

Vale S.A.
Form 6-K
May 06, 2011

Table of Contents

**United States
Securities and Exchange Commission
Washington, D.C. 20549
FORM 6-K
Report of Foreign Private Issuer
Pursuant to Rule 13a-16 or 15d-16
of the
Securities Exchange Act of 1934
For the month of
May 2011
Vale S.A.**

Avenida Graça Aranha, No. 26
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(Address of principal executive office)

(Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.)

(Check One) Form 20-F Form 40-F

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(Check One) Yes No

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(Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.)

(Check One) Yes No

(If Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b). 82-_____.)

TABLE OF CONTENTS

Press Release
Signature Page

Table of Contents

US GAAP

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A ROBUST PERFORMANCE

Performance of Vale in 1Q11

Rio de Janeiro, May 5, 2011 – Vale S.A. (Vale) reports a solid performance in the first quarter of 2011 (1Q11). This is the result of the execution of our strategy of expanding production primarily through organic growth, developing world-class assets anchored on the optimization of capital allocation, against a backdrop of a strong global demand for minerals and metals.

Operational and financial performance for the first quarter of each year tend to be weaker in the face of weather related events which impart a downward bias to production and sales.

Specifically compared to 1Q10, Vale has improved its operational performance in almost all products, such as iron ore, pellets, manganese, ferroalloys, coal, nickel, copper and cobalt, allowing us to continue to benefit from the benign global environment. After excluding the impact of a non-recurring capital gain of US\$1.5 billion, financial performance was the best ever for a first quarter.

Vale returned US\$1 billion to shareholders as extraordinary dividend, equal to US\$0.1916 per share, paid on January 31, 2011. The first tranche of the minimum dividend for 2011 of US\$4.0 billion, equal to US\$2.0 billion or US\$0.3833 per share, was paid on April 29, 2011.

We delivered one of the four projects scheduled to start operations in 2011, the hydroelectric power plant of Estreito, in Brazil. The first of the nineteen very large ore carriers (the Valemax class of ship) ordered from Asian shipyards, named Vale Brasil, was delivered. The operation of these vessels will cause a permanent reduction in the costs of shipping iron ore from Brazil to Asia, leveraging our competitiveness. Three other projects are expected to come on stream this year: Moatize (coal), Karebbe (energy) and Salobo (copper).

The main highlights of Vale's performance were:

Operating revenues of US\$13.548 billion in 1Q11, the highest level for a first quarter.

Operating income, as measured by adjusted EBIT (earnings before interest and taxes), reached a record mark of US\$7.969 billion. After excluding the non-recurring gain, the adjusted EBIT of US\$6.456 billion is the

highest for a first quarter.

EBIT margin, after excluding the non-recurring gain, reached 48.9%, the highest for a first quarter.

Record net earnings of US\$6.826 billion, equal to US\$1.29 per share on a fully diluted basis, 13.1% higher than US\$6.038 billion, the previous record in 3Q10. Even after excluding the non-recurring gain stemming from the transaction with aluminum assets, 1Q11 earnings are the highest for a first quarter.

1Q11

Table of Contents**US GAAP**

Record cash generation, as measured by adjusted EBITDA^(b) (earnings before interest, taxes, depreciation and amortization) of US\$9.176 billion in 1Q11, 3.5% up from previous record in 4Q10. Excluding the non-recurring gain, the adjusted EBITDA of US\$7.663 billion is also the highest for a first quarter.

Sales of ferrous minerals products – iron ore, pellets, manganese and ferroalloys – of US\$9.365 billion in 1Q11, show the highest figure for a first quarter.

A strong balance sheet, supported by large cash holdings of US\$11.8 billion, low debt leverage, measured by total debt/LTM adjusted EBITDA, equal to 0.73x, and long average debt maturity, of 10.1 years.

