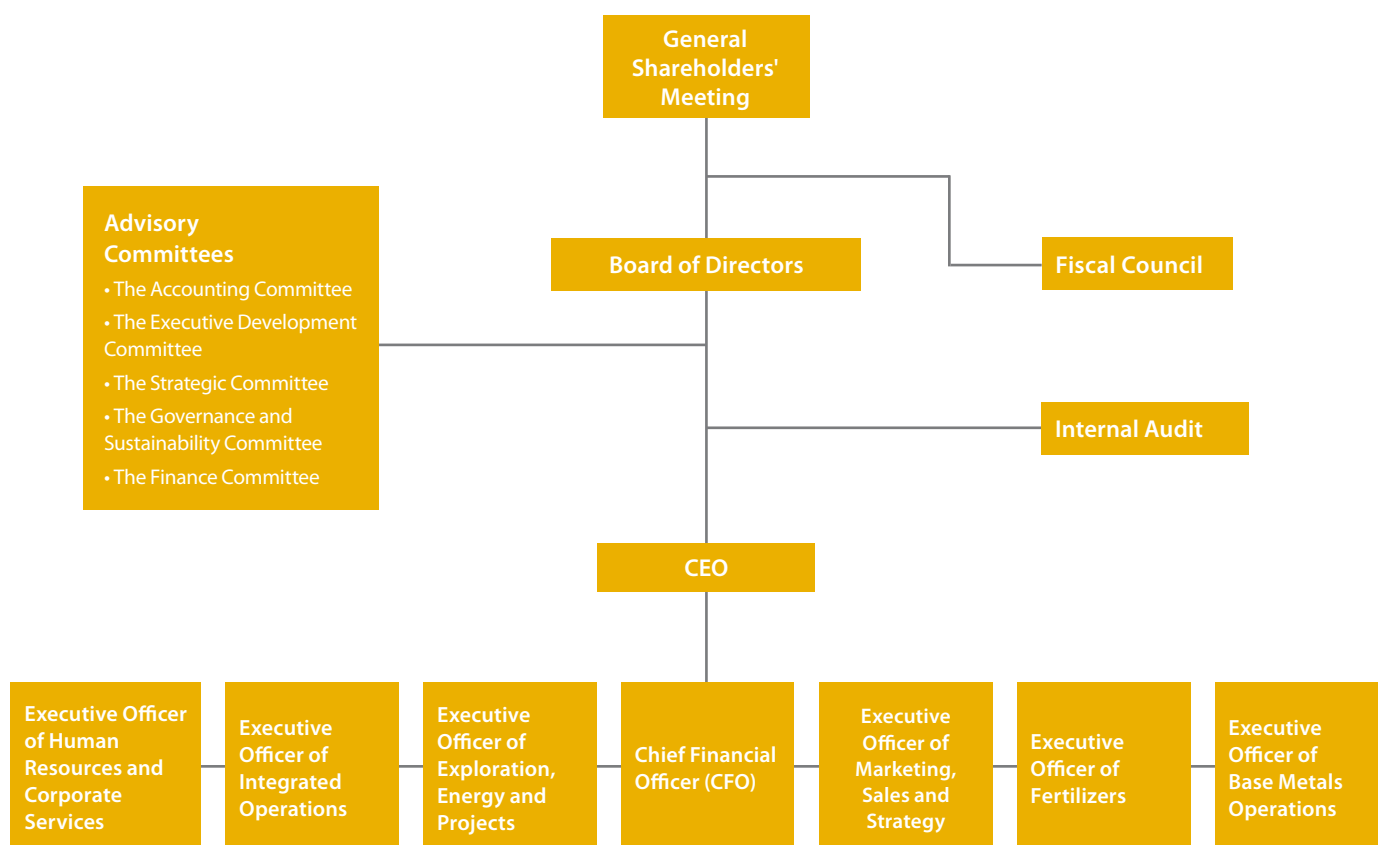
Through transparent relationships with its stakeholders, Vale promotes its values, considering new global demands and minimizing risks

In 2010, Vale approved 11 new global documents (two policies, four norms and five instructions), helping it to continue globalizing its regulatory documents. The approved documents include Vale's Health and Safety Policy, which reinforces Vale's commitment to people, and the Information Security Policy, which emphasizes the company's concern when handling information.

These regulatory instruments were produced by the business areas responsible for the subject matter, with the support of Vale's Policies Management Area, and then checked by related business areas in Brazil and other countries. They were then submitted to the Global Evaluation Committee for evaluation. This group, composed of regional Vale representatives, has the mission of evaluating the applicability of standards in each location, while ensuring compliance with the laws, regulations, customs and values of the countries where the company operates.

After analysis by the Global Evaluation Committee, each document must be approved by the related department. Depending on its scope, it may also require approval by the Executive Board or Board of Directors, in accordance with the responsibilities of these two internal governance bodies.

Governance Structure



Board of Directors: Sets general guidelines and policies for Vale's business, analyzes plans and projects proposed by its Executive Officers, and monitors their implementation. It consists of eleven members and eleven alternate members, elected at a General Shareholders' Meeting or appointed by the Board of Directors according to article 11, section 10 of the company's by-laws¹, for two-year terms. In December 2010, the Board was composed of nine directors appointed by the controlling shareholder, one independent member with no ties to the controlling group², and one elected by the company's employees. At General Shareholders' Meetings (held once a year) and Extraordinary General Meetings (held whenever convened by the Board of Directors), minority shareholders can raise issues on the subjects on the agenda.

Non-controlling shareholders holding common shares that represent at least 15% of total voting capital, and preferred shares representing at least 10% of share capital, have the right to appoint one member and one alternate member to the Board of Directors. If no individual common or preferred shareholders meet the thresholds described above, shareholders holding preferred or common shares representing at least 10% of total share capital are entitled

to combine their holdings to appoint one member and an alternate member to the Board of Directors³.

The compensation of Board of Directors members is a fixed amount. The total annual sum for directors' and officers' compensation is determined at the General Shareholders' Meeting, taking into account the respective responsibilities, time dedicated to work, skills, professional reputation and prevailing market values. The Board of Directors determines the distribution of this fixed compensation among its own members and the members of the Executive Board, the Fiscal Council and the Advisory Committees. The Board of Directors is not subject to a formal self-assessment process.

¹ If a vacancy arises for a member or alternate member of the Board of Directors, a substitute may be appointed by the other members, to serve until the first General Meeting, when his/her election will be decided.

² Mr. Francisco da Costa e Silva, an independent member of the Board of Directors, submitted his resignation on March 01, 2010. His deputy, Mr. José Mauro Mettrau Carneiro da Cunha, was elected at an Extraordinary General Meeting held on June 22, 2010.

³ Mr. José Mauro Mettrau Carneiro da Cunha was elected as a nominee of Valepar S.A., given that at the Extraordinary General Meeting held on June 22, 2010, the holders of Vale's common shares, individually or together, excluding the controlling shareholder, did not reach the necessary quorum, and that holders of preferred shares, also excluding the controlling shareholder, did not nominate a candidate to represent them on the Board of Directors.

The members of the Board of Directors have recognized reputations in the areas of finance and capital markets, corporate governance, mining activities, minerals marketing, and sustainability. Mr. Ricardo José da Costa Flores, appointed Chairman of the Board in November 2010, holds no position as executive officer at the company.

Fiscal Council: Consisting of three to five independent members (and the same number of alternate members), under Brazilian corporate law, the Fiscal Council monitors Vale's management activities and reviews the company's financial statements, reporting its findings to the shareholders. It also performs the role of Audit Committee according to the terms of the Sarbanes-Oxley Act for US capital markets and the rules that regulate the listing of securities on the Hong Kong's Stock Exchange. At the General Shareholders' Meeting of 2010, a member and alternate member of the Fiscal Council were appointed by the holders of preferred shares.

None of the members of the Fiscal Council can be a member of the Board of Directors or an executive officer, in line with the independence criteria determined by Brazilian law.

Advisory Committees: To support the Board of Directors in conducting its activities, Vale has five advisory committees: Executive Development, Strategic, Finance, Accounting and Governance and Sustainability. These committees are forums for discussion where their members share different views, allowing greater maturity and alignment of proposals before being submitted to the Board of Directors. The aim is to contribute to the fluidity of decision-making processes and the quality of decisions.

Executive Board: This body implements the business strategy determined by the Board of Directors, prepares plans and projects, and is responsible for the company's operational and financial performance.

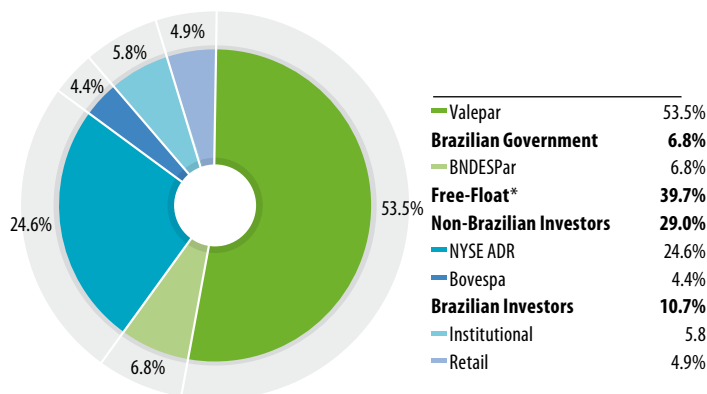
The members are appointed by the Chief Executive Officer and approved by the Board of Directors. In addition to fixed compensation, the executive officers and other company executives receive bonuses and incentive payments insofar as they meet individual and collective goals related to financial, technical/operational and sustainability performance. These targets include health, safety and environmental indicators.

Public Policies

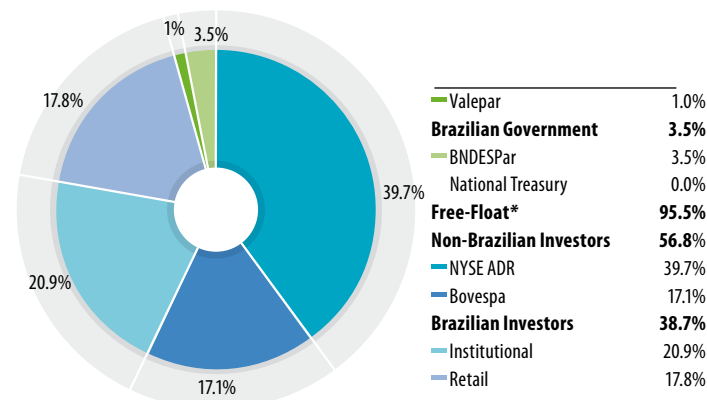
Vale maintains constant dialog with government authorities in the countries where it is present. Considering that mining is a strongly regulated sector, Vale strives to ensure that its points of views are understood and taken into account in public policymaking processes.

Shareholding Structure (March 2011)¹

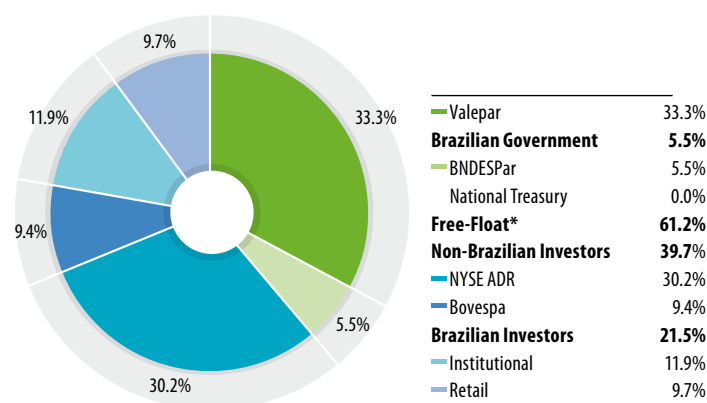
Common Shares (ON)



Preferred Capital (PN)



Total Capital



* Free-float: shares available for trading on stock exchanges as a percentage of total shares outstanding (total shares minus shares held in Vale's treasury).

¹ The Custodian Bank for the company's shares is Banco Bradesco S.A. Valepar is the controlling shareholder of Vale. Valepar is a special purpose company organized under Brazilian law, formed for the sole purpose of holding a stake in Vale. Valepar's shareholders are Litel Participações S.A., Eletron S.A., Bradespar S.A., Mitsui & Co., Ltd. and BNDESPar. For more information about the shareholder structure of Vale, please consult the 20-F form and other information available in the Investors section of www.vale.com.

Vale's relations with government authorities, organizations and entities representing civil society are guided by the company's Code of Ethical Conduct and its Values. The company seeks constructive dialog in an attempt to reach a consensus with those engaged in sustainable development policymaking and with the many stakeholders in the mining sector. The company bases its relations on transparency, trust and clear objectives.

In 2010, Vale reformulated its in-house training on public policymaking-related activities, to make the company's conduct more centered on the specific features of government relationship actions as of 2011.

Since 2006, Vale has been a member of the International Council on Mining and Metals (ICMM), whose priority is to promote sustainable development and respect for human rights in the sector. (The ICMM's 10 principles are listed on page 133¹). Vale also contributes, through the ICMM, to the Extractive Industry Transparency Initiative (EITI).

As a signatory to the United Nations Global Compact since 2007, Vale is committed to the ten principles proposed by the initiative. (The Global Compact's ten principles are listed on page 133²). Vale also follows the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development and the United Nations Convention Against Corruption.

The company is part of the Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria, which is mobilizing resources to combat and prevent these diseases.

Vale seeks to maintain strict impartiality with regard to political activities, and always acts in full compliance with the laws of each country where it operates. Employees, as individuals and citizens, are free to participate in such activities, provided that any public statements they make are clearly personal views rather than the company's positioning.

The company participates in national and international entities and associations, in order to contribute to the development of norms and standards in the market segments where it operates, disseminating best practices in the mining sector.

In addition to the organizations listed in the following chart, most of which are focused on sustainable development, Vale is a member of more than 200 sector, industrial and commercial associations.

Membership of organizations and associations

- Association of European Ferro-Alloy Producers (Euroalliances)
- Brazilian Association of Ferroalloy and Silicon Metal Producers (ABRAFE)
- Brazilian Association of Forest Plantation Producers (ABRAF)
- Brazilian Business Council for Sustainable Development (CEBDS)
- Brazilian Foundation for Sustainable Development (FBDS)
- Brazilian Mining Institute (IBRAM)
- Brazilian Port Terminals Association (ABTP)
- Brazilian Rail Transport Association (ANTF)
- Business for Social Responsibility (BSR)
- Centre National de Recherche Technologique Nickel et Son Environnement (CNRT Nickel)
- Chambre de Commerce et d'Industrie (CCI)
- Cobalt Development Institute (CDI)
- Ethos Institute for Business and Social Responsibility
- European Association of Metals (Eurometaux)
- Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria (GBC)
- Global Corporate Volunteer Council (IAVE)
- International Aluminium Institute (IAI)
- International Council on Mining and Metals (ICMM)
- International Emissions Trading Association (Ieta)
- New South Wales Minerals Council
- Ontario Mining Association (OMA)
- Queensland Resources Council
- Reputation Institute
- The Manganese Institute
- The Mining Association of Canada (MAC)
- The Nickel Institute
- United Nations Global Compact
- World Business Council for Sustainable Development (WBCSD)
- World Economic Forum (WEF)

Tools for Institutional Relations

Throughout 2010, Vale worked to enhance its relationships with national and international entities, such as the Brazilian Mining Institute (IBRAM), the International Council on Mining and Metals (ICMM) and the Brookings Institute, among others. These actions included the participation of company executives in official meetings and events held by these entities, and in working groups and discussion forums, allowing for greater alignment and exchange of relevant information in the mineral sector.

¹ The index on page 133 presents a correlation between Vale's practices and performance and the ICMM's respective principles.

² The index on page 133 presents a correlation between Vale's practices and performance and the Global Compact's respective principles.

The process of training the workforce was also taken forward during this period, with the holding of training courses on the methodology for managing critical issues. Vale further strengthened its structure of committees for discussing these issues, holding multidisciplinary meetings to encourage a cohesive and proactive stance with regard to critical issues the company faces in the many countries where it operates. The goal is to be able to anticipate trends in order to prevent crises and to strengthen institutional relations between Vale and its main stakeholders.

In order to promote studies in various academic areas on the topic of sustainable development and international investment, Vale further developed its partnership with Columbia University in New York. The Vale Columbia Center (VCC) is an incubator for better policies and practices that may serve as a basis for governments, private investors and the civil sector. The intention is to incorporate sustainable development issues ever more on the investment agenda.

Crisis Management

In 2010, Vale updated its Corporate Crisis Management Plan, developed to help its Corporate Crisis Management team to quickly and effectively react to events that could have a high impact on the company. Training this team – composed of representatives of company departments – will involve simulating critical events in order to develop effective decision-making methods. This training will take place in 2011 due to the postponed approval of Vale's Global Crisis Management Norm, which will determine the functions, responsibilities and communication flows of the company's crisis management structure.

Following on from risk assessment activities, in 2010 Vale produced evacuation plans and designated emergency teams for critical areas.

The identification and mapping of highly critical areas also led to the establishment of a Crisis Prevention Working Group, focused on mitigating Vale's exposure to the risk of having its productive processes suspended by planning integrated actions together with stakeholders.

Corporate ethics

Vale's ethics management is conducted through the following corporate governance instruments:

- **Code of Ethical Conduct** – Guides Vale's compliance with its commitment to ethical, responsible and consistent conduct with regard to all stakeholders. The code must be observed by the Board of Directors, Advisory Committees, Fiscal Council, Executive Board, employees, interns and also Vale's subsidiaries, according to applicable local laws. The Code guides the production of the company's standards and policies.
- **Code of Ethics for Finance and Investor Relations Department Professionals** – Provides specific procedures for professionals working in the Finance, Investor Relations and Controllership departments, who deal with confidential data and information.
- **SOX Certification** – Obtained every year since 2006, this attests to the implementation of transparency and good governance practices as required by the US Sarbanes-Oxley Act.
- **Reporting Channel** – Established in 2005, as part of SOX requirements, this channel provides access to the Chairman of the Board of Directors, for the anonymous reporting of complaints about possible irregularities in the Accounting and Audit areas, or any other violations of Vale's Code of Ethical Conduct. Procedures are followed to safeguard the rights of both whistleblowers and the accused, while respecting local laws. The

Communication Tools

Target Audience	Communication Tools
General public	Vale's Sustainability Report Reporting channel (described at www.vale.com) Talk to Us (available at www.vale.com) The Vale website Reputation, image and opinion surveys
Shareholders, debenture holders and investors	Form 20-F reports, press releases, fact sheets, General Shareholders' Meetings announcements and minutes, Quarterly Financial Reports and meetings with investors The email address rio@vale.com and telephone number 55-21-3814-4540 of the Investor Relations Department are also available
Customers	Campaigns, special events, visits and meetings at Vale, satisfaction surveys
Employees	Internal publications, Vale portal (intranet), and organizational climate, reputation, image and opinion surveys Special events and internal campaigns
Suppliers	Visits and meetings at Vale, exchange programs and structured meetings
Communities	Socioeconomic diagnostics, meetings for prior consultation, public hearings, interviews, focus groups, visits to units and the Meeting with Leaders program External disclosure – News
Governments and civil society	Participation in associations and entities

content of each complaint received through this formal channel is investigated by Vale's Internal Audit team and, if substantiated, the result is forwarded to the relevant departments to adopt the necessary action, which may involve disciplinary measures as provided for in the company's Code of Ethical Conduct. The disciplinary measures applied will take into consideration the nature and seriousness of the offense, in line with Vale's human resource standards and local legislation.

• **Code of Conduct for Suppliers** – Launched in 2009, its goal is to present the ethical conduct principles followed by Vale in its commercial relations with companies supplying goods and services. This information is available in www.vale.com.

Risk Management

Vale adopts an integrated vision of risks

Vale's risk management strategy was developed from an integrated view of the risks to which the company is exposed¹.

Considering that risk management plays a fundamental role in supporting its growth strategy and financial flexibility, in 2005 Vale's Board of Directors established a Corporate Risk Management Policy and a Risk Management Executive Committee. The Committee supports the Executive Board in its responsibilities with regard to risk management. Its main functions are:

- Tracking the process of risk identification, assessment, monitoring and management;
- Assessing and recommending the implementation of risk mitigation strategies;
- Classifying, communicating and establishing decision-making criteria for the main risks to which the company is exposed, and proposing mitigation and preventive measures to keep them within the levels considered tolerable by Vale.

Vale follows a precautionary approach when conducting risk management feasibility studies, seeking to address the issues relevant to all stakeholders, as well as business aspects, through the prior identification, analysis and minimization of financial, health and safety risks for all employees, contractors, neighboring communities and the environment.

It is essential for this management to be based on data that periodically and systematically reflect risks and allows them to be minimized through effective action. To achieve this goal, the procedures are executed seamlessly, with a clear definition of roles and responsibilities.



The workforce is trained to deal with critical issues, whose management is strategically targeted for growth

Vale's risk management procedures are guided by the principles of the ISO 31000 standard.

The company's approach to risk management is divided into four categories:

- **Market:** assessing the impact of volatility of risk factors such as interest rates, exchange rates and commodity prices on cash flow;
- **Credit:** analyzing the possibility of default by counterparts (such as customers, financial institutions and suppliers) that carry out business with Vale;
- **Operational:** includes the evaluation of the risk of potential losses resulting from failures or shortcomings in internal processes, people, systems and/or external events. Events may occur in operations, projects and corporate processes and result in damage to property, the environment, people, society and the company's reputation. In addition to this analysis, capital project risk assessments focus on the identification and appraisal of risks that impact capital investments and project deadlines;
- **Strategic:** the assessment of risks inherent to strategic decisions to be made and the risks associated with non-compliance or implementation of the strategic objectives defined. This includes an evaluation of the impact of mergers, acquisitions and sustainability trends.

Based on this analysis, Vale implements measures to prevent or mitigate risks. During annual strategic planning, the risks and opportunities of each business unit are identified, providing the basis for developing and updating the company's strategies in relation to corporate risks.

¹ More information can be found in the Form 20-F report.

Management of Market Risk

The process of market risk management, implemented systematically since 2005, focuses on assessing the risk to cash flow. The main objectives of this process are to support Vale's growth plan and to enable it enough financial flexibility required for companies classified as investment grade.

Vale measures and monitors market risks regularly, based on calculating the cash flows which are at risk, for every major group company and also for the portfolio as a whole. Strategies for mitigating market risks, such as derivative transactions which Vale makes solely for hedging purposes, are analyzed and implemented in accordance with the need to reduce risks to cash flows.

In 2010, these activities are highlighted as relevant in the following areas:

- Expansion of discussions to determine Vale's market risk appetite;
- Greater focus on market risk derived from Vale's growth plan.

Management of Credit Risk

Vale is exposed to credit risk arising from receivables generated from the sale of its products and services, financial operations, transactions in which the company is the beneficiary of payment guarantees, and advance payments made to suppliers. These risks are managed through Vale's governance structure, composed of the Risk Management Executive Committee and the Executive Board, which establishes guidelines for the assignment of credit

limits, and determines the appetite for credit risk, in addition to procedures for controlling and assessing exposure to credit.

Notable actions implemented in recent years in the credit risk area include the following:

- Standardization of methodologies and procedures through the adoption of a functional structure throughout the regions where Vale operates;
- Review of processes involved in management of credit risk through the implementation of new procedures aligned with the best market practices;
- Implementation of new solutions to mitigate credit risk, allowing the leveraging of sales and, at the same time, ensuring the maintenance of the risk level, at the threshold established by the Executive Board.

Management of Operational Risk

Projects: The risk management of capital projects is based on the Integrated Risk Analysis and Management methodology, which calls for the identification and analysis of risks through multidisciplinary workshops. This work involves professionals in the Engineering, Planning, Procurement, Budgeting, Operation, Maintenance, Construction, Environment, Communities, Human Resources, Land Management and Health and Safety areas, as well as external facilitators.

The analysis focuses on capital investments and project deadlines. The control and monitoring stage is carried out through workshops in which indicators of efficiency and effectiveness are monitored. The reassessment of risks is applied as the project evolves.



A multidisciplinary team is responsible for implementing a culture of risk management in operations

Vale's projects follow the Front-End Loading (FEL) methodology that is used by companies worldwide. This enables a structured process for risk assessment to be implemented, at the same time as enabling the structured development of the other areas of the project.

Issues concerning sustainability are also analyzed, enabling the continuous improvement of the projects, right from the planning and concept stage, affecting all stages of capital investment projects.

Operations: Risk management in operations aims to assess and mitigate the causes and effects of incident scenarios resulting from the company's activities, allowing Vale to meet its goals and targets in a sustainable and effective way.

To carry out risk surveys in its operations, a multidisciplinary team has been established, including professionals from different corporate departments, with the mission of implementing the culture of managing these risks as an integrated process. The goal is to aggregate existing practices at all levels, respecting specific local factors in order to create a unique identity.

These and other initiatives contribute to the company's better understanding of its risk profile and its ability to guarantee the

effectiveness of existing controls. Furthermore, it is possible to prioritize and monitor risk mitigation actions and meet the requirements of rating agencies related to the company's risk management process evaluation.

Management of Strategic Risk

This seeks to identify the impact that strategic decisions will have on the very structure of the company's risks, i.e., which risks will be incurred and need to be managed as a result of, for example, entering a new sector, implementing a new project or disposing of an operation. Risk assessment of changes in regulations, technology and other external factors can significantly influence the choice of a particular strategy and, consequently, a given set of risks associated with its implementation.

Strategic risk management also aims to identify events that might prevent the achievement of long-term strategic company goals. Beyond identifying these events, and describing possible causes and potential consequences, existing controls and future action plans that could be implemented to reduce the probability of these events occurring are also analyzed.

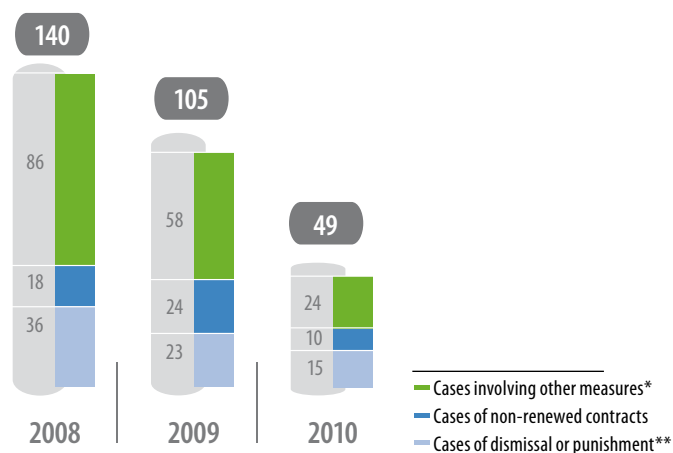
Risk Management in Operations – Initiatives in 2010:

- Disseminating culture and progress in the regulatory structure, extending the requirements and criteria for compliance, so that risks to life and to the environment are maintained or reduced to levels acceptable to the company;
- Development and implementation of integrated online monitoring and control structures for tailings dams and waste rock piles;
- Identification and management of the risk indicators associated with personal safety, property security and environmental management;
- Implementation of methodologies for qualitative and semi-qualitative analysis of risks to health, safety and the environment in Brazilian operations. This process is being implemented globally and will be expanded gradually to operations and projects in 2012;
- Conducting assessments of health risks in international projects in Oman, Guinea, Liberia and Argentina. This process will be implemented for all new projects;
- Implementation of specific methods for quantitative risk analysis in nickel projects and integrated iron ore and pellet operations (to be gradually implemented for the most significant risks). This initiative will result in more precise assessment and treatment to control or eliminate risks wherever possible. This will allow more effective cost/benefit analysis when producing mitigation plans and business continuity actions plans, setting the scope of insurance policies and establishing self-insurance financial provisions;
- Structuring of consolidated reports for the effective communication of risk management among the various levels of management in the company.

Combating corruption

Vale follows the best market practices, preventing losses and investigating cases that are possibly associated with fraud, deviations, and illicit acts. Cases that have been identified and duly substantiated with facts and figures are treated seriously and in proportion to the damages incurred or avoided. Persons who have been proved to be involved in these situations are held accountable and are punished with dismissal and legal proceedings. Contracts with companies where participation in illicit acts has been proven will be terminated. Companies involved will be removed from the Vale registry and will be subject to fines that are proportionate to the damages caused.

Incidents of Corruption



* As additional measures, cases of corruption were presented to company administrators and those responsible for the affected areas, resulting in 157 actions to mitigate fraud risks, warnings, deductions and fines imposed with the support of the Legal Department.

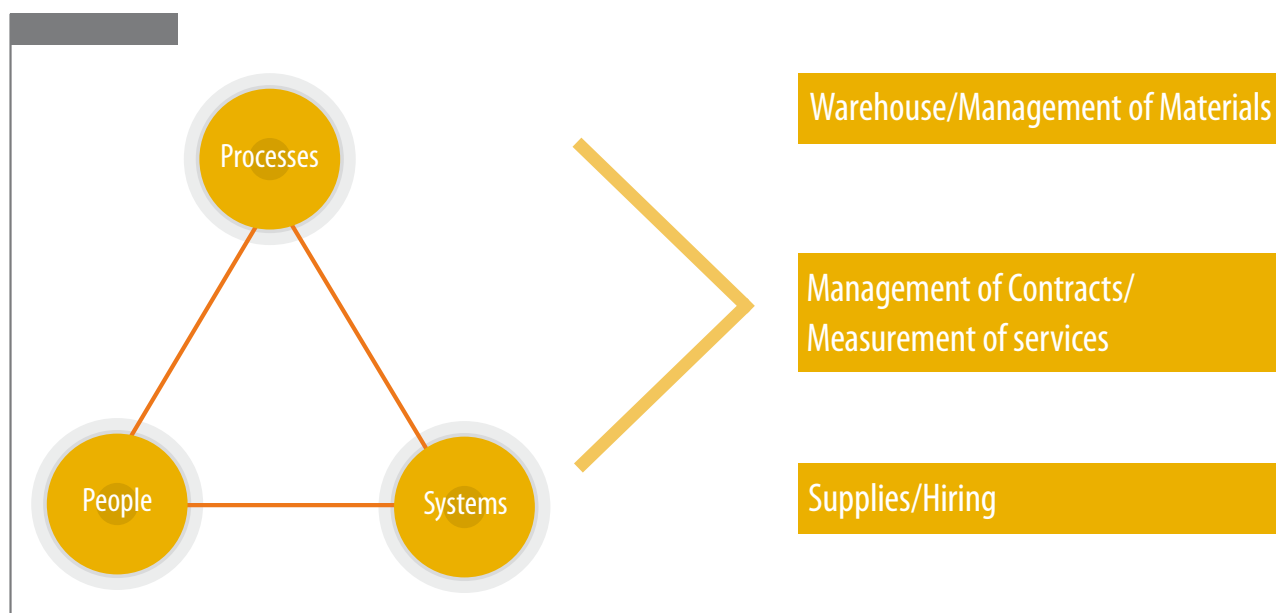
** The number of employees fired/punished in corruption cases was 70 in 2008, 83 in 2009 and 23 in 2010. In 2010, the main causes for dismissal in cases of corruption were the theft of supplies / equipment / financial resources (27%), conflict of interest / influence peddling (27%) and fraud / mismanagement of contracts (23%).

Vale subsidiaries Vale Manganês, Urucum Mineração, CPBS, Salobo, FCA, Hispanobras, Itabasco, Nibrasco and Kobrasco have implemented standardized anti-corruption routines and measures. The expansion of these practices to international units (including Vale Oman, the Bayóvar Project and Vale Mozambique) is under review.

The reduction in the number of fraud cases verified in 2010 was due to a focus on the performance of corruption risk assessments, especially in the supply chain and in contract management in operational areas and capital and current investment projects.

Registered cases refer to measures taken specifically with regard to fraud against the company. Other cases of ethical misconduct were not included in these figures. None of the cases refers to possible irregularities or improprieties in the accounting records of the company or its internal controls. Furthermore, no situation of corruption (active or passive) of public officials or government representatives involving employees was recorded during this period.

The Reporting Channel, the Code of Ethical Conduct – also applicable to subsidiaries – and the Suppliers' Code of Conduct, which defines the principles and guidelines governing the proper relationship between the company and its partners, are important tools for controlling and preventing corruption. Campaigns carried out by Vale, for example in Australia (Loss Prevention Workshop – SSO Australia Procurement Team) in 2010, have helped to strengthen ethical values in the company's business relations.



Furthermore, the company conducts continuous classroom training courses to combat fraud, which 456 employees took last year. The Online Course in Business Ethics, available in the Valer Education Management System, recorded 766 hits between August and December 2010, which, together with onsite training, corresponds to 1.7% of Vale's employees trained in the company's anti-corruption policies and procedures.

With regard to the evaluation of corruption risks, Vale employs a methodology based on analyzing historical records of recurring situations related to fraud and illegal acts, with emphasis on the supply chain and contract management. From this analysis, preventive actions for this type of loss are planned, covering operational areas, capital investment projects and current investment projects in Brazil and other countries, accounting for a significant proportion of costs and investments.

In 2010, the company further improved its risk analysis and implementation of routines for loss prevention in capital projects. Training courses were given for leaders of capital projects, and contracts were analyzed using the Guide to Loss Prevention (produced by the Business Security Area and the Department of Capital Projects) on the following projects: Salobo (Carajás); 30 Mtpy Capacity Expansion – Mine/Plant (Carajás); Carajás Unified Training Program (Carajás); Pelletizing Plant VIII (Vitória); North Logistics Training – Offshore, Pier IV (São Luís); Carborough Downs and Integra (Australia); and Tres Valles (Chile).

The number of units visited accompanied the growth in the team tasked with loss prevention and combating fraud and illicit acts. Intelligence actions with a focus on contract management and loss prevention were also carried out at 35 other business units¹. In all, this kind of work in 2010 covered 39% of Vale's operations around the world, in line with the business unit criterion adopted for the indicator. For 2011, Vale plans to extend this analysis to operational units outside Brazil.

In December 2010, Vale became a signatory to the Business Pact for Integrity and against Corruption, created by the Ethos Institute, through an agreement with the Office of the Comptroller General and the United Nations Office on Drugs and Crime (UNODOC).

Created in 2006 by the Ethos Institute, the pact currently has over 200 signatory companies. Through it, companies make a public commitment to adopt or reinforce all actions and procedures necessary for the people within its structures to know the respective laws. During 2011, Vale intends to continue participating in the working group of the pact's signatories, which performs actions around the country to implement actions to fight corruption in Brazilian companies. Legal compliance. In addition, Vale will maintain its projects related to combating fraud and illicit acts and loss prevention.

¹ Because of the diversity of Vale's activities, there is no standard definition for its business units. Accordingly, a business unit is deemed to be a set of projects, mines, mills, railroads, ports and port terminals, among other facilities.



Vale continues to adopt the best market practices to prevent losses and investigate corruption incidents

Legal compliance

In 2010, Vale recorded the existence of 267 significant¹ legal proceedings – 117 judicial and 150 administrative. During this period, no fines were paid, nor were any non-monetary sanctions² imposed within the significance criteria used.

Civil

Vale is cited in 69 lawsuits of no defined economic value, challenging the legality of the company's privatization process, which took place in 1997. All actions are awaiting the final judicial decision. Vale does not believe that such actions will affect the result of the privatization process or produce any negative effect whatsoever for the company.

Regulatory

In 2010 one lawsuit of undefined economic value continued, aimed at nullifying the legal authorization that allows Vale and other companies to operate the Port of Praia Mole, in the Brazilian state of Espírito Santo. The company obtained a favorable judicial decision; however the final decision has yet to be confirmed by a higher court.

Tax

By means of two lawsuits and four administrative proceedings, Vale is contesting the incidence of corporate income tax and social contributions on profits earned by affiliates and subsidiaries abroad. Regarding one of these actions, Vale filed a legal measure in order to cancel the collection of some debts, as the matter is still under discussion at the administrative level. The company is also contesting undue demands for CFEM (Financial Compensation for Mineral Exploration) in 144 administrative proceedings and 38 lawsuits.

¹ Legal proceedings are considered significant based on the following criteria: a) their value, including compensation claims and fines; b) whether they involve a subject of interest to the company or affecting the general public, regardless of value; c) those resulting from non-monetary sanctions.

² In this report, Vale continues to disclose existing cases to which the significance criterion applies. However, the company now discloses only those values acknowledged as owed or already paid by Vale, to best meet the scope of the SO8 GRI indicator and to avoid any distortion of reality concerning judicial and administrative proceedings that, as they are awaiting the final decision, cannot normally be accounted for precisely. Vale's Form 20-F report contains an estimated provision according to accounting criteria.

Labor

In Brazil, there are ongoing legal discussions relating to: i) payment of the Guarantee Fund for Length of Service (FGTS) claimed by the Federal Government, charged on certain parcels of the payroll for the period 1999 to 2003; ii) fatal accidents arising from labor activities; iii) work conditions (rest periods / temperatures) in the potash mine in Taquari Vassouras (Sergipe, Brazil); iv) outsourcing of drilling, blasting and loading activities, and tailings dam monitoring at mines in Minas Gerais state, Brazil, which was questioned by the Justice Ministry's Labor Branch; (v) adaptations to Tubarão Complex (Espírito Santo, Brazil) to comply with Regulation 10 of the Ministry of Labor and Employment, in terms of safety and electrical work; and vi) travel time in Carajás, discussed in a public civil proceeding filed by the Justice Ministry's Labor Branch. In the latter case, a decision has been reached and is being implemented.

In Australia, Broadlea coal mine is involved in a lawsuit initiated by the Department of Mines and Energy of Queensland (now the Department of Employment, Economic Development and Innovation) with regard to a work accident involving an employee. In this case, the decision on possible criminal and administrative sanctions is still pending.

Anti-competitive behavior

There are two pending administrative processes involving logistics operations in which anti-competitive behavior is alleged. One of these involves Companhia Portuária Baía de Sepetiba (CPBS), a Vale subsidiary, for an alleged refusal to ship third-party iron ore. The other process involves railroad concessions granted directly to Vale (the Vitória-Minas and Carajás railroads) and to its subsidiary FCA, for alleged abusive price increases for users. Vale understands that the allegations in both cases are groundless.



Vale is a member of the ICMM and a signatory to the UN Global Compact



Employees talk at Itabira Mine (Minas Gerais, Brazil), where Vale has iron ore mining operations



Structured and sustainable growth

Resuming business development in a sustainable manner, generating new job opportunities in its areas of activity, was the biggest challenge for Vale in 2010

The renewed growth in business after the global economic crisis of 2009 was the main challenge faced by Vale in 2010. With the largest profit in mining history and a strong recovery in production, Vale ended 2010 with the support of more than 174,000 people who, through their work and dedication, helped the company to achieve such positive results.

Human capital is vital for Vale and was instrumental in resuming the pace of production and expansion. Growing in a structured and sustainable manner, preserving the financial health of the business, respecting the environment and investing in the workforce: this is how Vale embraced this challenge.

Employment

Vale's human resources planning made it possible to increase the workforce in 2010. The company started implementing management tools to enable workforce growth in line with business needs. These tools were aimed at improving the balance between the operational workforce and employees in operational and managerial support activities.

In 2010, the total number of employees (with labor contracts of indefinite periods) and contractors (service providers working on long-term activities and projects) was 174,000, 33,500 up on 2009. Of this increase, 40% are employees of acquired businesses in the fertilizers area. As these operations are predominantly in Sao Paulo, this state entered the top five in terms of employment in Brazil.

Around 75% of all Vale employees work in Brazil. The regional distribution of employees changed from 2009 to 2010, with an increase in the proportion of contractors in Maranhão, from 10% in 2009 to 16% in 2010, as a result of port and railroad expansion work. The state of Pará's share fell from 37% in 2009 to 28% in 2010, while the number of contractors fluctuated over the course of the year as a result of seasonal factors.

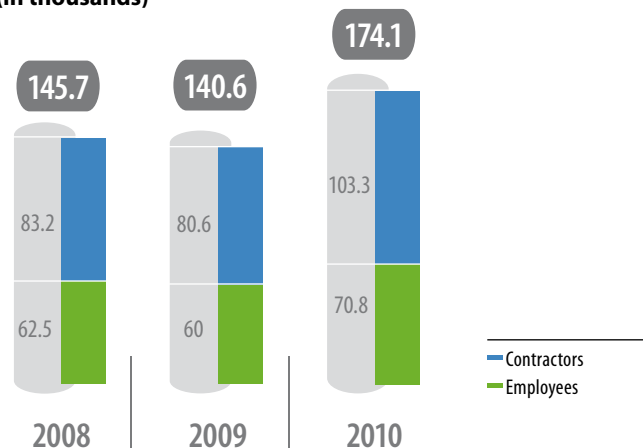
Vale also has approximately 2,797 employees with fixed-length contracts (79% increase compared to 2009).

Contractors generally work on remodeling, expansion and new projects, as part of maintenance, cleaning, and property security contracts, among other services provided.

Due to the implementation and operation of large strategic projects between 2010 and 2012, and the approval of other world-class projects in various countries, it is expected that the demand for labor will increase significantly in this period. As a result, there was a clear need for planning and investment in the hiring and training of new staff in 2010 and this will continue in subsequent years.

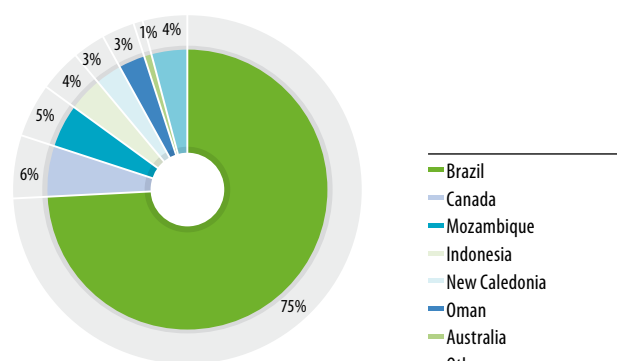
Vale's Human Resources Department acts in accordance with five key structural factors for sustainable growth in the regions where Vale operates: Health, Leisure, Education, Housing and Public Safety.

**Workforce
(in thousands)**



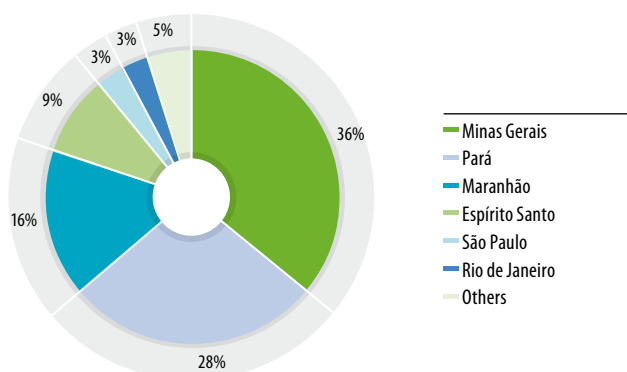
The chart does not include Vale affiliates. The incorporation of fertilizer assets in 2010 added 4,500 employees and 9,300 contractors to Vale's workforce.

Employees and contractors by region (2010)



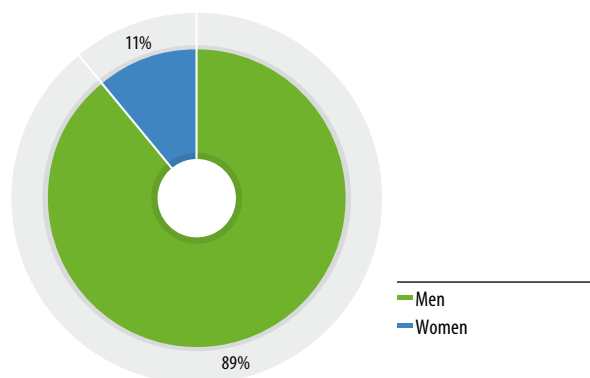
Employees and contractors shown in the chart account for 100% of employees reported (LA1).

Employees and contractors by Brazilian state (2010)



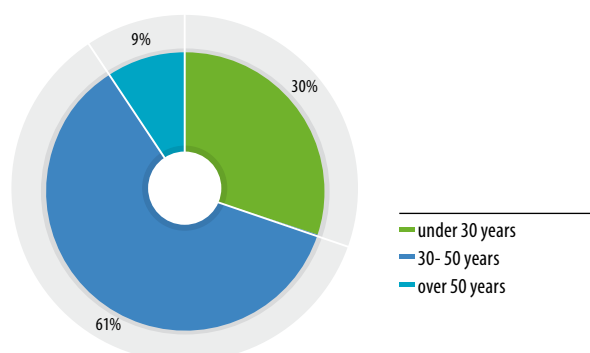
Profile of employees (2010)

Employees by gender



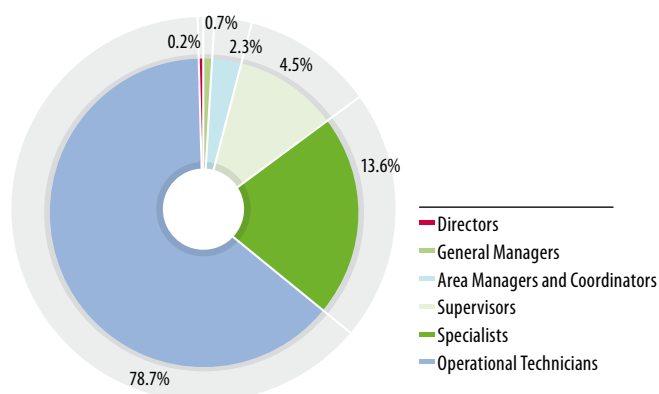
Employees shown in the chart account for 98% of employees reported (LA1).

