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## Vale sets global emissions reduction target

Vale has established a voluntary target of reducing its forecast 2020 greenhouse gas (GHG) emissions by 5%. To do so, the company will use a similar methodology to the sector plans developed in Brazil, which are aligned with the National Climate Change Policy. Vale already made public commitments by signing an Open Letter on Climate Change, released in 2009, which stimulated discussion about the topic among large Brazilian companies. Vale's GHG emissions reduction target was published in its 2011 Sustainability Report, which was launched on Thursday, June 28.

The calculation is based on Vale's strategic plan, which considers a total forecast emissions volume of scope 1 (direct emissions) of 33 million metric tons of carbon equivalent (CO<sub>2</sub>e) in 2020. Given its new target, Vale plans to reduce these emissions by 1.7 million CO<sub>2</sub>e. The forecast is based on average emissions in 2008, 2010 and 2011. The year 2009 was not considered as it experienced an emissions coefficient that does not reflect the current trend, as production declined that year due to the global economic crisis. The methodology used to calculate the target takes into consideration the circumstances of growing countries and companies, and presupposes the need for reviews.

Vale is investing in renewable energy sources, energy efficiency and technological innovation. In 2011, Vale was the top mining company in the Carbon Disclosure Project (CDP) ranking, guaranteeing for the second year running, CDP's transparency index, the Carbon Disclosure Leadership Index (CDLI). "Through its emissions reduction target, Vale reaffirms its leadership role in the field. This is the result of Vale's determination to tackle the challenge of climate change through structured efforts in our Carbon Program," said Giane Zimmer, Vale's Director of Sustainability.

Besides acting directly to manage its emissions, Vale engages its suppliers and raises their awareness with regard to the topic. Since 2011, the company has conducted training to support service provider companies in structuring and enhancing best practices in emissions management and in developing mitigation actions. In the first phase, 83 strategic suppliers from Latin America took part in the training, and this year, suppliers from other continents will be invited.

Vale is participating in a number of initiatives to conduct studies and research. One example is a study about adapting to climate change carried out by the Energy and Climate Working Group of the Brazilian Business Council for Sustainable Development (CEBDS). The company also participated in developing the Sector Plan to Reduce GHG Emissions in Brazilian Mining, in partnership with the Ministry of Mines and Energy and the Brazilian Mining Institute (IBRAM).

### 2011 Sustainability Report

For the third consecutive year, Vale maintains an A+ "application level," the highest level of transparency, and presents its performance in economic, environmental and social dimensions in line with the Global Reporting Initiative (GRI)'s methodology. In 2011, Vale reported 88 indicators, including all profile items, management data, key performance indicators, and Mining and Metals Sector Supplement data. The document was verified by an external independent auditor, taking into consideration the principles of the International Council on Mining and Metals (ICMM). The report also aims to inform the United Nations Global Compact of Vale's progress in integrating its actions with the initiative's principles.

The full version of Vale's 2011 Sustainability Report is available at Vale's website. Here are some highlights from the document:

**Jobs:** at the end of 2011, Vale had 187,700 employees and contractors (long-term service providers and workers on projects), nearly 8% up on 2010. The number of women working at the company increased by 28%, rising to 12.3% of the company's workforce, representing an achievement in the mining sector.

**Education:** in 2011, Vale invested US\$68.6 million in education in Brazil, training 78,342 employees, a rise of 27% compared with the previous year. In relation to 2010, there was a 40.5% increase in the number of participants in the company's Vocational Training Program. More than 3,000 technical and operational professionals completed courses in 2011 and, in Brazil, almost 77% of those who enrolled in the program were hired by Vale.

**Health and safety:** more than US\$250 million was invested in enhancement projects and awareness-raising activities, 150% up on 2010. As a result, a progressive reduction in the rate of accidents leading to time off work is taking place: from 2.2 accidents per 1 million man-hours worked in 2006 to 0.8 in 2011.

**Social investments:** Vale invested US\$457.2 million in social projects, 15% up on 2010. This investment, 89% of which was voluntary, encompassed initiatives in infrastructure, education, sport, culture, income generation, health, and strengthening of social capital, through Vale Foundation programs, partnerships with the public authorities, sponsorship, and donations in Brazil and other countries.

**Social inclusion:** Brasil Vale Ouro, the Vale Foundation's sports program, runs athletics, soccer, swimming and judo classes for around 3,000 students aged 6 to 17 in the states of Pará, Espírito Santo, Rio de Janeiro, Maranhão and Minas Gerais. The aim of the program is to promote social inclusion while paving the way to develop elite athletes.

**Environmental investments:** Vale invested US\$1 billion in environmental actions, 40% up on 2010. Of this total, 70% was spent on initiatives in Brazil.

**Impacts and conservation:** the total area negatively impacted by Vale in 2011 was 17.2 km<sup>2</sup>, while activities were begun to restore 25.2 km<sup>2</sup>, an area that represents more than 2,500 soccer fields. Vale also helps to protect 13,700 km<sup>2</sup> of natural habitat, including Conservation Units in partnership with local governments (97%) and sites owned by the company (3%). This total is 3.5 times larger than the total area of Vale's operations, which is 3,900 km<sup>2</sup>.

**Water:** Vale reused 70% of the water consumed in its activities. As a result, its extraction of water from natural sources was 953 billion liters lower - equivalent to around 1.5 the annual consumption of the city of Rio de Janeiro. The company's water reuse rate was lower in 2011 than in previous years, and the main reason for this was the sale of its aluminum assets, which had a reuse rate of 92.3%. In 2011, Vale invested around US\$90 million in water resource management.

**GHG emissions:** Vale's GHG emissions, defined as the sum of its scope 1\* and scope 2\*\* emissions, were 16.9 million tons of carbon equivalent (CO<sub>2</sub>e)\*\*\*, 15% down on 2010. This reduction is basically due to the company's sale of its aluminum operations and the closure of its Carajás Pig Iron unit.

**Energy:** the company's total energy consumption (direct and indirect) was 244,000 terajoules (TJ). Its direct energy consumption, 80% of the total, was 179,000 TJ, around 10% down on 2010, due to the sale of power-intensive operations such as aluminum production facilities. Vale's demand for indirect energy (the purchase of electricity and steam) was 44,700 TJ, 24% down on 2010. Around 20% of Vale's total energy supply came from renewable sources such as biomass and biodiesel.

**Biofuels:** Vale is initially investing US\$633 million to produce biofuels and expand its use of them in its machines and logistics systems. Having acquired 70% of Biopalma da Amazônia S.A. in 2011, Vale plans to diversify its energy supplies

and strengthen its action as a global sustainability agent. As well as cutting GHG emissions, the company's biofuels operation is also restoring degraded areas of habitat.

\* Direct emissions, such as from fuel use and production processes.

\*\* Indirect emissions, encompassing emissions from the purchase of electricity and steam.

\*\*\* A unit for measuring GHG emissions, converting all types of GHGs based on their potential contribution to global warming.

### More information

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