Table 1 SELECTED FINANCIAL INDICATORS

<i>US\$ million</i>	1Q10	4Q10	1Q11	%	%
	(A)	(B)	(C)	(C/A)	(C/B)
Operating revenues	6,848	15,207	13,548	97.8	(10.9)
Adjusted EBIT	2,062	7,167	7,969	286.5	11.2
Adjusted EBIT excluding the gain from sale of assets	2,062	7,167	6,456	213.1	(9.9)
Adjusted EBIT margin excluding the gain from sale of assets (%)	31.2	48.0	48.9		
Adjusted EBITDA	2,855	8,869	9,176	221.4	3.5
Adjusted EBITDA excluding the gain from sale of assets	2,855	8,869	7,663	168.4	(13.6)
Net earnings	1,604	5,917	6,826	325.6	15.4
Earnings per share fully diluted basis(US\$ / share)	0.30	1.12	1.29		
Total debt/ adjusted EBITDA (x)	2.4	1.0	0.7		
ROIC (%)	12.6	30.8	32.9		
Capex (excluding acquisitions)	2,158	5,091	2,743	27.1	(46.1)

Except where otherwise indicated the operational and financial information in this release is based on the consolidated figures in accordance with US GAAP and, with the exception of information on investments and behavior of markets, quarterly financial statements are reviewed by the company's independent auditors. The main subsidiaries that are consolidated are the following: Compañía Minera Misky Mayo S.A.C., Ferrovia Centro-Atlântica (FCA), Ferrovia Norte Sul S.A., PT International Nickel Indonesia Tbk, Vale Australia Pty Ltd., Vale Canada Limited (formely Vale Inco Limited), Vale Colômbia Ltd., Mineração Corumbaense Reunida S.A., Vale Fertilizantes S.A., Vale International, Vale Manganês S.A., Vale Manganèse France, Vale Manganese Norway S.A. and Vale Nouvelle Calédonie SAS.

1Q11

Table of Contents

<i>US GAAP</i>	<i>1Q11</i>
INDEX	
A ROBUST PERFORMANCE	1
Table 1 SELECTED FINANCIAL INDICATORS	2
BUSINESS OUTLOOK	4
REVENUES	7
Table 2 OPERATING REVENUE BREAKDOWN	8
Table 3 OPERATING REVENUE BY DESTINATION	9
COSTS	9
Table 4 COGS BREAKDOWN	12
OPERATING INCOME	12
NET EARNINGS	12
CASH GENERATION	13
Table 5 QUATERLY ADJUSTD EBITDA	14
Table 6 ADJUSTED EBITDA BY BUSINESS AREA	14
INVESTMENTS	14
Table 7 TOTAL INVESTMENT BY CATEGORY	17
Table 8 TOTAL INVESTMENT BY BUSINESS AREA	17
DEBT INDICATORS	17
Table 9 - DEBT INDICATORS	18
PERFORMANCE OF THE BUSINESS SEGMENTS	18
Table 10 FERROUS MINERALS BUSINESS PERFORMANCE	19
Table 11 COAL BUSINESS PERFORMANCE	20
Table 12 BULK MATERIALS : SELECTED FINALCIAL INDICATORS	21
Table 13 BASE METALS BUSINESS PERFORMANCE	22
Table 14 FERTILIZERS NUTRIENTS BUSINESS PERFORMANCE	23
Table 15 LOGISTICS BUSINESS PERFORMANCE	24
FINANCIAL INDICATORS OF NON-CONSOLIDATED COMPANIES	25
CONFERENCE CALL AND WEBCAST	25
BOX IFRS RECONCILIATION WITH USGAAP	26
ANNEX 1 FINANCIAL STATEMENTS	27
Table 16 INCOME STATEMENTS	27
Table 17 FINANCIAL RESULTS	27
Table 18 EQUITY INCOME BY BUSINESS SEGMENT	27
Table 19 BALANCE SHEET	28
Table 20 CASH FLOW	29
ANNEX 2 VOLUMES SOLD, PRICES,MARGINS AND METALS	30
Table 21 VOLUME SOLD: MINERALS AND METALS	30
Table 22 AVERAGE SALE PRICES	30
Table 23 OPERATING MARGINS BY SEGMENT	31
ANNEX 3 RECONCILIATION OF US GAAP and NON-GAAP INFORMATION	32

Table of Contents**US GAAP****1Q11****Ú BUSINESS OUTLOOK**

The global economy continues to grow at an above-trend pace as the recovery from the Great Recession of 2008/2009 is almost completing 2 years.

In particular, industrial production accelerated its rate of expansion in the first quarter of 2011, showing a robust gain of almost 9%, well above its long-term trend, which contributed to support a stronger-than-anticipated global demand for minerals and metals. The recovery is broadening, on both a sectorial and geographical basis, adding strength to the sustainability of the expansionary cycle.