Employees by age



Employees shown in the chart account for 96% of employees reported (LA1).

Employees by category



Employees shown in the chart account for 96% of employees reported (LA1).

Assessment of People Management Practices

In order to organize its industrial and human resources, Vale has developed the Vale Production System (VPS) in various areas of the company in Brazil and other countries. This has allowed the company's people management practices to be incorporated into the routine work of leaders and for them to be checked for their appropriateness and quality in the quest for excellence.

The model will bring sustainable benefits in the medium and long term. In the first year of implementation, 2010, the company saw good results.

As the VPS model is taken to other international areas in 2011 and 2012, in line with the program schedule, it will continue to reinforce the importance of human capital within the organization and ensure that management standards are standardized around the world.

Diversity

Respect for Diversity is one of Vale's fundamental values. Discrimination – based on ethnic background, origin, gender, sexual orientation, religious belief, union affiliation, political and ideological conviction, social class, disability, marital status or age – is intolerable according to the company's Code of Ethical Conduct. Vale's Human Rights Policy also reinforces this position.

In 2010, women represented 11% of Vale's workforce, in line with trends in the company's sector. The largest share of women, 48%, held technical positions (operational and administrative), followed by specialist positions (analysts, engineers, geologists etc) with 45%. The percentage of women among Vale's specialists increased from 31% to 36%. For supervision and management positions (managers and coordinators, representing 3% each), the ratio of women remained stable.

Top management – the Executive Board, Board of Directors and Fiscal Council¹ – consists of 36 people (34 men and two women). Eleven of the members are in the 30 to 50 age bracket, while 25 are over 50 years old.

In accordance with Vale's Remuneration Policy and Code of Ethical Conduct, there is no difference in the base salary between women and men who occupy the same role. The variation in the chart below is due to the different seniority and maturity levels of employees within their employment category.

¹ Position in 2010.



Around 60% of Vale employees are in the 30 to 50 age bracket. In leadership roles (supervisors, area managers, coordinators, general managers and directors) the proportion is 76%.

Age bracket by employee category (2010)

Employee Category	Under 30 years	30 to 50 years	Over 50 years
Directors	0%	67%	33%
General Managers	1%	70%	29%
Area Managers and Coordinators	2%	78%	20%
Supervisors	8%	77%	15%
Specialists	24%	66%	11%
Operational Technicians	33%	58%	8%

Since 2004, Vale has been reinforcing its commitment to respecting diversity, through its Inclusion Program for People with Disabilities, coordinated by Valer – Vale Education and regional Human Resources areas. In order to comply with Law No. 8,213 (25/07/1991), which requires reserving vacancies for people with disabilities, Vale has the goal to hire 140 professionals every year and to continue adapting its facilities.

The implementation of accessibility measures aims at ensuring the full exercise of rights by these employees. From 2008 to 2010, 322 people were hired, fulfilling Vale's Conduct Adjustment Agreement with the Brazilian Public Prosecution Ministry. In addition to the opportunity to access the labor market, these professionals have also benefited from theoretical and practical training entirely financed by Vale.

Vale promotes a working environment where dialog is stimulated and all employees are encouraged to share their concerns with their colleagues and superiors, whatever they may be about, including discrimination or harassment. Alongside its Code of Ethical Conduct and Human Rights Policy, Vale also has a formal reporting channel (for further information, see the Corporate Ethics section on page 30). In Brazil, Vale has a hotline exclusively for answering employees' queries (extension number or freephone number)¹.

¹ In 2009, a case was investigated in Vale Australia, where an employee was deemed responsible for a discriminatory act and had his work contract terminated.

Ratio of women by employee category



Employees covered by this indicator (LA13) correspond to 96% (2008), 95% (2009) and 99% (2010) of total employees reported (LA1).

Ratio of women's base salaries to men's, by employee category

Employees covered by this indicator (LA14) correspond to 98% (2008), 97% (2009) and 96% (2010) of total employees reported (LA1).

In 2010, 14 cases of discrimination were reported: 11 in Canada and three in Australia. In every case, measures were taken in response to the discrimination identified, involving investigations, guidance, training and disciplinary measures. In some cases, employees were dismissed.

Examples of remediation tools are the Equal Employment Opportunity Procedure in Vale Australia and the Workplace Harassment and Discrimination Policy and Employee Handbook for the Vale Ontario Operation, in Canada. In Australia, a Diversity Awareness Training Package was introduced for new employees.

Global practices

The globalization of remuneration, performance management and career and succession practices initiated in recent years has been followed up by the introduction of IT tools for various of these processes. For example, systems for Workforce Planning, Career and Succession and Performance have been created, in the latter case for recording and tracking performance.

Also in 2010, the process of structural change in the Human Resources department was completed, standardizing the subordination of local HR areas to Corporate HR. The expectation for 2011 is that HR practices will be consolidated and that integration between the different HR areas will be more effective and aligned with business guidelines.

Remuneration and Performance Management

Vale offers all its employees salaries equal to or higher than the legal minimum requirement in each location. To strengthen a results-based culture, each employee's remuneration package includes payment of variable remuneration. In this program, employees receive a bonus based on individual, team, department and company performance, including with regard to sustainability issues

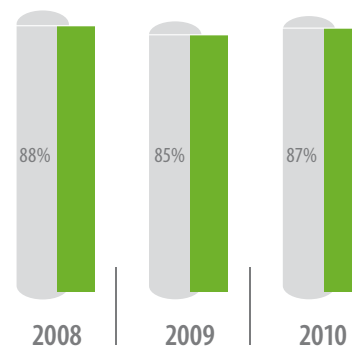
such as Health and Safety (see the "Further incentives for Health and Safety" on page 50 and the Sustainability Action Plan section on page 17). In order to deepen the implementation of standardized, results-focused assessments, Vale's Global System for Performance Management was implemented in 2010¹.

This process was structured in order to involve managers and employees in the management of their goals, and to record the results of this interaction in a computerized system. This measure allows the conduct of audits, ensuring transparency and reliability of information. The methodology has been implemented in almost all regions where Vale operates.

Due to Vale's agreement to sell its aluminum assets, Albras and Alunorte were not included in the Global Performance Management System. At Albras, career development assessments are guided by managers' feedback. At Alunorte, performance reviews are based on a career and succession process targeted at management positions.

In the light of Vale's recent purchase of fertilizer companies, Vale Fertilizantes S.A. maintained the performance review process in place prior to the acquisition.

Percentage of employees receiving performance reviews



Employees covered by this indicator (LA12) correspond to 96% (2008), 95% (2009) and 97% (2010) of total reported employees (LA1).

¹ The Performance Management Global System covers only companies that are controlled by Vale and technical issues that present favorable for IT system deployment.

In 2010, 87% of Vale's employees had their performance evaluated, the vast majority using the company's global system. Using this tool it was possible to evaluate 100% of employees eligible for the variable compensation program. Workers not evaluated included young apprentices, trainees and people on leave of absence.

The tool's scope is planned to increase in 2011, incorporating at least five more companies, such as Mineração Corumbaense Reunida, Transbarga and the Technology Institute.

BENEFITS PROVIDED

Expansion in global actions

After mapping and identifying gaps in the benefits offered at Vale operations, a software package was acquired for the maintenance and updating of this data. The system enabled the enhancing of practices and alignment with benefits in many countries, in accordance with Vale's guidelines and local market practices.

One of Vale's global benefit guidelines calls for employees to receive life insurance. Coverage fully paid by the company is offered to all employees with indefinite, fixed or part-time contracts.

Vale has also expanded the coverage of its offshore pension fund for employees hired in countries where it is not feasible to participate in pension plans. This initiative was accompanied by the implementation of a global emergency medical care and evacuation service, taking into account that many of Vale's global operations are located in areas far from major urban centers.

The creation of the Global Pension Funds Committee was one of the highlights of 2010. Composed of representatives of the Human Resources and Corporate Services Department and the Finance and Investor Relations Department, it aims to establish guidelines, monitor the management of pension plans and approve their changes.

Most of Vale's employees (99%) have benefits such as health and accident insurance. Benefits related to private pension funds, a transportation allowance, education, meals at work and/or food assistance and the Employee Assistance Program (PAE) are offered to a significant number of Vale's employees (around 90% of them).

As a rule, there are few differences between benefits granted to full-time and temporary Vale employees. Exceptions are found in Canada, with regard to life insurance, disability coverage, private pensions and health plans.

Assistance

In order to help employees cope with their emotional, financial and legal problems, Vale in Brazil offers the Employee Assistance Program (PAE), the Critical Incident Support Program, the Retirement Planning Program (PPA) and an online course on Family Budgeting and Financial Planning.

The PAE provides psychosocial support to employees and their dependents and its scope has been extended by Vale companies. The Critical Incident Support Program has specially trained staff to provide immediate support in emergency situations, working directly with individuals or groups who have experienced trauma/accidents. The Retirement Planning Program (PPA), led by Valer – Vale Education, was another initiative supported by Vale in 2010 in partnership with the Brazilian Support Service for Micro and Small Companies (Sebrae).

The online course on Family Budgeting and Financial Planning aims at simulating the financial behavior of participants and stimulating self-knowledge, encouraging them to reflect on their dreams and set specific short, medium and long term goals. From reading paychecks to paying credit card bills or taking a car loan, various stages of financial planning are covered, with practical examples and straightforward language.

Complementary Pension Plan

One of the global guidelines for the benefits offered by Vale requires providing employees with access to a pension plan that will cover their basic needs when they retire. In Brazil, Vale's pension foundation – *Fundação Vale do Rio Doce de Seguridade Social (Valia)* – is responsible for managing the company's complementary pension plans. A nonprofit closed entity, with administrative and financial autonomy, Valia administers the complementary pension plans of the companies within the scope of this report, such as Vale, Urucum Mineração, Vale Manganês, FCA, CPBS, PPSA, Cadam, Valesul, Alunorte and Albras¹. Vale's fertilizer companies, recently acquired, are in the process of being covered by Valia. Albras and Alunorte joined Valia's scheme as of 2010. For additional information, please visit www.valia.com.br (available in Portuguese).

¹ Other companies that are not included in the scope of this report are also covered by Valia.

Most participants in Valia are members of variable contribution¹ plans with a defined benefit component, payable specifically in cases of death and disability and defined contributions for programmable benefits. In the case of defined benefits, the value is determined in advance with actuarial assessments regularly updated to ensure they can be provided. For defined contributions, the value is continually adjusted to the resources maintained in favor of the members².

The defined contribution component of the variable contribution plans aims to ensure that the plan remains financially sustainable over time. The defined benefit component is designed to avoid a significant decrease in income in the case of retirement due to disability or the death of the family breadwinner.

Vale Manganèse France does not offer a supplementary retirement plan of the Vale Brazil format. In France, there is a complementary allowance for the obligatory retirement payment, financed by members of the active workforce.

In Canada Vale has been transitioning from a defined benefit to a defined contribution³ pension plan for new employees and for employees who opted to move to the new plan design. Vale Canada will maintain the defined benefit pension plan for the active employees who choose to remain in this plan. The defined contribution plan design was adopted in order to ensure the long term sustainability of the plan for future generations.

Vale Canada offers different pension plans to its employees, most benefits are supplied through registered pension plans that comply with all regulatory requirements. There are some additional pension benefits supplied by non registered plans, where the liabilities are directly met by the general resources of the company⁴. In 2010, the value of all Canadian liabilities was approximately US\$92 million⁵.

¹ This nomenclature follows Brazilian legislation.

² Net result of investments, with values transferred by members and benefits paid by the plan.

³ Vale Newfoundland & Labrador Limited, a subsidiary of Vale Canada, already offered a defined contribution plan.

⁴ In these cases, the employee does not take part in paying toward the funds.

⁵ Corresponding to the last assessment available relating to 2007.

Funds held and maintained separately from company resources

Plans offered by Valia in Brazil (2010)

Plan	Type of plan	Participants (thousand) ⁽¹⁾	Degree of coverage
Vale Mais, ValiaPrev and FCA plans ⁽²⁾	Variable Contribution ⁽⁷⁾	63.6	Superior to 100% ⁽⁶⁾
Defined Benefit ⁽³⁾	Defined Benefit	17.1	
Complementing Bonus ⁽⁴⁾	Defined Benefit	2.0	72% with monthly allocations
Total		80.7⁽⁵⁾	

⁽¹⁾ Includes active and assisted employees (retirees and pensioners).

⁽²⁾ Employees contribute, on average, 4% of base salary (37.83% of the plan's cost) to pay the planned pension. For participants migrating from the Defined Benefit Plan to the Vale Mais Plan, the benefit was increased by 35% in 2008, with no need to raise contributions on the part of the sponsor.

⁽³⁾ The Defined Benefit Plan was closed to new members on April 30, 2000, when the Vale Mais Plan was implemented.

⁽⁴⁾ Participants in this plan are retirees in the Defined Benefit Plan who left the company as part of the retirement incentive plan. This plan is closed to new members. Regarding the level of coverage, the sponsor (Vale) has contributed monthly to the plan since December 2001 with the aim of reaching liability coverage of 100% by November 2014. Monthly installment values are readjusted when necessary and the amount was US\$6.6 million in January 2010.

⁽⁵⁾ Not including recipients of the Complementary Allowance that is included in the Defined Benefit Plan.

⁽⁶⁾ This level of coverage refers to the defined benefit amount paid by variable contribution plans and the defined benefit plan.

⁽⁷⁾ Defined contribution scheme with defined benefit component.

Funds held and maintained separately from company resources

Plans offered outside Brazil (2010)⁽¹⁾

Country	Operation	Type of plan	Participants (thousand) ⁽²⁾	Percentage of the liability covered by the asset
Canada	Newfoundland and Labrador	Defined contribution	0.2	N/A
Canada ⁽³⁾	Ontario and Manitoba	Defined Benefit	21.8	Between 86% and 90%
Canada ⁽³⁾	Ontario and Manitoba	Defined contribution	2.4	N/A
Indonesia	PT International Nickel Indonesia	Defined Benefit	2.7	Superior to 100%
UK	Clydach and Acton Refineries	Defined Benefit	1.6	77%
USA ⁽⁴⁾	Inmetco and Novamet	Defined Benefit	0.4	80%
Norway	Vale Manganese Norway	Defined contribution	0.1	N/A
Australia	Broadlea, Carborough Downs and Integra Coal	Defined contribution	0.7	N/A
Total			29.9	

⁽¹⁾ For these plans, in general employees do not pay towards the cost of the plan.

⁽²⁾ Includes active and assisted employees (retirees and pensioners).

⁽³⁾ The degree of coverage refers to data from the accounting valuation of December 31, 2010.

⁽⁴⁾ The Inmetco and Novamet operation were sold. Pension information for this operation were included in the table as Vale Canada maintained the liability for pension benefits of employees and pensioners as of December 31, 2010.

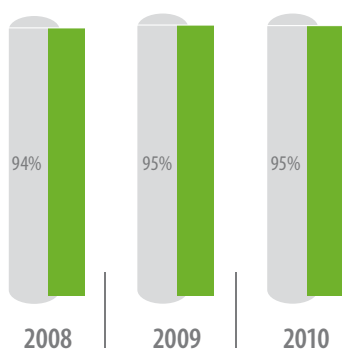


Collective agreements

In Brazil, Vale's collective agreement covers employees and employees of some of its companies, regardless of whether they are trade union members or not. Due to good relationships with employees and their representatives in various locations, the company has collective agreements with longer terms than those common in the market, such as in Brazil and Canada.

In 2010, the percentage of employees covered by such collective bargaining agreements was 95%. In the same period, Vale implemented a Health and Safety Social Dialog scheme with labor unions in Brazil and Mozambique. In 2011, the plan is to expand this to other unions in Latin America and Africa.

Employees covered by collective bargaining agreements %



Employees covered by this indicator (LA4) correspond to 98% (2008), 97% (2009) and 96% (2010) of total employees reported (LA1).

In international operations, such as Canada, Australia, Peru and Norway, employees covered by collective agreements are those who opt for unionization.

At Vale Australia, 74% of employees are covered by collective bargaining agreements. Due to changes in local legislation, current individual agreements are being replaced by collective agreements.

In 2010, at Vale Canada and its subsidiaries, 80% of employees were covered by collective bargaining negotiations (in 2009, the percentage was 81% and in 2008, 78%).

The strike in Canada, mentioned in the previous report was based mainly on two points: pension plan and bonus structure aligned with the system used by Vale in Brazil. After further rounds of negotiations between the company and the union, these issues were settled and the strike ended in July 2010.

As determined by the Code of Ethical Conduct, discrimination due to labor union membership is not tolerated. Consequently, and as a result of dialog with legitimate representatives of employees, whether unions or other labor associations, Vale has no records of sanctions or warnings issued by inspection agencies or complaints by any union related to freedom of association and collective bargaining.

Vale recognizes trade unions as legal representatives of its employees and strives, through negotiation based on respect and responsibility, for the best agreement serving mutual interests. Since 2007, it has been a signatory to the United Nations Global Compact, and it respects the laws and conventions of the International Labor Organization (ILO), which calls for respect for freedom of association.

Vale respects the legislation of the countries where it operates and the ILO's Core Conventions in all its operations:

No. 29 (Forced Labor, 1930)

No. 87 (Freedom of Association and Protection of the Right to Organize, 1948)

No. 98 (Right to Organize and Collective Bargaining, 1949)

No. 100 (Equal Remuneration, 1951)

No. 105 (Abolition of Forced Labor, 1957)

No. 111 (Discrimination, Employment and Occupation, 1958)

No. 138 (Minimum Age, 1973)

No. 182 (Worst Forms of Child Labor, 1999)

Although Vale's position is based on dialog, the prior notification of major changes¹ is not a standard procedure and is not established in Vale's collective agreements.

Employee turnover

In 2010, Vale's overall employee turnover² rate (including retirements and dismissals) was 6%, considerably lower than the 10.6% rate in 2009, the year of the financial crisis.

Turnover rates in line with various criteria (gender, age and region) reduced from 2009 to 2010. The rate among women (6.3%) was similar to men (6%). Women accounted for 11% of total departures and 11% of the total workforce.

¹ According to the Global Reporting Initiative, significant changes correspond to changes in the pattern of production, such as restructurings, closures, mergers or acquisitions.

² The employee turnover rate corresponds to the total number of employees that left the organization, whether voluntarily or not (including retirees), divided by the total number of employees.



In Canada the turnover rate was of 10.8%, due, mostly, to the high competition in labor market and challenges related to the recruitment and retention of people in remote places, such as Thompson. As a response, the company is developing a project of retention in Canada to reduce the turnover.

Turnover by gender

	2008	2009	2010
Overall Turnover	8.0%	10.6%	6.0%
Turnover men	7.6%	10.3%	6.0%
Turnover women	11.7%	13.0%	6.3%

Turnover by age

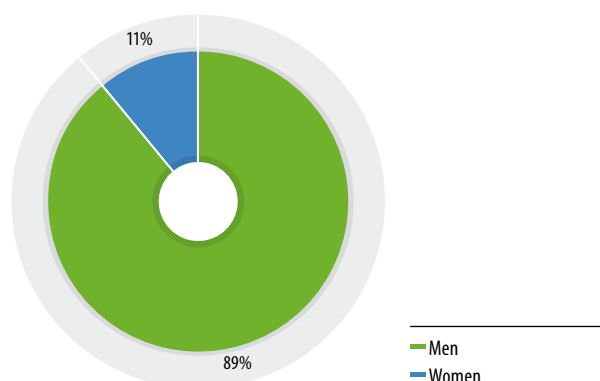
	2008	2009	2010
Under 30	7.0%	8.0%	5.4%
30 to 50	6.7%	7.8%	5.2%
Over 50	19.0%	37.0%	13.5%

Turnover by region

	2008	2009	2010
Brazil	8.0%	9.2%	5.4%
Canada	5.0%	19.7%	10.8%
Indonesia	7.0%	9.1%	6.1%
Australia	18.0%	13.4%	9.5%
New Caledonia	-	-	6.7%
Mozambique	-	-	6.0%
China	32.0%	16.7%	3.2%
Others	7.0%	16.5%	6.3%

Employees covered by this indicator (LA2) correspond to 96% (2008), 95% (2009) and 99% (2010) of total employees reported (LA1). Projects were not included for 2008 and 2009. For this reason, there is no past data for New Caledonia and Mozambique.

Turnover by gender (2010)



People, Vale's greatest resource

Vale's main investment is in people. The performance of each employee effectively impacts the company's present and future. In line with its attraction, retention and development policy, Vale's investment in education in Brazil exceeded US\$34 million in 2010.

For Vale, education is a fundamental mechanism for competitiveness and performance. Since 2003, Vale's Education Department, Valer – Vale Education, has been promoting continuous education for its employees and training the workforce for the productive processes involved in mining.

Valer operates globally in basic education, technical training, management development, corporate citizenship, culture and art, through partnerships with educational institutions.

2010 was marked by the continuity and expansion of vocational training programs, implemented in Mozambique and Oman, in addition to continuing education programs for management, such as the Rites of Passage and Media Training programs, conducted in Argentina, Peru, Chile, Mozambique, Colombia and Paraguay.

For external stakeholders, such as contractors, suppliers, and communities, Vale offered educational activities for more than 3,000 people in Brazil and abroad in 2010.

Internal education

Corporate education has a strategic nature for Vale and works as a lever for the development of qualified human resources. Through internal education initiatives, the company offers continuous learning opportunities for its employees, segmented into three groups: operational technicians, specialist technicians and leaders. Each of these segments has a Vale training program, with educational actions that are structured into Technical Plans, Development Maps, and Management and Leadership training, in line with the demands of business areas.

The continuous improvement of processes and the development of the company are closely related to the technical training of its employees, who are recognized in the market for their high level of qualification. In partnership with business areas, Vale maps out priority technical training actions in order to achieve its business goals. Valer structures customized actions and signs partnerships with educational institutions across the world.

For example, the Leadership Training for Capital Projects Program, launched in 2010, has so far trained 90 leaders in core competencies for using the company's project management model.

More than 600 leaders took part in 2010 in Rites of Passage, the first stage of management training at Vale. At the first level of leadership, the Supervisors Training Program trained 1,187 supervisors, who represent over 70% of this group, focusing on tools for managing people and processes.

These programs contributed to increasing average training hours in the leadership category. In the specialist category, the increase was due to the provision of courses related to administrative routines, health and safety and continuous improvement.

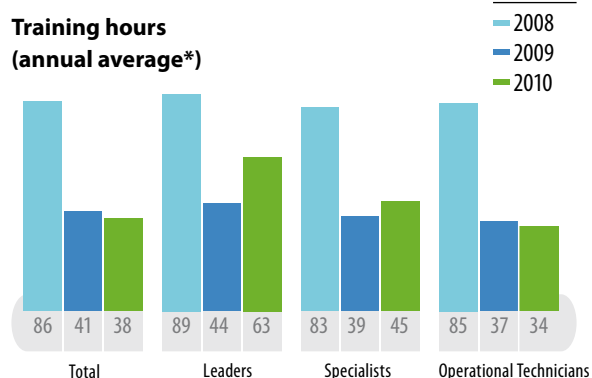
There was a reduction in the average number of training hours for operational technical staff, which resulted from the hiring of new operational staff. These employees receive training before joining Vale but these hours are not included in the statistics for average training hours. As this is Vale's biggest category (78.7% of total employees), the reduction in this group has a major impact on total training hours provided at Vale.

The company maintains its practice of offering in-house courses and, in more specific cases, financial support for courses outside the company, focusing on the development of technical competencies that are critical to the company's business.

Education for life

One of the flagships of Vale's education activities is the Education Graduation Program, which aims to reduce the illiteracy rate to zero among the company's employees and contractors. In 2010, around 300 places on elementary and high school courses were offered in the states of Minas Gerais and Mato Grosso do Sul.

Vale's mission of transforming mineral resources into sustainable development requires from its employees a range of cross-cutting skills that go well beyond technical knowledge.



* The average number of hours a year is calculated by dividing the total number of hours of training by the number of employees. Employees covered by this indicator (LA10) correspond to 95% (2008), 95% (2009) and 87% (2010) of total employees reported (LA1). Projects and Vale Fertilizantes not included. The system for recording training worldwide is being upgraded to have all training initiatives included in a single database.

Topics such as health and safety, the environment, multiculturalism, ethics and transparency, and continuous improvement permeate all educational activities implemented by Vale. The idea is to offer a broad education, for work and life, complemented by educational initiatives on corporate citizenship, culture and art. As prioritizing life and safety is one of Vale's values, the Health and Safety department participates in the educational activities implemented by Vale.

In 2010, the company also continued the Environmental Attitudes Program, which won an ECO 2010 AMCHAM / Valor Econômico award in the Sustainability in New Projects category. The program promotes dialog on sustainability, bringing together employees, contractors and other people from the communities where Vale is present (find out more in the "Environmental Attitudes Program Wins ECO 2010 Award" case study on page 66).

External education

The need for qualified personnel is a challenge for mining companies. Vale invests constantly and consistently in the training of professionals to work in the sector, providing attractive programs and developing market professionals.

In 2010, 95 professionals completed postgraduate courses in Railroad, Pelletizing and Port Engineering as part of the Specialist Professional Training Program. The initiative is the result of a partnership with the Federal University of Ouro Preto (UFOP), the Federal University of Rio de Janeiro (UFRJ) and Univix University in Espírito Santo.

The Recruitment Program for Projects was launched in 2010 in order to hire and train engineers to implement Vale's capital projects. In all, 88 engineers completed postgraduate courses in project management at Fundação Dom Cabral (FDC), in Minas Gerais.

In 2010, over 2,700 young people in various Brazilian states participated in the Vocational Training Program, 1,556 in the North region alone. The program also continued to be offered in Mozambique, training about 300 apprentices to work in mine, plant and railroad operations and maintenance. The program was extended to Oman, training 64 young people to work in plant operations and maintenance.

Focusing on training new talent of all nationalities, the Trainee Program benefited 40 young Brazilians, Canadians, Colombians and Indonesians.

The Internship Program remained one of the main gateways to Vale for talented young people, attracting 141,000 applications in 2010 for 1,728 vacancies. In the first half of 2011 alone, it is expected that 1,870 vacancies will be provided in Brazil.

Participation in professional training programs

Program	Objective	Scope	Participants in 2010
Professional Training Program	Trains young people for their first employment in operational and administrative activities at Vale	Brazil	2,700
Intern Program	Trains students in technical and higher education, based on practical experience at Vale	Brazil	1,728
Specialist Professional Training Program	Trains specialists in post-graduate courses in Mining, Railroads, Pelletizing plants and Ports	Brazil	95
Recruitment Program for Projects	Provides engineers with specialist training in implementing Vale's capital projects	International	88
Trainee Program	Trains recent graduates for leadership positions at Vale	International	40
Summer Job Program	Offers MBA students from the world's most prestigious universities training about Vale's businesses and interaction with its executives	International	5
Inclusion Program for People with Disabilities	Trains people with disabilities to work in operational and administrative activities at Vale	Brazil	140
Total			4,796

CASE

CANADA

Mobile trailer takes training to Aboriginal communities in Canada

Imagine a fully-automated, high-tech, air-conditioned trailer that is equipped with 12 individual workstations, a projector, dropdown screen and wireless internet traversing a country to take education to Aboriginal students in remote locations.

This is Cambrian College's mobile trades trailer. With support from Vale, it is on the road providing training opportunities for 500 Aboriginal students in the north region of Sudbury, Ontario, Canada, where the college is located.

Seeking ways to expand their traditional classroom experience and deliver educational opportunities to those with limited access, Cambrian officials came across the mobile trailer concept at the University of Alberta in Calgary. The model seemed perfect, but the college needed support to properly build and equip it.

The mobile trades trailer was developed to meet the needs of rural and Aboriginal students, and to provide customized training. It was completed at the end of 2009 and first deployed in March 2010, at the start of the Canadian Spring.

The trailer offers a variety of vocational courses and can transform into a teaching laboratory for skilled trades such

as welding, electrical, millwright, heavy equipment, truck and coach, machining and gas fitting. A satellite link further expands the ability to teach and learn remotely by connecting the unit to the college's main campus.

One of the two support units that accompanies it is a workshop that provides additional space for training. The program to be performed determines how the trailer should be prepared. If the training is specific to heavy equipment, for example, all the necessary material is placed in the support unit so that the instructor can develop it.

Training courses enable students to develop their own projects or to find their place in the labor market. "Many of the students were hired by local industry immediately after completing their training," says Shawn Poland, Associate Vice-President of College Advancement at Cambrian.

As summed up by the President of Cambrian College, Sylvia Barnard: "it was through a common vision and commitment with Vale Canada that we were able to develop this initiative that will certainly change the lives and destinies of people throughout the North of Canada."



With Vale's support, Cambrian College's mobile trailer creates opportunities for 500 Aboriginal students in Canada



Health and safety dialog during working hours at a maintenance unit at Carajás Mine (Pará, Brazil)



A Constant Challenge

There can be no mining without caring about people's futures. Because of this, Vale's strategy is to prioritize life and safety

As part of its drive to be recognized globally as a model of excellence in health and safety management, Vale continually improves its systems, processes and policies and has surpassed established standards in the mining industry, for example by reducing rates for total accidents, injury severity and lost-time accidents.

Since 2006, Vale's strategy of prioritizing life and safety has produced better results every year, with all operational areas following the same requirements and transforming the company's health and safety culture.

In 2010, Vale's health and safety management system, which is part of the company's Excellence Program, was further strengthened at units and projects in Brazil and expanded to cover international operations and projects. This system is based on 13 requirements within a continuous improvement flow that every area has to develop. In 2010, the system was audited by Bureau Veritas, focusing on two elements required by operating licenses: operational control, mainly of critical activities, and compliance with legal requirements. In all, 110 operations and projects were audited.

Record number of innovative ideas

Since 2006, the Excellence Program has guided Vale's health and safety actions, channeling investment into management, education, infrastructure and technological innovation. The main result has been the transformation of the company's culture, with voluntary initiatives and the incorporation of people-related values.

The results of the 2010 Inova Vale! innovation contest reflect the theme's presence in the everyday work of the company and its employees. Of all the innovative ideas submitted, 34% were related to health and safety, amounting to 7,635 registered proposals.

Innovative ideas were proposed in two subject areas – improving the production process and technological innovations in business areas – seeking solutions to ensure the safety and health of workers.

The winning idea in the "Process Improvement" category was a proposal to use high-tech noise-canceling ear muffs that allow more effective communication without the need to remove them. In the "Technological Innovation in Business Areas" category, the winning idea was to use a model helicopter to inspect sections of railroad embankments and cuttings, in order to reduce employees' exposure to accident risks and enable operators in safe locations to view and map dangerous and hard-to-access areas.

Other finalist ideas, like the creation of a device to replace rollers on conveyor belts, a device for mounting rollers and the use of transport modules for nine passengers in 4x4 SUVs, will allow employees to perform activities faster, at a lower cost and more safely.

The health and safety theme was also exposed to Vale employees in a simple and genuine way: through music. With Vale's support, new talented workers produced a DVD containing two music videos in distinct styles – rap and samba – but with the same subject: prioritizing life and safety. This initiative reflects the preventive approach and continuous work undertaken by Vale's Health and Safety area, which extends beyond the company's sites to influence employees and contractors throughout their daily lives.

Critical Activities Requirements (CARs)

A total investment of more than US\$100 million in improvement projects helped Vale to exceed its target for implementing critical activities requirements (CARs) in operations and projects, including in international areas. Approximately 75% of all CARs are now in place.

CARs are essential tools for preventing fatal accidents. This is an issue of extreme importance in industrial sectors, in which manual work and contact with machinery are major features. These requirements mandate the adoption of standards, procedures, training and investment in infrastructure to ensure the safe performance of the eleven activities that, historically, represent 92% of fatalities¹.

Staying alert – a constant challenge

Joint work between Vale's Occupational Security, Corporate Security, Operational and Project areas resulted in more than 5,000 inspections to identify deviations relating to health and safety practices. This global company practice, which is continually improved in order to cover all operations and projects, takes place through routine weekly inspections focused on recent incidents. It is a permanent learning and prevention process that reinforces Vale's Health and Safety Policy.

Organizational learning

Teamwork and exchanging ideas are essential ingredients in the workplace. Sharing the knowledge generated by different areas enables leading practices to be spread throughout the company.

In partnership with operational areas and projects, Vale has set up 11 thematic sub-committees to discuss different health and safety-related situations and experiences, in order to improve processes, unify practices and create benchmarks.

This work supplements the periodic global meetings, held since 2009, involving the participation of health and safety managers, in order to share lessons learned from high-potential accidents and discuss the results achieved by means of over 100 good practices.

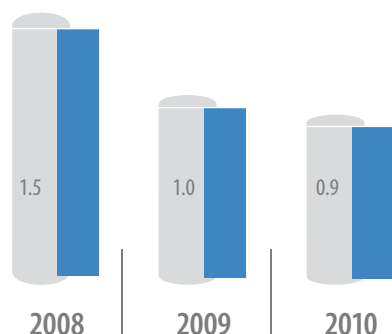
In 2010, 12 corporate safety alerts were issued, with the aim of raising people's awareness of certain critical activities, their risks, consequences and how to avoid accidents.

The participation of all employees in this work has contributed substantially to position Vale as an increasingly healthy, safe, innovative and sustainable mining company, as shown by the reduction in incident rates, which have fallen by approximately 1,100 injuries involving lost workdays over the last seven years.

An example of this result is provided by Vale's nickel refinery in the United Kingdom, which was recognized for its safety record by the Royal Society for the Prevention of Accidents (RoSPA).

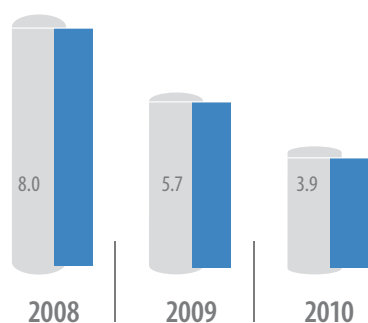
¹ Critical activities are those that involve working at heights, electricity, automotive vehicles, mobile machinery, equipment lockout and tagout, cargo handling, confined spaces, machinery protection, slope stabilization, explosives and blasting, and chemical products.

Lost-time injury frequency rate (number of lost-time injuries per 1,000,000 hours worked)



The graph's figures include both employees and contractors.

Total injury rate (number of total injuries per 1,000,000 hours worked)



- Figures include employees and contractors, but do not include first aid cases.
 - Figures include injuries with and without lost time. The rate does not include occupational illness.
 - For Vale Brazil, health and safety indicators are based on monthly person-hours worked estimated for its workforce. The figures include mineral research companies, including international ones. For Vale Canada and its subsidiaries, Vale Australia and the Moatize Project, real person-hours worked are used.

In 2010, Clydach achieved record performance in the reduction of accidents leading to injury – for the first time in the plant's 109-year history, no time was lost due to injuries. Vale Europe Limited received an award for "Outstanding Safety Performance."

Vale works and has a focused strategy to achieve the goal of zero fatalities. However, despite the company's best efforts, 11 occurrences of fatal incidents were registered in 2010 at operations and projects involving Vale employees and contractors. The company's health and safety managers continue to focus on preventing incidents, as well as encouraging the adoption of safety measures, improvements to facilities and equipment, changes in conduct, training and awareness-raising campaigns, inspections and audits of Vale's supply chain.

Challenges and partnerships

The health and safety theme is important to the whole mining industry. Therefore, its challenges, experiences and best practices must extend beyond the scope of individual companies. Accordingly, Vale participates actively in important national and international entities and forums, such as the International Council on Mining and Metals (ICMM), the Earth Moving Equipment Safety Round Table (EMESRT), the Green Building Council (GBC) and the Brazilian Mining Institute (IBRAM).

Among these organizations, Vale highlights the role of health and safety in its activities, which is important given the global nature of the company, and the ongoing need to form partnerships for the pursuit of excellence. In an article published in the 2010 G20 Seoul Summit magazine – handed out to delegates and diplomats at a meeting of representatives of the 20 most developed economies in the world – Vale presented its health and safety strategy within the context of the global mining industry.

Dialog with leaders

Behavioral dialogs, characterized by the exchange of experience and joint reflection on everyday situations, generated more than 15,000 interactions in 2010. The number of Vale operational units and projects participating in the activity has grown steadily since it started in 2007.

As an indispensable additional activity, specific training has been provided for operational directors, project directors and union leaders about the use of behavioral dialogs. The results obtained – a reduction in accidents related to unsafe behavior and increased reporting and registration of accidents and near-accidents – confirm that this is in fact a simple and effective way of raising people's awareness, developing preventive behavior and providing opportunities for leaders to show that they care for their teams.

Further incentives for Health and Safety

A health and safety-related bonus accounted for 10% of Vale employees' variable compensation, in 2010. This variable remuneration is paid to recognize the efforts of leaders and all workers in adopting preventive, life-prioritizing attitudes. This practice will be maintained in 2011.

Prevention and control of Health and Safety risks

Controlling, reducing and eliminating hazards in operations and projects is Vale's core objective. The company is working to protect its workforce and create programs that can be replicated across the company while meeting local needs. To this end, a system for identifying and measuring safety, workplace, environmental and health risks is maintained.

The whole operational lifecycle is analyzed, from the initial investment idea to the complete closure of the operation. Risks are evaluated for all activities, using tools such as Work Permits, Task Risk Analyses and Occupational Hygiene Preliminary Risk Analyses (APR-HOs, in Portuguese). The same applies to production and project processes, using tools such as Preliminary Process Risk Analyses and Hazard and Operability Studies (HAZOPs) for operational and maintenance activities. Evaluations are part of everyday operations and projects to ensure a constant reduction in risks in a planned form. In partnership with renowned companies such as Bureau Veritas and ABS Consulting, Vale is systematically implementing risk management and control mechanisms, based on the company's Risk Analysis and Management Instructions (INS-0037).

In another initiative to help prevent safety incidents, since October 2010, Vale has been participating in the ICMW Working Group. This group discusses health and safety indicators and works to develop alignment between mining companies. The organization Transformational Safety was contracted to support this working group and an online survey has been carried out among all ICMW members so as to create a baseline.

Health: a constant focus

In 2010, global health standards were developed, with key guidelines aiming to promote health and encourage preventive attitudes among employees, their families and other people in the communities where the company operates.

The diversity of health conditions in the locations where the company operates means that different kinds of actions are needed to respond to each case. As a result, a number of different training, advisory, risk prevention/control and medical treatment programs have been developed for employees and their families. Actions carried out at some of the company's units are shown below.

Main Actions:

Target group	Education/training	Advice	Risk prevention/ control	Medical treatment
Employees	H1N1 flu prevention campaigns; workshops on alcohol and tobacco; cancer and diabetes prevention campaigns; support groups for people with diabetes, hypertension and cardiovascular risk	Employee Assistance Program (PAE), offering guidance on many subjects, such as emotional and financial problems, relationship issues, alcoholism, chemical dependence and stress	Prevention campaign for sexually transmitted diseases including AIDS; cancer and diabetes prevention campaigns; flu vaccination; dengue and yellow fever prevention and treatment inspections	Health plan and first aid posts
Families	H1N1 flu prevention campaigns; workshops on alcohol and tobacco; cancer and diabetes prevention campaigns; support groups for people with diabetes, hypertension and cardiovascular risk	Employee Assistance Program (PAE), offering guidance on many subjects, such as emotional and financial problems, relationship issues, alcoholism, chemical dependence and stress	H1N1 flu vaccination; dengue and yellow fever prevention and treatment inspections	Health plan
Communities	H1N1 flu prevention campaigns; prevention campaign for sexually transmitted diseases including AIDS		Sex education programs (Vale Youth – developed by the Vale Foundation), with guidance on sexuality and action to prevent sexually transmitted diseases	—

"Behind one life there are many others"

On a Sunday in November 2010, Vale appeared on Brazil's main media with a health and safety campaign based on the "Behind one life there are many others" concept. The campaign had an immediate impact, as it is not usual for industrial companies to raise this subject externally.



Based on a survey of Vale employees that highlighted the "Proud to be Vale" value and the importance of families, the campaign stressed health and safety as a key sustainability issue.

Seen throughout Brazil in newspapers, magazines and on television, the campaign had both external and internal objectives. Externally, the importance of respecting people and safeguarding life was emphasized, while internally, it paved the way for one of the main themes for internal communications among employees in 2011.

As the campaign emphasized, safeguarding life is one of Vale's key values. The company continually strives to do better, investing in training, health and safety in order to enable all those who currently work in the mining of the future to do so safely.

Vale is also working to improve occupational disease prevention management, processes and programs to enable better identification and monitoring of new cases through the Occupational Health Control Program. Featuring health promotion, prevention and control actions related to risk agents at the workplace, the program uses traditional health inspection and epidemiology tools. In addition, it periodically monitors fitness for work and the health effects of exposure to risk agents present in the workplace. Annual revisions are made to the program in line with changes in health and risk profiles. Vale plans to disclose information about the number of new cases of occupational diseases in its 2011 Sustainability Report.

Occupational diseases continue to be recorded in a different way from work incidents. There is naturally a time interval between exposure to an agent in sufficient doses to affect health and the appearance of the first detectable signs in the health monitoring system, and this interval may be several years. Accidents, however, are registered immediately after they occur.

Assistance for emergency situations

Vale's response to emergency situations is based on management systems, regulations and plans capable of intervening rapidly and efficiently in any kind of situation. In 2010, Environmental Management Regulations (008-G Standards in the Vale Environmental Management System) were incorporated in both the Health and Safety Management System and the Health, Safety and Environmental Risk Analysis and Management Instructions, making the company's emergency response more efficient.

Based on these three tools, Vale revises its emergency plans, mutual support plans and oil spill plans for port activities at least every three years or whenever there is a significant change in a process. The aim is to better identify emergency scenarios and the potential extent of consequences/severity, enabling rationalization in the allocation of resources and the setting of specific procedures for each locality and scenario.

Vale has a series of procedures to address emergency situations at its units. The objective is to respond swiftly and efficiently. When necessary, the following can be activated: Emergency Plans; Emergency Action Plans; Mutual Support Plans for emergencies involving nearby companies; Individual Response Plans for oil spills; Railroad Incident Response Regulations; Crisis Management Manuals and Basic Risk Guidelines; and the 008-G Standards in the Vale Environmental Management System, containing guidelines and general criteria for responding to environmental emergencies.

Vale has a crisis management center that works together with operational areas to monitor, manage and control critical situations in a centralized, strategic manner, so as to protect its employees, contractors and property.

In order to ensure an appropriate response to emergency situations, Vale also carries out team training, in most cases involving simulations.

One notable example is Vale's Southern Ferrous Metals Department, which was recently praised by the US National Safety Council for its Vale Medical Emergency System, as part of international rescue training routines. The department has been informed that it will be given an award for its efforts in protecting mine workers. Reports about activities carried out within the Emergency System were submitted to the National Safety Council, including international training standards, educational materials developed, information on the deployment of voluntary and first aid teams, and a description of the Control and Communication Center and the Industrial Brigade structure to aid employees and contractors.

The National Safety Council grants awards to companies that innovate in the health and safety field. Vale's initiative has been recognized as the first project in Brazil in this area, in which the systematic and integrated organization of different services has the shared goal of responding to emergencies.

Agreements with unions

Besides featuring in dialog between the company and its employees, the health and safety theme is also present in collective negotiations. Throughout its operations (domestic and international ones), Vale's action is always underpinned by its Global Policy and respect for local legislation.

These negotiations consider the specific demands of employees' representatives, which determine mechanisms and requirements for preventing incidents and occupational diseases, such as machinery training, the provision of personal protective equipment, periodic inspections and the maintenance of joint health and safety committees. The right to refuse to work in unsafe conditions is guaranteed and reinforced by Vale's Risk Analysis and Management Instructions (INS-37).

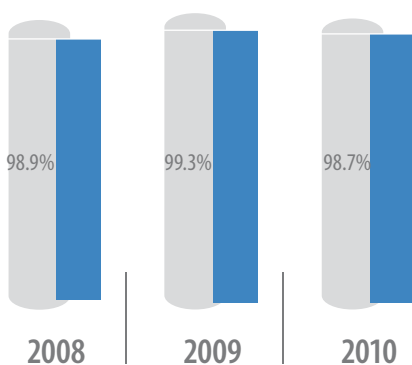
In 2010, weekly meetings were held with unions that represent Vale employees, in order to ensure transparent, high-trust relations and so contribute to continuous improvement.



