

Vale S.A.  
Form 6-K  
February 27, 2014  
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**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**

**February 2014**

**Vale S.A.**

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

(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.)

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

(Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1))

(Check One) Yes  No

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(Check One) Yes  No

(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- .)

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VALE S PERFORMANCE IN 2013

Rio de Janeiro, February 26, 2014 Vale S.A. (Vale) delivered a strong performance in 2013, with solid results across its businesses. 2013 was a year in which the benefits of our ongoing cost-cutting efforts, capex discipline and focus on core business became more visible. It was also a year in which we laid-out the foundations to deliver solid volume and free cash flow growth in the years ahead.

**A year of strong financial and operational performance**

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- Underlying earnings of US\$ 12.3 billion in 2013, 15.4% above 2012.
- Cash generation measured by adjusted EBITDA(1) of US\$ 22.7 billion, the third highest-ever in our history, with 4Q13 adjusted EBITDA of US\$ 6.6 billion, the highest since 4Q11.
- Record sales volumes of iron ore and pellets (305.6 Mt), copper (353,000 t), gold (297,000 oz) and coal (8.1 Mt), and the highest sales volume of nickel (261,000 t) since 2008.
- Production records in copper (370,000 t), gold (286,000 oz), coal (8.8 Mt) and phosphate rock (8.3 Mt) with highest annual mark in nickel (260,000 t) since 2008.
- Substantial reduction in costs and expenses across all businesses, saving US\$ 2.8 billion(2) in 2013 vs. 2012, despite the increases in sales volumes.
- Distribution of a strong dividend of US\$ 4.5 billion in 2013, and commitment to a minimum dividend of US\$ 4.2 billion in 2014, corresponding to a dividend yield of 6% at the current share price.

### **A year of collecting benefits from cost-cutting, capex discipline and focus on core business**

- Reduction of cost of goods sold (COGS) of US\$ 972 million (-3.7%) in 2013, despite the increases in sales volumes; decline in sales, general and administrative (SG&A) of US\$ 865 million (-38.6%), reflecting a leaner organization; and decrease in research and development expenditures (R&D) of US\$ 663 million (-44.9%), reflecting a more focused exploration and project development portfolio.
- Reduction in capex, ex-R&D expenses, of US\$ 2 billion in 2013 vs. 2012, reaching US\$ 14.2 billion in 2013 and marking another consecutive year of capex reduction.
- Divestment of US\$ 6.0 billion(3) of non-core assets, reiterating our continued commitment to the simplification of our asset base and management focus.

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(1) Throughout this report, adjusted EBITDA and adjusted EBIT figures exclude non-recurring items. For more information, please see notes (a) and (b) in the Annex 3 of this report.

(2) Excludes depreciation and amortization and the one-off effect of CFEM provision in 3Q12 (US\$ 542 million).

(3) Includes the sale of VLI still subject to conditions precedent (US\$ 2.056 billion).



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**A year for removing uncertainties and establishing foundations**

- Settlement of the income tax and social contribution on earnings of our non-Brazilian subsidiaries, under the Income Tax Settlement Program (REFIS) reducing uncertainties and allowing management to focus on the key strategic and operational business issues.
- Completion of projects required to grow iron ore production in the years 2014 to 2016: Conceição Itabiritos, Plant 2 (formerly known as Additional 40 Mtpy), and CLN 150, including Pier IV with its first berth in Ponta da Madeira.
- Positive progress on the discussion regarding caves with recent authorization to mine additional N4E mine areas, supporting the 2014 production target of 120 Mt in Carajás in 2014 and increasing the confidence in the growth program for 2015 and 2016.
- Granting of all the implementation licenses for S11D and associated logistics, paving the way for growth in iron ore production beyond 2016.
- Ramp-up of Base Metals projects (Salobo I close to nominal capacity, restart of Onça Puma and continued progress in New Caledonia) and completion of remaining key projects (Long Harbour and Totten), marking the end of an investment cycle and positioning the business to achieve its US\$ 4 to US\$ 6 billion cash generation target in the coming years.

Underpinning our good performance this year is a relentless focus on Health and Safety. Our health and safety indicators improved in 2013 with our total recordable injury frequency rate (TRIFR), falling from 2.8 to 2.6(4). We remain focused towards achieving zero harm in our operations.

Looking ahead, we are committed to deliver on our promises. We will maintain our business focus and discipline on cost and capex while diligently working to complete our ongoing projects and deliver volume growth.

We are focused on shareholder value creation and committed to using our free cash flow to appropriately reduce our debt levels and distribute increasing dividends to our shareholders.