However, global growth is still facing headwinds and downside risks.

In addition to the underlying cyclical factors acting on the demand side, weather and politically related events have been negatively impacting the supply of energy and food commodities. Political tensions have raged across much of North Africa and the Middle East contributing to an upsurge in oil prices, which has increased by approximately 30% since the beginning of the year. Food prices have already surpassed the peak level of July 2008, according to the CRB Food price index. This reflects primarily the effects of various supply shocks stemming from adverse weather conditions in some of the main producers of agricultural products in the world.

The hikes in food and oil prices have of course negative implications on short-term economic growth and inflation. The main channel of transmission to economic activity is through a reduction of purchasing power with a direct impact on consumer expenditures. The pass-through of higher prices to core inflation depends fundamentally on the credibility of monetary policy. Given the credibility of the main central banks as inflation fighters, we expect the commodity price surge to generate only a transitory increase in headline inflation rates.

Natural disasters are becoming more frequent due to several reasons, and among them climate change is a likely contributor. The first quarter of 2011 was characterized by abnormally heavy rainfall in several countries, including Brazil and Australia, causing floods and human and economic losses. A historic earthquake and tsunami – the Tohoku earthquake – devastated parts of Northeast Japan, destroying housing, industrial facilities and logistics infrastructure, causing power outages and raising the risks of nuclear radiation.

The evidence from natural disasters in developed economies shows that following an immediate large negative effect on output, there is a recovery initially driven by production resumption which is accelerated later by reconstruction investment. The economic impact of the Kobe earthquake of January 1995, the most serious natural disaster suffered by a developed nation, followed exactly that pattern.¹

The current losses to the Japanese economy are estimated to reach US\$300 billion and industrial production plummeted 15.3% in March, as a result of both supply and demand shocks in the aftermath of the earthquake/tsunami. In addition, there is a potential negative spillover on the global economy arising from the effect of a contraction of Japanese exports on the global supply chain. So far, the fall in Japanese exports, 8% in March over February, has been cushioned by inventories of parts and finished goods.

Although the earthquake/tsunami will cause a drag on global growth, we expect the Japanese economy, the third largest in the world, to start to bounce back in the second half of the year, showing above-trend growth by yearend. Until now, we have not felt a material impact on the global demand for iron ore – Japan is the second largest importer of iron ore in the world, with 133 Mt imported last year – and other metals, such as nickel. By the same token, there was no meaningful impact on minerals and metals prices, which tend to reflect the flow of new information into the marketplace.

Our Japanese nickel refinery, in Matsuzaka, remains operating and shipping its products to clients normally.

¹ According to the estimates of the Centre for Research on the Epidemiology of Disasters (CRED), the Kobe earthquake of 1995 entailed a loss of US\$ 100 billion, equivalent at that time to 2.1% of Japan's GDP.

Table of Contents***US GAAP******1Q11***

Another source of downside risks originates in the rising core inflation in emerging market countries, where output is already above pre-recession levels, suggesting that recovery is complete and expansion is under way. Inflation pressures are building in response to capacity constraints but central banks are already reacting through a rise in policy interest rates to defuse these pressures and through the adoption of macro prudential measures in order to mitigate the risks of financial instability. Inflation fighting will cause some deceleration in the expansion of some key emerging market economies relative to 2010, without producing a downturn.

Europe is under a gradual though uneven recovery. Economic activity still remains below its potential level and there is a clear division between the performance of the core economies of the European Union led by Germany and the peripheral economies, which are still facing recessionary winds.

The risks of a spillover of financial instability in those economies into global financial markets are still present albeit sovereign bond markets when gauging the probability of sovereign defaults through CDS spreads² are increasingly distinguishing between Greece, Ireland and Portugal, that as a group represent only 6% of the EU GDP, and Spain, a much larger economy representing 13% of the Euro area's GDP. Spain seems to be benefiting from the credibility earned with the effective implementation of reforms. As a consequence, this is a positive development to the extent that it contributes to diminish the risks of a financial turmoil.

In assessing risks to global growth, one should consider also the upside risks. The global economic recovery still has considerable room to run, especially in the developed economies where margins of slack remain large. We expect a relatively modest drop in the pace of expansion this year from the 5% increase of 2010, followed by some reacceleration next year. As a consequence, we foresee macroeconomic conditions remaining supportive of the global demand for minerals and metals.