Participation on health and safety committees

In 2010, health and safety committees (called Internal Accident Prevention Committees in Brazil) including representatives of Vale employees participated actively in the company's everyday work in order to help prevent workplace accidents and occupational diseases and to identify ways of continuously improving processes and facilities.

Workforce representation through formal health and safety committees



Percentage of employees represented by former health and safety committees.

In some areas, less than 100% of employees were represented by a committee. This was due to factors such as the following: fewer employees at the unit than the minimum number established in law for setting up a committee; a committee had not yet been created at a new project; and new employees at a site had just been hired.

Single information system

In 2010, Vale's Health and Safety Information System was implemented in Peru, using the expertise gained from implementing a consolidated system in Brazil. In 2011, the tool will be rolled out to other international units in line with an established schedule. The system enables all health and safety records to be unified, making it easier to archive information, monitor actions, analyze processes and manage strategies.

In partnership with IUS Natura, Vale has also developed a computerized management system for identifying, tracking and monitoring legal health and safety requirements at its operations and projects throughout Brazil. Audits are conducted to track the use of the system in a uniform manner.

In addition, the company conducts audits of international projects to certify that new units are complying with all legal requirements. The end goal is for all employees and suppliers to fully incorporate Vale's health and safety values.

Actions in the value chain

Continuous improvement in this area requires a shared commitment among all stakeholders. Vale seeks to influence its supply chain, encouraging the implementation of safety measures, awareness-raising campaigns, inspections and audits.

In 2010, meetings were held to align actions and exchange ideas and experiences with the directors of the 20 largest construction companies that work with Vale's projects area, and with 12 equipment suppliers, which together represent 90% of project delivery and large equipment, aiming at improvements, new technologies and partnerships. In addition, labor unions that represent 80% of Vale employees were involved. Vale also audited and tracked improvements at 25 "critical" service suppliers, in other words, those whose performance had been below expectations, requiring them to improve their health and safety results in areas such as management systems, critical activities requirements and legal compliance.

Best practices

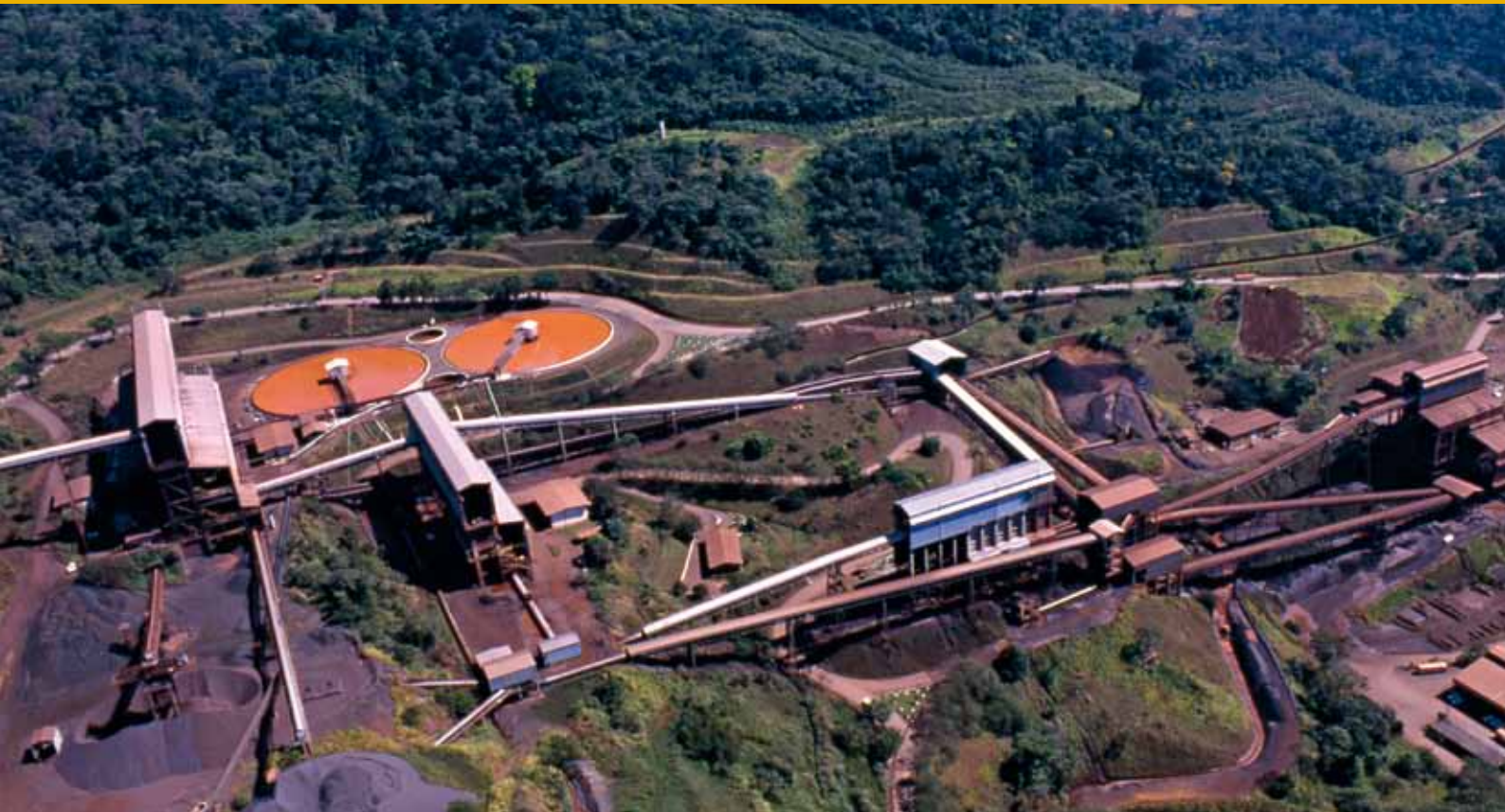
Since 2007, Vale has been an active member of a database managed by the International Council on Mining and Metals (ICMM), together with other mining companies from across the world, to share best practices in safety, health, the environment and the community. Called the Safety, Health, Environment and Community Benchmarking (SHECBenchmarking) database, this resource promotes the sharing of experiences through an internal portal.

Implementation of actions planned for 2010

- Implementation of critical activities requirements (CARs) in operations and projects, including in international areas
- Expansion of Behavioral Tools to cover all of Vale's units
- Implementation of Health and Safety Information System in Brazil and Peru
- Publication of Global Health and Safety Policy



Employees and suppliers must incorporate Vale's health and safety values



Aerial view of iron ore processing plant
at Carajás Complex (Pará, Brazil)



Mining and the environment: an achievable partnership

Vale is committed to conserving the environment through a balance between economic development and the maintenance of natural resources

To ensure compliance with its Sustainable Development Policy and Environmental Guidelines, Vale developed an Environmental Management System (EMS) based on the requirements of the NBR-ISO 14001 standards. Composed of a set of interrelated macro-processes, the system is designed to cover the entire company. The Environmental Management System is divided into four major stages (Basic, Intermediate, Advanced and Excellence) and has the following main objectives: ensure business units' legal compliance; systematically control environmental issues; and promote ongoing enhancement of environmental performance.

Work on implementing the Environmental Management System started in 2010 in 11 Brazilian departments and at two international operations: Vale Colombia and PT International Nickel Indonesia. In 2011, this work will continue at these units, and the system will also be implemented at the fertilizer operations recently acquired by Vale, the Corumbá Corridor, and Vale units in Canada, Peru, Chile, Mozambique, Oman, Wales and Australia.

This initiative demonstrates Vale's ongoing efforts to manage the environmental issues and hazards involving its activities, products and services. In addition, the recovery of degraded areas of habitat and research into new technologies that allow environmental control systems to be enhanced are also integral parts of the company's sustainability strategy, focused on the future of mining.

In order to ensure compliance and alignment of all Vale's operations with environmental guidelines and policies, the Environmental Management System and above all the applicable regulatory requirements, the Corporate Environmental Audit Program was expanded to take in the company's international operations, in addition to research and construction work areas. In 2010, the company carried out audits at mineral research and project implementation sectors in Brazil, as well as at units in other South American countries.

In line with the company's 2010 plans, Vale also concluded the development and implementation of the Tailings Dams and Piles Management System in Brazil, which consolidates the company's expertise in the area and manages geo-technical structures. The System, which was also implemented in other countries during the same year, has a single technology platform that consolidates information, data and performance indicators on tailings dams and waste rock piles. The strategy allows geo-technical and environmental hazards to be controlled and maintained at appropriate levels (read more about this on page 62).

Units with ISO 14001 certification:

Business area:	Units
Iron ore mining and pelletizing	Carajás, Alegria, Timbopeba, Água Limpa, Fábrica Nova, Fazendão, Cauê, Conceição, Córrego do Feijão, Brucutu, Gongo Soco, Fábrica, Jangada, Tamanduá, Vargem Grande, Mutuca, Capitão do Mato, Pico, Capão Xavier, Abóboras, Mar Azul, and pelletizing plants and port terminals in Tubarão
Ferroalloy plants and manganese mines	Azul and Morro da Mina mines, Vale Manganèse France, and Vale Manganese Norway
Nickel	Clydach refinery, UK; Vale Japan Limited – Matsuzaka Plant; Nickel Refinery in Taiwan; and Vale Nickel (Dalian)
Copper	Sossego Mine
Precious metals	Acton Refinery – UK
Aluminum	Alunorte and Albras
Kaolin	Cadam

All of Vale's iron ore mines have ISO 14001 certification. Samarco and MRN are also ISO 14001 certified.

Wind Fences

In 2010, Vale continued to install wind fences at Tubarão Complex. Wind fences are barriers built around stockyards to reduce wind speeds affecting stockpiles of materials, thereby reducing particulate emissions.

Work was undertaken at three locations in 2010: one at the stockyard serving pelletizing plants V to VII and two at the ore terminal stockyards, divided into an "Old Area" and "New Area." The wind fence at the stockyard of plants V to VII was completed in December 2010.

Environmental investments

In 2010, Vale invested around US\$737 million in environmental control and protection. This represents a significant increase of 27% compared with 2009. Of the total invested in 2010, the bulk of it was allocated to Brazil – US\$529 million.

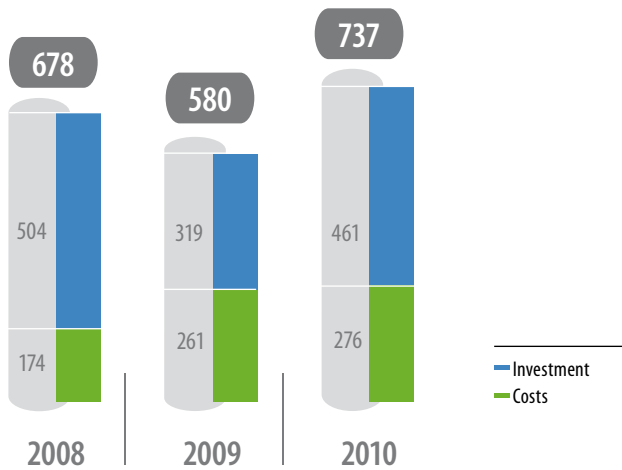
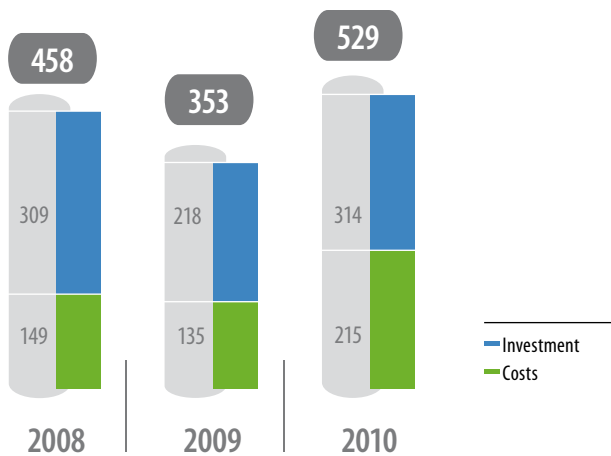
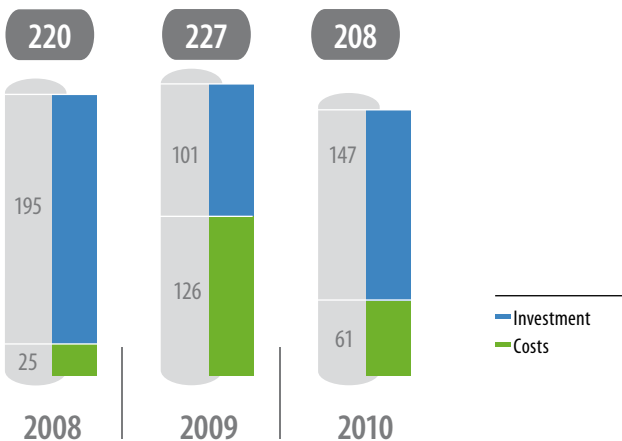
Most of these resources were spent in the following three areas:

- Acquisition and implementation of environmental control equipment, systems and processes aimed at ensuring compliance and enhancement of performance in operations already included in the Sustainability Action Plan (SAP) (more details on page 17). These include:
 - Implementation of a monitored data management system. Using this system, it will be possible to manage water use and availability. The main objectives are to avoid wasting water, save energy and analyze whether water will be available for future projects.
 - Implementation of systems to capture water used for washing equipment and in drainage systems, aiming at reuse of water resources.
 - Implementation of a composting process to dispose of 100% of organic material generated.
 - Implementation of enhancements in water and oil separators, establishing a better routine for using water and disposing of and/or reusing separated oil.
- Geo-technical maintenance to ensure the structural and environmental safety of tailings dams and waste rock piles;
- Reforestation and rehabilitation of degraded areas by Vale Florestar S.A. and through agreements with certain states in Brazil.

The company also invested in environmental education for internal and external stakeholders in 2010, as well as in projects to cut atmospheric emissions, especially at Tubarão Complex in Espírito Santo, Brazil.



In 2011, the work will be completed at three yards: the "New Area" (April 2011), "Old Area" (February 2011) and coal stockyard (September 2011), totaling five stockyards with wind fences in place for an investment of more than US\$125 million.

Environmental expenditure (US\$ million)**Environmental expenditure - Brazil (US\$ million)****Environmental expenditure - Other locations (US\$ million)****Management of water resources**

Mining stands out from other industries for its significant interaction with surface and underground water resources and specific water use factors. The most intense water usage in mining occurs in water table reduction, which is an inherent part of the mining process, as well as in ore processing, system cooling, transport (ore pipelines), truck cleaning, and the spraying of access roads and stockyards containing raw materials and products.

The management of water resources is a strategic issue for Vale, besides being one of the ten Materiality Matrix topics of this report. Specifically in the Water Resources area, Vale's management system has a series of instructions regarding the performance of diagnoses and monitoring to optimize water use, improve the efficiency of processes and minimize effluent generation. In 2010, the company started to revise and update its internal guidelines on the theme, to be applied globally.

Vale's Environmental Management System guides its actions and supports the creation of programs to be implemented at operating units. Accordingly, it ensures compliance with environmental laws and systematic control of environmental issues, while seeking excellence in organizational processes.

The company's water use and reuse optimization actions generate significant environmental and economic benefits. At Vale, where water is considered an asset, greater availability of this resource for other uses and enhanced competitiveness are among the benefits sought.

Given water's importance as a fundamental input, Vale carried out a diagnosis in five areas that, in 2010, were responsible for approximately 40% of water withdrawn in Brazil: Carajás, in Pará; São Luís, in Maranhão, and Itabira, Mariana and Vargem Grande, in Minas Gerais. The survey identified opportunities for enhancing processes and increasing efficiency through the optimization of water use – in other words, reducing new water withdrawal and replacing it with alternative sources such as rain water and effluent.

Despite increased production, the volume of water extracted in 2010 did not rise significantly



Possibilities for other changes were also identified, to not only reduce new water demand, but also cut energy consumption. In 2011, this study will be extended to other units, including international ones.

At the same time, various units enhanced their methods to monitor water usage in 2010. This was the case in São Luís, Maranhão, which acquired new equipment and an online system to monitor and assess the water circuit in quantitative and qualitative terms.

Total volume of water withdrawn

In 2010, the iron ore and pellets areas, which account for the bulk of the company's production, saw increases in output in relation to 2009 (read more in the Business Performance chapter), but the total volume of water captured did not rise significantly. Considering all Vale's operating units, including its international areas, the total volume of water withdrawn in 2010 was 294.3 million cubic meters.

The water extracted from lowering the water table in mines is the biggest use of this asset. Of all the underground water captured, approximately 80% came from water table lowering activities in mines to allow mining operations. Of this 80%, approximately 45% was not reused in industrial processes, i.e., it was extracted solely for the purpose of lowering the water level, and then transferred to water courses back in the external environment.

Reuse and Recirculation

In 2010, Vale intensified its efforts to identify possibilities for rationalizing its use and reuse of water, aiming to minimize interference in water resources. Efforts to replace new water capture with alternative sources (reuse or recirculation) have resulted in an impressive recirculation/reutilization rate of approximately 79%. This performance is mostly due to recirculation in processing activities. Most of the water used in ore processing comes from water table lowering in mines.

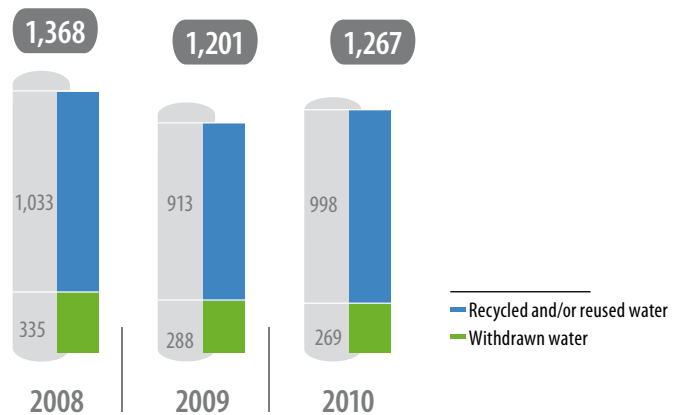
Water withdrawn through this activity that is not reused or recirculated is transferred to water courses, thereby returning it to the environment, and is accounted for as extracted water.

Due to the data consolidation methodology used, the volume of water captured for dewatering processes in mines is a factor that directly and negatively influences the percentage of reutilized water (indicator EN10: water recycled and reused). This volume is inherent to the mineral extraction process and presents specific factors in line with local rainfall and hydrogeology. By increasing the volume of water withdrawn by lowering the water table in mines, the reuse percentage is automatically reduced, even when this water is reused.

It is important to highlight that Vale only classifies water as reused after systems or procedures that enable water use reduction have been implemented, thereby generating real gains both for the company and for the environment.

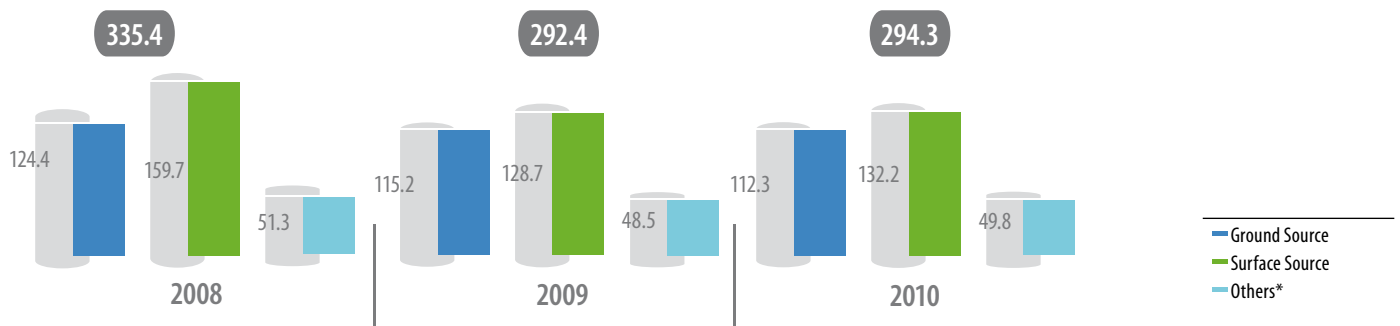
The reutilization of 79% of all water resources used by the company in 2010 means that, out of the 1.2 billion m³ needed for Vale's operations, approximately 269 million m³ were withdrawn from nature, while all of the remainder was supplied by reused water.

Total water recycled and/or reused + withdrawn water (million m³)



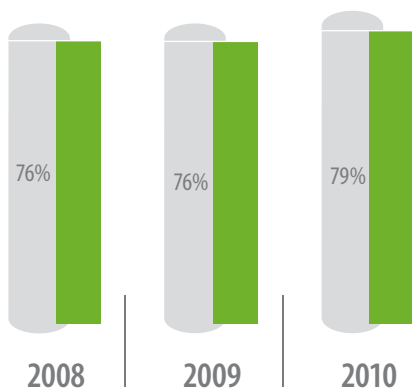
To calculate the percentage of reused water in this indicator, the total volume of water withdrawn does not include extraction for third parties. Thus, the value is different from the value presented in the graph that records total water withdrawn per type of withdrawal.

Total water withdrawn by source (million m³/year)



* Captured rainwater, piped water supplied by water companies and water from other organizations. Water from surface or underground sources withdrawn exclusively for use by third parties is also accounted for in this category.

Percentage of recycled and/or reused water (%)



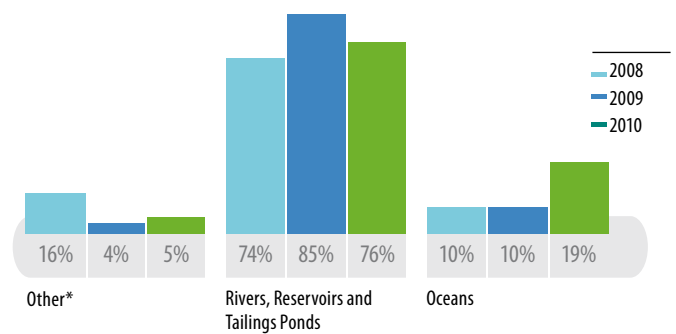
Effluents

Actions to reduce the generation of effluents and enhance treatment and discharge systems are essential measures in Vale's water resource management. The aim is to maintain the quality of the receiving water body and promote efficiency in the use of water resources, decreasing demand for new water as reuse or recirculation becomes possible.

Equipment maintenance, enhancements to procedures and adjustments to workshops are also being implemented by the company, mainly to decrease the generation of oily effluents. In order to control waste, Vale is also making changes to procedures and equipment, which are essential to reduce the demand for water and the volume of effluents generated.

In 2010, 76.1 million cubic meters of effluents were generated¹. Of this total, approximately 76% was discharged into rivers, tailings ponds or reservoirs, 19% into the ocean and 5% into lagoons. The reduction in volume in relation to 2009 is mainly due to the implementation of reutilization practices and enhancements to measuring and monitoring systems.

Total discharge of liquid effluents generated by destination

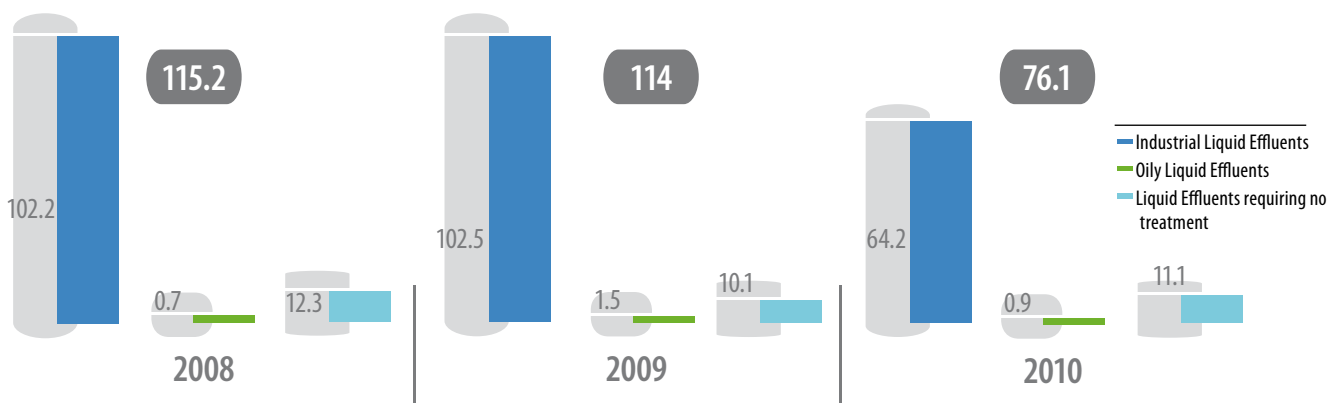


* Lakes, lagoons, wetlands, disposal in the ground and disposal to third parties.

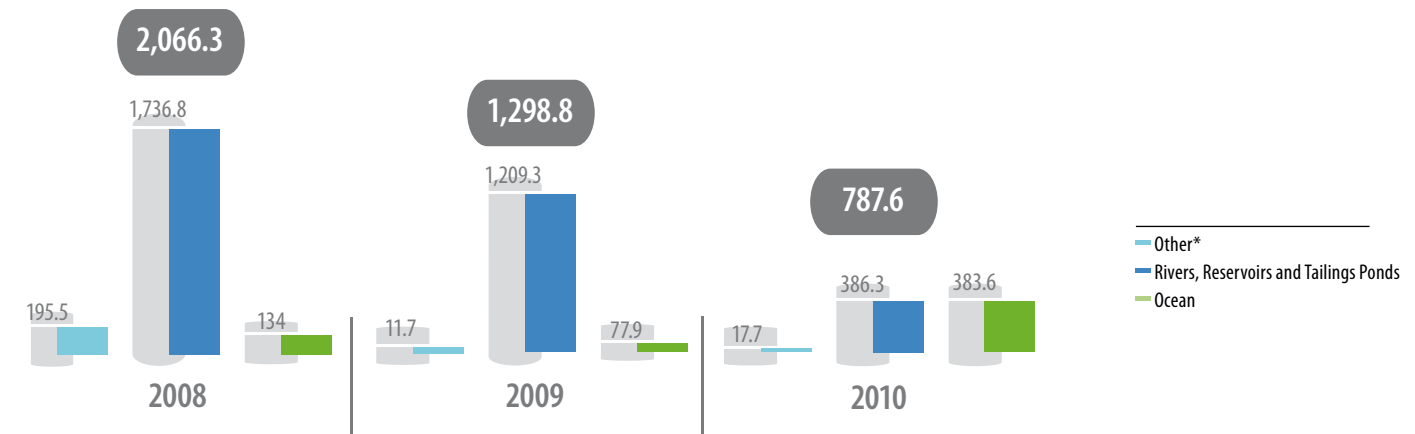
2010 being the second year that Vale has reported the qualitative nature of effluents generated, the data collection methodology is still being enhanced by the company. The data were consolidated considering the total suspended solids parameter, covering all business area and subject to environmental monitoring.

¹ One of the premises used by the company when collecting data for this indicator is that the volumes of water released from tailings ponds are not reported as effluents, to avoid interference due to rainfall contributions, natural drainage around ponds and river flow. The volumes of effluents are measured at the generation points. In addition, tailings flows containing water are reported in a specific indicator. Therefore, it is not possible to use indicators EN8, EN10 and EN21 in order to analyze the water balance.

Total volume of liquid effluents generated by type (million m³)



Liquid effluents requiring no treatment refer to water used in the cooling process and other processes that do not alter qualitative characteristics to the point of demanding treatment prior to discharge. The PT International Nickel Indonesia and Thompson units in the Nickel business area provided no data on effluents generated in 2010, as a need to adapt the data collection methodology used by these operations had been identified.

Total discharge of total suspended solids by destination (thousand kg)

* Lakes, lagoons, wetlands, disposal in the ground and disposal by third parties.

Waste management and disposal

The correct storage of waste, final disposal of materials and their traceability are the main foundations for waste management at Vale. According to the Sustainability Action Plan (SAP) (more information on page 17), the generation of waste was the topic with the largest number of enhancement actions: 261 actions are due to take place between 2010 and 2012, with a forecast investment of US\$37.1 million.

Vale has implemented various measures to make better use of waste, from separation of different materials to the application of new technologies for reprocessing that allow utilization in other production chains. The company has also made local investments in this area. One of the high points of 2010 was Vale's agreement with the Brazilian Business Commitment for Recycling (Centro Empresarial pela Reciclagem, CEMPRE), a non-profit association focused on awareness raising, to make recycling feasible. Over the course of 2011, this partnership will develop capacity-raising projects for recyclers in the areas where the company operates.

All of the entities that receive the company's waste must be approved using strict criteria to assess their environmental control performance. Vale's key principles for waste management are correct storage, final disposal of materials and their traceability.

In the case of waste that will not be processed, the material is disposed of in industrial or sanitary landfills with appropriate environmental controls. This final disposal also considers the nature of the waste, with separation of hazardous and non-hazardous items.

Waste generation and disposal

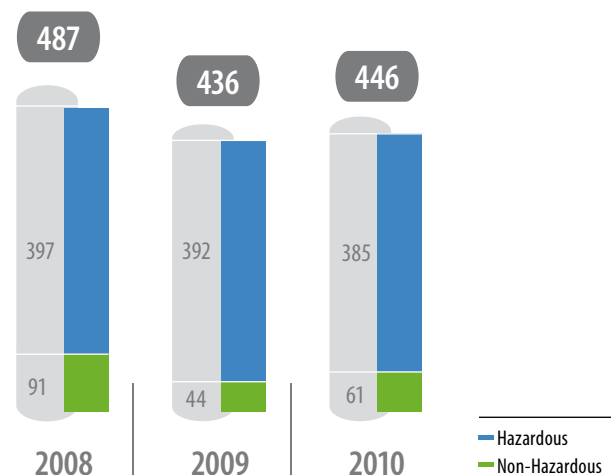
In 2010, Vale generated a total of 446,000 metric tons of waste - 385,000 metric tons of non-hazardous waste and 61,000 metric tons of hazardous waste. Despite the resumption of production at all units, there was a decrease in the generation of non-hazardous waste at the company in relation to 2009.

The main waste generators at Vale are the iron and nickel areas, each corresponding to approximately 30% of generation, followed by the manganese and aluminum areas.

Vale's waste generation performance can be divided into two categories:

- Significant increase (39%) in the generation of hazardous waste, mainly related to atmospheric emission control systems at manganese furnaces, as a result of their resumed production. On the other hand, business areas that implemented the SAP in 2010 saw a decrease of over 4% in the generation of oily waste, the main hazardous waste in terms of volume in Vale's operations;
- Reduction in the generation of non-hazardous waste (2%), which accounts for the bulk of waste generated, mainly due to the finalization of expansion work at aluminum units.

Vale's priorities continue to be to reduce hazardous waste generation, minimize disposal in the ground and maximize utilization. Since 2009 was a year of shutdowns for certain operations due to the crisis, a large number of maintenance projects took place, in addition to the expansion of aluminum operations,

Consolidated amount of waste generated (thousand metric tons)

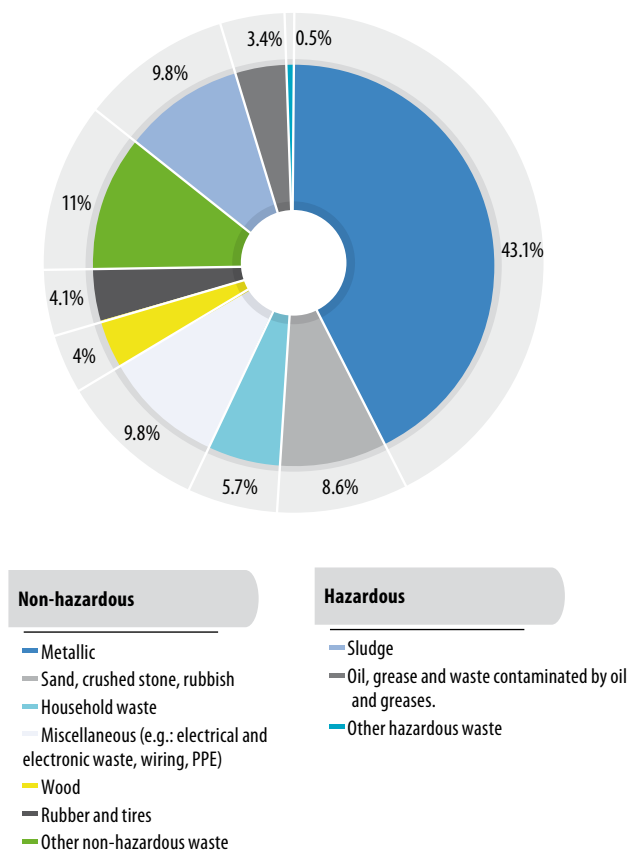
which significantly increased the amount of waste generated by construction work. This waste was disposed of in landfills, changing Vale's final disposal profile in relation to previous years. In 2010, Vale's final disposal profile returned to normal, with 48% of waste recycled.

In relation to hazardous waste transported across international borders (in line with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal), this practice is not adopted at Vale, and no movements of this kind occurred in 2010.

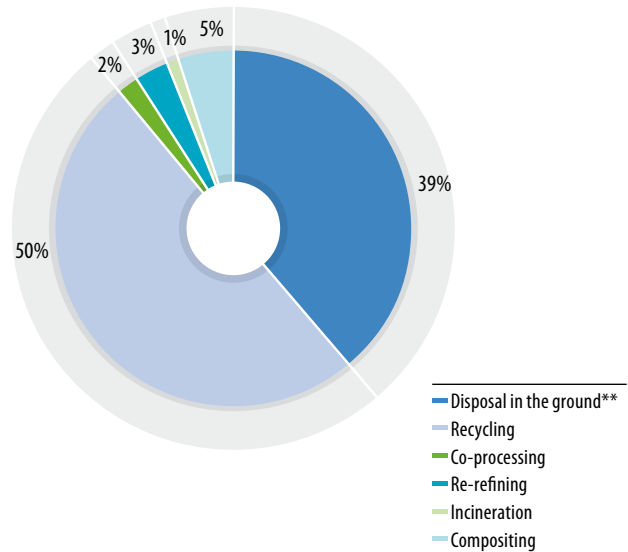
Mining and metallurgy waste

Vale implemented its Tailings Dams and Piles Management System (SGBP) at coal units in Australia and nickel units in Indonesia and Sudbury, Canada, in 2010. This online management tool is used to help make decisions regarding investments in new structures, devise strategies for production increases, and monitor the implementation of action plans resulting from local and corporate audits, license conditions and operational demands for tailings dams and piles.

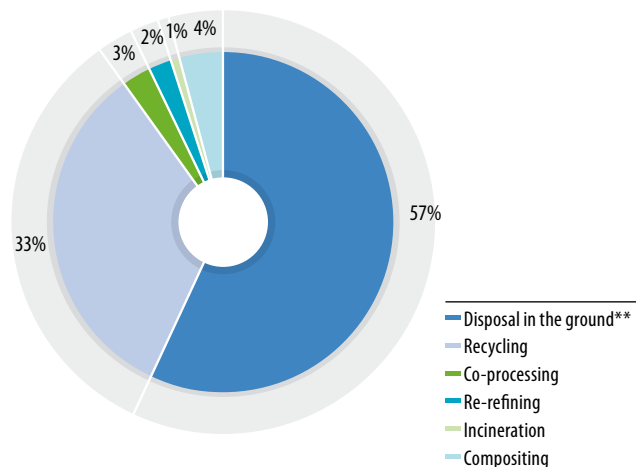
Total generation in 2010 by type of waste (Total = 446,000 metric tons)



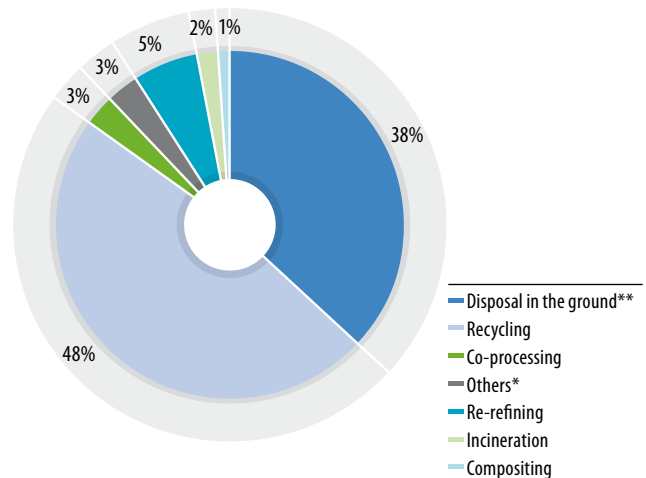
Vale - Final waste disposal in 2008 476,000 metric tons



Vale - Final waste disposal in 2009 422,000 metric tons



Vale - Final waste disposal in 2010 464,000 metric tons



Differences between the amount of waste generated and the amount finally disposed of are explained by temporary stocks.

* Others: Biological Treatment.

** Disposal in the ground: External sanitary landfills, internal sanitary landfills and disposal in waste rock piles and underground.

In real time, the Tailings Dams and Piles Management System (SGBP) allows the consolidation and distribution of information regarding geotechnical structures, and it can monitor associated risks and keep these within levels tolerated by Vale. The management of tailings dams and waste rock piles includes the holding of a corporate technical safety audit every three years at Vale's 270 dams and 230 waste rock piles in Brazil. The next one will take place in 2011, and will also include Australian operations.

In 2010, even with an increase in the quantity of tailings and waste rock due to higher production – 726 million metric tons – geo-technical structures' safety performance indicators remained within the company's established standards and internationally recognized standards.

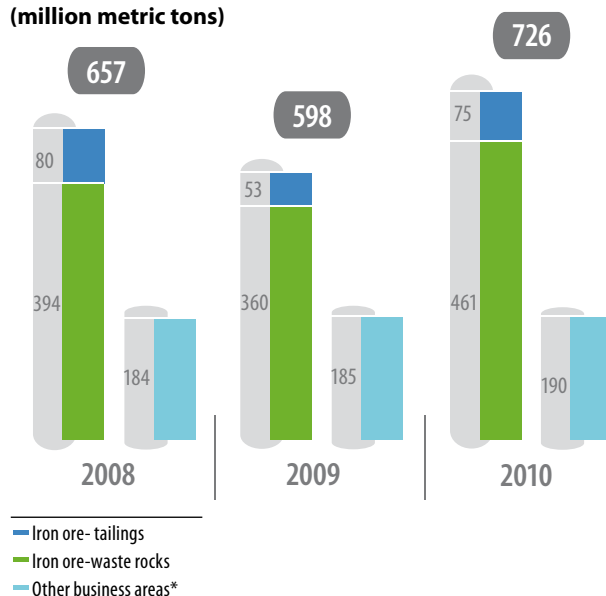
In addition to the technical audits, the management process is assessed periodically through specific audits of compliance with Sarbanes-Oxley Act control requirements.

At Vale's units in Sudbury, Canada, and at PT International Nickel Indonesia, risks are initially assessed by a board of external specialists (Geotechnical Review Board), which provides an overview with recommendations and instructions for enhancements. The board meets on an annual basis to revise all aspects regarding the structure, construction and operation of waste disposal sites.

The company is also engaged with environmental protection associations. Vale Canada and its subsidiaries are members of the International Network for Acid Prevention (INAP), a global initiative that develops ways to avoid risks of environmental contamination arising from mining waste.

At all of Vale's copper and nickel units, the potential for metals to leach out of waste rock piles is assessed when projects are

Total ore and metallurgical waste (million metric tons)



* Include waste rock and tailings from nickel, potash, manganese, coal and copper mines, as well as slag (manganese alloy), red clay (alumina) and Spent Pot Liner (aluminum).

developed and mine closure plans are produced. The results are used to identify strategies for the location, segregation and disposal of waste rock generated by operating mines.

Recycling

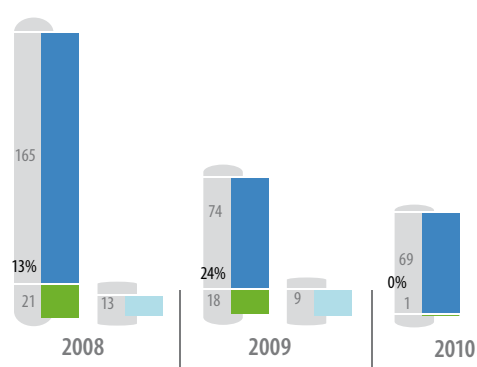
In order to enhance its recycling initiatives, in 2010 Vale began a pilot lifecycle assessment (LCA) at the Vargem Grande unit (Minas Gerais, Brazil), for iron pellets. The work will serve as a basis for developing lifecycle assessments at other pelletizing plants. The idea is to identify opportunities to minimize waste generation and enable an increase in post-sale recycling.



Although there are not many opportunities for recycling associated with mining, logistics and energy generation activities, Vale reuses certain post-consumption products in the nickel chain. The drop presented in 2010 in relation to the use of post-consumption material is due to the sale of the Valesul aluminum operations, since aluminum is an easy material to reuse, and reuse practices are already built into its value chain.

Vale's nickel operations also reuse products, at industrial units in Thompson, Canada and Vale Europe (Acton Refinery, UK). In 2010, 71%¹ of the products sold in Acton were obtained from reclaimed material.

Post-consumption materials used as a percentage of sales (thousand metric tons)

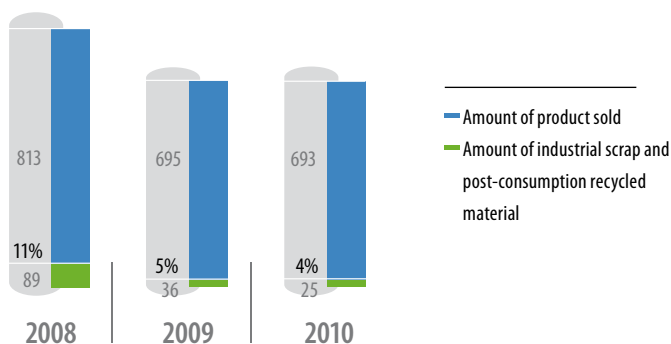


— Amount of product sold
— Amount of post consumption recycled material
— Amount of products and packages internally recycled

% (Post-consumption recycled material / products sold).

The percentages presented do not include internal recycling, in line with the GRI methodology. Internal recycling is shown on a separate bar. The data include nickel operations (Sudbury, Thompson, Acton Refinery and Inmetco – the latter only for 2008) and potash, kaolin and phosphate operations (Vale Fertilizantes). The aluminum data for Valesul are only included for 2008 and 2009.

Secondary material used as a percentage of sales (thousand metric tons)



% (Post-consumption recycled material + industrial scrap) / (products).

The percentages presented do not include internal recycling, in line with the GRI methodology. The data include aluminum operations (Albras and Alunorte), nickel operations (Sudbury, Thompson, Acton Refinery and Inmetco – the latter only for 2008) and potash, kaolin and phosphate operations (Vale Fertilizantes).

¹ This percentage results from the amount of industrial scrap material compared with products sold.

Materials used

Vale's main aim in optimizing its materials management is the reduction of its costs and stock levels. The items listed in the table below are the major inputs for Vale's production process, including the whole production chain, from mining and processing to pelletizing and logistics. The company has added two more items since 2009: mill balls and tracks. Given the volumes involved, these items became significant enough for inclusion in 2010.

With the exception of crossties made of certified wood, the other materials are classified as non-renewable.

Through the acquisition of Vale Fertilizantes, the company has obtained a 96% reduction in its purchases of ammonium nitrate, one of Vale's main inputs. The increase in other inputs is directly related to the production growth achieved in 2010.

According to a survey, the recycled product usage rate among Vale's main suppliers varies between 0% and 10%. The consumption of fuel, another of the company's significant inputs, is specified together with energy-related items (page 67).

Material Category	Unit	2009	2010
Ammonium Nitrate	Thousand metric tons	122.9	5.5
Conveyor belts	Thousand meters	303.0	494.1
Crossties	Million unit	1.1	1.4
Explosives	Thousand metric tons	25.8	28.6
Lubricant oil	Million litres	23.1	30.4
Off-highway truck tires	Thousand units	4.3**	7.1
Tracks*	Thousand metric tons		191.7
Mill Balls*	Thousand metric tons		44.3

* Only includes operations in Brazil and Canada.

** Does not include data from Vale Canada.

Environmental Risk Management

In its activities, Vale deals with the production, acquisition, storage, handling, use, transfer and disposal of various chemical products. Among these are inorganic acids (nitric, sulfuric, and phosphoric, for example), solvents, lube and fuel oils, some of them potentially hazardous.