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(4) Per million hours worked.



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US\$ million	2013	2012	2011	2010	2009
Gross operating revenues	48,994	48,753	62,345	46,481	23,939
Adjusted EBIT	17,537	14,430	28,748	21,695	6,057
Adjusted EBIT margin (%)	36.5	30.3	47.2	47.9	26.0
Adjusted EBITDA	22,679	19,178	33,730	26,116	9,165
Adjusted EBITDA margin (%)	47.2	40.2	55.3	57.7	39.3
Underlying earnings	12,261	10,622	23,248	17,289	4,925
Underlying earnings per share on a fully diluted basis (US\$ / share)	2.38	2.08	4.43	3.26	0.92
Total gross debt	29,727	30,546	23,143	25,343	22,880
Total gross debt/ adjusted EBITDA (x)	1.3	1.6	0.7	1.0	2.5
Capital expenditures (excluding R&D and acquisitions)	14,233	16,196	16,252	11,569	8,002

(1)The 2011-2013 figures were adjusted under IFRS and consider freight in revenues and COGS. The 2009-2010 figures were calculated in accordance with USGAAP.

US\$ million	4Q13	3Q13	4Q12
Gross operating revenues	13,606	12,910	12,537
Adjusted EBIT	5,002	4,777	2,971
Adjusted EBIT margin (%)	37.3	37.7	24.2
Adjusted EBITDA	6,637	5,883	4,434
Adjusted EBITDA margin (%)	49.5	46.4	36.2
Underlying earnings	3,212	3,639	1,871
Underlying earnings per share on a fully diluted basis (US\$ / share)	0.62	0.71	0.36
Capital expenditures (excluding R&D and acquisitions)	3,840	3,231	4,999

Except where otherwise indicated the operational and financial information in this release is based on the consolidated figures in accordance with IFRS 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 Miski Mayo S.A.C., Ferrovia Centro-Atlântica S.A.(FCA), Ferrovia Norte Sul S.A, Mineração Corumbaense Reunida S.A., PT Vale Indonesia Tbk (formerly International Nickel Indonesia Tbk), Sociedad Contractual Minera Tres Valles, Vale Australia Pty Ltd., Vale International Holdings GMBH, Vale Canada Limited (formely Vale Inco Limited), Vale Fertilizantes S.A., Vale International S.A., Vale Manganês S.A., Vale Mina do Azul S.A., Vale Moçambique S.A., Vale Nouvelle-Calédonie SAS, Vale Oman Pelletizing Company LLC and Vale Shipping Holding PTE Ltd..

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OPERATING REVENUES

**Annual performance**

In 2013, operating revenues totaled US\$ 48.994 billion, slightly above 2012. The ferrous minerals business contributed with 72.0% of the operating revenues while the base metals business contributed with 14.9% despite weaker nickel, copper and gold prices in 2013. Fertilizers contribution to revenues decreased to 6.1% due to a combination of lower sales volumes and prices during the year.

Asia represented 54.2% of total revenues in 2013 and China alone represented 38.6%. The Americas share decreased to 23.7%, due to lower sales volumes in Brazil, which represented 17.2% of sales. Europe recovered some share reaching 17.9%. Revenues from sales to the Middle East were 3.0% in 2013. The rest of the world contributed with 1.2% in 2013.

There was an increase of US\$ 241 million in operating revenues in 2013 vs. 2012. The positive changes year-on-year were the higher sales volumes of base metals (US\$ 1.373 billion), iron ore (US\$ 674 million) and metallurgical coal (US\$ 427 million) and higher prices of iron ore (US\$ 490 million). Those were partly offset by lower prices of base metals (-US\$ 1.209 billion), fertilizers (-US\$ 393 million) and metallurgical coal (-US\$ 310 million) and the decrease in sales volumes of pellets (-US\$ 654 million) and fertilizers (-US\$ 407 million).

**Quarterly performance**

Operating revenues reached US\$ 13.606 billion in 4Q13, up by 5.4% versus 3Q13, driven mainly by higher iron ore sales volumes and prices, which contributed with 80% of the increase in revenues, followed by higher pellets sales volumes.