US GDP growth slowed to 1.8% in 1Q11. Real consumption expenditures increased 2.7%, compared with an expansion of 4.0% in 4Q10, which was expected in view of higher food and energy prices. However, personal consumption expenditures still contributed to a 1.9% increase in GDP, while there were big drops in defense expenditures and nonresidential structures, which appear to be transitory.

Chinese GDP growth slowed but remained strong in 1Q11 at 9.7% on a year-on-year basis and 8.7% quarter-on-quarter. This was helped by credit expansion in 4Q10 which boosted investment, while property construction and exports helped to keep industrial production strong.

We expect some moderate rebound on robust investment and construction demand in inland regions. While housing sales and starts may slow under the pressure of continued tightening measures, the ramping up of social housing construction should help to support property construction, and therefore demand for upstream commodities, such as iron ore. According to the 12th five-year plan, officially approved in March, the government aims to build 36 million units of housing from 2011 to 2015, with 10 million new starts each year in 2011 and 2012.

Global carbon steel production reached 384.7 Mt in 1Q11 rising 7.6% over 4Q10 and 9.0% over 1Q10³. China's output in 1Q11 reached 176.4 Mt, up 10% from the 160.4 Mt of 4Q10. Although European production has increased, it is well below the pre-crisis levels.

Chinese iron ore imports remained strong, at 177.3 Mt in 1Q11, with a 10.0% increase over 1Q10. On the supply side, Indian exports continued on a downward trend, decreasing 29% on a year-on-year basis. As a consequence, the iron ore market remained tight, and after the downward volatility between mid-February and mid-March when the Platts index for 62% Fe dropped to US\$165 from US\$193 prices bounced back, reaching US\$183 by the end of April. Given the demand prospects and the tightness in supply, with no major projects coming on stream in 2011 and 2012, we expect iron ore prices to remain hovering around a high plateau.

Global stainless steel production reached a new all-time high in 1Q11, at 8.6 Mt, on a seasonally adjusted basis, adding a strong pressure to the demand for nickel. Non-stainless steel markets also saw broad-based strength in the first quarter which will tend to remain over the next few months. In Japan the earthquake has impacted the demand from the auto industry which is being offset by a surge in battery production for equipment and power generation.

² CDS=credit default swaps.

³ All figures are on a seasonally adjusted basis.

Table of Contents

US GAAP

1Q11

Nickel supply is increasing through the start-up of some ferronickel projects, including our Onça Puma operations, and increased output levels from existing operations. At the same time, Chinese NPI/FeNi production continues to rise and is expected to reach about 200,000 metric tons this year.

Notwithstanding these expansions of the supply of ferronickel, which is used only by the stainless steel industry, nickel prices did not weaken remaining above US\$25,000 per metric ton. Copper prices are also holding firm supported by a strong demand and structural supply constraints. As a consequence, base metals operations are expected to continue to enhance their contribution to our financial performance.

Potash prices have been rebounding, influenced by the surge in food prices. Our sales are destined 100% to the Brazilian market, where two of the key crops for potash, corn and sugar cane, have their prices at levels above the peaks of 2008. Therefore, demand is very strong, with imports expected to increase by 15% over last year alongside rising prices.

Table of Contents***US GAAP******1Q11*****REVENUES**

In the first quarter of 2011, our operating revenues totaled US\$13.548 billion, setting a new record for a first quarter. It was 10.9% less than in the previous quarter but 97.8% higher than 1Q10.

In the quarter-over-quarter comparison, lower sales volumes had a negative impact of US\$2.322 billion on operating revenues, which was partly offset by the contribution of higher product prices of US\$663 million.

As mentioned in the production report, 1Q11 was marked by abnormally adverse weather conditions and natural disasters, which affected our mining activities and sales. In addition, there were some operational issues.

Revenues generated from the sales of bulk materials – iron ore, pellets, manganese ore, ferroalloy, metallurgical and thermal coal – represented 70.3% of the operating revenues in 1Q11, decreasing from 71.5% in 4Q10.

The share of base metals in total revenues had a slight increase to 20.3% from 19.9% in the previous quarter. If we exclude revenues produced by the aluminum products, the share of base metals shows an increase over time, from 13.5% in 1Q10 to 15.3% in 4Q10 to 17.4% in 1Q11, reflecting improvements in operational performance as well as rising prices.