In managing these materials, the company uses technical and operating procedures, preventive control devices, qualified teams, specialist consultants and periodic audits to identify and minimize the risks of its operations, in addition to complying with legislation and other applicable requirements. Each of Vale's operating units also has a specific Emergency Response Plan and trained personnel so as to minimize losses and harm to people and the environment.

The chemical processes associated with the production of phosphate and nitrogen fertilizers, as well as their respective raw materials, intermediate products and final products, are also subjected to a continuous risk management process. Specific tools identify and evaluate major deviations and establish how to manage predictive and preventive maintenance, providing security for the entire process.

In 2010, the company started an assessment of lockout devices and emergency actions associated with significant risks in mining, railroad, port, pelletizing plant and ferroalloy plant operations. The idea is to verify the effectiveness of preventive actions in terms of design, installation, inspection, and maintenance, in addition to the correct qualitative and quantitative dimensioning of materials and equipment related to emergency actions. As a result, existing lockout devices have been improved and the need for additional devices has been identified, helping to reduce the probability of incidents occurring.

Fourteen operations have been assessed in seven Brazilian states (Minas Gerais, Espírito Santo, Pará, Maranhão, Rio de Janeiro, Sergipe, and Bahia). The work verified barriers associated with the most significant environmental accident hazards in terms of severity. These include:

- Preventive barriers: Safety requirements associated with projects, operating and maintenance procedures, inspection and technical/operational training;
- Control/detection barriers: Gauges, sensors, and alarms;
- Containment barriers: Interruption and blocking devices and physical barriers;
- Mitigation barriers: Emergency plans, firefighting systems, control equipment for chemical product spills etc.

Another development in 2010 regards the communication process. Vale's Instruction for Classification and Communication of Environmental Occurrences, published in 2009, were revised and the document's scope was expanded to the global level. The Instruction establish the methodology for classifying accidents and promote the reporting of such incidents, aiming at support, management, and follow up. This initiative has standardized accident classification and reporting criteria at all of Vale's operations, thereby facilitating decision making by the responsible areas.

In 2010, there were no spills deemed significant¹.

¹ A significant spill as defined by the GRI corresponds to the definition of critical accident used by Vale, i.e. one that extends beyond the operating site and causes a residual impact on the environment and/or health and safety, inside or outside the operating unit, after the conclusion of mitigation procedures.

² Emissions of particulate matter, NOx and SOx arising from phosphate and nitrogen fertilizer assets incorporated by Vale in 2010 are not included in this report.

Control of Emissions

In this report, Vale discloses all of its emissions² of sulfur oxides (SOx), nitrogen oxides (NOx) and particulate matter (PM) from stationary sources. These substances have no global effect and their impacts on air quality relate to local concentrations and conditions.

Emissions of Particulate Matter

The balance of particulate matter emissions was obtained by monitoring data on stacks at operating units and, in certain cases, through the application of emission factors calculated based on operating parameters. Mobile and diffuse sources were not included in the report, since there is no specific and acknowledged methodology for calculating or measuring them.

Total emissions of particulate matter in 2010 were 6,600 metric tons, 29% up on 2009, mostly due to resumed production at pelletizing units. The emissions are composed of discharges from stacks and ducts in various production processes, and correspond to particulate matter not retained by pollution control equipment installed at these sources, which may achieve removal efficiencies in excess of 99%.

The most significant emissions are present in nickel, aluminum, and pelletizing plants, which are responsible for 94% of Vale's emissions. (Read about Vale's wind fence initiative to cut particulate matter emissions on page 56).

Emissions of Nitrogen Oxides (NOx)

Emissions of NOx are directly related to the quantity of fuels used in combustion processes. The calculation of emissions was performed using specific emission factors that allow the quantity of NOx produced to be gauged based on the quantities of each type of fuel used and the various types of equipment where they are consumed. In certain cases, NOx emissions were calculated through direct monitoring of exhaust gases.

The logistics and iron and nickel mining operations stand out as the main generators of nitrogen oxides, accounting for 74% of them. This is due to the predominance of internal combustion equipment, such as locomotives and diesel-powered mining equipment, whose processes have a high rate of NOx formation. Other fuel-intensive operations such as pelletizing, refineries and smelters have a lower relative contribution since they use external combustion equipment (boilers, furnaces and calciners), which produce lower rates of NOx.

Total emissions of NO_x were 110,000 metric tons in 2010, an increase of approximately 30% in relation to the previous year. This increase resulted from the growth in iron ore production, the resumption of nickel production and pelletizing operations, the inclusion of Sociedad Portuaria Rio Cordoba and the water transport operations of Transbarga (TBN) and, mostly notably, the significant increase in the movement of ships owned by Vale.

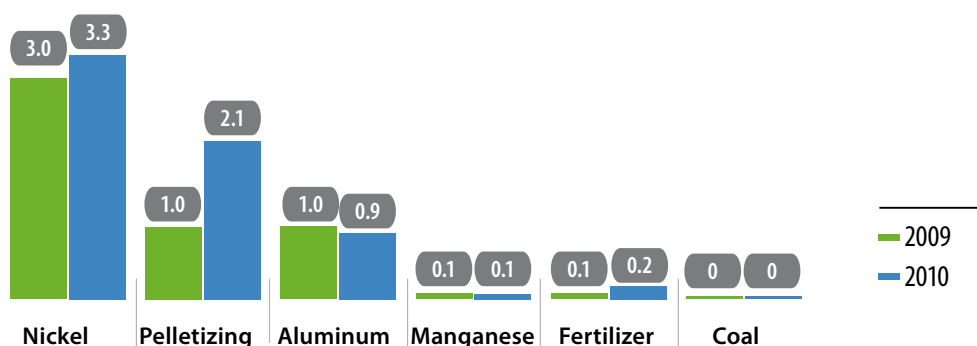
Emissions of Sulfur Oxides (SO_x)

In addition to fuel burning, certain production processes constitute major sources of SO_x emissions at Vale. To calculate the quantity generated by fuels, the basis used was fuel consumption and the respective sulfur content, considering that this element present in fuels is converted into SO₂ or SO₃. Emissions arising from

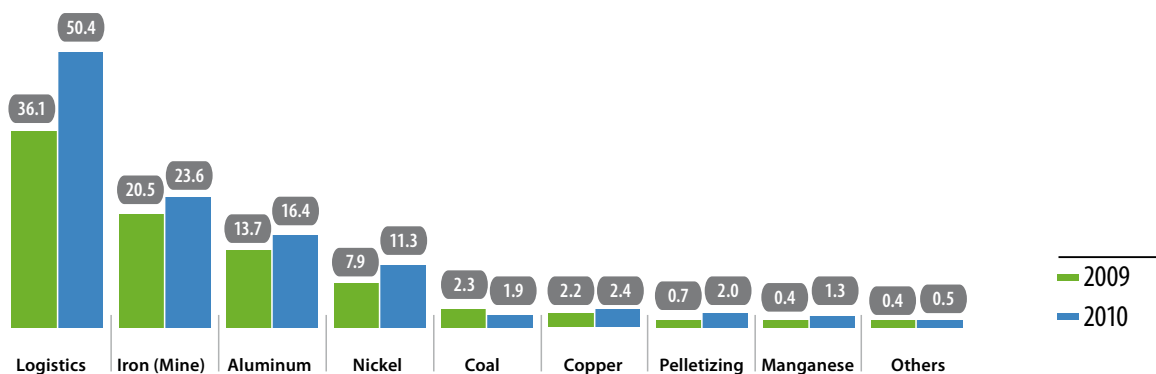
the process were calculated based on mass, given that all sulfur added and not present in products and residues is given off in the form of SO_x. Certain emission sources had their quantities of SO_x emissions calculated through direct monitoring of exhaust gases released into the atmosphere.

Total emissions of sulfur oxides registered in 2010 were 403,000 metric tons, mainly from smelter plants and refineries that process sulfur-containing ores, followed by aluminum and pelletizing plants. An increase of approximately 25% on the previous year was caused by the return to normal operations in Sudbury (Canada), increased movements by Vale's own ships and the resumption of pelletizing operations in São Luís, Maranhão (halted in 2009), which suffered as a result of being the only one of Vale's plants unable to run on natural gas.

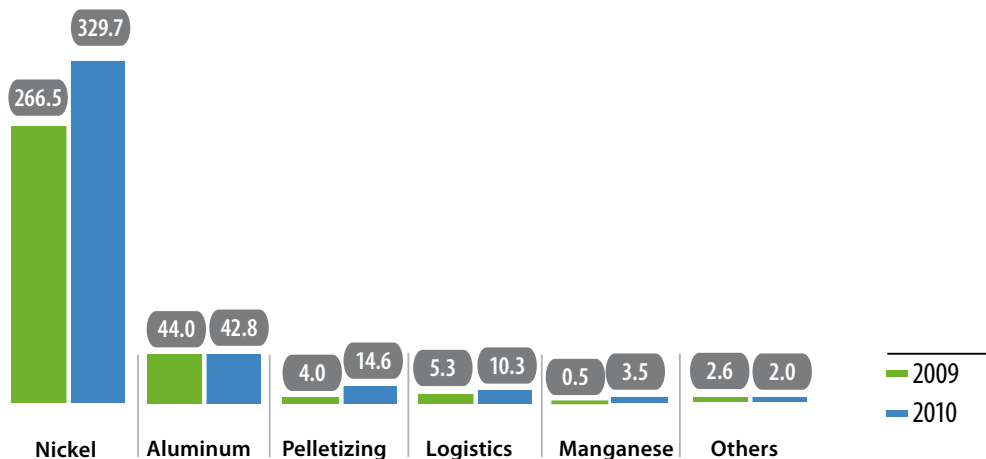
Particulate Matter Emissions (thousand metric tons)



Emissions of Nitrogen Oxides (thousand metric tons)



Emissions of Sulfur Oxides (thousand metric tons)



Compliance

Vale manages environmental compliance based on continuous monitoring and assessment. The search for more agile solutions for possible occurrences is also ever present at the company.

In 2010, six cases deemed significant or relevant occurred¹. During this period, no fines were paid, nor were any non-monetary sanctions² imposed within the significance criteria used.

In Espírito Santo, Brazil, a collective lawsuit is underway, brought against Vale by the Parati and Ubu Fishermen's Association (APUP) for alleged environmental damage and interference in fishing due to maritime surveys. The company has already presented its defense in this case.

Urucum Mineração S.A. was summoned to contest a civil lawsuit at the Public Finance Court of Corumbá, which demands the rehabilitation of the Urucum Stream and environmental moral damages.

Vale took on a number of lawsuits as a result of its acquisition of fertilizer assets in Brazil. One relates to alleged pollution at the Uberaba operation, another relates to the restoration of Serra do Mar Park, and a third lawsuit challenges the environmental license granted for the Anitapólis project in Santa Catarina. Vale is also defending itself in a set of compensation lawsuits in the community of Barreiro em Araxá, in Minas Gerais, Brazil.

¹ Legal proceedings are considered significant based on the following criteria: a) their value, including compensation claims and fines; b) whether they involve a subject of interest to the company or affecting the general public, regardless of value; c) those resulting from non-monetary sanctions.

² The reported lawsuits involved estimated values of fines and sums (based on the amount claimed in the court proceedings). These do not, however, represent real and certain amounts, in the absence of a final decision or acceptance by Vale. As a result, in order to best meet the scope of the EN28 GRI indicator, Vale now only reports existing cases that meet the significant criteria, disclosing only those values acknowledged as owed or already paid by Vale. The aim is to avoid any distortion of reality concerning administrative and judicial proceedings that, as they are awaiting the final decision, cannot normally be accounted for precisely.

CASE

BRAZIL

Environmental Attitudes program wins ECO 2010 award

Ourilândia do Norte, a town of only 27,000 inhabitants in Southeastern Pará, is home to Vale's Onça Puma nickel project. In 2010, even before the start of commercial production at the mine, the project earned the company recognition because of its commitment to sustainability and the environment. Vale's Environmental Attitudes Program won a 2010 ECO award based on a case study of Ourilândia do Norte – Onça Puma.

The awards are sponsored jointly by the American Chamber of Commerce (Amcham) together with Valor Econômico, a financial newspaper, in order to ensure greater visibility for the initiative. Vale stood out in the Sustainability in New Projects (Large Companies) category, in which companies were evaluated for their strategic incorporation

of sustainability from the outset in projects involving the establishment of production units or businesses. In all, the contest had 82 entries and 12 winners.

Environmental Attitudes is an educational program whose goal is to encourage changes in attitudes and behavior regarding environmental issues. The program is intended for two major audiences: internal (leaders, specialists, operational technicians and contractors) and external (including people from schools and communities).

The first out of three program modules has been conducted in ten locations in Brazil. Ourilândia do Norte was chosen as a case study to compete for the ECO 2010 awards since it is the only region that has not yet started operations. In the city, 430 employees were trained in the first module. The second module will happen in 2011.



The Environmental Attitudes Program was born out of the need to meet certain requirements in order to obtain environmental permits for operations. Some requirements included the development and implementation of an environmental education program for groups affected by the project. Vale understood that rather than simply meeting a requirement, education could be a transformational process by which the company could use its environmental performance to incorporate the theme into its day-to-day activities.



Vale developed its Environmental Management System to ensure compliance with its Sustainable Development Policy and Environmental Guidelines

For the cases reported in 2009, regarding the administrative fine imposed by the municipality of Guapimirim for the railroad accident on the Ferrovia Centro-Atlântica (FCA), controlled by Vale, which took place in the municipality of Itaboraí, in Rio de Janeiro, Vale obtained a favorable result at the first and second levels of appeal to cancel the fine. The two environmental fines imposed by the State Environment Institute (INEA) were suspended and fulfillment of the conduct adjustment agreement is awaited.

Two significant lawsuits remain under way concerning Vale's iron mines in Itabira (Minas Gerais, Brazil), involving claims for damages. Four lawsuits also continue with respect to the licensing of the MBR company's Capão Xavier mine in Belo Horizonte (Minas Gerais, Brazil). In the municipality of Vitória (Espírito Santo, Brazil), a lawsuit for alleged atmospheric pollution continues to proceed.

In the lawsuits regarding Alunorte¹ and Vale described in the previous report, the companies presented their administrative defenses. Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) brought a proceeding against Alunorte, a company controlled by Vale, for allegedly polluting the Murucupi River by releasing effluents in water courses during bauxite processing. In another case, the environmental entity requested clarification regarding the Carajás Railroad's crossties.

In Canada, remains i) a civil lawsuit in which there is an allegation of decline in the value of residences as a result of supposed historical contamination of the soil related to the Port Colborne refinery; ii) and another civil action in which

there is an allegation of a supposed contamination as a result of emissions from Port Colborne refinery which could bring impacts to the propriety and to the health of the plaintiff. In both cases the company is presenting its defense.

In relation to the case concerning the Carajás Railroad, in 2010 the National Environment Council (Conama) issued an administrative appeal, terminating the case mentioned in the 2009 Sustainability Report² at the administrative level. For all cases reported, Vale believes it will obtain favorable results.

Energy

Ensuring energy supplies is the priority of Vale's Energy Department. The company seeks solutions aligned with its Corporate Guidelines on Climate Change and Carbon in four areas: the development of new renewable energy sources, the establishment of consumption reduction mechanisms, the search for energy supplies to ensure the sustainability and competitiveness of operations, and the generation of value throughout the development of mining projects through more reliable energy solutions.

Every year, new initiatives focused on the use of renewable energy sources and the systemization of information are conducted to assist in strategic decision making and promote the reduction of operating risks. These efforts are underpinned by conceptual and basic engineering studies aimed at identifying energy efficiency projects and installing automatic energy gauges in plants to measure consumption in the different processes.

¹ In the first quarter of 2011, Vale completed the transfer of alumina refining assets to Norsk Hydro ASA (Hydro). See more on page 22 in the Business Performance chapter.

² In January 2011, Vale filed a lawsuit to annul a fine imposed in the Carajás Railroad proceeding.

In 2010, Vale implemented an automatic power measuring system at the Brucutu plants in Minas Gerais, and concluded engineering surveys at the Carajás operations and the town of Carajás in Pará, the Vale Manganese Barbacena and Fábrica Nova operations in Minas Gerais, and a pelletizing plant in Espírito Santo. Another 22 projects were started, in areas ranging from leak repairs to the replacement of equipment.

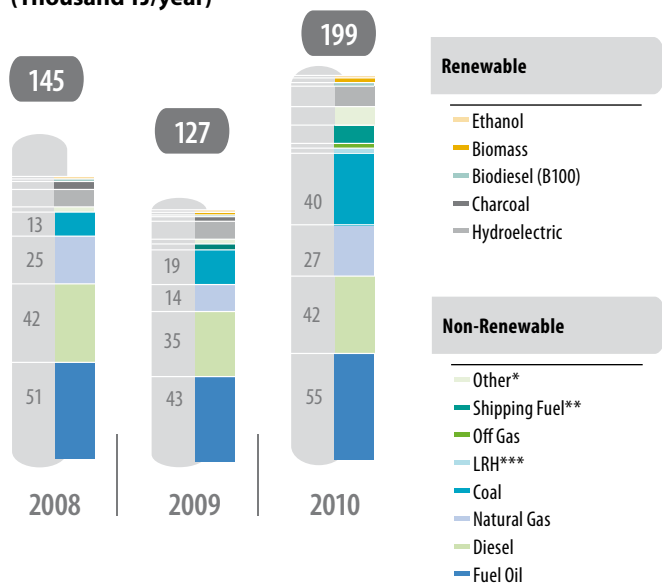
Technical energy efficiency training on topics such as compressed air, water and slurry pumping, electric motors, drives and conveyors benefited over 100 employees in various business areas, including managers and technicians.

Direct energy consumption

In 2010, direct energy consumption totaled 199,000 TJ, an increase of 56% in relation to the previous year. An increase in consumption was recorded in almost all energy sources. The causes include the increase in production in 2010, the acquisition of companies such as Vale Fertilizantes, and improved data collection (the inclusion of new fuel sources).

Consumption of coke, not previously included in ferroalloy units, was almost nine times higher than the total consumed in 2009. There was also an increase of 117% in consumption of coal used in pelletizing to improve pellet burning, which was not previously reported as an energy input.

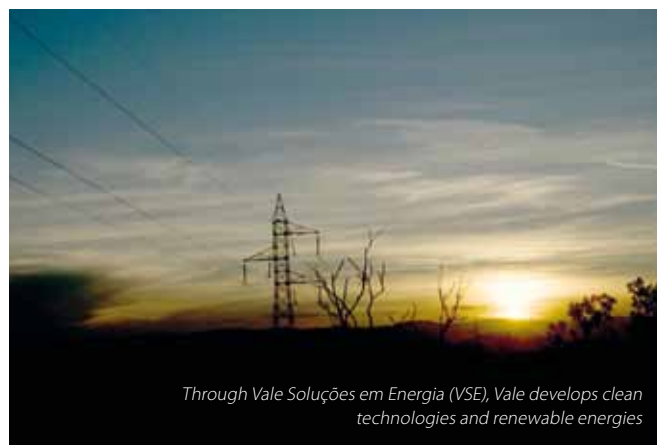
**Aggregate consumption of fuels
(Thousand TJ/year)**



* Kerosene, LPG/propane, gasoline, coke, CO rich gas, residual oil, methanol, jet fuel

** Intermediate fuel oil (IFO) and marine gas oil (MGO)

*** Light Refinery Hydrocarbons. Gas consumed in ammonia (fertilizers) production



CASE

BRAZIL

From slurry to eco-friendly roof tiles

Vale's urge to innovate and its concern for the balance between the conservation of natural resources and socioeconomic development in the regions where it operates have led to new discoveries and uses for various materials. At Corumbá Complex, where the company operates an underground manganese mine and an open-pit iron ore mine, Vale's Environment area, in conjunction with company Projemix Resilix Reciclagem do Brasil, has developed a project that turns iron ore slurry into low-cost construction materials such as roofing tiles and bricks.

The process eliminates the use of natural resources such as wood and clay in firing, instead using slurry, construction waste, binder and a catalyst. In addition to a reduction in energy consumption, significant environmental gains have been achieved, such as a reduction in air, soil and water pollution.

The tiles produced from the ore slurry were tested for durability and absorption at the Federal University of Mato Grosso do Sul (UFMS). UFMS confirmed the reliability of the material, which in turn resulted in its certification as a building material. The technological innovation was first used in the construction of the canteen roof at Urucum mine.

The technology is now under patent consideration. Vale plans to donate slurry to community organizations so that they can use it in the manufacture of tiles to build social housing.

Roofing tiles and bricks are just the first step in the use of ore slurry in construction materials. "The project has been so successful that we have gone further by asking ourselves what else we can make. We can produce underlay, cobblestones and sidewalks, among other types of materials," says Marconi Andrade, Environment Manager at Corumbá.

And the research does not stop there. Tests have revealed multiple uses for the material. Vale's Corumbá environmental unit, in conjunction with UFMS, is developing new technologies to replace the sand used in building plaster.

Vale's consumption of diesel grew 19%, reaching 42,000 TJ – approximately 1.2 billion liters. Of total consumption, 85% contained some biodiesel, varying between 2%, 3%, 4%, 5%, and 10%. B10 diesel, containing 10% biodiesel, was used at El Hatillo coal mine and the Rio Cordoba Port in Colombia.

Consumption of natural gas almost doubled from 2009 to 2010 – an increase linked not only to the growth in production at nickel units in Canada and pelletizing plants, but also to the incorporation of data on Vale Fertilizantes, which accounted for approximately 8% of Vale's natural gas consumption. Another reason was the full operation of the Vargem Grande pelletizing plant. LPG also saw a significant increase, from 163,000 gigajoules to over 5 million gigajoules. This increase is also due to fertilizer operations.

The acquisition of Vale Fertilizantes did not only lead to an increase in the consumption of natural gas and LPG, but also of new fuels such as biomass, light refinery hydrocarbons, off gas and methanol, contributing even more to the diversity of Vale's energy sources.

Demand for fuel oil, in turn, increased by around 30% in relation to the previous year, due to fertilizer acquisitions and consequent data incorporation.

In 2010, an increase of 8% in the consumption of renewable energy was also recorded. Vale did not use any charcoal in 2010, but this was more than offset by the consumption of biomass for the first time and increased use of biodiesel and ethanol.

Indirect energy consumption

In comparison with 2009, electricity consumption rose by 28%, to 19 TWh, largely due to the resumption in production at units that had stopped or reduced their activities the previous year, except the Urucum ferroalloy unit, which remained inactive. Vale's phosphate and fertilizer units, not included in 2009, accounted for 10% of total indirect power consumed.

In Brazil, the increase in consumption was 30%. Increases were also recorded in other countries, notably Australia (18% up on 2009), and Vale Canada (16%).



Igarapava hydroelectric plant is part of the energy supply mix that ensures the sustainability of Vale's operations and projects

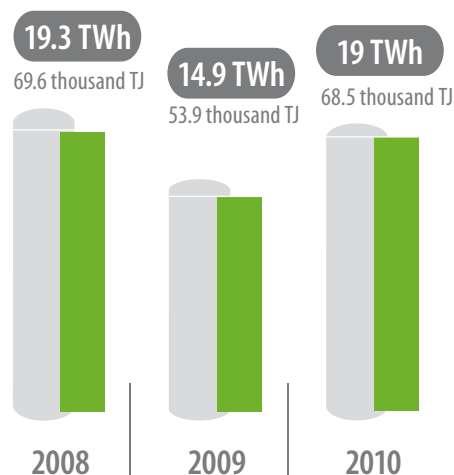
Total direct energy consumption in standard units

Fuel	2008	2009	2010	Units
Charcoal	155	75	0	thousand metric tons
Coal	906	600	757	thousand metric tons
Natural Gas	703	381	746	million m ³
LPG	2,338	3,502	109,336	metric tons
Fuel oil	847	721	936	thousand metric tons
Gasoline	4	2	4	million liters
Diesel*	239	139	172.9	million liters
B2, B3, B4 Diesel	959	684	1,054	million liters
Kerosene	6	3	9	million liters
Propane	428	280	483	thousand m ³
Coke	23	14	120	thousand metric tons
CO Rich Gas	8	15	17	million m ³
SHPs	2.2	2.1	2.25	TWh
Off Gas	0	0	45,1	metric tons
Light Refinery Hydrocarbons	0	0	37	millions of tons
Methanol	0	0	3	million liters

*The total for Diesel also includes shipping diesel (L1 Diesel).

Oil and Natural Gas

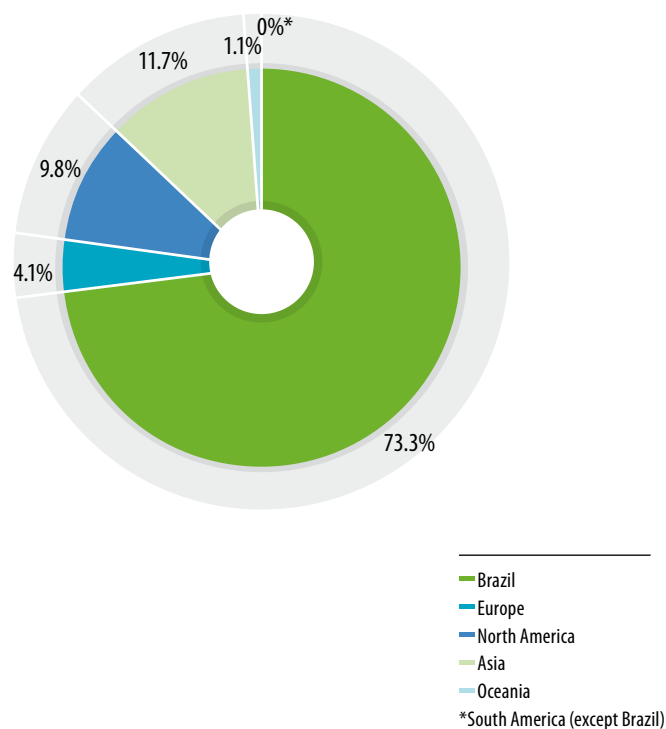
Vale's natural gas consumption in Brazil will reach over 15 million m³/day in 2020, considering new projects, consumers and energy replacement actions. To mitigate natural gas price volatility and supply risks, Vale has an exploration portfolio composed of 22 blocks in four oil basins in the country. The company is a member of a consortium that has so far drilled 11 offshore wells in the Santos and Espírito Santo basins, which are now undergoing reserve assessment tests.

Total consumption of indirect energy**Total consumption of electricity**

In 2010, Vale's total consumption of electricity was 22 TWh. Of this total, 32% (6 TWh) was generated by the company's own plants, thermal generators and co-generators. In Brazil, the company produced 27% of its own electric power needs – 23% from hydroelectric plants and Small Hydroelectric Plant (SHPs) and the other 3.8% from CADAM's thermal power plant and Alunorte's cogeneration facilities.

In Canada, the Sudbury operations have hydroelectric plants that generated 16% of their power consumption. Vale's Newfoundland and Labrador units have diesel-powered thermal power plants since they are far from the main distribution network. PT International Nickel Indonesia generated 100% of the energy it used, mostly from hydroelectric plants (81%) and the rest from fuel oil generators.

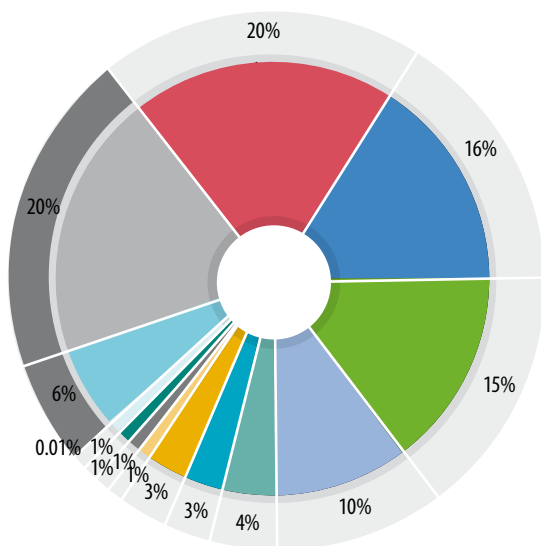
Several energy generation projects are in the final construction stage. In 2011, the Estreito hydro plant in Brazil and the Karebee hydro plant in Indonesia are due to come on line. The latter project will meet the demand currently generated by fuel oil, thereby reducing the unit's emissions.

Breakdown of total electricity consumption



Vale generates 27% of the electricity it consumes in Brazil, mainly from hydroelectric sources

Breakdown of Total Energy Sources in 2010 (Total = 267,000 TJ)



Indirect energy

- Acquired Electricity-Renewable¹
- Acquired Electricity-Other²

Direct energy

- Fuel oil
- Diesel
- Coal
- Natural Gas
- Other³
- Hydroelectric Plants
- Shipping Fuels⁴
- Off Gas
- Biomass
- Biodiesel (B100)
- Light Refinery Hydrocarbons
- Ethanol

No charcoal was consumed in 2010.

¹ Hydroelectric and biomass.

² Nuclear and thermal.

³ Kerosene, LPG/Propane, Gasoline, Coke, CO rich gas, Propane, Residual Oil, Methanol and Jet Fuel.

⁴ Intermediate Fuel Oil (IFO) and Marine Gas Oil (MGO).

Vale invests in clean energy

Biodiesel Production

Vale is investing in biodiesel production by participating in a consortium with Biopalma da Amazonia S.A.¹ that will produce palm oil, a raw material used to make biodiesel for B20 (a blend of 20% biodiesel and 80% fossil diesel).

It is expected that by 2020, due to a federal program encouraging biofuel production, vehicles will have to use a 20% biodiesel blend.

Vale is working to use B20 from 2015 on to fuel its fleet of locomotives, heavy equipment and machinery in the company's North system, meeting the proposed regulations for 2020 well in advance. This replacement will directly reduce greenhouse gas emissions at the final consumption stage.

Investment in clean energy

In April 2010, Vale established Vale Energia Limpa S.A. in partnership with a company active in the integration of technologies to produce clean synthetic fuels. The characteristics of these fuels allow increased combustion efficiency in engines as well as reducing emissions of sulfur dioxide and nitrogen dioxide (a greenhouse gas).

Energy solutions

Vale Soluções em Energia (VSE), the result of a partnership with Brazil's development bank, BNDES, is focused on developing clean technologies and renewable energy. VSE operates primarily in the areas of distributed energy generation, gasification, gas and steam turbines and combustion engines, including multi-fuel engines.

¹In 2011, Vale acquired control of Biopalma, in Pará state.

Local Sustainable Development Catalyst

Vale endeavors to act as a catalyst for local development, contributing to the building of a regional legacy in a voluntary manner and through partnerships, so that the company's presence can go beyond operations and projects



Performance by the Vale Music Youth Orchestra at the Teatro da Paz, in Belém (Pará, Brazil)







Culture and Sports Festival in Moatize (Mozambique), organized by Vale to celebrate local traditions



Regional Dialog

Leaving a social, economic and environmental legacy, working in an integrated manner with governments and society, and acting as a catalyst for local development in the medium and long term are Vale's commitments to sustainable development in the areas where it operates

Vale works to contribute to the improvement of people's living standards, strengthening community relations, leveraging social investments, respecting local cultures, conducting structured actions and minimizing the impact of its operations.

The company seeks to promote the use of resources arising from mining investment, such as higher tax revenues, job creation and increased salary payments and family income, to generate opportunities in each region. A reduction in local shortages focusing on infrastructure and housing, the strengthening of public administration, training for workers and suppliers and economic diversification are all part of this work.

To measure the impact of Vale's presence in each region and achieve its mission of contributing to local development, the Vale Foundation, the body responsible for executing this strategy, conducts Integrated Socioeconomic Diagnoses. These surveys have now been produced for all regions where Vale operates in Brazil and Mozambique.

In 2010, in Brazil, diagnoses were completed in the state of Sergipe, in the municipalities in the areas influenced by the Carnalita Potash Project, and diagnoses for southeast Pará were updated. A socioeconomic diagnosis was also begun in Guinea and Liberia, focusing on regions close to the Simandou Project.

Also in 2010, Vale completed a socioeconomic diagnosis for Oman, where the company has opened a pelletizing plant and port.

In Peru, two diagnoses were carried out in the province of Sechura, where the Bayóvar Project is located. One of them was focused on water and sewerage facilities, and the other on fishing activities in the Puerto Rico region. Based on these diagnoses, in 2011, Vale plans to conduct training programs in mariculture, environmental preservation of areas used for mariculture, and the development and strengthening of mariculture and small-scale fishing practices, to improve local conditions in these areas.

For 2011, there are plans to produce diagnoses in the areas where Vale operates in Australia, Indonesia and Malaysia, where a distribution center is being built.

In addition to these diagnoses, other tools are used to support the management of social and environmental impacts in order to avoid or minimize the negative effects of Vale's operations and maximize their positive impacts. Based on environmental impact studies and reports (known as EIA/RIMA in Brazil) and other similar studies, Vale takes into account the potential impacts of its presence in each region, from the pre-feasibility study phase until the end of each project's lifespan. When internally analyzing the feasibility of implementing projects, Vale uses the Front-End Loading (FEL) methodology, which covers social, health, safety and environmental issues, as well as economic and operational risks.

In a summarized form, key positive and negative impacts are listed in the following table:

Potential Impacts

	Direct	Indirect
Positive economic impacts	<ul style="list-style-type: none"> • Job creation • Vocational qualification • Increase in government revenues • Purchase of local products and services • Investment in services and infrastructure 	<ul style="list-style-type: none"> • Economic development • Generation of indirect jobs • Increase in salary payments • Other economic sectors boosted • Suppliers attracted to the area • Development of local suppliers • Investment from various public and private sources attracted • Local infrastructure improved
Negative economic impacts	<ul style="list-style-type: none"> • Environmental impacts • Interference with land use • Risk of accidents 	<ul style="list-style-type: none"> • Pressure on infrastructure and public services • Real estate speculation in remote areas • Generation of economic leakage effect due to hiring of suppliers and employees from other regions because of a lack of local skills

Socioeconomic impacts in 2010

At the Moatize Project in Mozambique, the positive impacts include a higher level of employment. During the implementation phase, over the course of 2010, the project employed an average of 300 Vale employees and 5,400 contractors. Around 1,500 contracts were also signed, with a total value of approximately US\$630 million.

In the expansion phase, it is anticipated that economic activities will expand and diversify and local companies will become stronger. As a consequence, it is expected that new opportunities and businesses will be generated, the regional and national economic profile will change, more workers will join the social welfare system and the public authorities will have a higher capacity to make investments.

In New Caledonia, the VNC Project has contributed to economic growth, particularly because 25% of local activities are related to the mining industry. Developing the project has reduced the unemployment rate in the south of the province from 16.3% to 4.5% and expanded local revenues and consumption. Today, Vale New Caledonia employs 50% of the active population of the Yaté region. On the other hand, the inflation rate has risen and the higher employment rate in traditional areas has resulted in greater pressure on roads, the water supply, telecommunications and public services. In order to minimize these impacts, Vale in New Caledonia signed a 30-year contract with local communities, called the "Pact for Sustainable Development of the Great South," aimed to support local development through three tools: an Environmental Consulting Committee, a foundation and a reforestation program.

Programs

Vale has a number of programs designed to mitigate risks and leverage opportunities in the regions where it is present. They include programs for impact management, vocational training, supplier training, local and traditional community relations, culture, mine closure and other social programs. These programs take place from the implementation phase up to the end of activities, in line with conditions at each site.

The Minas Gerais Reference Group, which establishes an important social dialog channel, is a notable initiative used to develop community relations and manage social impacts. Using this channel, requests from the community reach Vale more quickly, mitigating possible conflicts.

In Manitoba Province, Canada, where Vale produces nickel, the company is a member of the Steering Committee of the Thompson Urban Aboriginal Strategy, a local government initiative to improve social and economic opportunities for indigenous peoples. Through a partnership with the committee, a pilot program has been implemented in order to improve essential skills that will help in the development of these peoples, enabling them to work in the industrial sector.

Knowledge of each region where Vale operates and forecasts of impacts that each project may cause enable the creation of specific, detailed social and environmental management plans that are tailored to local conditions. This is the case with the Inove Program, which since 2008 has been strengthening small and medium suppliers, especially in more remote locations. The Tear Program in Minas Gerais is also training small and medium suppliers, with a focus on corporate social responsibility issues.

Vale also participates in Supplier Development Programs together with trade associations, government entities and teaching institutions. This initiative raises the capacity of local suppliers in order to generate new business opportunities in the regions where the company operates.

Vale Foundation

The Vale Foundation's mission is to contribute to integrated economic, social and environmental development in the regions where Vale operates in Brazil, providing and leveraging social investment, strengthening communities' human capital and respecting local identities.

To support social development in these regions, the Vale Foundation uses a strategic approach based on partnerships with the public authorities, private sector and civil society organizations, integrating actions and maximizing results. This is the idea behind Public-Private Social Partnerships, guiding the Foundation's activities.

The purpose of Public-Private Social Partnerships is to contribute to community development by joining together the efforts, resources and know-how of governments, companies and civil society around a shared vision, generating structured, sustainable social results in the medium and long term.

In this way, the Vale Foundation seeks to contribute to communities, carrying out actions focused on improving urban infrastructure, strengthening public management and developing human and economic capital in each region.

Experience of partnership with Vale Foundation inspires government of Minas Gerais

Uniting the efforts of different groups around a common vision in order to achieve the best results and contribute to regional sustainable development: this is the main objective of Public-Private Social Partnerships. In Minas Gerais, Brazil, this joining of forces was achieved by implementing a local government program through state law 45,488. The law explicitly mentions that it arose from the state government's experience of its partnership with the Vale Foundation.

The initiative combines municipal needs, Vale's social investment and the federal government's public policies, such as the Accelerated Growth Program (PAC) and the My House, My Life Program, both of which prioritize infrastructure and housing. The Vale Foundation coordinates these interests, promoting dialog between municipalities and the federal government and providing technical support for the development of engineering plans to facilitate access to available resources.

Programs and practices by project phase	Licensing /Implementation	Operation	Closure
Environmental, Social and Economic Impact Study	●	●	●
Social, Environmental and Economic Impact Management	●	●	●
Mine Closure Plan	●	●	●
Supplier Development	●	●	●
Vocational Training (employees and communities)	●	●	●
Community Relations (local and traditional)	●	●	●
Promotion of Cultural Heritage	●	●	●
Social Programs	●	●	●

● Intense occurrence ● Moderate occurrence

Infrastructure

Reducing deficits in urban and housing infrastructure was the focus of 202 planning projects carried out or supported by the Vale Foundation in 56 municipalities in the states of Pará, Maranhão, Minas Gerais, Mato Grosso do Sul and Espírito Santo. In 2009 and 2010, a total of US\$16 million was invested in partnership with municipal governments to produce engineering plans and provide assistance in obtaining resources from the state and federal governments to implement building projects.

As a result of this joint work, the municipalities will have access to approximately US\$400 million in federal resources. When completed, it is expected that the public works will benefit more than 200,000 people.

Public Administration

The Vale Foundation works together with the public authorities to strengthen government management, developing structured actions to improve the efficiency and effectiveness of public administration processes. As a result, municipalities can reduce their expenditure, raise more funds and improve the quality of services provided for the public.

The Foundation supports municipalities in areas related to urban planning, land use registration, administrative and financial management, physical and social infrastructure, urban planning and cleaning, public safety, health, education and the strengthening of municipal consultation councils, including children's and teenagers' councils.

In 2011, this work will be expanded, with the implementation of a pilot program designed to identify actions to raise funds and reduce expenditure in eight municipalities – yet to be selected – in order to contribute to fiscal balance and raise investment capacity.

In Minas Gerais, work will continue to define or redefine municipal governments' strategic planning, based on an integrated model. Performance indicators will be established in institutions in seven municipalities: Barão de Cocais, Caeté, Catas Altas, Congonhas, Itabirito, Nova Lima and Santa Bárbara.

Some programs designed to strengthen public management:

• Action in Education

This program helps to improve the public management of municipal education by planning education policies in four areas: education management, continued training, educational practices, and infrastructure. The program is based on "PAR" Joint Action Plans, a management tool created by the Ministry of Education. By the end of 2010, 1,500 professionals were participating in Action in Education, benefiting more than 150,000 students.



Volunteers tell stories and help children to learn

• Health Care Action

This program works to improve public and family health, prioritizing mothers' and infants' health by training groups (cells) and planning action to tackle key issues. In 2010, Health Care Action trained 106 "multiplier" agents and delivered 133 kits to 12 Health Promotion Cells. (For more information, see the "Health Care Action – an initiative to support public management" case study, on page 80.)

Other programs for improving public management:

Program	Period of activity	Number of beneficiaries
Vale School "Escola que Vale"	2000 to 2010	More than 290,000*
Vale Literacy "Vale Alfabetizar"	2003 to 2010	More than 125,000
New Alliances "Novas Alianças"	2007 to 2010	More than 1,200

*The Vale School Program benefited more than 280,000 students between 2000 and 2009 – more than the number stated in the 2009 report (more than 170,000 students).

Read about other programs at www.vale.com.

Human and economic development

Created by the Vale Foundation, Knowledge Centers are human and economic development facilities. Their purpose is to help improve the quality of life and encourage integrated, sustainable development in their local community. The centers are civil society organizations of public interest, implemented through local partnerships with the public authorities and civil society organizations.

Knowledge Centers function as educational and productive centers, promoting and strengthening the local economy, as well as improving people's quality of life and generating work and income for the community. Composed of either rural or urban units, the centers focus on vocational training, sport, culture, citizenship, entrepreneurship and technical support.

The priority target group is made up of children and teenagers from 6 to 18 years of age. The intention is to promote integrated, long-term actions that contribute to personal development. Activities are provided in line with the characteristics of each region, based on existing opportunities and comparative advantages. Hundreds of people are already benefiting from Knowledge Centers operating in the following locations: Igarapé Gelado Environmental Protection Area, Barcarena, Tucumã and Marabá in Pará; Brumadinho and Vale do Jequitinhonha in Minas Gerais; Engenho and the Military Village in Rio de Janeiro; Serra in Espírito Santo; and Arari in Maranhão.

In 2011, the first stage of building work is scheduled for completion at six Knowledge Centers: Curionópolis, Canaã dos Carajás and Ourilândia do Norte in Pará; Governador Valadares and Vale do Jequitinhonha in Minas Gerais; and São Luís, Maranhão. Sports or vocational training activities will be initiated at these centers by the end of the year.

International Social Activities

In order to align Vale's social initiatives in other countries, the Corporate Social Responsibility Department is using the experience accumulated by the Vale Foundation in Brazil to establish targets and strategies, and to leverage the company's social investments.

Vale contributes to development in the regions where it operates through structured short, medium and long-term actions, helping to build a sustainable legacy.

The creation of local Vale Foundations has been strategic in guaranteeing the implementation of social investment in other countries where the company operates. In this way, it is possible to integrate and ensure greater transparency in Vale's social investments, as well as facilitating the institutionalization of partnerships with government and voluntary sector entities.

In 2010, Vale Foundations were established in Colombia and Mozambique, and Foundations were in the implementation phase in New Caledonia and Chile. In 2011, there are plans to set up Foundations in Guinea and Australia.

In the area of human and economic development, a Knowledge Center is now operating in La Loma, Colombia, where 6 to 18 year olds began soccer classes in 2010. In 2011, an athletics track and rooms for IT courses and vocational training will be built. Another three Knowledge Centers are being built: one in Colombia, in the Ciénaga region, and two in Mozambique, near the Moatize Coal operating unit in Tete, to benefit resettled communities in Moatize and Cateme.

In Mozambique, a model farm is being developed inside Cateme Knowledge Center in order to demonstrate processes for planting crops, improving yields, raising cattle, etc. A food guarantee plan for resettled families is also being developed, to supply suitable food in line with locally available products and in the future generate income for these families. A soccer field at Moatize Knowledge Center has been installed and is already hosting sports activities. Both of the Knowledge Centers are scheduled to be fully completed in 2011.



Sports is one of the areas of focus at Knowledge Centers, which seek to contribute to youth development

CASE

MOZAMBIQUE

Vale Foundation arrives in Mozambique

Since the end of its civil war, Mozambique's economic growth has been extraordinary, with an average rate close to 8% per year. The challenge for Mozambique is to combine economic growth with human development and reductions in inequality.

Present in the country since 2004, Vale is already contributing to this effort and reaffirmed its commitment to the social and economic development of the communities where it operates when, in June 2010, it created the Vale Mozambique Foundation, headquartered in Maputo, the country's capital. The institution coordinates the company's social investments, in accordance with six action pillars: health, education, culture, sports, urban development and productive activities.

Vale invests in infrastructure construction and project development, and around US\$7 million has been allocated to projects in the areas of health, agriculture and education. Among these projects were the construction and rehabilitation of units in the Tete Provincial Hospital and Moatize Health Center, as well as the renovation of the Moatize Intermediate Institute of Geology and Mines.