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US\$ million	4Q13	3Q13	4Q12	2013	% 2013	2012	% 2012
<b>Ferrous minerals</b>	<b>10,177</b>	<b>9,482</b>	<b>8,998</b>	<b>35,267</b>	<b>72.0</b>	<b>34,866</b>	<b>71.5</b>
Iron ore	8,314	7,753	7,441	28,429	58.0	27,202	55.8
Pellets	1,677	1,525	1,396	6,158	12.6	6,757	13.9
Manganese ore	99	119	72	333	0.7	234	0.5
Ferroalloys	62	54	50	239	0.5	358	0.7
Pellet plant operation services						19	
Others	25	31	40	110	0.2	296	0.6
<b>Coal</b>	<b>333</b>	<b>211</b>	<b>202</b>	<b>1,010</b>	<b>2.1</b>	<b>1,092</b>	<b>2.2</b>
Metallurgical coal	304	200	181	951	1.9	834	1.7
Thermal coal	29	11	21	59	0.1	258	0.5
<b>Base metals</b>	<b>1,897</b>	<b>1,859</b>	<b>1,811</b>	<b>7,299</b>	<b>14.9</b>	<b>7,133</b>	<b>14.6</b>
Nickel	957	865	1,015	3,889	7.9	4,145	8.5
Copper	647	734	593	2,367	4.8	2,168	4.4
PGMs	132	116	75	477	1.0	383	0.8
Gold	118	107	90	398	0.8	294	0.6
Silver	11	10	14	43	0.1	63	0.1
Cobalt	17	17	11	71	0.1	55	0.1
Others	15	10	13	54	0.1	24	
<b>Fertilizer nutrients</b>	<b>591</b>	<b>812</b>	<b>930</b>	<b>2,977</b>	<b>6.1</b>	<b>3,777</b>	<b>7.7</b>
Potash	50	63	79	222	0.5	308	0.6
Phosphates	423	621	622	2,120	4.3	2,583	5.3
Nitrogen	95	104	208	543	1.1	801	1.6
Others	23	24	21	92	0.2	85	0.2
<b>Logistics services - general cargo</b>	<b>333</b>	<b>404</b>	<b>344</b>	<b>1,508</b>	<b>3.1</b>	<b>1,348</b>	<b>2.8</b>
Railroads	260	315	281	1,210	2.5	1,202	2.5
Ports	73	89	63	298	0.6	146	0.3
<b>Others</b>	<b>275</b>	<b>142</b>	<b>252</b>	<b>932</b>	<b>1.9</b>	<b>536</b>	<b>1.1</b>
<b>Total</b>	<b>13,606</b>	<b>12,910</b>	<b>12,537</b>	<b>48,994</b>	<b>100.0</b>	<b>48,753</b>	<b>100.0</b>

**GROSS OPERATING REVENUE BY DESTINATION**

US\$ million	4Q13	3Q13	4Q12	2013	% 2013	2012	% 2012
<b>North America</b>	<b>610</b>	<b>539</b>	<b>547</b>	<b>2,383</b>	<b>4.9</b>	<b>2,378</b>	<b>4.9</b>
<b>South America</b>	<b>2,064</b>	<b>2,346</b>	<b>2,246</b>	<b>9,193</b>	<b>18.8</b>	<b>9,905</b>	<b>20.3</b>
Brazil	1,905	2,129	2,113	8,417	17.2	9,126	18.7
Others	160	217	133	776	1.6	779	1.6
<b>Asia</b>	<b>7,868</b>	<b>7,298</b>	<b>7,349</b>	<b>26,558</b>	<b>54.2</b>	<b>26,617</b>	<b>54.6</b>
China	5,687	5,240	5,411	18,920	38.6	17,636	36.2
Japan	1,163	1,178	1,010	4,035	8.2	4,931	10.1
Others	1,018	880	928	3,602	7.4	4,050	8.3
<b>Europe</b>	<b>2,432</b>	<b>2,252</b>	<b>1,921</b>	<b>8,762</b>	<b>17.9</b>	<b>8,202</b>	<b>16.8</b>
Germany	920	877	826	3,285	6.7	2,937	6.0
Italy	271	201	204	1,055	2.2	1,311	2.7
Others	1,241	1,174	891	4,422	9.0	(4,230)	(8.7)
<b>Middle East</b>	<b>458</b>	<b>325</b>	<b>329</b>	<b>1,494</b>	<b>3.0</b>	<b>1,162</b>	<b>2.4</b>
<b>Rest of the World</b>	<b>173</b>	<b>149</b>	<b>145</b>	<b>604</b>	<b>1.2</b>	<b>490</b>	<b>1.0</b>
<b>Total</b>	<b>13,606</b>	<b>12,910</b>	<b>12,537</b>	<b>48,994</b>	<b>100.0</b>	<b>48,753</b>	<b>100.0</b>



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**COSTS**

Costs and expenses, net of depreciation charges and the one-off effect of CFEM provision in 3Q12 (US\$ 542 million), showed a material contraction in 2013, with savings of US\$ 2.8 billion. Costs dropped US\$ 1.063 billion and expenses US\$ 1.708 billion when compared to 2012, despite the fact that Vale recorded US\$ 394 million(5) in one-off expenses related to the stoppage of Rio Colorado.