The share of fertilizers was 5.8%, higher than the 5.1% in 4Q10. Logistics services contributed 2.4% and other products 1.2%.

In 1Q11, sales to Asia represented 49.6% of total revenues, declining from 54.5% in 4Q10. This is mainly explained by the fall of China's share to 29.7% from 34.6% in 4Q10. The Americas saw a share increase to 27.6%, resulting from larger sales to Brazil, the US and Canada. Europe's participation also grew, 19.5% against 17.6%, while the contribution of the rest of the world decreased to 3.4%.

On a country basis, China had the largest share of our revenues with 29.7% in 1Q11, Brazil represented 18.7%, Japan 11.1%, Germany 6.8%, and Italy and United States 3.5% each.

Table of Contents*US GAAP**1Q11***Table 2 OPERATING REVENUE BREAKDOWN**

<i>US\$ million</i>	1Q10	%	4Q10	%	1Q11	%
Bulk materials	4,849	70.8	10,875	71.5	9,519	70.3
Ferrous minerals	4,722	69.0	10,634	69.9	9,365	69.1
Iron ore	3,748	54.7	8,476	55.7	7,287	53.8
Pellets	769	11.2	1,918	12.6	1,869	13.8
Manganese ore	58	0.8	44	0.3	43	0.3
Ferroalloys	131	1.9	170	1.1	153	1.1
Pellet plant operation services	5	0.1	10	0.1	9	0.1
Others	11	0.2	16	0.1	4	
Coal	127	1.8	241	1.6	154	1.1
Thermal coal	62	0.9	51	0.3	67	0.5
Metallurgical coal	65	0.9	191	1.3	87	0.6
Base metals	1,526	22.3	3,019	19.9	2,749	20.3
Nickel	687	10.0	1,437	9.4	1,557	11.5
Copper	227	3.3	753	5.0	562	4.1
PGMs	1		77	0.5	165	1.2
Precious metals	8	0.1	45	0.3	63	0.5
Cobalt	5	0.1	16	0.1	19	0.1
Aluminum	262	3.8	296	1.9	141	1.0
Alumina	331	4.8	385	2.5	236	1.7
Bauxite	6	0.1	10	0.1	6	
Fertilizer nutrients	65	0.9	769	5.1	787	5.8
Potash	65	0.9	74	0.5	62	0.5
Phosphates			512	3.4	536	4.0
Nitrogen			178	1.2	172	1.3
Others			5		17	0.1
Logistics services	311	4.5	335	2.2	328	2.4
Railroads	236	3.4	262	1.7	250	1.8
Ports	75	1.1	73	0.5	78	0.6
Others	97	1.4	209	1.4	165	1.2
Total	6,848	100.0	15,207	100.0	13,548	100.0

Table of Contents

US GAAP

1Q11

Table 3 OPERATING REVENUE BY DESTINATION

<i>US\$ million</i>	1Q10	%	4Q10	%	1Q11	%
North America	348	5.1	817	5.4	962	7.1
USA	135	2.0	332	2.2	475	3.5
Canada	207	3.0	461	3.0	463	3.4
Mexico	7	0.1	23	0.2	24	0.2
South America	1,378	20.1	2,786	18.3	2,778	20.5
Brazil	1,258	18.4	2,496	16.4	2,538	18.7
Others	120	1.8	290	1.9	240	1.8
Asia	3,536	51.6	8,293	54.5	6,716	49.6
China	2,160	31.5	5,267	34.6	4,024	29.7
Japan	832	12.2	1,662	10.9	1,509	11.1
South Korea	232	3.4	735	4.8	428	3.2
Taiwan	178	2.6	429	2.8	323	2.4
Others	133	1.9	200	1.3	433	3.2
Europe	1,357	19.8	2,681	17.6	2,636	19.5
Germany	424	6.2	1,038	6.8	918	6.8
Belgium	33	0.5	209	1.4	84	0.6
France	81	1.2	354	2.3	147	1.1
UK	140	2.0	320	2.1	357	2.6
Italy	138	2.0	322	2.1	468	3.5
Others	541	7.9	439	2.9	663	4.9
Rest of the World	229	3.3	630	4.1	456	3.4
Total	6,848	100.0	15,207	100.0	13,548	100.0

Ú COSTS

As the global economy is almost concluding its second full year of recovery from the recession of 2008/2009, and mining companies are operating at full capacity, with all-time global mining capital expenditures this year, cost pressures from labor, equipment, parts and inputs, are naturally building. These pressures are the flipside of a strong global demand for minerals and metals.