The scope of Vale's work has included monitoring the 2010/2011 agricultural harvest, developing residential vegetable gardens, planting fruit trees and treating families' livestock. Vale provided seeds and seedlings, held field days with practical classes and attracted great support from residents.



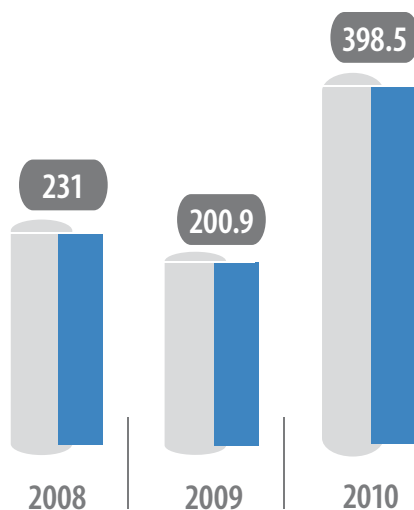
In terms of health, the Vale Foundation worked alongside pregnant women and midwives to promote the use of maternity wards, which increased the number of deliveries at health institutions. Research on the nutritional situation of children under the age of 12 enabled a diagnosis to be made for actions in health and education in 2011, involving nutrition workshops and vaccination campaigns.

In education and sports, coaches, monitors, school principals and educational directors received training in planning and school management. The results of these initiatives in sports and culture could be seen at the Moatize Culture and Sports Festival, conducted by the Vale Foundation.

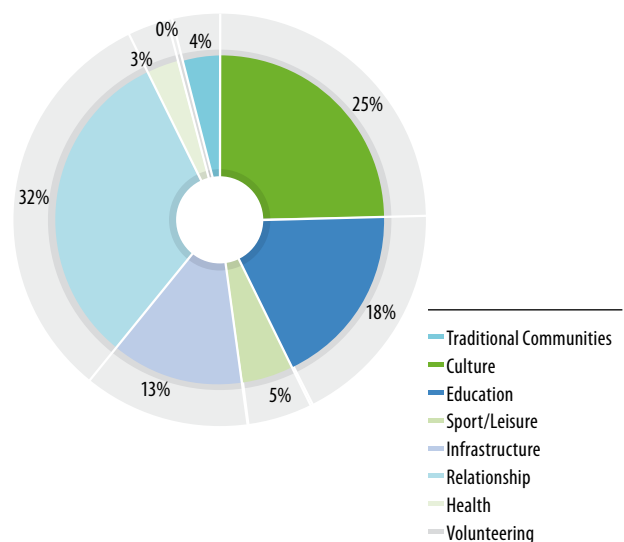
Social investment

In 2010, Vale invested US\$398.5 million in actions to support infrastructure, education, culture, health, income generation and social capital strengthening, through Vale Foundation programs, partnerships with public authorities, sponsorship and donations¹ in Brazil and in other countries.

Total Social Investment (US\$ Million)



Social Investment by type (US\$ Million) (2010 – US\$398.5 million)



¹ The report includes some areas not considered in previous years. Projects scheduled to begin after 2012 were not considered, but social investment allocated to them was included, due to the significant amount of support provided in the initial phases.

Of the total, US\$52.6 million was allocated to major projects to improve urban infrastructure. Seven new Knowledge Centers were inaugurated, for a total investment of US\$50 million. Sponsorship projects received significantly more money, adding up to US\$125.5 million. Through tax incentive laws alone, US\$89.6 million was spent, a 324% increase on 2009's figure.

When determining whether to approve sponsorship projects, Vale takes into account their appropriateness and relevance in terms of local conditions, and their alignment with the company's sustainable development strategy.

INVESTMENT IN INFRASTRUCTURE		2008	2009	2010
Total (US\$ million)		37.7	31.4	52.6
By kind ¹	Support for public services	19%	60%	19%
	Implementation of building work	81%	40%	81%
	Total	100%	100%	100%
By format ²	Pro bono	18%	1%	1%
	Commercial engagement ³	40%	26%	20%
	Materials/products ⁴	42%	73%	80%
	Total	100%	100%	100%

¹**By kind** – Support for public services, implemented by paying for services, such as the cost of hiring nurses and teachers, or the performance of paving work and the building of schools and hospitals.

²**By format** – Pro bono work to benefit the public, such as the allocation of people with specific functions to activities during the time scheduled for the work, using company resources.

³**Commercial engagement**: An activity that generates public benefits, but which primarily gives an economic or investment return to the company.

⁴**Materials/products**: Investment in infrastructure in kind, to provide services to deliver a product.



Brasil Vale Ouro

Brasil Vale Ouro, the Knowledge Centers' sports program, is designed to develop young people's potential through sport and prepare elite athletes in judo, swimming, athletics and soccer. The aim is to train top-level athletes and leave a legacy of systematized knowledge in sports science and training, as well as the development of sports professionals.

In 2010, after just four months of training, and for the first time competing in a sports competition, the Engenhão Knowledge Center soccer team in Rio de Janeiro took second place in the Zico Cup, which is designed for 11 to 17 year old amateur players.

In addition, the Tucumã athletics team took first and second place in the female 400 m at the São Silvestrinha Race in São Paulo, and has now won a total of 198 medals.

CASE

BRAZIL

Health Care Action, an initiative to support public administration

Student nurse Marilene Belfort, age 35, does not conceal her enthusiasm. Since 2010, she and four neighbors from the quilombola community of Felipa, in Itapecuru Mirim, in the state of Maranhão, have been involved with Health Care Action (Ação Saúde). The initiative provides support to the public administration in the promotion of health care, focusing on maternal and children's health, strengthening municipal policies and the implementation of projects and programs developed in conjunction with civil society.

"The work is still in the beginning stages, but we trust that we can transmit our concern for cervical cancer, which kills many women every year," says Marilene, who is kept busy with meetings of her group dedicated to raising awareness about the importance of screening for disease prevention, rehearsals of the Tambor de Crioula dance group – which she is also part of – and caring for her two daughters.

Maranhão, which has 21 municipalities intersected by the Carajás Railroad, was the state chosen for the first Health Care Action projects, due to its rate of 37.9 deaths per 1,000 live births in the state. This rate is the second worst in Brazil, compared to the national average of 22.4, according to data from the Brazilian Institute of Geography and Statistics (IBGE), from 2010.

Health Care Action is developed by the Vale Foundation in partnership with municipal governments and the participation of social organizations and health professionals, with expert advice from Canal Futura and the Regional Endemic Situation Assessment Laboratory of the Sérgio Arouca National School of Public Health, part of the Oswaldo Cruz Foundation (Fiocruz).

The initiative is part of Vale's Social Investment Management Plan, geared toward the sustainable development of the regions where the company operates, by means of partnerships with government and civil society in pursuit of improved quality of life in communities.

Among the topics addressed by Health Care Action are teenage pregnancy, the promotion of breastfeeding and raising awareness about the importance of prenatal care. In Arari, Santa Rita, São Luis (Itaqui-Bacanga district), Anajatuba and Itapecuru Mirim, Health Care Action has helped to set up 17 health promotion groups (which have produced their own action plans), train 179 "knowledge multiplier" workers, distribute 236 kits containing videos and practical guidance, and liaise with 371 institutions that operate locally and regionally.

CASE

OMAN

Omani agriculture, Brazilian expertise

Three important export items from Oman, mangoes, lemons and dates, have been devastated by diseases and pests that have affected both the economy and the lives of many people. In October 2010, Vale, which has had a commercial presence in Oman since 2007 and is currently building a pelletizing plant in the Sohar region, announced that it would invest around US\$6 million over the next four years in agricultural research projects and pest control and prevention for these crops.

The idea began with a visit to Brazil by two Wallis, local community leaders (Walli from Sohar and Liwa), who mentioned the pest problems in their regions. In March 2010, a delegation of five professors from the Federal University of Viçosa in Minas Gerais visited Oman in order to understand the major threats to agricultural crops there. The team identified three plant health issues to be researched and addressed. In October, Vale signed a memorandum of understanding with the university, renowned for its agricultural research, to support research projects that will be carried out in conjunction with Sultan Qaboos University (SQU).

The partnership has created a solid basis for knowledge sharing between researchers from both countries.

With over 60 years of experience in fighting diseases in mango and lemon plantations, Brazil will provide an important contribution to the Omani fruit growers. Brazil's knowledge of the interaction between crop stress due to salinity and the development of diseases will ensure that healthy new mango, lemon and date plantations are established in the locations most appropriate for high quality production.

In this partnership, the Ministry of Agriculture of Oman, the Research Council, Sultan Qaboos University and local communities aim to strengthen collaboration between the private and public sectors, identify the needs of farmers in the region of Al Batinah, implement and spread good practices concerning the transport, storage and processing of lime, mango and dates, and raise the incomes of households involved in planting.

By forming partnerships with scientific and technical institutions around the world such as the Federal University of Viçosa and Sultan Qaboos University, Vale seeks to generate and spread innovative scientific knowledge and support graduate programs and partnerships that encourage research.



In Oman, in the Middle East, Vale aims to increase engagement with local labor

Job and income creation

To reinforce local hiring, Vale invests in supply chain professional training in the areas where it operates. In Brazil, besides the external education programs run by Valer – Vale Education, the company also has a number of vocational training centers (Centros de Educação Profissional, or CEPs). Developed in partnership with educational institutions and built and equipped by Vale, these centers offer training courses for the mining production chain with a focus on sustainability and the development of regional vocations, such as civil construction, electrical wiring, carpentry and hotel management.

Actions like these aim at contributing to community socioeconomic development in the remote and hard-to-access areas where Vale generally operates, such as the region of Marabá (in the Brazilian state of Pará), where about 4,200 people did training in 2010.

In 2010, local hiring represented 79%¹ of total hiring within Vale². For leadership positions, the percentage was 50%, given that the qualifications required for management positions are more specific.

Vale's hiring strategies are based on prior mapping of demand in the local job market. Besides assessing the number of professionals required for each stage of its operations, Vale also identifies other relevant factors in local hiring, as shown in the table below:

Diagnoses	• Mapping of professionals by business, area and competencies
	• Mapping of local infrastructure
	• Mapping of social context
	• Mapping of suppliers/partners
Recruitment and development	• Identification of recruitment sources
	• Definition of remuneration package
	• Participation in local recruitment events, through partnerships with strategic educational institutions
	• Training and specialization of professionals
	• Development of vocational training institutions
	• Partnerships and development of necessary infrastructure for the realization of training
Retention of workers	• In line with the global mobility policy, support for the process of transferring professionals between business areas and countries
	• Support for the development of local infrastructure: health, housing, education and leisure
	• Continued education
	• Performance management
	• Career and Succession

The strategy to promote community sustainability and self-sufficiency by means of job and income creation is also being taken to Vale's operations abroad. In Oman, in the Middle East, where the company is implementing a pelletizing plant and a docking complex, Vale made a commitment in partnership with the local government to implement an "Omanization" program. This plan seeks to increase local labor from 60% to 80% in the company's operations in the country, with the aim of maximizing the employment of professional Omanis in the private sector.

In Mozambique, Africa, Vale qualifies local labor for the Moatize project, thereby contributing to regional development. In 2010, Vale continued its Professional Training Program, through Valer, focused on training youth professionals as locomotive engineer. This initiative's objective is to ensure the availability of qualified professionals to manage the coal discharge process when operations start up.

Education Volunteers

Vale believes that education is an important driving force for development, and therefore works through the Vale Foundation to transform the reality of the regions where it operates. Volunteering activities are conducted in northeast Brazil, through the Engineers at School project, which will benefit 12,000 students in 132 schools in Maranhão.

More than 160 engineers, architects and building technicians from Vale and its suppliers volunteered to start the project in three municipalities, drawing up plans of school infrastructure to produce School Situation Surveys. This document enables funds to be transferred from the National Fund for Educational Development to improve teaching conditions throughout the country.

Infrastructure assessments through School Situation Surveys can only be performed by engineers, architects and building technicians – professionals that some municipalities have been unable to hire. This is the case in Anajatuba, 138 km from state capital São Luís, Cidelândia, 596 km from São Luís, and Santa Rita, 60 km away. In these municipalities, 80% of schools are rural, and many of them have fewer than 50 students.

"With the help of these volunteers we managed to accomplish in a day's work what we haven't been able to accomplish in a year. It was an enormous gain for education in our municipality," said teacher Marlene Costa, School Situation Survey Program Coordinator in Cidelândia, Maranhão.

¹ This indicator considers global results, but does not include Canadian operations, where this monitoring is not carried out. Employees covered by this indicator (EC7) correspond to 86% (2010) of total employees reported (LA1). Projects not included.

² Although the indicator calculation considers employees to be local if they were born in the state, the hiring practice adopted, where applicable, prioritizes residents of the state, and not necessarily those merely born there.

Bio-jewels

In order to stimulate local enterprise, Knowledge Centers work with appropriate knowledge for each region, selecting production chains that can grow to a viable scale and produce the most added value. These supply chains are organized in conjunction with producers, who receive continuous technical, technological and networking support at the centers to help them make and sell their products. New educational technologies and methodologies are also spread at the centers, which build up a legacy of systematized, institutionalized knowledge for the regions where they are present.

At Tucumã Knowledge Center in Pará, a local vocation for producing bio-jewels was identified. The center offers local residents courses on seed processing, jewelry assembly, the basics of running a business, how to form cooperatives and business management. The Tucumã Bio-jewel Production and Artisans' Cooperative has changed the community's routine and boosted its members' self-esteem. Necklaces and earrings made of processed seeds are now sold by Jequití, a direct sales company that has more than 150,000 salespeople across Brazil. Bio-jewels are a sustainable industry for the Amazon, empowering women and promoting local identity and culture in the municipality of Tucumã, in Pará.



Artisanal and small-scale mining

Thousands of people across the world sustain themselves through artisanal and small-scale mining activities. At international forums conducted by Community and Small-Scale Mining (CASM), major mining companies are understood to be important agents for transferring best practices to these workers.

Aware of the importance of artisanal and small-scale mining – a significant source of work and income, with a considerable impact on social and economic development in many countries – Vale is committed to helping spread best practices in technology and health and safety to those engaged in this activity.

In 2009 and 2010, concern about this kind of mining was incorporated into Vale's Human Rights Policy and the Human Rights Guide published by the company. The Guide states that, when the occurrence of artisanal or small-scale mining is identified in areas inside or adjacent to its operations, the first step is to check its legality.

If the activity is legal, measures are taken to ensure harmonious coexistence, and to identify opportunities for training and capacity building.

This is the case at Santa Efigênia Quarry in the municipality of Mariana in Minas Gerais. In 2007, Vale granted mining rights to this quarry to a cooperative of local workers (Coopersef) made

up of 120 members. In December 2010, Coopersef submitted a request for a mining license to the Regional Environmental Superintendent's Office (Supram). Vale, together with the Federal University of Ouro Preto (UFOP), provided the cooperative with technical support, helping it to obtain a license, acquire technology and structure a business plan.

Vale's Human Rights Guide also states that, in the case of illegal mining, the appropriate action to take, once this situation has been identified, is to notify the government authorities responsible for enforcing the law, and also to contribute to regularizing and reallocating the activity, when necessary.

Since 2008, PT International Nickel Indonesia has recorded a number of artisanal and small-scale mining activities in Indonesia. In 2009, there was a significant reduction in such activities. In 2010, the company located an illegal chromite mine along a beach belonging to its concession areas. The extraction activity is conducted by the community, which collects chromite and sells it to collectors who occasionally visit the location. As the company does not produce this ore and the practice is a low-risk one, the company is monitoring the situation and studying the best form of action to take.

Illegal artisanal mining, can, however, harm the development of a location in economic, social and environmental terms, as well as risk the lives of those who engage in it. As a result, in Itabira, Minas Gerais, in January 2010, a monitoring program of Vale's areas was launched to inhibit clandestine miners.

The program's mechanism entails contacting the Civil Police when people engaged in illegal mining are sighted. In the first year, three people were caught in three separate incidents. In 2009, there were 42 incidents and 22 people were detained.

The Tres Valles Project in Chile has an agreement with the Salamanca Miners' Association (Asomi) to help improve health, safety and productivity. Among the main achievements in 2010 are the handover of mining sites to the community's artisanal miners and periodic monitoring of safety and sanitation conditions.

Vale also supports "Encadenamiento Virtuoso" small-scale mining projects, which seek to develop mining practices in the region through strategic alliances.

Incidents

Vale considers preventive action and continuous monitoring to be key tools for avoiding incidents in its operating regions. For this reason, it maintains a system for registering and tracking incidents in a database of "lessons learned."

In this database, Vale records corrective actions implemented in its operations, helping to improve the preventive risk management process and minimize consequences. This procedure simplifies response actions and makes dealing with emergencies faster.

Each company unit has a specific Emergency Response Plan featuring qualified personnel who are periodically trained, as well as effective materials and equipment for combating accident scenarios in order to minimize damage and losses suffered by the environment and people.

CASE CHILE

Agreement benefits Chilean "pirquineros"

Vale handed over 31 of its concession area extraction points in Salamanca, Chile to 72 small-scale miners, through a program aimed to benefit "pirquineros" – independent artisanal miners who traditionally work without the use of safety equipment. Vale built two basic camps for the miners, each equipped with a bathroom, kitchen, dining area and storage area. In addition, Vale provided the miners with personal protective equipment (PPE).

Vale's agreement with the miners authorizes them to extract up to 2,000 metric tons of ore a month from the sites provided. Before the agreement, the Salamanca piquineros extracted ore from these points without Vale's permission. All of the miners benefiting from the agreement belong to the Salamanca Miners' Association.

The agreement also provides for the implementation of programs to improve access to the extraction points and provide technical assistance and protective equipment. Vale will also formalize the system for ore production and sales, and promote a virtuous cycle of mining projects through strategic development alliances.

In December 2010, Vale began operations at Tres Valles, in the Salamanca region. The project marks the beginning of Vale's operations in Chile. The plant has two mines: Don Gabriel, an open-pit mine, and Papomono, an underground mine.

Production at Tres Valles is expected to reach 18,500 metric tons of cathode copper (metal plates) per year. Vale invested around US\$160 million in project implementation, generating 1,800 direct and indirect jobs during peak construction work. The operational phase generates about 600 jobs.



Vale suggests good practices for artisanal and small-scale miners

Vale's railroads in Brazil

Vale operates a railroad network of around 10,600 kilometers in Brazil (including the Norte-Sul Railroad). The company attentively observes the growth of communities close to its railroads and consequently the risk of incidents. Altogether, the company's tracks cross around 400 municipalities in ten states, and represent 37% of the entire Brazilian railroad network.

To improve its performance in terms of the accidents per million train km (MTKm) indicator – which measures incidents in relation to the number of trains and the distance travelled – Vale is running the following initiatives:

- Vulnerability analysis to identify critical stretches from an environmental risk point of view;
- Provision of the railroad incident management system via the intranet, containing statistics related to incidents and performance indicators;
- Improvements to the Railroad Control and Management System (UNIGOFER), which registers, processes and blocks various types of railroad incidents on Vale's four railroads;
- Expansion of the railroad training center and the provision of train simulators;
- Educational and awareness-raising campaigns in the communities along the railroads;
- Evaluation of new technologies, for example to monitor maintenance and track asset conditions;
- Modernization and expansion of Vale's railroad signaling systems. Improvements in this area can be observed in signaling rail yards and terminals, the modernization

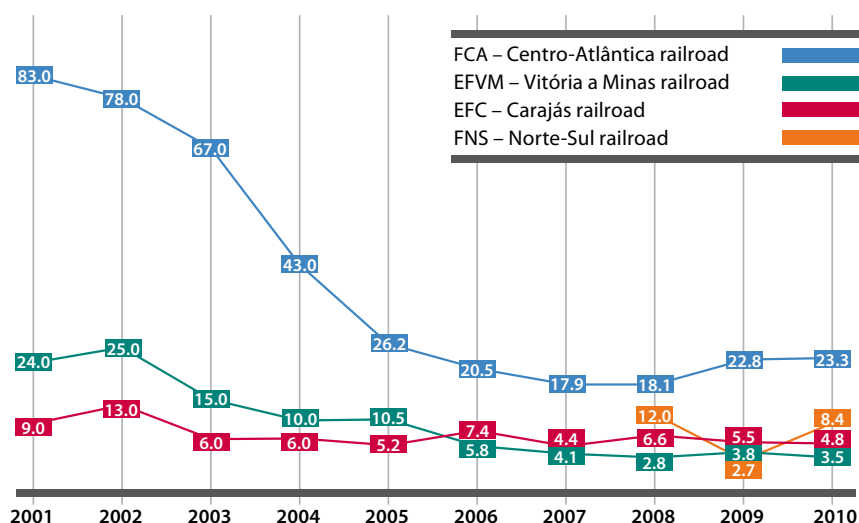


of railroad signaling on the Vitória a Minas and Carajás railroads, and the supply of new licensing systems for the Norte-Sul Railroad;

- One-off and refresher training program for locomotive engineers, covering railroad risk management practices;
- Monitoring of weather conditions;
- Capacity building / training of investigators to work on the prevention of railroad incidents;
- Full dedication among teams to management, monitoring, tracking and blocking actions for all railroad incidents on Vale's railroads.

As shown in the graph below, Vale's railroads follow international standards regarding reductions in the accidents per MTKm indicator. It can be seen that the accident rate on railroads has remained stable in recent years. Incidents on the Norte-Sul Railroad in 2010 reinforced the importance of initiatives already adopted by Vale, such as awareness-raising campaigns and work directly focused on communities alongside the railroad.

Incidents on railroads operated by Vale in Brazil per MTKm (million train km)



Source: UNIGOFER – Vale's railroad incident management system in Brazil, which keeps the same records in parallel with the National Land Transport Agency (ANTT). Vale began operating the Norte-Sul Railroad in 2008. 723 km of track have so far been built, of which 563 km between Açailândia (Maranhão) and Guaraí (Tocantins) are operated by the Norte-Sul Railroad.

Analysis of risks

In 2010, Vale began evaluating lockout devices and emergency actions associated with significant risks in mining, railroad and port operations and in pelletizing and ferroalloy plants. The aim is to check the effectiveness of preventive actions in terms of design, installation, inspection and maintenance, as well as the correct qualitative and quantitative selection of materials and equipment related to emergency actions. As a result, there have been improvements in lockout devices and the need for additional devices has been identified, helping to reduce the probability of incidents occurring.

The company's activities, products and services involve acquiring, storing, handling, using, transferring and disposing of a range of chemical products. The use of acids, natural gas, ammonia, solvents, lubricant oils and fuels, as well as chemical processes involved in fertilizer production, are carefully managed in order to identify, minimize and control operational risks. These products and processes are managed correctly to ensure that the company complies with legislation and other applicable requirements, and to keep risks within levels tolerated by Vale.

Hazardous situations are identified and analyzed using specific techniques that are compatible with the production systems involved. As a result, it is possible to adopt appropriate preventive measures in line with the systems being analyzed. Each operational unit also has a specific Emergency Response Plan and trained personnel, in order to minimize damage and losses suffered by people and the environment.

It is expected that by the end of 2011, the implementation of the Health, Safety and Environmental Risk Analysis and Management process, which began in 2008, will have been completed. The procedure has already made it possible to standardize and rationalize resources and materials used to prevent and mitigate risks in different phases of the project lifecycle.

The process of reporting environmental incidents has also been improved. Vale has revised its specific instructions, now global, ensuring the standardization of procedures for managing and investigating incidents, and aligning them with the company's Operational Risk Management Standards.

The table below shows significant incidents¹ with potential impacts on communities, together with their identified causes and control actions taken at Vale's operations².

Involuntary resettlement

The resettlement of communities is often inevitable in mining and logistics activities. To minimize the impacts in such cases, Vale uses practices aligned with World Bank guidelines on this issue. This action is compiled in a Terms of Reference on Resettlement Processes document.

¹A significant incident as defined by the GRI corresponds to the definition of critical accident used by Vale, i.e. one that surpasses the boundary of the operational unit's property and causes a residual impact on the environment and/or health and safety inside or outside the operational unit, after mitigation procedures have been completed.

²Railroad incidents are reported separately, using the internationally adopted indicator of accidents per million train km. Data on spillages, using the EN23 indicator, are reported in the Environment chapter on pages 63 and 64.

Location	Company	Incident	Cause(s)	Control actions
Minas Gerais	Vale	Fire that affected approximately three hectares of third party land in Costa Lacerda	Track grinding conducted without adequate protection	Fire controlled with the support of local authorities to minimize the area impacted. Implementation of procedure for the use of maintenance tools along the track.
Canada	Vale Canada	220kg of refrigerant gases released into atmosphere	Failure in valve in refrigeration unit	Revision in preventive maintenance program, including with respect to periodic valve inspection and tightening.
Canada	Vale Canada	725kg of refrigerant gases released into atmosphere	Rupture of safety disk due to high pressure	Installation of new control instruments at the plant, featuring "high" and "very high" level alarms and changes to production processes.
Minas Gerais	Vale	Silting and temporary change in water quality in stream running through Olhos D'água neighborhood	Solids fell and were carried from the conveyor belt transfer area	Removal of sediment. Periodic monitoring of water quality in the stream. Change in maintenance and inspection program. Implementation of procedure for controlling the speed of the belts.

The purpose of this document is to support the implementation of projects, identifying possible paths to sustainable, economically feasible and socially fair development in the affected communities. It sets out detailed measures to try to ensure fair treatment for displaced families and provide opportunities for economic and social development.

The document has the following goals:

- Adopt the same principles for operations, taking into account best practices in corporate social responsibility;
- Reproduce, and adapt to business reality, the performance standards established by the World Bank, ICMM and Global Compact, among others;
- Guide Vale's processes that involve resettling people;
- Contribute to socioeconomic studies and programs;
- Reduce impacts caused by resettlement;
- Ensure that families have adequate living standards and mechanisms for social inclusion.

Resettlement activities

In Mozambique, the World Bank endorses the Moatize Coal Project

In 2010, the Moatize Coal Project in Mozambique resettled 1,108 families in the communities of Chipanga, Malabwe and Begamoio. What stood out in this project, which took place in accordance with World Bank guidelines, was the extensive stakeholder participation. The communities and people affected were consulted and included in decision-making processes. Mechanisms for lodging complaints were created, in order to learn about and settle specific concerns related to compensation and resettlement. A socioeconomic census was also carried out to discover basic facts and accurately identify the people to be resettled.

The World Bank – which together with the local government monitored the entire process – highlighted the resettlement process in a report, endorsing it as an example of best practices. As a result, the sites are now visited frequently by international delegations, on average three times per month.

In all, 254 households were resettled by means of unaccompanied compensation, 106 through assisted compensation, 715 through resettlement without compensation, and 33 through resettlement with compensation. During the process, viable alternatives were considered to avoid or minimize physical and economic displacement.

Once the process of resettling the families had been completed, programs were initiated to improve their quality of life, which included the building of two Knowledge Centers and the implementation of a Food Guarantee Program.

In Brazil, families are resettled in Minas Gerais and Pará

In Minas Gerais, the acquisition of properties in the Vila Paciência neighborhood in Itabira was proposed by Vale in response to a series of questions asked by the community in Social Dialog meetings regarding the impacts suffered in this neighborhood due to its proximity to mining activities. Vale proposed purchasing property on a voluntary basis, guaranteeing the right of residents who do not wish to leave the neighborhood to remain.

As a result of this initiative in Itabira, Vale is revising its property acquisition norms. In the same neighborhood, an urban planning project is under way to landscape the sites of demolished homes and so enhance the appearance of the remaining community.

In Pará, the Onça Puma project, which covers the municipalities of Ourilândia do Norte, Tucumã, Parauapebas and São Felix do Xingu, will have to move 88 families through the assisted compensation process. In 2010, 30% of the total value of compensation was paid in advance. The rest of the compensation will be paid in 2011, at the time of resettlement. During the same year, lots will be handed over to the resettled families, who will receive guidance on the move. Vale will be providing the new settlement with infrastructure, building neighboring roads, power lines and a water supply system.



Communities participated actively in the resettlement process in Mozambique

Acquisition of property

At Vale's own units in Brazil, the process of acquiring property follows a formal, rule-based procedure defined by the company's property team. The Vale Foundation is also involved, as are the Social Responsibility, Regional Communications, Environment, and Health & Safety and Security areas, to guarantee that all information required to identify needs is collected and that customary rights are respected. Socioeconomic surveys identify families in socially vulnerable situations. In these cases, the process for acquiring property is monitored by the Vale Foundation, which directs teams in the field and provides support when there is a need for flexibility in negotiation conditions. In specific cases, social assistance and monitoring may be needed in addition to the provision of infrastructure.

The idea is to avoid conflict situations between the parties involved, by respecting local legislation and the procedures proposed by the International Finance Corporation (IFC), guaranteeing that the negotiation process is fair and that it delivers the same or better living conditions for local communities. In Brazil, formally demarcated indigenous territories belong to the country's government.

In Australia and at Vale Canada's operations, the process of identifying and acquiring property is similar to the process in Brazil, in terms of communication plans, the assessment of property, the role of Vale's legal department, analysis of social vulnerability, socioeconomic studies, and property registers, for example. Although the process is similar, each region follows its own guidelines, aligned with specific local legislation, including in cases that involve indigenous peoples.

In Canada, there is a range of specific processes for identifying aboriginal communities that may be affected by Vale Canada's activities. The company works directly with the representatives of these communities and the local government to mitigate possible impacts, given that the risks increase as projects advance.

The operations of Vale Manganèse France and Vale Manganese Norway are located in industrial areas and, for this reason, do not have property acquisition processes.

Mine closure

Considered an important stage in a mine's lifecycle, the ending of activities must be planned as a continuous process that starts before operations begin. At Vale, this process takes place in line with its Mine Closure Guide, used in Brazil. This document establishes best practices for closing mines and sets out measures for restoration and appropriate future use for areas where the company currently operates.

In order to spread the application of the principles established in the Mine Closure Guide, in 2010 Vale developed an operational procedure to produce mine closure plans considering not only environmental issues, but also social and economic ones related to the termination of activities. This operational procedure resulted in the application of a preliminary protocol, which was reviewed and improved after being applied in pilot projects in iron ore and bauxite mining areas.

The application of the new procedure to all of Vale's units in Brazil is one of the targets established in the Sustainability Action Plan (SAP). The units are currently being structured to support the new standard and it is expected that all Brazilian mining operations will have mine closure concept plans by the end of 2013. It is also envisaged that these plans will be reviewed periodically to allow adjustments in line with the context of each unit and its impacted communities. Consequently, the document is a tool that will contribute to the generation of a positive legacy for society through the promotion of local sustainability.

Internationally, each unit takes into consideration its country's requirements related to the closure of its activities. An analysis of international practices will be carried out as part of the improvement action plan related to mine closure.

In addition, to meet the requirements of the Securities and Exchange Commission (SEC), Vale makes provisions for asset retirement obligations at the company's mining projects. The estimated amounts for these provisions are revised annually and reported in the company's accounts. In 2010, Vale's asset retirement obligations were estimated to be US\$1.368 billion.

CASE

BRAZIL



A legacy for the sustainability of the planet

The year 2010 was decisive for the consolidation of the Vale Fund for Sustainable Development's activities. Created by Vale in 2009 as a civil society organization of public interest, the institution has the objective of promoting sustainable development, conciliating environmental preservation with improvements in people's socioeconomic living conditions. The Amazon biome was the focus of its first activities.

Having started in the state of Pará, the Vale Fund extended its operational scope in 2010 to Mato Grosso and Amazonas. The fund's projects, previously focusing heavily on forest issues, were expanded to other states with the theme of "Value Chains," encompassing activities such as cattle raising, cocoa farming and community-based ecotourism.

Notable among the main results obtained in 2010 is the further development of a strategic monitoring system created by the Amazon Institute of People and the Environment (Imazon), which tracks deforestation hotspots in the Amazon. Launched in 2009, the system now uses remote equipment for participatory monitoring. Management plans already in operation were also improved during this period.

In protected areas, the Vale Fund produced and approved management plans for official Conservation Units in the Calha Norte (Brazil's northern frontier zone) in Pará, as well as mobilizing eight of the nine major localities in this region to strengthen Conservation Units. Local agreements were also established, with health, education and productive infrastructure provided in extractive reserves in the Terra do Meio region of Pará. In this region, the Fund has helped to develop value chains covering products such as rubber, Brazil nuts and oils, with the aim of better incorporating these products in the marketplace.

Another notable action by the Vale Fund took place in Marajó, the largest group of islands surrounded by fresh water in the world. The islands, which have extremely rich biodiversity, cover an area in the state of Pará of approximately 104,000 km². With the support of the Vale Fund, the "Marajó Living Network" was created, an initiative led by the Peabiru Institute to mobilize different actors to improve the quality of life, biodiversity conservation and culture, and promote the archipelago's sustainability. The region now has a new protected area: Charapucu State Park.

As part of the "green municipalities" theme, Vale also obtained positive results, such as the formalization of the management council of the Triunfo Xingu Environmental Protection Area in Pará. A diagnosis of agroforestry products in the municipality of Almerim (Pará) and the signing of the Pact Against Illegal Deforestation by the municipality of Novo Progresso (Pará) also warrant highlighting. In São Felix do Xingu (Pará), the Vale Fund supported an initiative to expand the number of properties in the Rural Environmental Registry, a fundamental tool for sustainable environmental management in the region.

In Paragominas (Pará), a municipality that is now a model for sustainability in the Amazon, the Vale Fund's support was fundamental for accelerating the transformation already under way. In April 2010, Paragominas was removed from the Ministry of the Environment's blacklist of municipalities with the highest rates of deforestation, managing to reduce its rate by 90%. The lessons learned there were essential in structuring the state government of Pará's "Green Municipalities Program," which broadly follows the project in Paragominas, thereby transforming this successful local initiative into a public policy.



Business Roundtable in Mangaratiba (Rio de Janeiro, Brazil), part of the Inove Program, which seeks to strengthen Vale's relationships with its suppliers



Agents for Sustainable Development

Prioritizing local procurement and strengthening relations with suppliers – reinforced by the Inove Program – and customers, are part of Vale's strategy to stimulate progress in the regions where it operates

Vale's commitment to the segments related to its business is reflected in a series of actions to promote entrepreneurship and excellence in the management of its supply chain. Suppliers are the focus of this investment, which seeks to strengthen ties and develop new business opportunities.

In line with the company's sustainability strategy, and in partnership with industry federations, trade associations and governmental agencies, since 2008 Vale has been developing the Inove Program, which aims to strengthen the suppliers of its units in Brazil, considered agents for sustainable development in the areas where they operate (www.vale.com/inove).

Inove seeks to develop local suppliers through training, the provision of credit lines and business encouragement, thereby making them more competitive in the market. US\$129 million in credit was provided for Vale's suppliers in 2010 through a special loan fund (US\$43 million) and advance payments (US\$86 million).

The impact of this type of relationship can also be seen by participation in Vale's Supplier Development Programs, implemented in Pará, Maranhão and Minas Gerais, and currently being established in Espírito Santo. In 2010, 1,550 professionals received training, making a total of 20,825 participants since Inove began.

Knowledge Platform

The Inove Program not only develops the business management skills of suppliers, but also disseminates information related to the sustainable use of natural resources and human rights, reinforcing Vale's global commitment to combat reprehensible labor practices, such as work analogous to slave labor, as well as child labor.

One of Inove's most successful tools is the Distance Education platform (www.conhecimentoonline.com.br/inove), which receives support and guidance from Valer – Vale Education, and has over 3,000 registered users in Brazil, close to 260 companies participating and 2,200 trained professionals. There are currently a total of 145 online courses available on the education platform.

To meet demand from Vale's suppliers, Inove entered into a partnership in 2010 to promote the learning of English, via its education platform. In order to strengthen and diversify the online courses, Inove also established a partnership with Consist (representative of Harvard Business Publishing in Brazil), which offers content from Harvard ManageMentor® (37 courses available) and Harvard The Essential Leader® (13 courses), geared toward developing managerial skills.

The program is widely publicized both internally and externally, through initiatives such as HR Inove, which has organized meetings with around 150 Human Resources managers from Rio de Janeiro, Espírito Santo, Maranhão, Minas Gerais and Pará, in order to discuss best practices in their areas of professional activity and present the training possibilities offered by Inove.

Supplier's Kit

With the goal of offering more appealing commercial terms to its suppliers for the purchase of materials and services, similar to those negotiated for bulk and large-scale purchases by Vale, the Inove Program launched the Supplier's Kit, through which suppliers can benefit from the purchase of items such as industrial tools, abrasives, electrical materials, safety materials, computer supplies, life insurance and surety bonds.

More than 460 suppliers have already used the Supplier's Kit. Nearly US\$5 million has been provided just for the purchase of safety materials, while the purchase of surety bonds has reached US\$3 million.

Sebrae Agreement

In 2010, the Inove Program secured an important partnership, geared toward the development of micro and small suppliers: the Technical Cooperation Agreement between Vale and the Brazilian Support Service for Micro and Small Enterprises (Sebrae), involving seven Sebrae units in the states of Rio de Janeiro, Espírito Santo, Minas Gerais, Bahia, Sergipe, Maranhão and Pará.

Through this agreement, actions are taken in a sustainable and progressive manner to increase the sales volume and market share of micro and small enterprises in the mining supply chain. The agreement will positively impact approximately 1,000 suppliers during the three years it will be in force, starting in 2011. These actions will include supply and business diagnostic initiatives, in addition to various activities focused on market access, such as business roundtables.

Diagnoses and Solutions

Another one of Vale's objectives in its relationships with suppliers is to improve its understanding of supply and demand conditions for products and services in their areas of operation, identifying opportunities for local companies.

In 2010, five business diagnosis projects were conducted, involving visits to over 850 companies in 18 municipalities in the states of Minas Gerais and Pará. Diagnostic actions are an essential tool to analyze the importance of Vale's purchases in the local economy. They are used by Vale to map companies in the direct areas of influence of its projects and operations, analyzing their degree of maturity and proposing improvements, to identify potential suppliers and to strengthen Vale's relationships with business associations, municipal authorities and trade associations.

The diagnoses conducted in Minas Gerais, for example, revealed challenges such as the inadequacy of personnel training, infrastructure and installed capacity for supply. These are factors that can hinder the participation of small and medium-sized suppliers in competitive tenders for the purchase of goods and services, both by Vale and other companies. The challenge is to identify solutions to these issues, which are commonly found in the remote areas where the company operates.



Local Procurement

Vale also prioritizes the contracting of local suppliers to boost the economy in remote areas, and to equip companies to operate in an increasingly competitive market.

The management of Vale's relationship with its suppliers is composed of three steps: qualification based on the company's values; evaluation of performance; and development. Actions taken to develop local suppliers are expected to generate positive medium and long term effects.

The selection and registration processes are based on legal, financial, fiscal, health, safety and environmental criteria. The registry is regularly updated and checked to ensure that these requirements are being complied with. In addition, all suppliers in Brazil are monitored by periodically checking the list produced by the Ministry of Labor and Employment that reports companies involved in slave labor, among other legal issues.

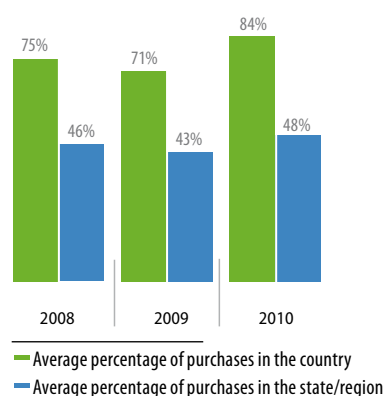
In the process of finalizing contracts, companies with which Vale does business are checked to determine if they have any pending issues with the National Institute of Social Security (INSS) and the Guarantee Fund for Length of Service (FGTS), among other authorities. Companies that present irregularities and are not willing to resolve them can be removed from the Vale registry.

Internationalization of Inove

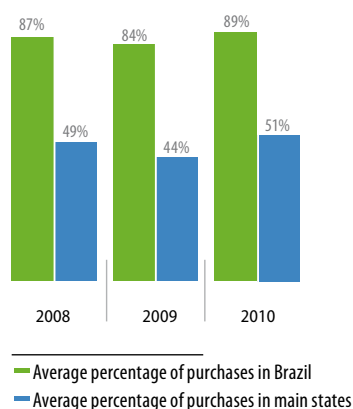
The Inove Program is in the process of internationalization, to progressively attend to all regions where Vale has operations in the world.

From August to November of 2009, an initial diagnosis was conducted in Oman to identify potential local suppliers and their strengths. The initiative addressed the challenges of developing the local supply chain in a competitive and sustainable way, and of increasing the percentage of skilled labor in Vale's operations in Oman from 65% to 80% in four years.

Proportion of local procurement in monetary value terms – Global

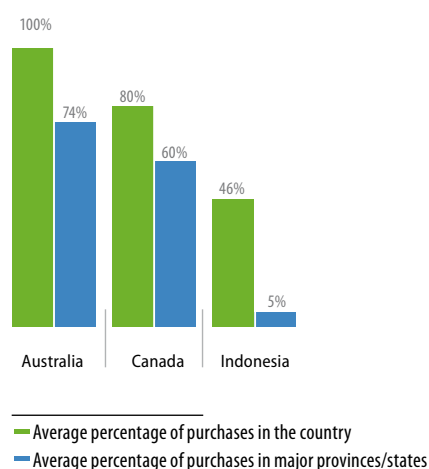


Proportion of local procurement in monetary value terms – Brazil



The average percentage of purchases in main states in Brazil covers acquisitions by Vale's main operations in Espírito Santo, Maranhão, Minas Gerais and Pará.

Proportion of local procurement in monetary value terms – Other Countries (2010)



In Canada, the end of the strike in Sudbury (which led to an increase in the volume of purchases) and the evolution of supply indicators raised the quantity of purchases made in regions close to operations, in order to obtain shorter deadlines and more competitive costs.

A meeting with approximately 220 local companies with the potential to supply Vale was held with support from the government of Oman. The idea was to share the goals of Inove to develop and promote business opportunities that can strengthen the mining production chain in the country.

After Vale's demands were mapped and the country's main supply potential was determined, possible gaps and opportunities were identified. This enabled the establishment of an action plan to address these issues, involving the implementation of the Inove Program in the country, in a constant, continuous and evolutionary way.

In Mozambique, Africa, Inove participated together with the Brazil-Mozambique Chamber of Commerce, Industry and Agriculture (CCIABM) in a business mission in November 2010, to bring together the Brazilian and Mozambican business communities. Local needs and demands were mapped to foster entrepreneurship in the country alongside Vale's operations.

It was also decided that the launch of Inove in Mozambique would be implemented through Inove's Education Platform, focused on the training of suppliers. To this end, some of the 158 online courses provided by Inove in Brazil were selected, and are currently being tested for their applicability to local Mozambican entrepreneurs.

Various other initiatives are being studied to form part of Inove's offering in Mozambique, the first country in Africa to have the program.

As of 2012, Inove will be strengthened as an international program to promote Vale's suppliers, and will progressively serve all of Vale's operations and local development needs around the world.

Customers

Pursuing operational excellence to improve the quality of its products, building long-term relationships with customers and finding solutions to meet its businesses' needs – this is Vale's strategy for attracting and retaining new markets. This approach is also used in relations with the different links in the value chain, such as suppliers of raw materials and service providers, whether directly or indirectly linked to the company's activities.

Vale's business is conducted primarily with other companies (business to business) and not with end users (business to consumer). Besides its commercial relationships with customers, Vale interacts daily with various stakeholders with whom dialog is essential: employees, communities, investors, suppliers and public officials, among others.

Technical visits, meetings, interviews, conference calls, trade fairs, exhibitions, a call center and regular customer satisfaction surveys are activities that characterize Vale's relationships with its customers. Alongside these activities, the Customer Relationship Management (CRM) project will be developed in 2011. This relationship tool will have a "satisfaction module," providing a direct interface between Vale and its customers.

Ongoing contact with customers through relationship tools is a two-way street, allowing monitoring and evaluation of customer perceptions of the quality of products and their compliance with international quality standards such as ISO 9001, as well as the services and technical assistance provided by Vale, in addition to identifying opportunities for improving them. A clear example of this is the development of action plans to eliminate or minimize problems pointed out by customers, as a result of the information generated in satisfaction reports.

Due to the specific nature and characteristics of each market segment, the methodology, frequency and scope of these practices will vary between business areas.

For the general cargo logistics segment, for example, periodic evaluations are performed in order to monitor quality and the performance of services, orienting Vale in its pursuit of operational excellence.

In the passenger transportation segment in Brazil, call centers are provided for users to submit complaints, suggestions, questions, praise and information. Satisfaction surveys were conducted from 2008 to 2010 on the Vitória a Minas and Carajás Railroads, and in 2009 and 2010 on the Centro-Atlântica Railroad. In these cases, the satisfaction survey was linked to targets for the railroad's directors and general managers responsible for maintenance and operations, and were weighted in line with the operational indicators established in Vale's Service Level Program (PNS). The 2011 program will continue to be a target for directors and general managers of operations, and the results of 2011 satisfaction surveys will be used to set PNS targets.

On the Carajás Railroad, improvements were made to the passenger management system and a Master Plan was formulated that defines short, medium and long term actions for improving passenger trains' infrastructure and services.

Proactive efforts were made to anticipate and meet legislative and/or regulatory trends in communications in order to provide transparency and legal certainty in operations and businesses, with the efficiency demanded by a competitive market and respect for customers.

Vale's communication strategy is aligned with the company's values and respect for its Code of Ethical Conduct. The core objective of Vale's brand positioning and all its communication actions is to strengthen the company's mission of transforming mineral resources into prosperity and sustainable development.

In 2010 there were no reported cases of non-compliance or fines related to sponsorship, advertising and promotions, nor any problems related to the supply or use of products and services¹.

Product and Service Safety

Vale ensures the safety of its products and services by means of risk management in its operational processes and also by using Life Cycle Analysis. Using this methodology, the company assesses the impacts of its products on health, safety and the environment, seeks to identify opportunities to improve its production system, and prioritizes different phases (extraction, processing and distribution) during the development of new products. The company follows the Health, Safety and Environmental Risk Analysis and Management Instructions (INS-037), based on the following approach:

- Intended application and market assessment
- Evaluation of toxicological and ecotoxicological requirements
- Evaluation of applicable legal requirements
- Hazard identification
- Classification of hazards
- Assessment of health, safety and environmental risks
- Final analysis through the Vale Risk Matrix

In 2010, Vale concluded its evaluation of the hazards and requirements associated with the registration of all chemicals exported to the European Community, in line with Regulation (EC) No 1907/2006 (REACH), demonstrating their physical, chemical, toxicological and ecotoxicological properties, along with the procedures to be adopted for the safe use of each one. These substances include nickel products and intermediates, as well as iron pellets, metallic aluminum, aluminum hydroxide and oxide, iron-manganese alloys, cobalt, copper and precious metals.

In addition to REACH, Vale adjusted its hazard communication (labeling) procedures by updating its Chemical Product Safety Data Sheets (FISPQs) in accordance with the Globally Harmonized System (GHS). This revision, in 2010, included visits to customers in order to obtain a better understanding of use and handling conditions, and thereby make the control and mitigation measures described on the respective data sheets more appropriate and effective.

In 2010, Vale Canada performed a life cycle analysis of nickel products, using a “cradle-to-gate” approach, including the environmental impacts of major raw materials, inputs, energy supply and transportation. Through this project it was possible to identify and quantify the main environmental issues in the nickel product life cycle and so help to improve the environmental profile of nickel-based products.

A preliminary analysis of the manganese life cycle has also been conducted together with the Manganese Institute. The “cradle-to-gate” analysis will be detailed as part of the Manganese Institute’s five-year planning.

The company also requires its suppliers of chemicals to provide material safety and emergency data sheets, as well as comply with REACH, where applicable. In this manner, it can obtain better knowledge and understanding of the risks involved in storing, handling, transferring, using and disposing of its raw materials and inputs.

Vale is in the process of implementing and consolidating its Health and Safety Management System (NOR 052 Systemic Requirements Norm) in all its operations and projects, reinforcing risk management at all stages of the lifecycle of products and services. Vale has been also implementing its Critical Activities Instructions (INS 021), with a special focus on chemical product handling, transportation, moving and storage in any physical state. The instructions establish requirements for labeling these products. The labels must explain the product’s hazardous characteristics in the native language and using the Fire Diamond NFPA 704 system (symbols for hazards and risks).

The logistics services associated with the transport of hazardous products feature analysis of the risks to health, safety and the environment throughout their entire operational cycle, ensuring the proper use and maintenance of vehicles and the training of the personnel involved.



Operational processes are monitored for safety of products and services

¹ Legal proceedings are considered significant based on the following criteria: a) their value, including compensation claims and fines; and b) whether they involve a subject of interest to the company or affecting the general public, regardless of value.



In its strategy to win new markets, Vale aims to strengthen its long-term relationships with customers

Principles of prevention

Vale's business areas have adopted pollution prevention principles in their operational processes by implementing an integrated strategy. Mass and energy are measured in operations, to identify the significant environmental aspects involved and to quantify losses through the generation of waste and emissions.

Based on this approach, the company replaces raw materials and inputs, improves technological processes, implements good manufacturing practices and proposes control measures and improvements in the eco-efficiency of processes. Some examples of practices implemented in 2010 are listed in the table below:

Process	Practice implemented	Environmental gains
Railroad	Use of diesel and biodiesel mix	Reduced greenhouse gas emissions
Coal	Generation of electricity from methane	Reduced greenhouse gas emissions

Minimizing water consumption through increased recirculation in pelletizing plants and the use of highly energy-efficient equipment (motors and pumps) in processing plants are examples of eco-efficiency programs.

In terms of control and reduction of input toxicity, Vale, in accordance with legislation, does not use substances classified as persistent organic pollutants – which do not break down in the environment – or that contain more than a certain concentration of benzene. Vale also follows guidelines prohibiting the use of substances whose toxicity test results, acute or chronic, exceed legally specified levels.

At the Vargem Grande (iron pellet) unit in Minas Gerais, Vale performed a lifecycle analysis and identified the chief environmental impacts along the chain of custody, creating conditions to improve processes for the efficient use of raw materials and inputs.

Vale is also at the forefront of technological innovation, seeking alternatives to reduce mineral and industrial waste, through studies for utilizing sinter feed from tailings and for cleaner and more efficient energy sources in pelletizing and logistics processes, among other initiatives.

Labeling

Convention 170 of the General Conference of the International Labor Organization (ILO) states that labeling procedures are only required for hazardous chemical products. Since most of Vale's products are not classified as hazardous, labeling procedures are, for the most part, not required.

Nevertheless, Vale has material safety data sheets for its products, which outline their physical and chemical properties, precautions which should be applied during handling and use, risk control measures and procedures in case of emergency.

The registration process, in accordance with European Community Regulation (EC) 1907/2006 (REACH), provided improvements in the labeling process, based on scientific studies conducted within the sphere of the consortium of manufacturers of the same product. In addition, Vale Canada conducts specific studies for the toxicological and ecotoxicological evaluation of its nickel-based products, through which it identifies the main hazards and possible routes of exposure, measures and monitors risk levels and proposes preventive actions to keep those risks within acceptable levels.

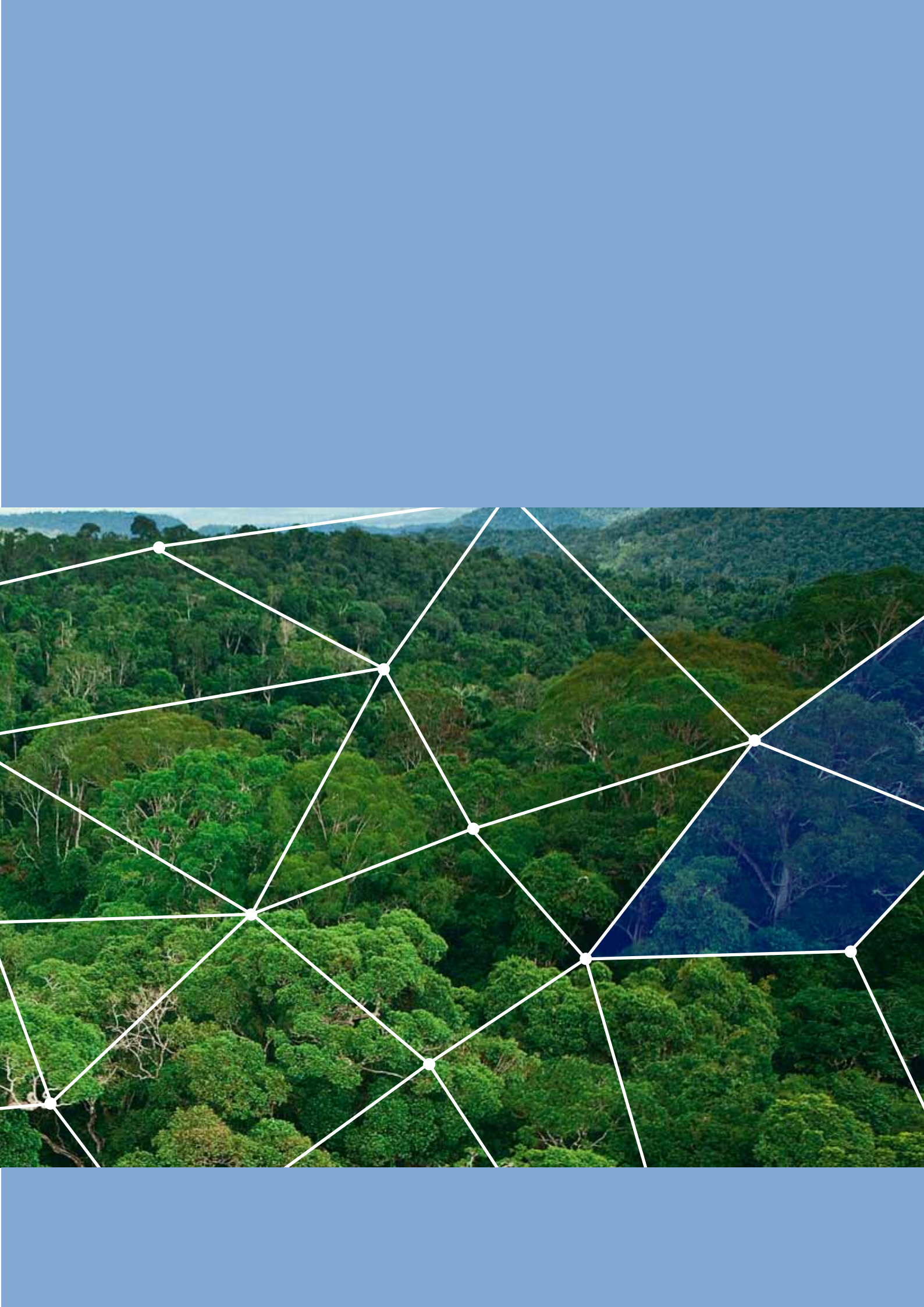
Global Sustainability Agent

As a leading global mining company, Vale recognizes sustainability to be a question that transcends borders and has strengthened its commitment to good practices in sustainability



Carajás National Forest (Pará, Brazil), part of the Amazon rainforest biome, is one of the areas that Vale protects or helps protect in Brazil







Palm tree nursery in Pará, Brazil. The trees' oil will be used to make biodiesel



Strategic Management

Vale's activities are based on a commitment to contribute to the development of a low-carbon economy

In 2010, Vale continued to develop actions based on the five pillars of the Vale Carbon Program, part of the company's Corporate Guidelines on Climate Change and Carbon. The goal is to make Vale a leader in climate change mitigation.

In line with the first pillar of the Vale Carbon Program, the company has been calculating its greenhouse gas (GHG) emissions inventory since 2005. This initiative allowed Vale to understand its emissions profile, and then develop strategies and plans to follow a development model based on a low-carbon economy. Some examples of these actions are: investment in the protection of forests and other ecosystems; research; technology development; improved energy efficiency; and an increased use of renewable energy. In addition, Vale supports the mobilization of industry organizations, businesses and government to work together in the search for solutions to climate change.

Pillars of the Vale Carbon Program

- 1 – Strategic evaluation of the impact of climate change on business, and capacity-building of the company to operate in the new competitive environment;
- 2 – Support for and induction of initiatives for reducing GHG emissions and promoting sequestration of carbon dioxide;
- 3 – Cooperation and partnership for research and development of technologies and implementation of mitigation and adaptation measures in the territories where we operate;
- 4 – Engagement with governments and private sectors to monitor and contribute in the preparation of the regulatory milestones necessary to climate change responses;
- 5 – Transparency and continuous improvement.

In 2010, the companies that had signed the Open Letter to Brazil Regarding Climate Change in 2009 presented society with an update on their work to implement the commitment they took on in the document. The initiative, led by Vale together with the Ethos Institute and Fórum Amazônia Sustentável (Sustainable Amazon Forum), calls for the adoption of measures that will result in reduced GHG emissions. The initiative is part of the fourth pillar of the Vale Carbon Program.

Commitments made in the Letter

- A. Annually publish GHG emissions inventories from our operations, as well as our action plans to reduce emissions and adapt to climate change conditions;
- B. Include options to promote reduction of GHG emissions as a strategic orientation in our investment decisions process, products and services;
- C. Seek for continuous reduction of specific emissions of GHG and of the CO₂ net balance of our companies by taking emissions reductions direct actions in our production processes, investing in carbon capture and sequestration and/or by supporting reduction of emissions caused by deforestation and forest degradation;
- D. Act consistently with our supply chain, envisioning the reduction of emissions from our suppliers and clients;
- E. Work closely with the Government, civil society and different industry sectors, in the efforts to comprehend climate changes impacts in the regions where we operate and the due adaptation needs.

Accountability to Society

Vale works conscientiously to meet the commitments it made in the Open Letter to Brazil regarding Climate Change and continually looks for better ways to communicate its activities to its stakeholders. In 2010, in order to assess the risks and opportunities that climate change creates for its business, Vale established a protocol for analyzing its management of GHG emissions that will be used in evaluations of new mergers and acquisitions.

In addition, Vale is revising its methodology for capital project development to include the use of alternatives to reduce GHG emissions in projects' engineering design phase. The impacts of GHG emissions and carbon capture of capital projects are assessed during the annual corporate strategic planning cycle.

In 2010, Vale created a portfolio of initiatives with the potential to reduce GHG emissions in virtually all of its

businesses, allowing the implementation of specific measures to reduce these emissions at companies such as Vale Florestar S.A., Vale Soluções em Energia (VSE), Vale Energia Limpa S.A. and the consortium with Biopalma da Amazônia S.A.¹ (more information in the Energy section on page 71).

Vale encourages the suppliers and customers in its supply chain to reduce their emissions. In 2010, Vale developed a GHG emissions management assessment of its main suppliers through a joint action with its Procurement Department. In 2011, the company joined the CDP Supply Chain, an initiative that will allow suppliers to engage in the theme of climate changes and improve Vale's scope 3 emissions. Vale will offer training to its main suppliers to help them answer the CDP Supply Chain questionnaire. In addition, a pilot project was started to analyze the lifecycle of one of Vale's products² by calculating its carbon footprint, in other words, its total emissions, from the production of raw materials up to delivery and consumption by the final customer.

Vale participates in various events to contribute to the development of regulatory frameworks and promote engagement in the business community. These include the Climate Forum (made up of signatories to the Open Letter); CT Clima (the Brazilian Business Council for Sustainable Development, CEBDS); the Brazilian GHG Protocol Program (Getulio Vargas Foundation, FGV); the Climate Change Working Group (ICMM); the Cancun Communiqué on Climate Change (Cambridge University Sustainability Program); National Industrial Confederation (CNI); Federation of Industries on the State of São Paulo (FIESP); COPs; the Brazilian Forum on Climate Change; MDIC (support for the steel industry plan); and IBRAM, among others.

Vale also participates in discussions regarding climate change in the Canadian provinces of Manitoba, Ontario, and Newfoundland and Labrador. In Sudbury, the company is the managing partner of the Greater Sudbury Climate Change Consortium.

Greenhouse Gas Emissions

Vale publishes information on its GHG emissions in its Sustainability Report as well as through other initiatives such as the Carbon Disclosure Project (CDP) and the Brazilian GHG Protocol Program³, coordinated by the Getulio Vargas Foundation (FGV) in partnership with the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Vale was the only mining company awarded a gold standard by the program, due to the fact that its GHG emissions inventory was complete and verified by a third party.

¹ In 2011, Vale acquired control of Biopalma, in Pará state.

² Iron ore pellets from operations in Vargem Grande.

³ For more information, visit the websites of the CDP (<http://www.cdproject.net>) and the Brazilian GHG Protocol Program (<http://www.ghgprotocolbrasil.com.br>).

In order to track its GHG emissions, Vale has adopted the guidelines of the Greenhouse Gas (GHG) Protocol Initiative to produce its corporate inventories as well as calculation methodologies from international references¹. Calculations are based on the specific characteristics of each type of fuel, equipment and operational process.

With the goal of continuous improvement and strict adherence to the five principles of the GHG Protocol, Vale provides specific training on GHG emissions for its employees involved in the issue. It has enlarged and separated each stage of data analysis in the inventory (Transparency), resulting in a reduction in uncertainty (Accuracy) and an increase in the quality of the inventory.

Vale participates in the Carbon Efficient Index (ICO2), developed by the São Paulo Stock Market and BNDES (Brazil's national development bank)

Vale is part of ICO₂, a stock market index which aims to attract investors who consider that companies with better management of risks and opportunities associated with carbon will have better financial performance in the future. Vale's participation is consistent with its Sustainable Development Policy and reflects its commitment to transparency.

Vale's leadership position confirmed

The Carbon Disclosure Project (CDP) reporting system is an initiative composed of a group of approximately 500 investors from around the world with US\$64 trillion in assets. It is based on information voluntarily provided by corporations, in an extensive questionnaire.

Vale is one of the companies that have completed the questionnaire, which is the basis for a globally recognized and transparent report on the management of greenhouse gases. It is the only Latin America company in the CDLI, the CDP's Carbon Disclosure Leadership Index, which identifies leading companies in the management of carbon-related risks and exposure.

With a score of 88 out of a possible 100 points, Vale's performance in 2010 was 20% better than in the year before. Every year, it is necessary to demonstrate a series of improvements and innovative initiatives.

¹ IPCC 2006 Guidelines for National Greenhouse Gas Inventories (GNGGI). For some international business units, Vale uses the following country-specific reference guides: "Metal Mining – Greenhouse Gas Quantification Guidance," from Canada; "National Greenhouse Accounts (NGA) Factors" and "National Greenhouse and Energy Reporting System Measurement," both from Australia; "U.S. Inventory of Greenhouse Gas Emissions and Sinks 1990-2004 (EPA 2006)," from the United States; "The Norwegian Emission Inventory 2008 – Documentation of methodologies for estimating emissions of greenhouse gases and long-range transboundary air pollutants," from Norway; and "National Greenhouse Gas Inventory Report of Japan, Ministry of the Environment, Japan Greenhouse Gas Inventory Office of Japan (GIO), CGER, NIES," from Japan.

² New emission sources included in the scope of the 2010 inventory.

³ The sale of liquefied CO₂ as a byproduct of ammonia production and process gas rich in CO₂ during the production of pig iron is subtracted from the emissions total.

⁴ New emission sources included in the scope of the 2010 inventory.

⁵ The sale of CH₄ by Integra underground coal mine is deducted from the emissions inventory.

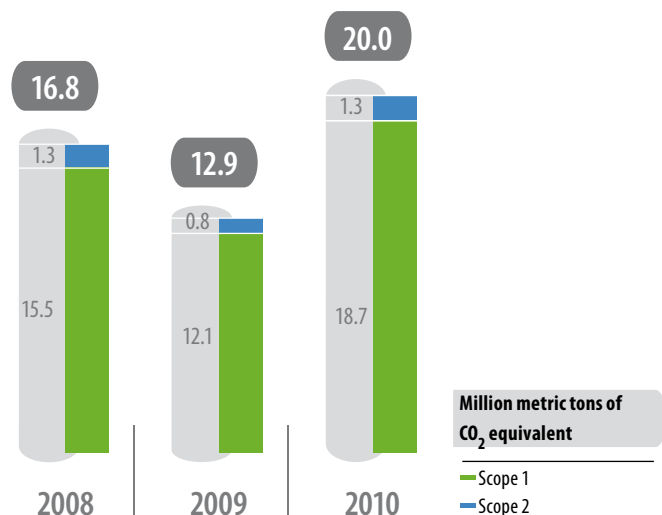
The table below shows the sources of greenhouse gas emissions resulting from activities using equipment and facilities owned and operated by Vale:

Greenhouse gas emissions

Operational Limits	Emission Sources in 2010 and important observations
Direct Emissions (Scope 1)	<p>Emissions from fuel used for energy:</p> <ul style="list-style-type: none"> • Burning of non-renewable fuels for transport activities and to produce electricity, steam, heat etc., including fuel oil, diesel, thermal coal, natural gas, bunker fuel etc. <p>Process Emissions:</p> <ul style="list-style-type: none"> • CO₂ emissions from the use of reducers and other inputs containing carbon – anthracite, coke, green coke, pitch, electrode paste, lime, refinery gas, asphalt residue etc – in iron ore pellet production, sinterization, ferroalloy furnaces, the production of nickel and byproducts, aluminum production, and the production of ammonia/urea and byproducts^{2,3}. • CH₄ and N₂O emissions from charcoal kilns. • CH₄ emissions from sinterization of manganese ore and ferro alloy production. • PFC (perfluorocarbon) emissions from the electrolysis process used in aluminum production. • CO₂ and/or CH₄ emissions from the blasting of explosives in mining. • N₂O emissions from nitric acid production. Two of Vale's four plants have catalytic N₂O reduction facilities. • CO₂ emissions from the use of phosphate rock to produce phosphoric acid and acidulation for phosphate⁴ fertilizer production. <p>Fugitive Emissions:</p> <ul style="list-style-type: none"> • Fugitive emissions of CO₂ and CH₄ are liberated with coal seam gas during coal mining⁵. There has been an improvement in the methodology used to calculate these emissions in Vale Australia's coal mines. The improved method directly measures the gases, rather than estimating emissions, resulting in more reliable and accurate data.
Indirect Emissions (Scope 2)	<ul style="list-style-type: none"> • Purchase of electricity. • Purchase of electricity and steam (used in ammonia production)⁴
Other Indirect Emissions (Scope 3)	<ul style="list-style-type: none"> • Employee commuting. • Transport (upstream and downstream): transport of products, raw materials and waste for Vale. • Product use⁴: a) iron ore and pellets used in pig iron production; b) coal. • Goods and services acquired⁴: production of raw materials and strategic inputs acquired for use in some of Vale's industrial processes. • Employee business flights.
Renewable Emissions	<ul style="list-style-type: none"> • Emissions associated with the burning of renewable fuels, e.g., biomass in boilers, pure biodiesel in diesel, ethanol fuel and ethanol present in gasoline. • Use of reducer (charcoal) in pig-iron production.

Vale's total emissions, defined as the sum of scope 1 and scope 2 emissions, were 20 million metric tons of CO₂ equivalent in 2010¹, as shown in the chart below:

Vale's total GHG emissions (Scopes 1 and 2)



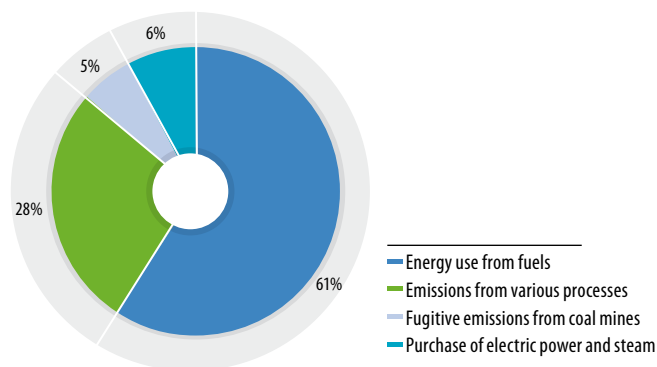
The results refer to the calendar year 2010: January 1 to December 31.

The increase in total GHG emissions is the result of a rise in production due to the global economic recovery and the inclusion of new sources of emissions. These new sources include: 12 Vale Fertilizantes operations; a coal mine in Colombia; three new logistics assets (Sociedad Portuaria Rio Cordoba, in Colombia, San Nicolas Port in Argentina, and Transbarge in Paraguay); the start of operations at the Vargem Grande iron ore pellet plant in Brazil;

and the ramp up in production at the VNC and Onça Puma nickel operations. The main effect of the recovery in production was a rise in industrial consumption of fuels and inputs, for example in iron ore and pellet production. In addition, an increase in seaborne shipping – resulting in growth in Vale's fleet of own ships – and the inclusion of the corporate aviation area (airplanes and helicopters) contributed to an increase in scope 1 emissions.

Approximately 61% of Vale's emissions are the result of burning fuel for energy purposes, whether in on-site transportation at mines, in logistics services, to generate thermal electricity and steam, and in drying and calcination kilns. A large share of the 28% of emissions arising from industrial processes is accounted for by the production of pellets, aluminum and ferroalloys. The chart below shows a breakdown of Vale's total emissions (scope 1 and 2) by source.

Sources of Vale's Global Emissions in 2010 (Scopes 1 and 2)



¹ The sale of nickel and nickel byproduct assets (IATM Dalian, IATM Shenyang, IMMS and Novamet), kaolin assets (PPSA), and aluminum assets (Valesul), and the termination of the lease for Andrade iron ore mine, did not significantly affect Vale's global emissions, due to the relatively small share of emissions accounted for by these operations the year before.



As a global company, Vale participates in discussions related to the theme of climate change in various forums

Vale's Scope 1 emissions in 2010 were 18.7 million metric tons of CO₂ equivalent, representing an increase of 55% in relation to 2009. Scope 1 emissions by source are represented in the table below:

Scope 1 Emissions 2010	million tons of CO ₂ e
Fuel consumption for energy use	12.29
Production of iron ore pellets	2.01
Coal mining	0.92
Production of anodes and electrolytic reduction of aluminum	0.95
Production of ferroalloys	0.83
Production of nickel and co-products	0.62
Production of ammonia and urea*	0.58
Production of nitric acid*	0.25
Production of pig iron	0.13
Use of phosphate rock in the production of phosphoric acid and phosphate fertilizers*	0.11
Use of explosives in mining	0.02
Total	18.71

*New emission sources included in the scope of the 2010 inventory.

Although Vale's activities consume a lot of electric power, the fact that a large share of its operations are located in Brazil gives it a competitive advantage, as around 82% of the country's electricity comes from renewable sources – mainly hydroelectric energy – resulting in low Scope 2 emissions.

However, Scope 2 indirect emissions rose 67% between 2009 and 2010, to 1.3 million metric tons of CO₂ equivalent. The increase in Scope 2 emissions is related to two main factors: (i) a 108% increase in Brazil's emission factor from the grid, due to greater use of thermoelectric plants during periods of peak energy consumption; and (ii) a 26% rise in the purchase of electric power from the power grid in relation to the previous year, due to new operations and the resumption of production at existing operations.

Scope 2 emissions are shown in the table below:

Scope 2 Emissions 2010	Million tons of CO ₂ e
Purchase of electricity (on-grid)	1.20
Purchase of electricity and steam from external supplier (off-grid)*	0.08
Total	1.28

* New emission sources included in the 2010 inventory.

In line with its corporate policy on climate change, Vale voluntarily accounts for and publishes data on its renewable emissions and other indirect emissions (Scope 3) from its value chain.

Vale's renewable emissions in 2010 totaled 625 million metric tons of CO₂ equivalent, generated by the use of biodiesel, ethanol, charcoal, and biomass. The 125% rise in relation to 2009 is due to the company's acquisition of phosphate fertilizer operations, which use biomass in drying kilns, thereby raising the share of Vale's energy supplies accounted for by renewable fuels.



Vale's ecosystem protection work follows a model of development based on a low-carbon economy

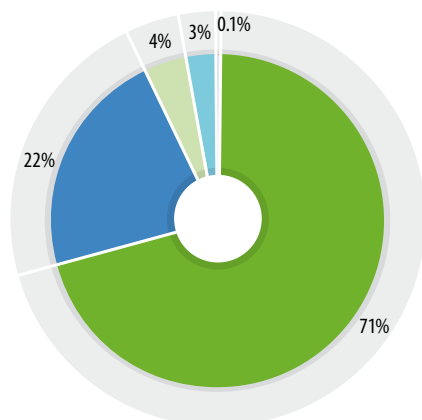
In 2010, Vale continued mapping the emissions of its value chain, and incorporated the following new categories of other indirect emissions (Scope 3): (i) processing, for example, between the sale of iron ore and pellets and the production of pig iron, (ii) product use – coal; and (iii) production of raw materials and inputs acquired and consumed. Vale also performed a deeper analysis of its ship leasing contracts within the product transport category, and broadened the coverage of its data collection concerning employees' business flights and commuting.

Scope 3 emissions by source are shown in the table below:

Scope 3 Emissions ¹ 2010		Million tons of CO ₂ e
Downstream	Processing of products – iron ore and pellets	64.60
	Product use – coal ²	19.65
Upstream and Downstream	Product transport, raw materials/ inputs and waste	3.94
Upstream	Production of raw material and inputs ³	2.91
	Employee business flights	0.06
	Employee commuting	0.04
Total		91.21

The chart below shows the distribution of Vale's Scope 3 emissions by source:

Other Sources of Indirect GHG Emissions at Vale in 2010 (Scope 3)



- Product processing - iron ore and pellets
- Product use - coal
- Transportation of raw materials, inputs and waste
- Production of raw materials and inputs
- Employee business flights and commuting

¹ Based on the materiality criterion, Vale does not include emissions associated with the treatment and disposal of waste in the inventory, and therefore does not include them in its results.

² Based on sales data reported in USGAAP 2010.

³ The emissions from the production of raw materials and inputs were not verified by a third party.

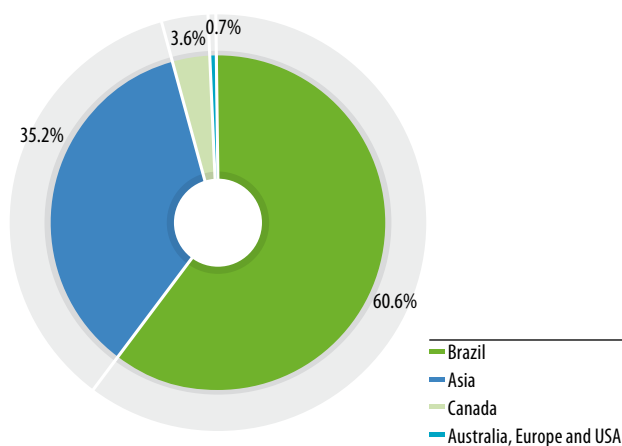
⁴ The 2009 result was updated to 0.663t ODS following a revision of the data relating to Albras.



Ozone-depleting substances

In 2010, Vale emitted 0.65 metric tons of ozone depleting substances (ODS). This was similar to the result in 2009⁴, although the company increased its efforts to improve data collection in relation to the previous year.

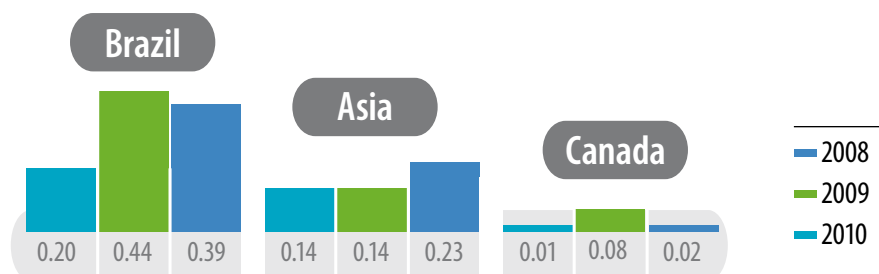
In the United Kingdom, Vale has a program for removing ozone-depleting gases, and it expects that by the end of 2011 it will have no more equipment using hydro chlorofluorocarbons (HCFCs) in the country.



The chart below shows the results for ODS emissions over the past three years, which can mainly be explained by the expansion in the scope of data collected and minor variations related to refills of these gases following small leaks in air conditioning and cooling systems.

In Canada, for instance, there was a leak of 334 kg of HCFC-22 gas in Sudbury, which represents 0.02 metric ton of ODS. At the same time, however, there was no consumption of these gases at the Thompson unit and there was a decrease in consumption in Newfoundland and Labrador, resulting in a reduction in the country's total emissions.

Total Emissions of ODS (metric tons)



Due to the low levels of ODS emissions in Australia, Europe, and the United States, and the graph's scale, it was not possible to show their results in the chart above.

CASE

CHINA

Environmental innovation wins awards

China's astonishing economic growth, outpacing the world's another major economies, and the dramatic changes in the lifestyle of its people, have changed the face of the country in recent years and increased pressures on the environment.

One of the areas particularly vulnerable to this pressure is Western China, which is the source of several major rivers and an area with high concentrations of forests, grasslands, marshes and lakes. This region is an ecological shield for the whole country, and the protection of its ecosystem is a major concern for people both in China and elsewhere.

As a company operating in China, Vale encourages and promotes sustainable development efforts to address the climate challenge by adopting concrete preventive measures. In December 2010, the Vale Innovation Program for the Environmental Protection of Western China was started. This program is a partnership between Vale and China's Center for Environmental Education and Communications (CEEC), part of the Chinese Ministry of Environmental Protection.

The program funds innovative projects designed to protect ecosystems in Western China that are developed by NGOs and government, as well as individual initiatives that have contributed significantly to the protection of the environment.

Another objective of the program is to encourage the public to engage in innovative, effective and integrated activities that protect the ecosystem so as to promote the sustainable economic, social and environmental development of western China.

This is the first nonprofit program aimed at protecting the ecosystem of the western region and increasing innovation by involving government representatives, environmental protection experts, the media, NGOs and the general public. The program will continue until June 2011, when a group of specialists will present one Special award, five awards for Excellence, ten awards for Incentive and five individual awards for Outstanding Contributions.

In order to increase awareness of environmental issues and involve the public in environmental protection projects, Vale will host a series of events, such as the "Vale Eco-Protection Photo Exposition of Western China" and an internal campaign to raise employees' awareness, encouraging changes in behavior, focusing on the rational use of resources and the incorporation of sustainability into daily routines.



The company is taking the steps needed to comply with new global regulations on climate change

Risk and Opportunities

Vale understands that climate change is a challenge for its business and it has sought to identify the risks, vulnerabilities, and opportunities directly and indirectly related to its operations in various countries. The company has identified the specific vulnerabilities of some of its sites in relation to the physical effects of potential climate change.

A report on climate change effects in the Brazilian states of Pará and Maranhão, developed in 2009 by the National Institute for Space Research (INPE), indicated that these regions are highly vulnerable to climate change, which could alter the water balance and lead to periods of water shortage, among other problems.

In 2010, Vale identified the principal assets that are at risk due to potential climate change and the cost of adapting operations

at the Carajás mines, on the Carajás Railroad, and at Ponta da Madeira Port Terminal, all in the states of Pará and Maranhão. Vale plans to apply this type of study to other operational units that have significant climate change vulnerability.

Vale recognizes that the national and international regulatory context involving climate change must be monitored continuously. The company is taking the steps needed to adapt itself to new international regulations on climate change, and it actively participates in discussions about the issue. At the beginning of 2012, the aviation sector will join the European Union's Emissions Trading System (EU ETS). As a result, Vale's aviation department is working to obtain the necessary permits to cover its yearly GHG emissions.

	Regulatory Risks	Physical Risks	Opportunities
Revenues	<ul style="list-style-type: none"> • Reduction in overall economic activity; • Indirect impact from the introduction of new technologies that lead to product substitution in the long term; • Indirect impacts on market conditions due to changes in costs of the steel industry's productive chain in the medium term. 	<ul style="list-style-type: none"> • Changes (positive or negative) in the volume and origin of production caused by regional physical impacts of climate change on businesses in the sector; • Potential impact (positive or negative) on logistics services caused by changes in production in areas of influence. 	<ul style="list-style-type: none"> • Development of carbon credit projects through the Clean Development Mechanism (CDM) for forestry projects and industrial processes; • Development of carbon credit projects through voluntary markets for forestry projects and industrial processes; • Development of projects involving Reducing Emissions from Deforestation and Degradation (REDD); • Research and development in clean electricity generation; • Development of risk analysis related to climate change in developing capital projects.
Investment	<ul style="list-style-type: none"> • Investments in changes to production processes due to regulatory changes in the medium term. 	<ul style="list-style-type: none"> • Additional investments in adaptation (infrastructure) in the medium and long term; • Change in project implementation deadlines because of increasing number of extreme weather events. 	
Costs	<ul style="list-style-type: none"> • Introduction of mandatory emission targets and tax costs for GHG emissions; • Rising input costs in metallurgy and mining sectors (e.g., coal, water, energy); • Potential tariff levied to reduce competitive advantage of countries with no taxation. 	<ul style="list-style-type: none"> • Potential demand for social and environmental projects in areas of influence; • Additional insurance costs for operational facilities. 	<ul style="list-style-type: none"> • Energy efficiency and GHG emission reduction projects; • Potential financial incentives for generating cleaner energy.

Emission reduction initiatives

As part of its GHG emission reduction strategy, described in the second pillar of the Vale Carbon program, the company is working to continuously cut specific GHG emissions by managing its portfolio of GHG emission reduction and carbon capture projects. To this end, in 2009 Vale began implementing a Sustainability Action Plan (SAP) to improve its climate change indicators, as described in its (GRI standard) sustainability report, including energy consumption (fuel and electricity).

Vale understands that the adoption of a global target for cutting GHG emissions is essential to mitigate the impacts of climate change. In order to accelerate the reduction in its emissions and make its production processes more efficient, the company will validate its target in 2011.

Listed below are some of the measures that have been implemented or that are being developed to improve energy efficiency and reduce greenhouse gas emissions:

Vale continues to conduct technical studies to evaluate the use of natural gas and various blends of biodiesel in its fleet of railroad locomotives in order to increase the share of renewable energy sources used, verify energy efficiency improvements and reduce the emission of pollutants.

Through a consortium with Biopalma da Amazonia S.A., Vale plans to increase the use of biodiesel in its diesel blend used in locomotives and other mobile equipment in its northern Brazil operations. Vale plans to use a diesel blend with a higher percentage of biodiesel than is required by Brazilian law. The goal is to achieve a mix of 20% biodiesel and 80% petroleum-based diesel (see "Vale invests in clean energy" on page 71).

Other ongoing projects, which were reported in 2009, include flaring (burning) methane gas at the Carborough Downs coal mine to reduce its global warming potential, the sale of methane from the Integra underground mine to generate electric power, the implementation of the Karebbe hydroelectric plant, which will supply power to PT International Nickel Indonesia's plant, and the testing of a nickel heating technology to replace the use of natural gas in Clydach, UK.

Business Area	Actions	Annual Reduction in emissions (metric tons of CO ₂ equivalent)	Date
Fertilizers –Piaçaguera Industrial Complex (CPG) – Brazil ¹	Abatement of N ₂ O (nitrous oxide) emissions by installing a secondary catalyst to decompose the N ₂ O inside the U-8200 nitric acid plant. The first CDM ² credits (CERs ³) were issued in December, 2010, for the period November 13, 2008 to April 29, 2009. Records show a reduction of 171,931 metric tons of CO ₂ equivalent per year.	92,148	Implemented in 2007
Fertilizers – Cubatão Industrial Complex (CCB) – Brazil ⁴	Abatement of N ₂ O emissions by installing a secondary catalyst to decompose N ₂ O inside the UNAN nitric acid plant. The first CERs were issued in January 2011, for the period March 21, 2009 to July 28, 2009. Records show a reduction of 109,555 metric tons of CO ₂ equivalent per year.	43,514	Implemented in 2007
Aluminum – Albras Aluminum Plant – Brazil	Reduction of perfluorocarbon gas emissions (PFCs) by improving automatic control system to reduce the anode effect in electrolysis cells used in aluminum electrolytic reduction. Project registered under CDM in January 2009.	80,000 (forecast)	In progress
Iron Ore – Pelletizing Plant 7 (formerly Kobrasco) – Brazil	Ongoing project to replace fuel oil with natural gas in iron ore pelletizing plant furnace. A reduction of 89,930 tCO ₂ e was verified by a third party for the period January 2008 to October 2010. Forecast emission reductions from 2011 to 2018 total 427,126 tCO ₂ e (53,390 tCO ₂ e/year).	89,930	Implemented at the end of 2007
Iron Ore – Pelletizing Plant in Fábrica – Brazil	Ongoing project to replace fuel oil with natural gas in pelletizing plant furnace. A reduction of 90,537 tCO ₂ e was verified by a third party for the period January 2008 to October 2010. Forecast emission reductions from 2011 to 2018 of 418,375 tCO ₂ e (52,297 tCO ₂ e/year) were also verified.	90,537	Implemented at the end of 2007
Iron Ore – Mariana Mine – Brazil ⁵	Reduction of spending on diesel in highway trucks, reducing CO ₂ e emissions. Implementation of daily monitoring of diesel consumption, driver training, modifications to slope of ramps, reduced queue times, periodic maintenance (air and oil filters changed, valves replaced and idle setting adjusted), etc.	5,290	Implemented in 2009
Nickel – Matsuzaka Refinery – Japan	Replacement of kerosene with natural gas. Part of the project's costs will be subsidized by the Japanese government in accordance with Japan's Voluntary Emissions Trading Scheme.	2,200 (forecast)	Implemented in 2010

¹ Project implemented before Vale purchased the assets, with credits negotiated until 2012.

² CDM: Clean Development Mechanism.

³ CER: Certified Emission Reduction.

⁴ Project implemented before Vale purchased the assets, with credits negotiated until 2012.

⁵ This project is based on the Six Sigma methodology.

The Acton refinery in the UK has a goal of cutting its energy consumption by 8% between 2001 and 2011 in order to achieve the reduction established in legislation as part of the Climate Change Levy.

Vale's mining operations in Brazil have implemented a range of energy-saving measures. For example, Sossego Mine (copper) and Águas Claras Mine (iron ore) have reduced their fuel consumption by performing scheduled maintenance on diesel-powered vehicles and equipment, and reducing the average transport distance (ATD) of overburden. At Fábrica pelletizing plant, several energy-saving measures have resulted in reduced consumption of thermal energy (coke and anthracite). As a result, specific emissions were reduced

by 5.4% in 2010 (measured in CO₂ equivalent metric tons per metric ton of pellets produced) in relation to 2009, and absolute emissions were reduced by 37,800 tCO₂e.

Vale's strategy is to increase its use of renewable sources and to use its energy supplies more rationally, in order to improve its energy efficiency and cut atmospheric emissions.

Another area of focus for the company is research and development related to environmentally sustainable processes and the use of renewable energy sources, conducted at the VSE (Vale Soluções em Energia) Technology Center, and research on energy and sustainability, carried out at the Vale Technology Institute (ITV).

CASE CANADA

Ventilation on Demand saves energy in mines

Innovation is crucial to Vale. In Sudbury, Ontario, a new technology called Ventilation on Demand (VOD) is making it possible to explore ways to make savings on one of the biggest demands for a mining site in terms of both energy and cost: ventilation.

"Everything we do in a mine produces something that either has to be removed or diluted to make sure that people are breathing quality air," explained Cheryl Allen, chief engineer of ventilation for Vale.

To move that air through a mine requires a lot of energy, accounting for as much as half the energy used in an average underground mine's operation. Clearly, there are savings to be made in ventilation.

Most ventilation systems are designed to operate at full capacity all the time, which is inefficient. Ventilation on Demand allows the system to run at different levels, in different places and at different times in order to meet real-time shifting demands and needs with increased efficiency and flexibility. A successful VOD system means reductions in energy use, costs and the production of greenhouse gases.

Establishing the business case for VOD has always been difficult. For the system to truly operate on demand requires far too many calculations and variables for human operators to manage, and a reliable and relatively cost-effective technology to do the work did not exist until now.

At Creighton Mine, two auxiliary fans have been fitted with Variable Frequency Drives (VFD), reducing rotation speeds by 10% and resulting in a minimum energy saving of 27% over the long term. The company is already saving about US\$20,000 per year per fan at the site.

At Coleman Mine, VOD has the potential to save about US\$200,000 per year and close to 3 million kWh.

The reduction at Coleman Mine represents savings of 24 million kWh – enough to power 2,730 average Canadian homes for a year – and 20 million kWh at Creighton Mine.

"The experience from our Canadian colleagues can be replicated at other similar units. Over the next few months, the technology will be evaluated for our Taquari-Vassouras potash mine, in northeastern Brazil," says Paulo Cruz, Vale's Energy Efficiency Coordinator.



Vale supports a project to protect the harpy eagle, an endangered specie, in Carajás (Pará, Brazil)



Commitment to Sustainable Development

At Vale, maintaining ecosystems and conserving biodiversity are priorities at all production stages. The company knows it must meet current community expectations while ensuring the quality of life for future generations

In 2010, which was declared International Biodiversity Year by the United Nations, Vale produced its Biodiversity Norm. This document strengthens Vale's commitment to conserving biodiversity and promoting the sustainable use of natural resources, supporting its Sustainable Development Policy. It was approved by Vale's business areas in Brazil and in other countries as a global document, and its official publication is expected in 2011, after being approval by the Executive Board.