The appreciation of currencies of commodity export countries where we have significant operations, such as Brazil, Canada, Indonesia and Australia, which is also at least partially influenced by the cycle, has been contributing to the rise of our costs. In addition, on a more short-term perspective, our costs are under the impact of the oil price shock caused by the political events in North Africa and the Middle East as well as the weather conditions prevailing in 1Q11.

The seasonally weak quarter generates a downward pressure in total costs arising from lower volumes produced and sold. On the other hand, the first quarter concentrates a large share of the regular scheduled maintenances, exactly to take advantage of the slower operational activity, which ends up contributing to increase costs, particularly those related to materials.

In 1Q11 operational costs of fertilizers and the costs of our coal assets in Colombia were distributed within the COGS, while in the previous quarters they were accounted for Others. We have prepared a COGS reconciliation table to present the 4Q10 and 1Q11 on the same basis.

Table of Contents

<i>US GAAP</i>	COGS RECONCILIATION	
	<i>4Q10</i>	<i>1Q11</i>
<i>US\$ million</i>		
Outsourced services	967	909
Material	1.001	937
Energy	953	863
Fuel and gases	535	557
Electric energy	417	306
Acquisition of products	631	549
Iron ore and pellets	399	336
Nickel	135	144
Other products	97	69
Personnel	746	687
Depreciation and exhaustion	922	864
Shared Services	69	90
Others	751	677
Total	6.040	5.576

In February 28, 2011 we concluded a transaction involving our aluminum assets⁴. As a consequence, costs of the aluminum operations were only accounted for the months of January and February in 1Q11. In 4Q10, aluminum assets represented 9.4% of our costs, at US\$565 million, falling to 5.2% in 1Q11, at US\$289 million.

From 2Q11 onwards, no aluminum assets will be consolidated under our US GAAP financial statements. The results of Norsk Hydro ASA (Hydro) and MRN, two affiliated companies, in which we own 22% and 40% respectively, will be accounted for as equity income. As Hydro is a publicly listed company, the impact of its performance will be very likely accounted for in our financial statements with a lag, as this information cannot be disclosed to Vale prior to the public disclosure of Hydro's financial performance.

In 1Q11, cost of goods sold (COGS) were down by US\$464 million on a quarter-on-quarter basis, reaching US\$5.576 billion. The decrease was primarily due to lower sales, which meant a reduction of US\$796 million, partially offset by (a) the increase of maintenance materials of iron ore and pellets, US\$93 million, (b) US\$79 million caused by the depreciation of US dollar⁵, (c) higher costs with fuel and gas, US\$78 million and (d) higher costs in the purchases of products from third parties, US\$35 million, a consequence of the metal price cycle.

The cost of materials 16.8% of COGS was US\$937 million, a decrease of 6.4% against 4Q10. Excluding the effects of lower sales volumes (US\$185 million) and currency price changes (cost increase of US\$14 million), costs with materials increased by US\$107 million vis-à-vis 4Q10, reflecting the concentration of regular maintenance in 1Q11.

Expenses with outsourced services totaled US\$909 million 16.3% of COGS against US\$967 million in 4Q10. Out of the US\$58 million decrease in costs with these services, US\$97 million was due to reduction in sales volumes, while the depreciation of the US dollar led to an increase of US\$13 million, and our Colombian coal mining and logistics assets, which are operated by outsourced labor, suffered a US\$24 million cost rise.

In 1Q11, expenses with energy consumption accounted for 15.5% of COGS. They reached US\$863 million, showing a decrease of 9.4% when compared to the previous quarter. While costs with electricity consumption at US\$306 million declined by 26.6% vis-à-vis 4Q10, those with fuel and gases increased by 4.1%, reaching US\$557 million.

⁴ Please see a brief description of this transaction in the Investments section, Portfolio asset management.

⁵ COGS currency exposure in 1Q11 was made up as follow: 64% Brazilian reais, 18% in US dollar, 14% in Canadian dollar, 1% in Indonesian rupiah and 3% in other currencies.