In order to promote compliance with this norm, the Biodiversity Operational Guide was produced and distributed throughout Vale in 2010, as well as the Biodiversity Guide: Guidelines and Tools to Understand and Incorporate in the Company's Activities, which will be made available together with the Norm. The first of these guides presents an overview of Vale's commitment to the sustainable development of its operations and conservation of species, together with the principles guiding its activities, risks to biodiversity associated with its operations, and actions to be implemented in order to integrate biodiversity

with the company's activities. The latter guide offers a complete account, with detailed descriptions of the actions and tools to be deployed, including the theoretical foundations required to understand biodiversity issues.

To perform its activities, Vale works on the principle of complying with government regulations wherever it operates, with Brazilian law adopted as its minimum operating standard. It also follows the Good Practice guidance and Toolkit produced by the International Council on Mining and Metals (ICMM), of which it is a member. In-house, a series of obligatory procedures for all operational units has been developed, defining the actions and responsibilities of each party involved.

To improve understanding of the activities performed across Vale, a diagnosis of biodiversity actions implemented by its operating units in Brazil and other countries was conducted in 2010. This diagnosis will also be used to define the biodiversity action strategies to be adopted by the company in the different countries where it operates.

Impacts on Biodiversity

The operations undertaken by Vale may have direct or indirect impacts on biodiversity. Despite continuous investments in innovation and technology, some alterations are intrinsic to these types of activities and cannot be avoided. Nevertheless, Vale is implementing a set of actions to prevent, control or mitigate the negative effects of its operations at every stage in the life cycles of its operations.

In general, the impacts of Vale's activities are related mainly to alterations in the physical surroundings, which serve as a support for biotic elements (flora and fauna), with indirect effects on biodiversity. Among the possible indirect impacts of Vale's operations on biodiversity that might adversely affect environmental quality are: landscape alterations caused by topsoil and subsoil removal operations when digging mine pits, with the formation of overburden dumps; alterations to water bodies due to dam construction and interruptions in drainage systems; emissions of gases and particulate matter into the atmosphere, potentially impairing air quality; the generation of liquid effluent, which may reduce water and soil quality; the generation of solid wastes, which silt up water bodies and may adversely affect water and soil quality; and noise and vibration generated by rock drilling and blasting, heavy equipment and vehicle traffic and industrial operations.

Direct impacts on biodiversity are related mainly to vegetation suppression, which may be necessary during the implementation phase of projects and/or for their operating activities (expansion of mining areas, for example). Removing vegetation results in loss of individual flora and fauna specimens, while also eliminating and/or reducing the natural habitat available to species in the affected region, forcing migration into neighboring areas. In turn, this migration may cause alterations in environmental quality in the nearby communities that received species from impacted areas, although they may return to conditions close to their original status over the short or medium terms. The intensity of these modifications is determined by environmental conditions and the level of conservation of the remaining elements located in the directly affected areas and in the area under the influence of operations (adjacent area), prior to the start-up of the activities causing the impacts.

Management of Environmental Impacts

The measures deployed by Vale to prevent, control and minimize the impacts on biodiversity caused by its operations comply with national regulations and best practices recommended by leading international organizations in various sectors. In addition to meeting its legal obligations, Vale also undertakes voluntary actions, either directly or through partnerships with environmental, teaching and research institutions.

In order to maintain the good environmental performance of its operations, Vale defines actions to be implemented at all operating units under its responsibility, and maintains a standardized set of operating procedures that are regularly reviewed and updated. New methodologies are periodically added to these procedures, which meet the quality and excellence standards established by the company.

For example, Vale's operations are equipped with impact control systems installed during project implementation, which are defined according to the specific factors of each activity to be conducted. These systems, as well as other measures implemented at different operating units, are continually monitored to detect opportunities to upgrade and fine-tune procedures. Vale also works on proposing and developing new technical solutions. The solutions adopted may be altered throughout a project's operational phase. This may involve adaptations to comply with new legislative demands or replacing equipment with more efficient technologies.

The following are examples of actions adopted by Vale to manage its operations' impacts on biodiversity:

- Development of efficient-energy technologies;
- Investment in and encouragement for the use of clean energy sources;
- Reduction in greenhouse gas emissions;
- Adoption of strategies to control emissions of particulate matter;
- Collection, temporary storage and proper disposal of waste, tailored to the type of material;
- Implementation and constant monitoring of tailings dams and solid waste containment dikes;
- Implementation of wastewater treatment systems (domestic sewage and industrial wastewaters);
- Water recycling and consumption reduction;
- Adaptation of surface drainage systems and installation of devices to reduce water run-off rates, in order to prevent the displacement of solids and erosion;
- Reconstitution of soil profiles and adequate slope containment through the implementation of soil conservation mechanisms (such as physical barriers against the displacement of sediments and inputs carried by rainwater and the sowing or planting of vegetation to ensure ground stabilization and the land's sustainability);
- Creation of operational plans for vegetation suppression, taking into account aspects related to fauna and flora, and whenever possible avoiding felling legally protected, endangered tree species (through studies of alternative locations), while also avoiding suppression in areas not to be used by the activities;
- Implementation of activities for rehabilitation of vegetation (collection of epiphytes and seeds) and for rescuing wildlife (defined in accordance with local environmental characteristics and the context of incorporating the area to be affected – regional aspects), before the vegetation is removed;
- Development and enhancement of technologies and procedures for upgrading the quality of eco-rehabilitation activities, including the selection of native species for use in the Rehabilitation Programs for Degraded and Mined-Out Areas.

These actions are covered by the operating standards of all Vale operations, and have been implemented or are in the process of being implemented at all units, in line with their applicability at each project implementation stage and the type of operations involved. These actions reflect Vale's commitment to best practices and the performance of its activities in a sustainable manner.



Vale's Biodiversity Norm, approved as a global document, reflect the company's commitment to sustainability

Biodiversity Management Plan

Mandatory actions to be implemented at all Vale operating units make up the company's Basic Biodiversity Management Plan, covering the project planning and implementation phases through to closure. Although it consists of standardized actions, the plan adopted at each site is produced in line with the history and specific characteristics of each operation, while taking into account the surrounding environmental context.

The Basic Biodiversity Management Plan is represented by the macro-processes contained in the Basic and Intermediate Stages of the Vale Environmental Management System (EMS) (read more on page 55), implemented in 2010. This system ensures systemic control over operations' environmental aspects and aims for continuous improvement in processes. Although biodiversity management is in fact a macro-process in the Excellence Stage of the Vale Environmental Management System, biodiversity is a topic that extends through all other Environmental Management stages.

For operating units located in areas of special biodiversity importance (protected areas and/or areas with high biodiversity ratings), Specific Biodiversity Management Plans are proposed, grouping together the actions covered by the Advanced and Excellence stages of the Vale Environmental Management System. The following specific actions have been implemented in the Amazon region of Pará state, Brazil, among others:

- The Fire Prevention and Firefighting Plan for Ecosystems in the Mosaic of Conservation Units of the Carajás Mineral Province encompasses Conservation Units that include Vale operations and neighboring protected areas;
- Long-term fauna studies and monitoring activities are taking place in Carajás National Forest and Tapirapé-Aquiri National Forest, with the aim of supporting environmental licensing, the standardization of fauna study methodologies, the generation of scientific data to fill gaps in knowledge, technical capacity-building and regional development.

In southeast Brazil, an example of actions related to Specific Biodiversity Management Plans is provided by the development of a Biodiversity Conservation Plan for the Iron Quadrangle region of Minas Gerais state, which covers the transition area between Atlantic Forest and Cerrado (Brazilian savanna) biomes. The Iron Quadrangle hosts a cluster of Vale operating units and protected areas of habitat owned by the company. Also in this region, Vale runs the Biodiversity Research and Conservation Center (CeBio), which specializes in flora and fauna research and conservation, and the rehabilitation of the ecosystems typical of this region.

CASE BRAZIL

Vale leads movement for biodiversity conservation

Vale, together with Alcoa, Natura and Walmart, is a founding member company of the Brazilian Corporate Movement for the Conservation and Sustainable Use of Biodiversity (MEB), launched in August and officially established in September 2010 with the signing and distribution of a "Corporate Letter for the Conservation and Sustainable Use of Biodiversity." The Letter presents the commitments made by the signatory companies and suggested action to be taken by the Brazilian government.

The MEB plans to mobilize the Brazilian business sector to develop a positive agenda regarding the conservation and sustainable use of biodiversity, and to promote the sharing of best practices, with the support and participation of civil society organizations. Around 60 companies and ten organizations have so far joined the Movement and signed the Letter, which recognizes that business output with a smaller environmental impact creates value for both companies and society as a whole.

The Letter lists eight specific commitments that signatory companies pledge to fulfill. One of them, for example, is to ensure that supply chains do not contribute to ecosystem degradation and the loss of species, while another is to ensure that operational activities avoid degrading Brazilian biomes, but rather help to maintain and restore them. Another commitment is to incorporate action relating to the conservation and sustainable use of biodiversity into corporate strategies.

In 2011, the MEB will propose and evaluate its Governance Plan (Articles of Incorporation, Code of Conduct, Conflict Management Procedures and Brand Usage Rules) and will produce indicators to evaluate whether the Movement's participants are fulfilling the commitments set out in the Letter.



Main actions implemented in 2010

- Vale joined the Brazilian Corporate Movement for the Conservation and Sustainable Use of Biodiversity (MEB), which is designed to promote engagement in the private sector in terms of the conservation and sustainable use of biodiversity. The group's positioning was presented to the Brazilian government by means of a letter, written in cooperation with the Movement's partner organizations, setting out commitments taken on by signatory companies and suggesting measures for the government to take.
- At the invitation of the Brazilian government, Vale attended a seminar entitled the "International Year of Biodiversity – Challenges for Brazil." During this event, Vale presented some of its initiatives that contribute to the meeting of national goals related to reducing biodiversity losses in order to comply with the Convention on Biological Diversity (CBD). The information gathered during the seminar helped the Brazilian government to prepare the documents it presented at the 10th Conference of the Parties for the Convention on Biological Diversity (COP 10), held in October 2010 in Japan.
- Vale attended COP 10, including events organized by various international institutions. Case studies of good practices were disseminated during the conference through the distribution of publications produced by the Brazilian Business Council for Sustainable Development (CEBDS) and the World Business Council for Sustainable Development (WBCSD).
- 137 research projects were conducted at the Vale Natural Reserve in Linhares, Espírito Santo, Brazil, including studies by Vale itself and research carried out in partnership with other institutions. As a result of these studies, the discovery of four new plant species and three new insect species was officially confirmed in 2010, based on materials collected in the reserve with the support of Vale's technical staff. In addition to this ecosystem protection-related research (which has also been conducted at Sooretama Biological Reserve in Espírito Santo since 1998), the Vale Natural Reserve helps to develop technologies and procedures for the rehabilitation of degraded areas, grows seedlings in a tree nursery, and conducts environmental education actions. The reserve was declared an Outpost of the Biosphere Reserve of Atlantic Forest by UNESCO in 2008.
- A memorandum of understanding signed by Vale and the Rio de Janeiro state government was renewed, in order to continue the Sustainable Development Plan for Ilha Grande State Park in Angra dos Reis.
- Work continued to protect ecosystems, develop management plans and implement activities for creating and maintaining firebreaks and fences in Vale's Private Reserves of Natural Heritage in the Iron Quadrangle region of Minas Gerais.
- At the Biodiversity Research and Conservation Center (CeBio) in Sabará, in the Iron Quadrangle region of Minas Gerais – built as part of the Closure Plan for Córrego do Meio Mine – programs are under way to collect and process seeds, grow seedlings and produce inputs. In addition, a seed bank is being set up for the most important species of fauna in the Iron Quadrangle, and a database is being created to manage information deriving from the activities undertaken in the region.
- Work began on implementing the Pilot Forest Project at the Federal Education, Science and Technology Institute (IFE) at its Alegre campus in Espírito Santo. The project consists of creating experimental models to demonstrate production forests and protection forests. This initiative is the outcome of an agreement signed by Vale and the state government of Espírito Santo in 2009.
- As part of the Environmental Extension Program, which completed its second year of activities, more than 660,000 seedlings were supplied in 2010 in order to rehabilitate around 388 hectares of permanent preservation areas along rivers and around springs, located on rural properties in 25 municipalities in the state of Espírito Santo.
- Work continued in Greater Sudbury in order to meet commitments set out in its Biodiversity Conservation Action Plan, launched in 2009 and implemented through a partnership with the Canadian government, the local community and other nickel sector enterprises. The project covers areas evaluated as high priority for recovery in the Sudbury basin, which were impacted by historical practices involving nickel production and other industrial activities. To find out more about these initiatives, visit www.vale.com.





Management of sensitive areas

Vale's operational areas across the world cover approximately 3,668 km², of which 3,659 km² are related to surface operations and 9 km² concern underground operating units. In 2010, there was a rise in the total reported operational area, mainly related to the incorporation of the North-South Railroad, the expansion of the area covered by Vale Florestar S.A. and the acquisition of fertilizer operations. The reported areas are related to mineral extraction, processing, industrial production and transport, including railroad and port operations. Of the company's operational areas, 8.9% are located inside legally protected areas (Conservation Units) and 34.1% are in areas of high biodiversity value (outside protected areas) as defined by the governments of each country (Table 1). Considering operations adjacent to sensitive areas, around 18.9% of operating units are related to legally protected areas and 24.9% are related to areas of high biodiversity value.

Table 1: Size and position of Vale's operations in relation to sensitive areas – Protected and High Biodiversity Value Land, as defined by local governments

Relative Position	Sensitive Areas	Area (km ²)
Inside	Protected area	325.1
	Area of high biodiversity value	1,250.9
	Total	1,576
Adjacent (Surroundings)	Protected area	691.4
	Area of high biodiversity value	911.6
	Total	1,603

To calculate adjacent area, a buffer zone measuring 10 km from the external limits of protected areas and areas of high biodiversity value was considered, and its position relative to the operating unit was assessed. When an operating unit was associated with more than one protected area or area of high biodiversity value, the overlapping buffer zone was considered. Areas related to indigenous lands were not considered in this analysis.

In addition, 3,467 km² of Vale's operating areas are located in hotspots or wilderness areas, which consist of regions of high biological diversity evaluated internationally as important for biodiversity conservation (Table 2). Hotspot areas include operations in the Cerrado (Brazilian Savanna), Coastal Forest of Eastern Africa (Mozambique), Atlantic Forest (Brazil), Tumbes-Choco-Magdalena (Peru) and Wallacea (Indonesia) biomes, as well as areas in Japan and New Caledonia. Hotspots represent 49.9% of the high biodiversity areas in which Vale operates. Vale's operations in the Amazon Rainforest (Brazil), Arab Desert (Oman), Boreal Forest (Canada) and Pantanal Wetland (Brazil) biomes are classified as wilderness areas, and account for 50.1% of the considered area.

Table 2: Vale's operational activities and their location in areas of high biodiversity value – hotspots and wilderness areas

Type of Operation	Area (km ²)	Percentage
Global areas of high biodiversity value	3,467.4	
Extraction	1,476.7	43%
Processing / Production / Transportation	1,990.7	57%
Hotspots	1,729.8	
Extraction	834.6	48%
Processing / Production / Transportation	895.2	52%
Wilderness areas	1,737.6	
Extraction	642.1	37%
Processing / Production / Transportation	1,095.5	63%

Hotspots and wilderness areas are large geographical areas considered to be important for world fauna and flora conservation, that are complementary categories of importance to biodiversity, and are officially recognized by a number of international organizations. Hotspots are endangered areas with high biological value for the planet, with a large number of endemic vascular plants reduced to no more than 30% of their original vegetation coverage. Wilderness areas, in turn, are large areas of land (over 1 million hectares each) with representative biodiversity that has not been substantially changed (wild areas), having over 70% of relatively pristine original coverage and human density lower than or equal to five people per km². There is overlap between protected areas and areas of high biodiversity value defined by the governments of each country (data presented in Table 1) and regions internationally evaluated as having high biodiversity value - hotspots and wilderness areas (data in Table 2). Both approaches are distinct, and therefore the values presented in Tables 1 and 2 should not be added together.

Although most of Vale's operating units are located in regions that are classified as hotspots and wilderness areas, in many cases the company's activities are established in locations where the original environment was already altered by previous human activities (such as timber extraction and cattle raising), or which are exclusively used for industrial activities (mainly in the case of municipal industrial districts and urbanized areas). However, regardless of each area's initial state of conservation, Vale plans and implements its operations to minimize environmental impacts, and conducts a range of parallel environmental initiatives to make a positive contribution to the conservation of local biodiversity.

Protected Areas

Vale protects nearly 11,000 km² of natural areas, consisting of both owned sites (3.6%) and official Conservation Units protected in partnership with local governments (96.4%). The areas protected by Vale include regions in the Amazon Rainforest (82.1%), Boreal Forest (0.5%), Atlantic Forest (5.6%), New Caledonia (0.1%) and Wallacea (11.1%) biomes, in addition to properties located in the transition region between the Atlantic Forest and Cerrado (0.7%) (Table 3).

Some of the areas protected by Vale are home to its operating units, as in the case of Carajás National Forest and Tapirapé-Aquiri National Forest. The company also protects areas around its operations, such as Private Reserves of Natural Heritage in the state of Minas Gerais. In addition, Vale protects areas that are not related to its operations (30.6% of the total area), on its own land and in partnership with other organizations – notably Vale Natural Reserve, Sooretama Biological Reserve and Ilha Grande State Park. The protection measures that Vale carries out in the Carajás area are extended to all nature reserves within the regional mosaic of Conservation Units, including Itacaiúnas National Forest, Tapirapé Biological Reserve and Igarapé do Gelado Environmental Protection Area, which do not host any company operations.



Table 3: Areas that Vale either protects (on its own areas) or helps to protect (through partnerships with local governments)

Protected Area	Location	Biome	Ownership	Area (km ²)
Carajás National Forest	Brazil (Pará)	Amazon Rainforest	Partnership/ICMBio *	4,119.5
Tapirapé-Aquiri National Forest	Brazil (Pará)	Amazon Rainforest	Partnership/ICMBio *	1,900
Itacaiúnas National Forest	Brazil (Pará)	Amazon Rainforest	Partnership/ICMBio *	1,414
Tapirapé Biological Reserve	Brazil (Pará)	Amazon Rainforest	Partnership/ICMBio *	1,030
Igarapé do Gelado Environmental Protection Area	Brazil (Pará)	Amazon Rainforest	Partnership/ICMBio *	216
São Luís Botanical Park	Brazil (Maranhão)	Amazon Rainforest	Own	1.1
Ponta da Madeira Green Belt	Brazil (Maranhão)	Amazon Rainforest	Own	1.2
Tubarão Botanical Park	Brazil (Espírito Santo)	Atlantic Forest	Own	0.3
Tubarão Green Belt	Brazil (Espírito Santo)	Atlantic Forest	Own	5.5
Vale Natural Reserve	Brazil (Espírito Santo)	Atlantic Forest	Own	217.9
Sooretama Biological Reserve	Brazil (Espírito Santo)	Atlantic Forest	Partnership/ICMBio *	240
Penha Convent	Brazil (Espírito Santo)	Atlantic Forest	Partnership/State Government	0.5
Protection Areas for 4 SHPs	Brazil (Minas Gerais)	Atlantic Forest	Own	3.3
12 Private Reserves of Natural Heritage in Minas Gerais Iron Quadrangle region	Brazil (Minas Gerais)	Atlantic Forest / Cerrado	Own	70.4
Albras/Alunorte Buffer Zone	Brazil (Pará)	Amazon Rainforest	Own	25.3
Valesul Green Belt	Brazil (Rio de Janeiro)	Atlantic Forest	Own	0.7
Ilha Grande State Park	Brazil (Rio de Janeiro)	Atlantic Forest	Partnership/State Government	120.5
Sergipe Green Belt	Brazil (Sergipe)	Atlantic Forest	Own	0.5
Canadian Boreal Forest	Canada	Boreal Forest	Own	56.1
Sorowako Tropical Forest	Indonesia	Wallacea	Partnership/Government of Indonesia	1,180
Forêt Nord Natural Reserve	New Caledonia	Maquis Shrubland **	Partnership/Government of New Caledonia	0.01***
Total				10,602.8

* Source: Chico Mendes Institute for Biodiversity Conservation (ICMBio) (www.icmbio.gov.br/brasil) – Ministry of the Environment. Conservation Unit areas are currently being revised by the government and so the figures indicated may change during 2011.

** Type of natural vegetation occurring in the hotspot called New Caledonia.

*** Additional biodiversity measures, including protection of habitat, are being taken as part of preparations for the start-up of Vale Nouvelle Calédonie operations.

Conservation of Species

The areas affected by Vale's operations are inhabited by some 2,850 plant species and 3,400 animal species, including invertebrates (mollusks and arthropods) and vertebrates (fish, amphibians, reptiles, birds and mammals). Most of these species were observed during the environmental feasibility and monitoring studies conducted for projects already under way or being implemented by the company. Iron production operations in the Iron Quadrangle region of Minas Gerais state, Carajás and Corumbá utilize information available in a Biodiversity Database (BDBio), which is part of the Biodiversity Conservation Plan for the Iron Products System. The purpose of this database is to support the organization and management of knowledge about biodiversity, consolidating and validating data generated at Vale's iron ore operating units in Brazil, including both historical and recent studies.

The species identified in the areas of influence of Vale's projects include 174 that are classified internationally as endangered, according to the Red List of the International Union for the



Conservation of Nature (IUCN), updated in 2010 (Table 4), and 146 are on the Brazilian endangered species List (Table 5).

Table 4: Number of species registered in Vale's operating areas that appear in the official international (IUCN) endangered species list

International List	Extinct *	Critically endangered	Endangered	Vulnerable	Low Risk	Nearly Threatened	Total
Fungi	-	1	-	-	-	-	1
Plants	-	2	15	33	22	-	72
Mollusks	-	-	-	-	2	-	2
Arthropods	-	-	-	1	-	-	1
Fish	-	-	-	1	-	-	1
Amphibians	-	-	1	2	-	2	5
Reptiles	-	-	-	1	-	-	1
Birds	1	1	6	9	-	39	56
Mammals	-	1	4	11	-	19	35
Total	1	5	26	58	24	60	174

* Species with historical records for the area where one of Vale's operating units is implemented.

Table 5: Number of species registered in Vale's operating areas that appear on Brazilian endangered species lists

Brazilian List	Extinct*	Critically endangered	Endangered	Vulnerable	Special Concern	Total
Fungi	-	-	1	-	1	2
Plants	-	-	35	6	1	42
Mollusks	-	-	3	-	-	3
Arthropods	-	-	8	1	2	11
Fish	-	-	6	-	3	9
Amphibians	-	-	2	1	2	5
Reptiles	-	-	1	1	1	3
Birds	1	2	25	10	6	44
Mammals	-	2	6	14	5	27
Total	1	4	87	33	21	146

* Species with historical records for the area where one of Vale's operating units is implemented.

Biotechnology rehabilitates degraded areas

An experiment involving the association between fungi and plants is being conducted at Vale's operational unit in Onça Puma, southeast Pará, Brazil. The project aims to promote improvements in soils with low levels of nutrients that need to be recovered. Biotechnology contributes to the establishment and development of plants through higher absorption of water and nutrients by means of the action of fungi (*arbuscular mycorrhizae*).

The use of these fungi on a large scale can contribute to reducing agrochemical use, reducing crop losses caused by various types of stress and increasing yields, as well as aiding environmental conservation. The application of mycorrhizae is an important component of seedlings production and, if properly handled, can contribute substantially to the sustainability of agroecosystems, especially in programs to recover degraded areas.

Areas affected and under reclamation

Including all of the operations for which Vale is responsible, the total area affected by Vale's operations from 2008 to 2010 was 103 km². In the same period, reclamation activities were started on approximately 70 km², involving permanent (72.57%) and temporary (27.43%) reclamation (Table 6). The total area of land undergoing permanent or temporary reclamation was lower than the total area impacted by Vale's activities every year, as a result of the expansion and implementation of new operating units in the 2008 to 2010 period (Table 6).

Table 6: Area impacted and being reclaimed (permanently and temporarily) by Vale from 2008 to 2010 (in km²)

Year	Impacted Area	Area Being Reclaimed		
		Area Undergoing Permanent Reclamation	Area Undergoing Temporary Reclamation	Total Area Undergoing Reclamation
2008	32.6	12.8	7.2	20
2009	39.4	29.7	5.4	35.1
2010	30.56	8.03	6.5	14.52
Total	102.56	50.53	19.1	69.62

The reclamation of degraded areas is a gradual process, demanding medium and long-term actions. The term "undergoing reclamation" denotes areas in which such activities have been implemented and are in progress (initial reclamation of certain ecosystem functions and gradual increase in species, with the aim of returning the vegetation to as close to its original state as possible). "Undergoing permanent reclamation" means areas that will no longer be affected by the company's activities, and "undergoing temporary reclamation" means those areas subject to possible new operational activities.



The use of biotechnology improves soils with low nutrient content

The biome that suffered the greatest impact (vegetation suppression) from Vale's operations in 2010 was Amazon Rainforest, followed by Australian Tropical Forest and Coastal Forest of Eastern Africa (Table 7). These areas were affected as a result of projects being implemented and expanded in Brazil (especially the Salobo Project, Paragominas Project and Ponta da Madeira Industrial and Port Complex), Australia and Mozambique. In terms of the reclamation process, the largest areas of permanent reclamation were seen in the Australian Tropical Forest biome, while the Atlantic Forest accounted for the biggest area of temporary reclamation. In the case of the Atlantic Forest, especially in operations in the state of Minas Gerais, there is a combination of old projects and more recent areas being developed, with a significant area allocated for reclamation that could be reused in future for operational activities.

Table 7: Area impacted and being reclaimed (permanently and temporarily) by Vale in 2010, per biome (in km²)

Biome	Impacted Area	Area Undergoing Reclamation		
		Area Undergoing Permanent Reclamation	Area Undergoing Temporary Reclamation	Total Area Undergoing Reclamation
Cerrado	0.18	0.41	0.00	0.41
Amazon Rainforest	18.26	1.57	3.02	4.58
Coastal Forest of Eastern Africa	3.50	0.00	0.00	0.00
Australian Tropical Forest	4.78	3.31	0.03	3.34
Atlantic Forest	2.32	0.76	3.43	4.20
Wallacea	1.18	1.20	0.00	1.20
Other*	0.34	0.77	0.00	0.77
Total	30.56	8.03	6.48	14.52

*Boreal Forests, New Caledonia and Pantanal.

Besides reclaiming areas impacted by mining, industrial processing and transportation activities, Vale has operating control of the company Vale Florestar S.A., which expanded its area of operation by 419 km² in 2010, totaling 989 km². Of this area, 625 km² (66%) are allocated for the protection and restoration of native forest, while 364 km² (34%) are used for commercial plantations.

Impact Balance

In 2010, counting only mineral extraction and production activities, 29 km² of land were impacted and permanent reclamation activities were started on almost 9 km², resulting in a Final Balance of 740 km² in 2010 (Table 8). The Opening Balance in 2010 was higher than the Final Balance of the previous year due to the incorporation of fertilizer (including phosphate) units and operations in Oman, corresponding to 185 km² (the new acquisitions were taken on together with respective environmental liabilities).

Table 8: Opening and final balances for mineral extraction activities carried out by Vale in the period 2008 to 2010 (in km²)

Year	Impacted areas (Opening Balance ¹)	Impacted areas in the referred year	Areas in permanent reclamation in the referred year	Impacted areas (Final Balance ²)
2008	506.3	30.1	11.9	524.6
2009	524.6	39.1	29.6	534.1
2010	719.4	30.43	8.03	741.8

Logistics operations are not included. Only mineral extraction, processing and transformation activities are included. Only areas undergoing permanent reclamation are included, not temporary reclamation.

In 2010, the total area impacted by mineral exploration activities was much larger than the area where the permanent reclamation process was started (Table 8). This difference is related to the existence of operating units in the production phase that are expanding and projects that are being implemented, reflecting Vale's constant growth.

For every operational unit, Vale's reclamation activities are based on a Mine Closure Plan, which is prepared in the planning stage of each project. This plan contains different measures and strategies for ecological reclamation, based on the specific features of each unit and the environmental conditions of the region. The Mine Closure Plan is enhanced throughout the course of the operational stage, and aims to guarantee that the environment is restored as closely as possible to the state it was in before the start of operations, in line with each site's intended final use (species conservation, recreation and leisure for the local community, etc.).

¹ The Opening Balance represents the position at the beginning of the year regarding total land yet to be reclaimed.

² The Final Balance represents the position at the end of the year regarding total land yet to be reclaimed.



The UN's Biodiversity 2010 – Vision for the Future commendation recognized Vale's environmental preservation work

CASE

BRAZIL

UN award for biodiversity conservation

Vale was recognized by the United Nations with the Biodiversity 2010 - Vision of the Future Commendation for its work in environmental conservation and biodiversity. The award was given at the end of the International Year of Biodiversity Conference, held in November 2010, which examined companies' and organizations' perspectives on environmental sustainability.

The issue of biodiversity is of great importance to Vale, which effectively contributes to ecosystem conservation and the implementation of best practices in sustainable development. This is a global commitment for the company, which has established principles and guidelines for sustainable development in its projects and operations.

Vale has a long history of commitment to sustainability in Brazil, having operated for almost 70 years in 13 states. The country accounts for the bulk of the over 9,300 km² of natural habitat that Vale protects or helps to protect, either directly on its own land or in Conservation Units through partnerships with government institutions. These areas cover Amazon Rainforest (Pará and Maranhão), Atlantic Forest (Espírito Santo) and transition areas between the Atlantic Forest and Cerrado (Minas Gerais).

The protection of Carajás National Forest in southeast Pará is one of Vale's largest biodiversity conservation projects, due to the fact that the company also helps to protect four adjacent Conservation Units: Tapirapé-Aquiri National Forest, Tapirapé Biological Reserve, Itacaiúnas National Forest and Igarapé Gelado Environmental Protection Area. These protected natural areas cover a total of 8,680 km².

In the Atlantic Forest, Vale carries out important conservation and research work at the Vale Natural Reserve in Linhares, the second largest area of "tabuleiro" (tableland) Atlantic Forest in Espírito Santo (217 km²). The reserve is part of the Discovery Coast Biosphere Reserve declared by UNESCO in 1999.

The Vale Natural Reserve and the Sooretama Biological Reserve (242 km²) – which Vale also helps to protect in partnership with the Chico Mendes Institute for Biodiversity Conservation (ICMBio) – together form a virtually continuous area of native vegetation, representing approximately 10% of the original forest cover remaining in the state of Espírito Santo.

In this region, Vale ensures the protection of ecosystems through its efforts to prevent and fight forest fires and to control hunting and the collection of wild flora and fauna. As a result of the company's work in the Vale Natural Reserve, in 2008 UNESCO named it an Outpost of the Biosphere Reserve of the Atlantic Forest, making it a management model for other protected areas and for biodiversity conservation.

Besides these areas of Atlantic Forest in Espírito Santo, Vale also maintains a group of protected areas on its own land in the Iron Quadrangle region of Minas Gerais, covering 70 km² of different types of native vegetation, including typical Cerrado (Brazilian savanna) habitat.

Vale's recognition from the UN makes it confident that it is on the right track in promoting sustainable development, simultaneously improving socioeconomic conditions and conserving the environment in the areas where it is present.



Children from the Parkatê community, in Bom Jesus do Tocantins (Pará, Brazil), where Vale runs a culture and language recovery project



Challenges posed by global reality

A strategic theme for Vale, respect for and promotion of human rights permeates all of the company's activities in its sphere of influence

As a global company, Vale understands that it is not enough to respect human rights, but that it should also contribute to promoting them, in order to improve the living conditions of people in the regions where it operates. In addition, Vale recognizes the importance of the way companies manage the issue of human rights and the influence they can exercise on their value chain and on their other stakeholders.

In 2009, Vale's Human Rights Policy established the guidelines and principles to be used in the company's projects and operations and throughout its supply chain. To turn this policy into effective action involving the company's and employees' everyday routines, Vale published its Human Rights Guide on December 10, 2010 – the same day on which the UN adopted the Universal Declaration of Human Rights, a key document for the development of both Vale's Policy and its Guide.

Addressing topics such as diversity, harassment, community relations, government and society, the Guide aims to ensure integrated management that respects and promotes human rights. To further strengthen its approach to this topic, Vale plans to develop human rights training for its employees in 2011.

In 2010, Vale also developed an internal assessment and planning tool concerning social issues. The tool covers the following areas: social impact management, child labor, forced or analogous to slave labor, relationships with indigenous communities, traditional and/or fishing communities, artisanal and small-scale mining, and resettlement. The tool also enables risk analysis with regard to child and forced or analogous to slave labor in the regions where Vale operates.

This tool has been implemented throughout Vale's Brazilian operations as well as in some of its international operations. The purpose is to evaluate Vale's activities in relation to human rights and develop action plans aimed at continuously improving its performance in this area.

In terms of analysis of mergers and acquisitions^{1,2}, social aspects are extremely relevant when making strategic decisions, considering possible risks and social impacts. Among the factors examined are: commitment to human rights and analysis of possible violations; community resettlement processes; the identification of indigenous peoples in nearby areas; social impacts generated by operations; and the focus of social investments.

Human rights is a cross-cutting theme applicable to all of the company's business and areas. The topic is coordinated by the Corporate Social Responsibility Department, which acts as a catalyst for related subjects.

¹ In all cases of acquisitions in 2010 (whether implemented or not), human rights issues were evaluated.

² Evaluation of human rights in procurement contracts is reported in the HR2 indicator (Suppliers evaluated and measures taken). Vale included analysis of the merger and acquisition processes in the HR1 indicator (Assessment of human rights in significant investment agreements).

Spheres of Influence

In accordance with its Human Rights Policy, Vale maintains the following relationship with each group of stakeholders in its sphere of influence:

- **Employees:** Provides dignified working conditions and educational activities that promote professional and personal growth; always seeks to maintain a healthy work environment; does not tolerate discrimination or harassment of any kind, including moral or sexual; respects freedom of association, collective bargaining and diversity for everyone.
- **Supply chain:** Promotes awareness of human rights with special attention to the eradication of child and forced labor; promotes the rights of children and teenagers; seeks to establish relationships with suppliers, partners and customers that share the same principles and values as Vale, promoting awareness and practice of human rights; strives to continuously improve the risk assessment of human rights violations.
- **Local, indigenous and quilombola communities:** Bases all of its actions on dialog of mutual respect; strives to maintain a relationship of continuous engagement by supporting initiatives that contribute to socioeconomic and environmental development in the regions where it operates, from the start until the end of operations.
- **Government:** Respects the laws and regulations of the locations in which it operates and seeks to cooperate with authorities in the promotion of internationally recognized human rights; cooperates in the investigation of any incidents involving human rights violations within its supply chain.
- **Society:** A signatory to the United Nations Global Compact, Vale has voluntarily made a commitment to guarantee basic human rights according to the UN Universal Declaration of Human Rights. Vale is also a member of the International Council on Mining and Metals (ICMM) and is aligned with the International Labor Organization (ILO), whose principles inspire Vale's efforts. The company is also a signatory to the Brazilian Pact to Eradicate Slave Labor, a program supported by the ILO.

Vale's Spheres of Influence

Respecting and promoting human rights



Value chain

A condition concerning sustainability, which was already contained in Vale's Suppliers' Code of Conduct, Sustainable Development Policy and Human Rights Policy, began to be added to suppliers' contracts in Brazil in 2010. Contracts already in force are being amended to include this condition. In addition, analysis is under way to incorporate this clause in contracts with international suppliers.

In Brazil, a monitoring mechanism is in place to identify companies and/or individuals caught in the act of using forced labor, based on a list of such companies produced by the Brazilian Ministry of Labor and Employment. Vale regularly reviews the list to ensure that none of its suppliers or their owners are included on it. If suppliers, partners or customers are found guilty of a human rights violation by a government organization through instruments provided for in legislation, they are notified so that they can take the appropriate corrective measures. Otherwise, the business relationship with Vale is suspended.

Vale's operations in Brazil, England, Mozambique and Taiwan conduct risk assessments of child labor or of young people systematically exposed to dangerous working conditions. Vale also requires that the entire production chain (suppliers and clients) comply with Convention 105 of the International Labor Organization (ILO), concerning the eradication of forced labor.

Vale's own units in Brazil¹ have 488 contracts established with critical² suppliers concerning human rights issue. These suppliers are responsible for activities regarding corporate security and the supply of wood, charcoal and pig iron. Preventively, Vale systematically assesses all such companies, and monitors notifications of companies that use or promote the use of child or slave labor published by the Ministry of Labor and Employment. No human rights violation have been found among any of these suppliers (for more information, see the Local Procurement section of the Value Chain chapter on page 92).

In 2010, there was a suspicion of a possible irregularity concerning child labor in the iron ore production chain, but it was not proved. If the case had been confirmed and the customer had failed to take immediate corrective action, Vale would have suspended the iron ore supply contract.

Due to the identified risks of using charcoal obtained from non-certified wood, possibly involving the use of forced and/or child labor by customers in the pig iron production chain, since 2008 Vale has included conditions that allow it to terminate an iron ore supply contract if there is evidence of human rights

violations. These conditions refer to environmental protection, socioeconomic development, the use of child labor and/or forced or analogous to slave labor, and any other type of illegal labor.

In partnership with pig iron producers and together with the Ethos Institute, Vale has been working to end the use of forced labor and non-certified charcoal in the metallurgical production chain. This is a complex and systemic problem and requires solutions that depend on multiple players and processes. The results can already be seen in larger companies, which have distanced themselves from this kind of practice in the more direct links in their value chains. Vale is intensifying its efforts to enhance inspection and permanently prevent these practices.

Vale is a signatory to and actively participates in the National Pact for the Eradication of Slave Labor, an initiative run by the Ethos Institute, the International Labor Organization and NGO Repórter Brasil. The aim of this initiative is to increase efforts to dignify and modernize labor relations in the supply chain.

Other human rights initiatives adopted in the production chain are described below:

- Publication of the book *Retrato Escravo* ("A Portrait of Slavery"), in partnership with the International Labor Organization, in September 2010. The book shows working conditions analogous to slavery that still exist in Brazil, and is intended to be used as a tool to mobilize public support for the eradication of such practices. The publication expresses Vale's commitment to fighting slave labor. The photographs were taken in Pará, Rio de Janeiro, Mato Grosso, Mato Grosso do Sul and Ceará by photojournalists who have covered this issue for some years. The book was distributed to entities, government organizations in the executive, legislative and judicial branches, students and the press.
- Since 2007, Vale has supported the ILO through a series of actions, such as educational programs for television about dignity at work and public campaigns against slave labor. Vale held workshops and talks on its passenger train service, providing information and guidance for the community on issues related to slave labor.
- In 2010, Vale participated in the second round of the Tear Program as anchor company for the mining sector. The goal of the program, begun by the Ethos Institute in Brazil in 2006, is to help suppliers incorporate social responsibility practices into their business strategies. In its latest edition, the program involved suppliers from the state of Minas Gerais.

Vale's website has a Reporting Channel and a "Talk to Us" section, a communication channel for questions regarding sustainability.

¹ Alunorte and Albras were not considered in the scope of this indicator.

² For the international scope, the definition process of critical suppliers is being revised in accordance with local conditions.

Security, a strategic issue

In 2010, more than 2,600 corporate security guard contractors and over 170 company employees completed training on Security and Human Rights. As a result of the training cycles carried out and the process to globalize training practices, currently under way, the percentage of corporate security personnel (contractors and employees) who have done this training is 77%. Courses were conducted in 2010 in Canada, the United Kingdom, Colombia,

Peru, Chile, Argentina, Mozambique, Paraguay and Brazil. In Colombia, training was given not only to corporate security guards, but also to soldiers in the Colombian Army who serve in areas close to Vale's operations.

Vale's Global Human Rights Policy includes specific guidelines on the selection, training and conduct of its corporate security teams. The company's Human Rights Guide was distributed to employees and contractors in keeping with the principles and guidelines of the Policy.

CASE

BRAZIL AND NEW CALEDONIA

Vale supports the rescue of indigenous languages in Brazil and New Caledonia

One of the aims of Vale's work is to contribute to promoting and preserving local culture in the regions where it operates, both in Brazil and in other countries. Two examples of these efforts stood out in 2010. One of them was led by Toprãme Jõpaipaire Krôhòkrenhum, the 80-year-old chief of the Gavião Parkatêjê indigenous community of Pará, while the other focused on promoting the Kanak languages of southern New Caledonia.

Toprãme Jõpaipaire Krôhòkrenhum is the main research source for work to promote his community's culture and preserve its heritage for future generations. It was his idea to record the history of his people, which Vale embraced and turned into the Krôhòkrenhum Project.

As the eldest chief in the group, made up of around 350 indigenous people, Toprãme Jõpaipaire recalls remarkable events for his people, which children and young people are now recording in audio and video form. The accounts will be transcribed into Portuguese and Jê Timbira, the Parkatêjê people's dialect, which project participants are rediscovering or, in some cases, learning how to speak and write. The end result will be a DVD and a book, which should be ready by the end of 2011.

The Krôhòkrenhum Project was launched at the end of 2010 in the Mãe Maria indigenous community in Bom Jesus do Tocantins, southeast Pará, and is coordinated by linguists from the Federal University of Pará (UFPA) and the management team of the "Video in the Villages" (VÍdeo nas Aldeias) project.



On the other side of the world, Vale is also helping to rescue native languages, such as the Kanak languages of southern New Caledonia. Based on a socioeconomic study carried out in the region, Vale perceived a specific demand from local communities: the desire to preserve their languages, spoken by fewer and fewer young people and at risk of extinction. The company accepted the request, developing a project to promote the Kanak languages of southern New Caledonia.

Besides working with local inhabitants, Vale formed a partnership with the public authorities and educational institutions which, after two years of linguistic collection work, produced educational tools such as posters showing pictures of food, including fruits, vegetables, trees, plants, birds and sea life. Local communities actively participated in the project, selecting the species of fauna and flora to be depicted in the teaching tools.

As the Kanak languages had no written form, it was necessary to create a written code, with support from the University of New Caledonia and the Academy of Kanak Languages. In 2010 the first posters were released and in 2011 five books about the region's flora and fauna and six educational games will be completed. This material will be distributed around schools in southern New Caledonia. Besides rescuing native languages, the project is also contributing to the environmental education of children and young people on the island.



Indigenous Rights

Multicultural relationship

Indigenous peoples possess great cultural diversity. In Brazil alone there are 240 peoples, speaking 180 different languages, many of them endangered. Vale's dialog with indigenous peoples and traditional communities is guided by respect for local culture and appreciation of diversity. Accordingly, the company acts with social and environmental responsibility, undertaking actions to avoid, mitigate or offset possible impacts on these people.

By means of prior, continuous dialog, Vale seeks to establish positive, constructive relations and mutual trust based on respect for the special relationship between these peoples and their land. This relationship involves not only physical and socioeconomic aspects but also cultural and spiritual ones.

The company has guidelines to underpin this interaction. For example, Vale participated in drafting the Good Practice Guide – Indigenous Peoples and Mining, a guide for use in engaging the mining industry and indigenous peoples, published by the International Council on Mining and Metals (ICMM). This guide was developed with the assistance of technical consulting firms, universities, independent consultants and ICMM member companies such as Vale. Internally, the company has produced a Policy for Relationships with Indigenous Peoples and Traditional Communities, currently in the approval phase.

To ensure the flow of information between business areas and the department responsible for relationships with indigenous peoples, an internal online newsletter was created to provide twice-monthly updates on each indigenous community and its interface with related projects.

Another area of continuous improvement is Vale's evaluation of indigenous topics in the preliminary stages of the licensing process. This makes it possible to identify potential direct or indirect impacts on indigenous communities and to establish the necessary relationship, mitigation or compensation measures.

Interdepartmental Activities

Internal Communications – In 2010, Vale's Traditional Community Relations department began a process to internally align Vale's social activities with indigenous communities. As a result, a series of actions were carried out to inform different internal stakeholders with a direct or indirect connection to the subject of actions under way to contribute to these communities' ethno-development. These actions included improving the infrastructure of villages, strengthening the management of indigenous community policies, and human and economic development, by promoting culture and supporting the generation of sustainable income among indigenous people.

The following actions were taken to ensure the flow of information about Vale's interface with indigenous communities to the company's business units in Brazil:

Management Report – Developed internally and distributed in November 2010, the purpose of this printed material is to describe the communities that have contact with Vale in Brazil, the history of Vale's relationship with them, their needs, environmental constraints, and legal and contractual obligations imposed as a result of Vale's activities. The report sets out Vale's plans for addressing each of these issues, and explains who to contact in each location to answer questions or provide additional information.

Electronic Newsletter – Another important tool for immediately updating managers is the electronic newsletter. Sent out every two weeks, the newsletter describes the status of activities under way in each community and provides news about Vale's projects and activities that affect those communities.

The following are highlights of ethno-development¹ activities undertaken in 2010:

Kayapó People

- Resources for the construction of the Indian-in-Transit Support House (Casai), an important center for the Kayapó people who travel between their villages and the city to receive federal grants and pensions, make purchases, and meet with the National Indian Foundation (FUNAI) and other groups. The Support House also provides a place for indigenous families to stay while receiving medical treatment in the city.
- Training for Vale employees and contractors from the Onça Puma project, involving support provided by technicians from FUNAI. Topics included the history of Vale's relationship with the Kayapó people, activities in progress or recently completed, impacts identified by ethno-ecological studies, and specific cultural characteristics and issues involving this people's relationship with its indigenous land and surrounding communities.
- Vale Volunteers actions on Children's Day. Gifts were delivered to Kayapó children who were in town for medical treatment or accompanying their parents for shopping or social activities.
- Participation of Kayapó warriors, chiefs, women and children in the Reading in the Square (Leitura na Praça) project, at which the Kayapó people told a little of their history and culture to the non-indigenous audience present. Activities like these bring together people of different ethnic groups, helping to reduce prejudice and celebrate culture.

Xikrin People

- Partnership with the National Health Foundation (FUNASA) to create new wells to improve the quality of life in the Xikrin do Cateté communities. Vale was responsible for geophysical surveys, while FUNASA was responsible for drilling the wells needed by each village (Cateté, Oodjã and Djudjêkô).
- Visits by indigenous leaders to the Onça Puma site, allowing Vale staff to update them on information about the project, including environmental control and cultural exchange actions.
- Meetings with leaders from the Xikrin do Cateté tribe and representatives from FUNAI, the Federal Public Attorneys' Office and managers from various indigenous associations, to request authorization and explain the need for monitoring of

¹ The idea of ethno-development refers to the construction of a development model that respects the rights and incorporates the perspectives and interests of indigenous peoples. Some of its main principles include: ensuring the meeting of basic needs; incorporating the indigenous "endogenous vision" of development; appreciating indigenous knowledge, technology and resources; the preference for a balanced relationship with the environment; and strengthening of indigenous participation in decision-making processes. This idea of ethno-development has been used by various institutions in Brazil, such as the National Indian Foundation (FUNAI) and the Ministry of the Environment, as well as international organizations such as the World Bank.



Vale develops different projects based on ethno-development

animals, birds, fish and freshwater bodies on the indigenous lands of the Xikrin do Cateté. The purpose of the monitoring, which will involve the participation of indigenous people appointed by their association, is to verify that the Onça Puma operation is not affecting water quality or biodiversity on the indigenous lands.

- Training for Vale employees and contractors from the Onça Puma and Salobo operations, with the participation of technicians from FUNAI. The purpose was to explain the history of Vale's relationship with the Xikrin do Cateté indigenous people, Vale's activities in progress or recently completed, impacts identified by ethno-ecological studies, and specific cultural characteristics and issues that are important to consider during the Brazil nut harvest, a traditional activity for this people.
- Participation by Vale employees in the main celebrations of the indigenous communities with which Vale interacts.

Krenak People

- Completion of infrastructure for a dairy farming project, together with training activities and the purchase of all 600 cattle as agreed to in a legal settlement.
- Support for Indian Day celebrations, which featured dance performances, singing and the presentation of certificates from the Federal University of Viçosa to those participants who completed the dairy training program. Delivery of part of the dairy farming project infrastructure.
- Distribution by Vale Volunteers of age-appropriate Christmas gifts to all of the Krenak children.

Guajajara People

- Repair of access road to Maçaranduba village.
- Support for the indigenous people in their negotiations with the State Education Secretariat and FUNASA regarding health care and education.

Gavião Parkatêjê and Kyikatêjê Peoples

- Beginning of implementation of project to rescue and promote the Gavião Parkatêjê people's culture. This involves recording the history of the people as told by their leader, Krôhokrenhum, at training workshops for researchers of indigenous people. In addition to teaching the Parkatêjê language to the community's adults and young people, the project will record the history of the leader and his people in a book and video. The project is supported by a partnership with linguists and NGO Video in the Villages. (Learn more in the "Vale supports the rescue of indigenous languages in Brazil and New Caledonia" feature on page 122).
- Support is being given to build a cultural center for the Gavião Kyikatêjê people. The facility will be used to store and provide access to all cultural items produced by community members in their bilingual education programs.

Kanak People – New Caledonia

In other countries where indigenous peoples have a strong presence, Vale is also implementing cultural revitalization actions. In 2009, Vale Nouvelle-Calédonie funded Kanak language classes at a private school in the south region of New Caledonia. This initiative and previous actions are aligned with the UNESCO International Year of Languages, involving the recovery and appreciation of traditional knowledge and the production of tools such as posters and games in the native Kanak languages. (Find out more in the "Vale supports the rescue of indigenous languages in Brazil and New Caledonia" case study on page 122).

As a result of the Pact for Sustainable Development of the Great South, signed by Vale in New Caledonia and the local communities, an Environmental Consulting Committee was set up, ensuring the participation of indigenous leaders in the environmental monitoring of plant operations, as well as taking into consideration the culture of the Kanak peoples. Two other pact tools are the creation of a Foundation and a Reforestation program.

Aboriginal People – Australia

In Australia, Vale involves indigenous peoples in the decisions affecting them. Before and during each phase of its operations, the company includes indigenous representatives in debates to identify their social and cultural needs. Vale also

encourages further participation of these peoples in all areas of business. Vale's objective is to establish constructive and mutually beneficial relations respecting the rights, needs and cultural diversity of indigenous peoples.

Aboriginal People – Canada

In 2010, the Canadian Aboriginal Commitment Program was extended through the appointment of an Aboriginal Issues Manager and the identification of the needs and interest of indigenous communities in key locations. Aboriginal extension activities continued in Ontario, with representatives of different business areas, including the environment, mineral research, projects and human resources sectors, involving aboriginal communities in commercial and sustainability issues relevant to Vale and the community. An Aboriginal Working Group also continued negotiations with the Anishnawbek Sagamok First Nation for an agreement on benefits, due to expected impacts arising from the development of the Totten mine situated in the Great Sudbury region. The deal should be finalized in 2011.

Monitoring Lawsuits

In Pará, a lawsuit involving the Xikrin do Cateté people is still active; nevertheless, the transfer of resources for health activities, education, productive activities, monitoring and management continues. Regarding compliance with the agreement between Vale and the quilombola community of the Jambuaçu Territory, the implementation of a productive project created with support from the Federal Rural University of the Amazon has not yet been completed because of disagreements with the community. As for the lawsuit filed by the National Indian Foundation (FUNAI) against Pará Pigments S.A., a court decision has not yet been made regarding the renewal of the agreement to support the Tembê indigenous group.

In Minas Gerais, the dairy project agreed with the Krenak people is still in progress. The necessary infrastructure and livestock have been delivered. Training activities were conducted with the support of the Federal University of Viçosa.

In Maranhão, an agreement was signed with FUNAI regarding the lawsuit filed by the Indigenous Missionary Council (CIMI) and the Association for the Development and Preservation of the Araguaia and Tocantins Rivers against the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) and the Estreito Energy Consortium. Action plans are to be developed detailing the monitoring activities and the measures that will need to be taken in the case of potential impacts on the region's indigenous groups, including the Krahô, Apinajé, Krikati and Gavião Pukobiê peoples.

Report scope

The list of the companies covered by Vale's Sustainability Report is updated annually. The methodology for defining this report's scope (called Boundary by the Global Reporting Initiative) is the same as that used for Vale's previous sustainability reports. Information on Vale Canada, acquired in 2006, has been included in the results since 2007, while data on Vale Australia, acquired in 2007, has been included since 2008. Information on companies acquired in 2010 will be included in Vale's future sustainability reports, as applicable, and in accordance with the policy of progressively extending the report scope. In advance of this work, this report presents partial information on the performance of Vale Fertilizantes, acquired in 2010.

According to the GRI methodology, companies can be classified using three categories of sustainability information disclosure: Performance Indicators; Management Approach; and Issues and Dilemmas.

Performance indicators: In addition to Vale's own units, this classification includes companies controlled and operated by Vale. The scope of companies and projects included in each indicator reported may vary in line with the availability of information. The main exceptions, when

applicable, are highlighted. For companies classified in this category, their sustainability performance is reported through performance indicators, as presented throughout the report.

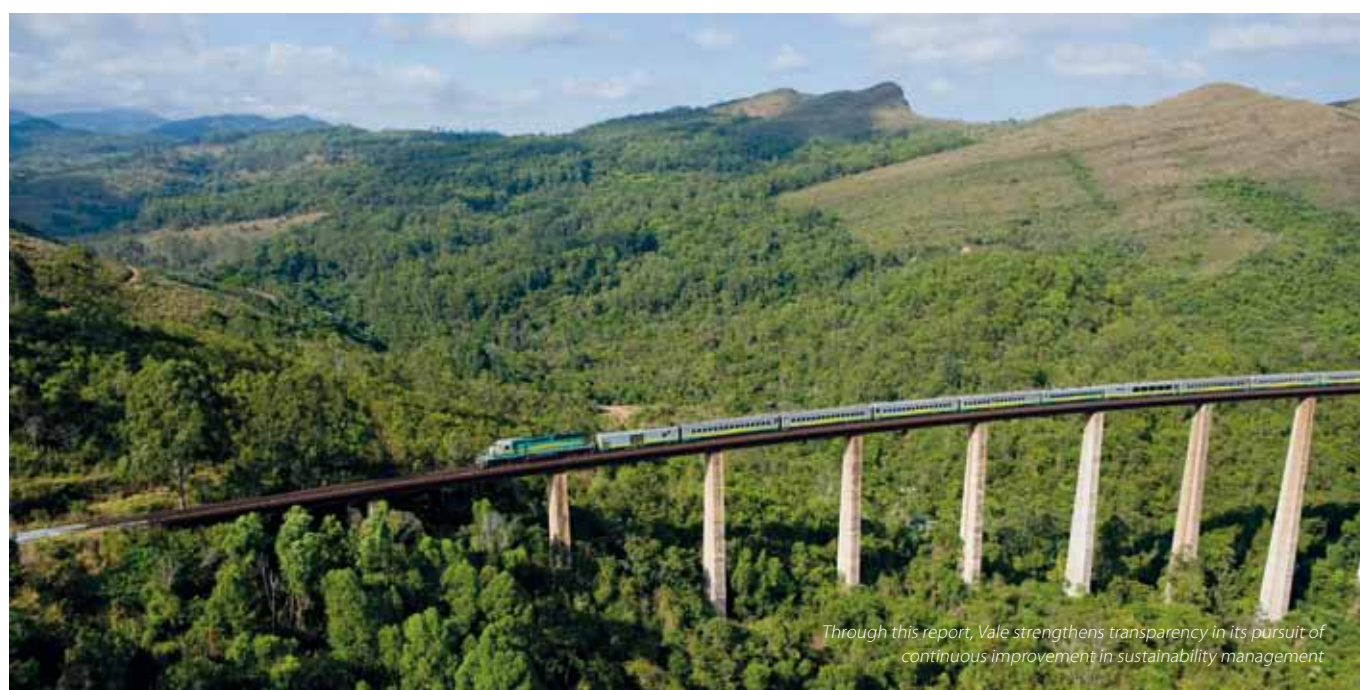
Management approach: This category includes companies over which Vale has significant influence. It includes affiliates in which Vale owns 20% to 50% of the voting capital, either directly or indirectly, and companies over which Vale exercises shared control. Vale has positions in the different governing bodies of these organizations and may also participate in committees dealing with environmental, health and safety, human resources and finance issues, among other topics. Through these mechanisms, Vale participates in strategic decision making and influences the development of rules and policies at these companies¹, including in terms of sustainability issues.

Issues and dilemmas: This classification includes companies over which Vale has influence, including affiliates in which Vale owns less than 20% of the voting capital, directly or indirectly. The material issues for companies classified in this category are presented below:

¹ In accordance with legislation in effect in the company's place of establishment.

Company	Products and/or services	Vale's equity stake	Material issues
TKCSA	Steel plate	26.87% of the joint venture's share capital as of September 2009	Part of Vale's long-term steel strategy is to promote the development of the sector in Brazil, adding value to iron ore and generating prosperity and development for the country
MRS	Railroad transportation	Direct and indirect stake (37.9% of voting capital* and 41.5% of total capital)	Traffic through urban communities
FENOCO	Railroad operations	8.4%	Traffic through urban communities

*For competition-related reasons, Vale has waived the voting rights of the common shares that it directly holds in MRS Logística S.A., as established in the company's shareholders' agreement.



Through this report, Vale strengthens transparency in its pursuit of continuous improvement in sustainability management

The table below shows how Vale's main companies (written here in their official legal names), are classified in terms of sustainability in this report:

Business	Performance indicators	Management approach	Issues and dilemmas
Iron ore and pellets	<ul style="list-style-type: none"> • Vale S.A.¹ • Companhia Italo-Brasileira de Pelotização (Itabasco)² • Companhia Coreano-Brasileira de Pelotização (Kobrasco)² • Companhia Nipo-Brasileira de Pelotização (Nibrasco)² • Companhia Hispano-Brasileira de Pelotização (Hispanobras)² • Urucum Mineração S.A.^{3,4} • Vale Oman Pelletizing Company LLC • Mineração Corunbaense Reunida 	<ul style="list-style-type: none"> • Samarco Mineração S.A. • Zhuhai YPM Pellet Co., Ltd. Anyang Yu Vale Yongtong Pellet Co. Ltd 	
Manganese and ferroalloys	<ul style="list-style-type: none"> • Vale Manganês S.A. • Vale Manganèse France • Vale Manganese Norway A S • Urucum Mineração S.A.^{3,4} 		
Logistics	<ul style="list-style-type: none"> • Vale S.A.⁵ • Ferrovia Centro-Atlântica S.A. (FCA) • Ferrovia Norte Sul S.A. • Companhia Portuária Baía de Sepetiba (CPBS)³ • Seamar Shipping • Transbarga Navegación (TBN) • Mineração Corumbaense Reunida (Gregório Curvo Port) • Sociedad Portuaria Rio Cordoba S.A. (SPRC) • Vale Logística Argentina S.A. 	<ul style="list-style-type: none"> • Log-in Logística Intermodal S.A. • Consórcio de Rebocadores da Barra dos Coqueiros • Consórcio de Rebocadores da Baía de São Marcos 	<ul style="list-style-type: none"> • MRS Logística S.A. Ferrocarriles del Norte de Colombia S.A. (FENOCO)
Kaolin	<ul style="list-style-type: none"> • Cadam S.A. 		
Fertilizers	<ul style="list-style-type: none"> • Vale S.A. • Vale Fertilizantes S.A. • Compañía Minera Misky Mayo S.A.C. (Bayovar Project) 		
Copper	<ul style="list-style-type: none"> • Vale S.A. • Vale Canada Limited • Salobo Metais S.A.³ • Sociedad Contractual Minera Tres Valles 		
Aluminum ⁷	<ul style="list-style-type: none"> • Vale S.A. • Companhia de Alumina do Pará (CAP) - alumina • Alumina do Norte do Brasil S.A. (Alunorte) - alumina • Alumínio Brasileiro S.A. (Albras) - aluminum 	<ul style="list-style-type: none"> • Mineração Rio do Norte S.A. (MRN) - bauxite 	
Steel	<ul style="list-style-type: none"> • Vale S.A. 	<ul style="list-style-type: none"> • California Steel Industries (CSI) 	<ul style="list-style-type: none"> • ThyssenKrupp-CSA - Siderúrgica do Atlântico Ltda.¹⁰
Coal	<ul style="list-style-type: none"> • Vale Moçambique Limitada (Moatize Project) • Vale Australia Pty Ltd. (Carborough Downs, Broadlea and Integra Coal) • Vale Colombia Ltd. 	<ul style="list-style-type: none"> • Shandong Yankuang Int. Coking Co. Ltd. • Henan Longyu Energy Resources Co. Ltd. • Vale Australia (Isaac Plains) 	
Energy	<ul style="list-style-type: none"> • Valesul Alumínio S.A. (SHPs)³ 	<ul style="list-style-type: none"> • Energy consortia: Igarapava, Porto Estrela, Candonga, Capim Branco, Funil, Aimorés, Estreito and Geração Santa Isabel (Gesai)⁶ • Vale Soluções em Energia S.A. (VSE) • Biopalma da Amazônia S.A. Reflorestamento, Indústria e Comércio⁹ 	
Forestry	<ul style="list-style-type: none"> • Vale Florestar S.A.¹¹ 		
Nickel ⁸	<ul style="list-style-type: none"> • Vale S.A. (Onça Puma Project) • Vale Canada Limited • Vale Newfoundland & Labrador Ltd • Vale Europe Limited (Clydach Refinery and Acton Refinery) • PT International Nickel Indonesia Tbk (PTI) • Vale Nouvelle-Calédonie S.A.S. • Vale Nickel (Dalian) Co. Ltd. • Vale Japan Limited • Taiwan Nickel Refining Corporation • Exide Group Incorporated 	<ul style="list-style-type: none"> • Korea Nickel Corporation 	

¹ Includes operations of Minerações Brasileiras Reunidas S.A. (MBR), Minas da Serra Geral S.A. (MSG) and Baovale Mineração S.A. (Baovale). ² Assets operated by Vale. ³ As of November 2007, these companies adopted the Vale brand, although their corporate names have not changed. The official legal names as of December 2010 are shown. ⁴ Includes operations of Companhia Paulista de Ferroligas (CPFL). ⁵ Includes operations of Estrada de Ferro Carajás (EFC) and Estrada de Ferro Vitória a Minas (EFVM). ⁶ Vale is continuing in its application for the environmental licenses needed to build the Santa Isabel hydroelectric power plant. ⁷ In February 2011, Vale transferred its stake in Albras, Alunorte and CAP. ⁸ Vale sold its stake in Novamet Specialty Products Corporation (Novamet), Inco Advanced Technology Materials (IATM Shenyang) Co., Ltd. and Inco Advanced Technology Materials (IATM Dalian) Co., Ltd. Vale Inco Metals (Shanghai) Co., Ltd. did not operate in 2010. ⁹ Vale acquired 70% of the company in 2011. ¹⁰ Although Vale had a 26.87% stake in the company, it was classified in this category because, through a shareholders' agreement, Vale is not a member of TKCSA's sustainability committees. ¹¹ This company belongs to the Vale Florestar equity investment fund, whose shareholders are Vale S.A., Petros (Fundo Petrobras de Seguridade Social), Funcef (Fundação dos Economistas Federais) and BNDES (Banco Nacional de Desenvolvimento Econômico e Social).



Independent Auditors' Limited Assurance Report

To
The Board of Directors
Vale S.A.
Rio de Janeiro - RJ

INTRODUCTION

We have been engaged for the purpose of applying Limited Assurance Procedures on the sustainability information reported at Vale S.A. ("Company") Sustainability Report, related to the year ended December 31 2010, which was prepared under its management responsibility, and on its commitment to the 5 (five) subject matters proposed by ICMM – International Council on Mining and Metals, including its ten sustainable development principles and five position statements. Our responsibility is to issue a Limited Assurance Report on this sustainability information and on the Company's adherence to the five ICMM subject matters.

PROCEDURES OF LIMITED ASSURANCE

The limited assurance procedures were performed in accordance with Rule NBC TO 3000, issued by the Brazilian Federal Accounting Council - CFC and with the ISAE 3000 - International Standard on Assurance Engagements, issued by the International Auditing and Assurance Standards Board - IAASB, both related to Assurance Engagements other than Audits or Reviews of Historical Financial Information. Moreover, the assurance was based on ICMM Assurance Procedures.

The procedures comprised: (a) the planning of the work, considering the relevance, coherence, volume of quantitative and qualitative information and operational and internal control systems that served as a basis for the preparation of the Company's Sustainability Report; (b) the understanding of the policies and practices implemented, or in process of implementation, to manage the Company's critical issues and the ones related to ICMM sustainable development principles, through interviews with high management personnel and analysis of the available documentation; (c) the understanding of the calculation methodology and the consolidation of the performance indicators through interviews with the responsible personnel; (d) the comparison, on a sample basis, of the quantitative and qualitative information with the performance indicators disclosed at the Sustainability Report 2010; (e) visits to operation units in order to apply procedures (c) and (d), as well as to verify the corporate policies implementation and management practices related to ICMM sustainable development principles; and (f) the comparison of the financial indicators with the financial statements and/or accounting records.

The business areas and according operation units visited comprised:

- Iron Ore:
 - Carajás Iron Ore Mine (Pará, Brazil).
- Logistic:
 - Centro-Atlântica Railroad;
 - Carajás Railroad; and
 - Ponta da Madeira Port (Maranhão, Brazil).
- Fertilizers:
 - Piaçaguera unit (São Paulo, Brazil); and
 - Araucária unit (Paraná, Brazil).
- Nickel:
 - Clydach Refinery (Swansea, Wales);
 - Acton Refinery (London, England); and
 - PT International Nickel Indonesia Tbk – PTI (Sulawesi, Indonesia).

REPORTING CRITERIA

The information of the Company's Sustainability Report was prepared according to the Global Reporting Initiative guidelines (GRI-G3) and to the Mining & Metals Sector Supplement – Pilot Version 1.0.

SCOPE AND LIMITATIONS

The objective of our work was to apply limited assurance procedures on the sustainability information reported at the Company's Sustainability Report, concerning profile information (disclosures that set the overall context for understanding organizational performance such as its strategy, profile, and governance), management approach and sustainability performance indicators, as well as to assure the Company's commitment to ICMM five subject matters.

The applied assurance procedures do not represent an examination in accordance with Brazilian and international audit rules for financial statements and did not include any evaluation of the Company's policies, practices and sustainability performance. In addition, our report does not provide limited assurance on the achievability of future information (such as targets, expectations and ambitions) nor on qualitative information that is under subjective evaluation.

GRI – G3 APPLICATION LEVEL

According to the GRI-G3 guidelines, the Company declares an Application Level A+ to its Sustainability Report 2010, related to the year ended December 31 2010.

The Company reported all required information related to its profile, core performance indicators and the management approach related to each indicator category, the performance indicators and management approach from the Mining & Metals Sector Supplement – Pilot Version 1.0 and the additional performance indicators rated as material by its stakeholders. In this sense, we have considered that the applied procedures were sufficient to agree with the application level declared by the Company in compliance with the Global Reporting Initiative guidelines (GRI – G3).

CONCLUSION

Based on the applied procedures we have not identified any relevant modification that should be performed on VALE's Sustainability Report, related to the year ended December 31 2010, to agree with its compliance to the GRI-G3 guidelines and to the Mining & Metals Sector Supplement – Pilot Version 1.0 and with the records and files that subsidized its elaboration, as well as on VALE's policies, procedures and practices to be aligned, or in alignment process, with the ICMM five subject matters, which include its ten sustainable development principles and five position statements, emphasizing that the policies, practices and procedures analyzed relate mainly to the Company's reality in Brazil. Their globalization process is already in progress and the international units are adjusting themselves to the procedures already in place at Brazilian operations.

Rio de Janeiro, June, 21 2011



KPMG Risk Advisory Services Ltda.
CRC SP-023233/O-4 F-RJ

Sidney Tetsugi Toyonaga Ito
Contador CRC SP-169866/O-5 S-RJ

Applying the Guidelines

The 2010 Sustainability Report achieved GRI application level A+, based on the reporting of profile items, information on management approach for each indicator category, and all core performance and Mining and Metals Sector Supplement indicators.

		C	C+	B	B+	A	
Standard Disclosures	G3 Profile Disclosures	Report on: 1.1 2.1-2.10 3.1-3.8, 3.10-3.12 4.1-4.4, 4.14-4.15	Report Externally Assured	Report on all criteria listed for Level C plus: 1.2 3.9, 3.13 4.5-4.13 4.16-4.17	Report Externally Assured	Same as requirement for Level B	Report Externally Assured
	G3 Management Approach Disclosures	Not required		Management Approach Disclosures for each Indicator Category		Management Approach disclosed for each Indicator Category	
	G3 Performance Indicators & Sector Supplement Performance Indicators.	Report on a minimum of 10 Performance Indicators, including at least one from each of: Economic, Social and Environment.		Report on a minimum of 20 Performance Indicators, at least one from each of: Economic, Environment, Human Rights, Labor, Society and Product Responsibility.		Respond on each core G3 and Sector Supplement indicator with due regard to the Materiality Principle by either: (a) reporting on the indicator or (b) explaining the reason for its omission.	





Statement GRI Application Level Check

GRI hereby states that **Vale S.A** has presented its report "2010 Sustainability Report" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

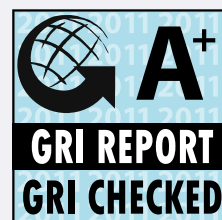
GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 15 June 2011

A handwritten signature in blue ink, appearing to read "Nelmara Arbex", is written over a faint, large watermark of the GRI logo in the background.

Nelmara Arbex
Deputy Chief Executive
Global Reporting Initiative



The "+" has been added to this Application Level because Vale S.A has submitted this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. www.globalreporting.org

Disclaimer: Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 3 June 2011. GRI explicitly excludes the statement being applied to any later changes to such material.

Principles followed

Vale's 2010 Sustainability Report was prepared in accordance with GRI guidelines and the principles of the United Nations Global Compact and ICM. It also provides information required by the São Paulo Stock Exchange (Bovespa) Corporate Sustainability Index's (ISE) questionnaire.



Global Compact Principles

Human Rights

1. Business should support and respect the protection of internationally proclaimed human rights.
2. Make sure that they are not complicit in human rights abuses.

Labor Standards

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
4. Uphold the elimination of all forms of forced and compulsory labor.
5. Uphold the effective abolition of child labor.
6. Uphold the elimination of discrimination in respect of employment and occupation.

Environment

7. Businesses should support a precautionary approach to environmental challenges.
8. Undertake initiatives to promote greater environmental responsibility.
9. Encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

10. Businesses should work against corruption in all its forms, including extortion and bribery.



ICMM Principles

1. Implement and maintain ethical business practices and sound systems of corporate governance.
2. Integrate sustainable development considerations within the corporate decision-making process.
3. Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
4. Implement risk management strategies based on valid data and sound science.
5. Seek continual improvement of our health and safety performance.
6. Seek continual improvement of our environmental performance.
7. Contribute to conservation of biodiversity and integrated approaches to land use planning.
8. Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
9. Contribute to the social, economic and institutional development of the communities in which we operate.
10. Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.



ISE Dimensions

Dimension	Criterion
1 General	Commitments established by the company, alignment, transparency and anti-corruption measures
2 Nature of the Product	Personal and diffuse impacts of using the product and complying with legal requirements
3 Corporate Governance	Quality of management, covering aspects such as transparent audits and inspections, the company's conduct and its conflicts of interest
4 Economic-Financial	The company's policy, management, planning, economic performance and compliance with legal requirements
5 "Unified Environmental – Group B"	Responsible and planned management of environmental issues, company performance, the establishment of global commitments and legal compliance with sector standards
6 Social	The company's policy, management, legal compliance and performance in social issues, such as labor relations, participation in public policies, and relationships with impacted communities, supplies, customers and consumers
7 Climate Change	Environmental policy and responsibility, risk management, performance in the field, reporting of results and emissions inventories, and dialog with stakeholders

*Group B concerns critical environmental issues for natural and non-renewable resources. Products that fit in this group are: copper, iron and steel items; fertilizers; metallic minerals; oil and gas (exploration and refining); and petrochemicals and steel.

GRI Summary and Correlation with Global Compact, ICMM and ISE

Summary		Global Compact Principle	ICMM Principle	ISE Dimension	Pages	Fully: ● Partially: ○ Not reported: –
Profile Items	Strategy and Analysis					
	1.1. Statement from the most senior decision-maker.		2, 10	1-3	6-9	●
	1.2. Description of key impacts, risks and opportunities.		4	1	12	●
	Organizational Profile					
	2.1. Name of the organization.		10	1	5	●
	2.2. Primary brands, products and/or services.		10		2	●
	2.3. Operational structure.		10		3	●
	2.4. Location of organization's headquarters.		10		3, 5	●
	2.5. Countries where the organization operates.		10		3	●
	2.6. Nature of ownership and legal form.		10		5	●
	2.7. Markets served.		10		23	●
	2.8. Scale of the reporting organization.		10		3, 24	●
	2.9. Significant changes during the reporting period.		2, 10		8, 11	●
	2.10. Awards received in the reporting period.		10		5	●
	Report Parameters					
	Report profile					●
	3.1. Reporting period for information provided.				11	●
	3.2. Date of most recent previous report.				11	●
	3.3. Reporting cycle.				11	●
	3.4. Contact point of questions.				11	●
	Report scope and boundary					●
	3.5. Process for defining report content.				12-13	●
	3.6. Boundary of the report.				126-127	●
	3.7. Specific limitations on the scope.				126-127	●
	3.8. Basis for reporting.				126-127	●
	3.9. Data measurement techniques and the bases of calculations.				126, 127 and throughout the report	●
	3.10. Explanation of the effect of any re-statements.				126, 127 and throughout the report	●
	3.11. Significant changes from previous reporting periods.		2		126, 127 and throughout the report	●
	GRI context index					●
	3.12. Location of standard disclosures.				133-135	●
	Assurance					●
	3.13. External assurance.				128-129	●
	Governance, Commitments, and Engagement					
	Governance					●
	4.1. Governance structure.		1	3	27	●
	4.2. Indicate whether the Chair of the highest governance body is also an executive officer.		1	3	28	●
	4.3. Statement the number of members of the highest governance body that are independent and/or non-executive members.		1	3	27	●
	4.4. Mechanisms for recommendations or direction to the highest governance body.		1	3	30	●
	4.5. Linkage between compensation/economic and environmental performance.		1		28	●
	4.6. Processes to ensure conflicts of interest are avoided.		1	3	26	●
	4.7. Qualifications and expertise of the members.		1		28	●
	4.8. Internally developed statements of mission or values, codes and principles.		1	3	4	●
	4.9. Procedures of the highest governance body.		1, 4	3	27	●
	4.10. Processes for evaluating the highest governance body's own performance.		1	3	27	●
	Commitments to external initiatives					●
	4.11. Precautionary approach.			1	31	●
	4.12. Social charters, principles or other initiatives.			1	28, 29	●
	4.13. Memberships in associations.			1	29	●
	Stakeholders engagement					●
	4.14. List of stakeholder groups engaged by the organization.			3	12, 28, 120	●
	4.15. Basis for identification and selection of stakeholders.				12, 30	●
	4.16. Stakeholder engagement.			3	13, 30, 123	●
	4.17. Key topics and concerns raised through stakeholder engagement.				12, 15, 74, 90	●
	Economic Performance					
	Disclosures on Management Approach: Economic performance				24, 42	●
	EC1. Economic value generated and distributed.		9	4	24	●
	EC2. Risks and opportunities due to climate change.	7	9	4	105	●
	EC3. Defined benefit plan obligations.			6	42, 43	●
	EC4. Significant financial assistance received from government.				24	●
	Disclosures on Management Approach: Market presence				41, 82, 92	●
	EC5. Standard entry level wage compared to local minimum wage.	1	9	6	41	○ (c)
	EC6. Spending on locally-based suppliers.		9	6	92	●
	EC7. Local hiring.	6	9	6	82	●
	Disclosures on Management Approach: Indirect economic impacts				74, 79	●
	EC8. Development and impact of infrastructure investments.		9	4	79-80	●
	EC9. Indirect economic impacts.			4	74	●

Reason for omission: (a) Not material; (b) Not available; (c) Confidential information. The reason for omission is indicated on page 136.

Summary		Global Compact Principle	ICMM Principle	ISE Dimension	Pages	Fully: ● Partially: ○ Not reported: –
Environmental	Environmental Performance					
	Disclosures on Management Approach: Materials				63	●
	EN1. Materials used by weight or volume.	8	6		63	●
	EN2. Percentage of materials used that are recycled input materials.	8, 9	6		63	●
	Disclosures on Management Approach: Energy				67	●
	EN3. Direct energy consumption.	8, 9	6	5	68	●
	EN4. Indirect energy consumption.	8	6	5	69	●
	EN5. Energy saved due to conservation and efficiency improvements.	8, 9	6	5	19, 67, 68, 106	○ (b)
	EN6. Eco-efficient products and services.	8, 9	6	5	67	●
	EN7. Initiatives to reduce indirect energy consumption and reductions achieved.	8, 9	6	5	19, 68	○ (b)
	Disclosures on Management Approach: Water				57	●
	EN8. Total water withdrawal by source.	8	6	5	58	●
	EN9. Water sources significantly affected by withdrawal of water.					– (b)
	EN10. Water recycled and reused.	8, 9		5	59	●
	Disclosures on Management Approach: Biodiversity				108-117	●
	EN11. Location in, or adjacent to, protected areas and areas of high biodiversity.	8	7	5	113	●
	EN12. Impacts of biodiversity.	8	7	5	109	●
	EN13. Habitats protected or restored.	8		5	114	●
	EN14. Strategies for managing impacts on biodiversity.	8		5	109-110	●
	EN15. IUCN Red List species.	8			115	●
	Disclosures on Management Approach: Emissions, effluents and waste				59, 64, 98	●
	EN16. Direct and indirect greenhouse gas emissions.	8	6	5, 7	101	●
	EN17. Other relevant indirect greenhouse gas emissions by weight.	8	6	5, 7	103	●
	EN18. Initiatives to reduce greenhouse gas emissions.	7, 8, 9		5, 7	106	●
	EN19. Emissions of ozone-depleting substances by weight.	8	6	5	103	●
	EN20. NOx, SOx, and other significant air emissions by type and weight.	8	6		65	●
	EN21. Water discharge.	8	6	5	59	●
	EN22. Total weight of waste.	8	6	5	60	●
	EN23. Significant spills.	8	6	5	64	●
	EN24. Transported waste deemed hazardous.	8			61	●
	EN25. Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	8	6		59	○ (b)
	Disclosures on Management Approach: Products and services				63, 94	●
	EN26. Initiatives to mitigate environmental impacts of products and services and extent of impact mitigation.	7, 8, 9		5	94, 95	●
	EN27. Products and packaging materials that are reclaimed.	8, 9		5	63	●
Social	Disclosures on Management Approach: Compliance				66-67	●
	EN28. Monetary value of significant fines.	8	6, 8	5	66-67	●
	Disclosures on Management Approach: Transport				64, 94, 99-100	●
	EN29. Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	8			64, 94, 99, 100	●
	Disclosures on Management Approach: Overall				57	●
	EN30. Environmental protection expenditures.	7, 8, 9		5	57	●
	Social Performance - Labor Practices and Decent Work					
	Disclosures on Management Approach: Employment				37, 42, 44	●
	LA1. Total workforce by employment type and region.		3	6	38	●
	LA2. Rate of employee turnover.	6	9	6	45	●
	LA3. Benefits provided to employees.			6	42	●
	Disclosures on Management Approach: Labor/management relations				44	●
	LA4. Collective bargaining agreements.	1, 3	3	6	44	●
	LA5. Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	3	3	6	44	●
	Disclosures on Management Approach: Occupational health and safety				50-53	●
	LA6. Workforce represented in formal health and safety committees.	1, 3	3, 5		53	●
	LA7. Occupational diseases, lost days and work-related fatalities.	1	5	5	50	●
	LA8. Education, counseling and prevention programs regarding serious diseases.	1	5	5	51	●
	LA9. Health and safety topics covered in formal agreements with trade unions.	1	3		52	●
	Disclosures on Management Approach: Training and education				45	●
	LA10. Average hours of training.	6	2		46	●
	LA11. Programs for skills management and lifelong learning.		3		46	●
	LA12. Performance and career development reviews.				41	●
	Disclosures on Management Approach: Diversity and equal opportunity				39-41	●
	LA13. Composition of governance bodies.	1, 6	3	6	39, 40	●
	LA14. Ratio of basic salary of men to women.	1, 6		6	41	●
	Social Performance - Human Rights					
	Disclosures on Management Approach: Investment and procurement practices				120-122	●
	HR1. Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	1, 2	2, 3		120	●
	HR2. Percentage of suppliers and contractors that have undergone screening and actions taken.	1, 2, 3, 4, 5, 6	3	6	121	●
	HR3. Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	1, 2			35, 119, 122	○ (b)

Reason for omission: (a) Not material; (b) Not available; (c) Confidential information. The reason for omission is indicated on page 136.

Summary	Global Compact Principle	ICMM Principle	ISE Dimension	Pages	Fully: ● Partially: ○ Not reported: –
Disclosures on Management Approach: Non-discrimination				39	●
HR4. Total number of incidents of discrimination and actions taken.	1, 2, 6	3	6	40-41	●
Disclosures on Management Approach: Freedom of association and collective bargaining				44	●
HR5. Operations identified in which the right to exercise freedom of association and collective bargaining may be at risk.	1, 2, 3	3	6	44	●
Disclosures on Management Approach: Child labor				121	●
HR6. Operations identified as having risk of child labor.	1, 2, 5	3	6	121	●
Disclosures on Management Approach: Forced and compulsory labor				121	●
HR7. Operations identified as having risk for incidents of forced or compulsory labor.	1, 2, 4	3	6	121	●
Disclosures on Management Approach: Security practices				122	●
HR8. Security personnel trained in aspects of human rights.	1, 2	3		122	●
Disclosures on Management Approach: Indigenous rights				123-125	●
HR9. Violations involving rights of indigenous people.	1, 2			125	●
Social Performance - Society					
Disclosures on Management Approach: Community				76-85	●
SO1. Management of impacts of operations on communities.		4	6	76	●
Disclosures on Management Approach: Corruption				34-35	●
SO2. Units analyzed for risks related to corruption.	10	1	1	35	●
SO3. Employees trained in anti-corruption policies.	10	1	1	35	●
SO4. Actions taken in response to incidents of corruption.	10	1	1	34	●
Disclosures on Management Approach: Public policy				28-29	●
SO5. Participation in public policy development and lobbying.	1-10		6	28-29	●
SO6. Contributions to political parties.	10		6	29	●
Disclosures on Management Approach: Anti-competitive behavior				36	●
SO7. Legal actions for anti-competitive behavior, anti-trust and monopoly practices.				36	●
Disclosures on Management Approach: Compliance				36	●
SO8. Fines and total number of non-monetary sanctions for non-compliance with laws and regulations.				36	●
Social Performance - Product Responsibility					
Disclosures on Management Approach: Customer health and safety				93-95	●
PR1. Impacts assessed.	1	8		94, 95	●
PR2. Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.	1		6	94	○ (b)
Disclosures on Management Approach: Product and service labeling				93-95	●
PR3. Product and service information required by procedures.	8	8		95	●
PR4. Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.					– (a)
PR5. Practices related to customer satisfaction.			6	93	●
Disclosures on Management Approach: Marketing communications				94	●
PR6. Adherence to laws.			6	94	●
PR7. Non-compliance with laws and regulations.			6	94	●
Disclosures on Management Approach: Customer privacy					– (a)
PR8. Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.					– (a)
Disclosures on Management Approach: Compliance				94	●
PR9. Fines concerning the provision and use of products and services.				94	●
Mining and Metals Sector Supplement					
MM1. Identify those sites where the local economic contribution and development impact is of particular significance and interest to stakeholders (e.g., remote sites) and outline policies with respect to assessing this contribution.		9		79, 82, 92	●
MM2. Value added disaggregated to country level.				24	●
MM3. The number/percentage of site identified as requiring biodiversity management plans, and the number/percentage of sites with plans in place.		7, 9		111	●
MM4. Percentage of products(s) derived from secondary materials.				63	●
MM5. Describe policies for assessing the eco-efficiency and sustainability attributes of products.	8, 9	8		94, 95	●
MM6. Describe approach to management of overburden, rock, tailings and sludge/residues.		6, 8		62	●
MM7. Describe significant incidents affecting communities during the reporting period, and grievance mechanisms used to resolve the incidents and their outcomes.		9		85, 86	●
MM8. Describe programs in which the reporting organization has been involved that addresses artisanal and small-scale mining (ASM) within company areas of operation.		9		83	●
MM9. Describe resettlement policies and activities.		3		86	●
MM10. Number or percentage of operations with closure plans, covering social – including labor transition, environmental and economic aspects.		2		88	●
MM11. Describe process for identifying local communities' land and customary rights, including those of indigenous peoples, and grievance mechanisms used to resolve any disputes.	1, 2	3		88	●
MM12. Describe approach to identifying, preparing for, and responding to emergency situations affecting employees, communities, or the environment.		4		52	●
MM13. Number of new cases of occupational disease by type. Describe programs to prevent occupational disease.	1	5		52	●
EN23 MM. Total amount of land owned, leased and managed for production activities or extractive use.		7		117	●

Reason for omission: (a) Not material; (b) Not available; (c) Confidential information. The reason for omission is indicated on page 136.

*G2 Version

Detail of non-reported information:

Information	Explanation
Management approach: Customer Privacy	Although it is not material, the point is covered by the Information Security Policy.
EN9. Water sources significantly affected by withdrawal of water	Information not available. Withdrawal of water at Vale follows each country's legal requirements (e.g. water rights), which already take into consideration the maintenance of the receiving water body's characteristics.
PR4. Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Not-material information since it is not applicable to the business.
PR8. Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Although it is not material, the point is covered by the Information Security Policy.

Detail of partial indicators:

Indicators	Explanation
EC5. Standard entry level wage compared to local minimum wage	Vale does not disclose salary values in different localities as this information is confidential.
EN5. Energy saved due to conservation and efficiency improvements	Information on the exact quantity of electric energy saved is not available. The proportional reduction is presented instead.
EN7. Initiatives to reduce indirect energy consumption and reductions achieved	Information on the exact quantity of electric energy saved is not available. The proportional reduction is presented instead.
EN25. Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	The data collection methodology is being enhanced to increase the number of parameters considered in the monitoring of water bodies. The current level of monitoring already guarantees that the quality of the receiving water body will not be changed.
HR3. Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	Information on hours of training is not available, although Vale already has training initiatives related to human rights such as ethics (page 35) and business security (page 122). Vale has a target to develop human rights training in 2011.
PR2. Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes	The number of cases of non-compliance for the whole chain is not reported. Information related to the correct supply and use of products and services is answered by indicator PR9.

Correlation of Vale's practices with the Global Compact, ICMM and ISE:

Cases	Global Compact Principle	ICMM Principle	ISE Dimension	Page
Mobile trailer takes training to aboriginal communities in Canada		9	6	47
Environmental Attitudes program wins ECO 2010 award	7	6	5	66
From slurry to eco-friendly roof tiles		6	5	68
Vale Foundation arrives in Mozambique		9	6	79
Health Care Action, an initiative to support public administration		9	6	80
Omani agriculture, Brazilian expertise		9	6	81
Agreement benefits Chilean "pirquineros"	3	3, 10	3	84
A legacy for the sustainability of the planet		6	7	89
Environmental innovation wins awards	7	6	5	104
Ventilation on Demand saves energy in mines	8	6	7	107
Vale leads movement for biodiversity conservation	9	7	7	111
UN award for biodiversity conservation	9	7	5	118
Vale supports the rescue of indigenous languages in Brazil and New Caledonia		9	6	122

Credits

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Department of Environment and Sustainable Development

Editorial Support

Department of Corporate Communications

Text and Graphic Design

Cajá – Agência de Comunicação

Operational Support

CSC Computer Sciences Brasil S.A.

External Assurance

KPMG

Photographs

Vale Agency, pages 22, 40, 69, 81, 83, 94, 95, 103

Araquém Alcântara, pages 102, 110, 113, 115

Instituto Peabiru archives, page 89

Vale archives, pages 98, 123

Image Database / Vale Canada, pages 43, 45, 47

Image Database / Vale China, page 104

Vale advertising campaign, Agência África, page 51

Casa 3 Studio, page 80

Cícero Dias, page 7

Edney Martins, page 77

Edu Simões, page 67

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Luciana Tancredo, pages 10 (photo of Guilherme Cavalcanti), 66, 90

Luciano Bogado, pages 15, 20, 53, 57, 68, 71, 84, 85, 101, 112, 114, 116

Marc Le Chelard, page 122 (top photo)

Marcela Navarro, page 78

Marcelo Shoubia, pages 32, 56, 92

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Renato Chalu, page 72

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Silma Malacrida, pages 79, 87

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Victor Schwaner, pages 25, 37

Willian Abreu, pages 119, 122 (bottom photo)

Washington Alves, page 35

Preprinting and printing

Burti

Circulation

500 copies in English

This report has an assessment form at www.vale.com

Cover

Trunk of a molembá-de-barbela tree at the Vale Natural Reserve in Linhares, Espírito Santo, Brazil (photographer: Araquém Alcântara).

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Vale seeks to create a social economic and environmental legacy in the regions where it operates.