Table of Contents**US GAAP****1Q11**

Shipment volumes reduced energy costs by US\$182 million, which was partially offset by the effects of higher natural gas and anthracite prices, used in the pelletizing process, of US\$64 million, higher prices of HSFO (high sulphur fuel oil), mostly consumed by the Indonesian operations, US\$16 million, and the depreciation of the US dollar, US\$14 million.

Due to the smelting operations, which are very intensive in the consumption of electricity, the aluminum assets accounted for US\$106 million of the energy expenses in 4Q10, 25.4% of Vale's total costs with electric energy, and US\$51 million in 1Q11 (two months only).

Personnel expenses reached US\$687 million, representing 12.3% of COGS, against US\$746 million in 4Q10. The fall reflected chiefly the performance of sales volume (US\$104 million). The exchange rate variation and the increase of labor costs in Sudbury, still caused by the ramp up of the operations, added US\$ US\$11 million and US\$22 million, respectively, to these expenses. It is worthwhile to notice that as Vale operations are expanding the number of our employees has been increasing, to 71,975 workers in March 2011 from 61,700 in March 2010.

The cost of purchasing products from third parties amounted to US\$549 million 9.8% of COGS - against US\$631 million in 4Q10.

The purchase of iron ore and pellets was US\$336 million, against US\$399 million in the previous quarter. The volume of iron ore bought from smaller miners came to 2.0 million metric tons (Mt) in 1Q11 compared to 3.1 Mt in 4Q10. The acquisition of pellets from our joint ventures amounted to 620,000 metric tons in this quarter, the same amount as 4Q10.

Expenditures with the purchase of nickel products rose to US\$144 million from US\$135 million in 4Q10 impacted by the higher prices, as volumes dropped to 3,200 t from 3,700 t in 4Q10.

Cost with shared services increased by US\$21 million, reaching US\$90 million in 1Q11, as a consequence of rental of new hardware equipment.

Other operational costs reached US\$677 million against US\$751 million in 4Q10. The US\$74 million cut was mainly influenced by the lower demurrage costs, US\$23 million, and lower costs from VNC (US\$16 million), due to the reduction in the idle capacity of its facilities.

Sales, general and administrative expenses (SG&A) totaled US\$419 million in 1Q11, US\$228 million below 4Q10. The lower SG&A expenses are primarily caused by decreases in consulting services (US\$59 million), advertising and publicity expenses (US\$44 million), sales (US\$55 million), depreciation charges (US\$15 million) and travel (US\$4 million).

Research and development (R&D), which reflects our investment in creating long-term growth opportunities, amounted to US\$342 million, US\$41 million higher than 4Q10⁶.

Other operational expenses reached US\$420 million, against US\$774 million in 4Q10, mostly due to the reduction of US\$339 million in pre-operating and start-up related expenses, which reached only US\$132 million in 1Q11. This result was determined mainly by the contraction in VNC start-up expenses, to US\$102 million from US\$277 million in 4Q10, and in pre-operating costs related to Moatize and Onça Puma, to US\$30 million from US\$186 million in the previous quarter.

⁶ This is an accounting figure. In the Investment section of this press release we disclose the amount of US\$ 356 million for research & development, computed in accordance with the financial disbursement in 1Q11.

Table of Contents*US GAAP**1Q11***Table 4 COGS BREAKDOWN**

<i>US\$ million</i>	1Q10	%	4Q10	%	1Q11	%
Outsourced services	534	15.1	847	14.0	909	16.3
Cargo freight	165	4.7	223	3.7	246	4.4
Maintenance of equipments and facilities	127	3.6	242	4.0	180	3.2
Operational Services	129	3.7	256	4.2	178	3.2
Others	112	3.2	126	2.1	305	5.5
Material	629	17.8	826	13.7	937	16.8
Spare parts and maintenance equipment	281	7.9	332	5.5	342	6.1
Inputs	188	5.3	273	4.5	396	7.1
Tires and conveyor belts	57	1.6	38	0.6	39	0.7
Others	102	2.9	182	3.0	160	2.9
Energy	617	17.4	861	14.3	863	15.5
Fuel and gases	387	10.9	484	8.0	557	10.0
Electric energy	230	6.5	377	6.2	306	5.5
Acquisition of products	302	&nb				