**Cost of Goods Sold (COGS)**

**Annual performance**

COGS was US\$ 25.477 billion in 2013, showing a decrease of US\$ 972 million when compared to the US\$ 26.449 billion recorded in 2012.

COGS reductions of US\$ 972 million can be broken by the following factors: (i) US\$ 1.638 billion of cost reduction due to nominal exchange rate variations, (ii) US\$ 1.692 billion of cost increase due to higher volumes (iii) US\$ 1.026 billion due to nominal cost reduction in the currencies in which we operate, despite inflation in those countries.

The analysis of individual cost items are net of the effects of volumes and exchange rate changes, with the exception of personnel costs, energy, acquisition of products and depreciation. The cost analysis for each business segment is part of the Performance of the Business Segments section.

**Quarterly performance**

In 4Q13, COGS was US\$ 6.983 billion, increasing US\$ 20 million, after adjusting for higher volumes (US\$ 389 million) and exchange rate changes (US\$ 23 million)(6). The main negative underlying factors were personnel (US\$ 76 million) and energy costs (US\$ 39 million), which were partially offset by materials (US\$ 25 million) and outsourced services (US\$ 23 million). The increase in personnel costs refers to the two-year collective agreement settled with our employees in Brazil, and a significant part of it is the one-off impact on accrued vacation and profit sharing provisions.

**TOTAL COST OF GOODS SOLD - 4Q13 x 3Q13**

US\$ million	3Q13	Volume	Variance drivers		4Q13
				Others	

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			Exchange rate		Total Variation 4Q13x 3Q13	
<b>Outsourced services</b>	<b>1,069</b>	<b>-14</b>	<b>4</b>	<b>-23</b>	<b>-33</b>	<b>1,036</b>
<b>Materials</b>	<b>1,077</b>	<b>37</b>	<b>13</b>	<b>-25</b>	<b>25</b>	<b>1,102</b>
<b>Energy (Electricity, fuel &amp; gas)</b>	<b>652</b>	<b>-6</b>	<b>3</b>	<b>39</b>	<b>36</b>	<b>688</b>
<b>Acquisition of products</b>	<b>286</b>	<b>172</b>	<b>-1</b>	<b>-33</b>	<b>138</b>	<b>424</b>
Iron ore and pellets	101			27	27	128
Base metals products	114	75		-61	14	128
Other products	71	96	-1	2	97	168
<b>Personnel</b>	<b>868</b>	<b>-3</b>	<b>2</b>	<b>76</b>	<b>75</b>	<b>943</b>
<b>Freight</b>	<b>872</b>	<b>164</b>			<b>164</b>	<b>1,036</b>
<b>Depreciation</b>	<b>945</b>	<b>1</b>	<b>2</b>	<b>84</b>	<b>87</b>	<b>1,032</b>
<b>Shared services</b>	<b>103</b>	<b>-18</b>			<b>-18</b>	<b>85</b>
<b>Others</b>	<b>679</b>	<b>55</b>	<b>2</b>	<b>-99</b>	<b>42</b>	<b>637</b>
<b>Total</b>	<b>6,551</b>	<b>389</b>	<b>23</b>	<b>20</b>	<b>432</b>	<b>6,983</b>

Disclaimer: The effects of volume, exchange rate and other variations are not accounting figures. Calculated in a simplified way for management purposes.

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(5) Excluding depreciation.

(6) COGS exposure in 4Q13 was made up as follows: 53% Brazilian Reais, 30% US dollar, 13% Canadian dollar, 3% Australian dollar and 1% other currencies.

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Outsourced services were US\$ 1.036 billion, a reduction of US\$ 33 million when compared to 3Q13. After adjusting for volumes (-US\$ 14 million) and exchange rate variations (US\$ 4 million), there was a net decrease of US\$ 23 million, mainly as a consequence of lower costs for base metals (US\$ 41 million), with the end of scheduled maintenance at Sudbury and Thompson in 3Q13.

Cost of materials was US\$ 1.102 billion, up US\$ 25 million against 3Q13. After adjusting for volumes (US\$ 37 million) and currency price changes (US\$ 13 million), there was a net decrease of US\$ 25 million, as a consequence of lower costs for fertilizers (US\$ 14 million) driven by lower sulfur and ammonia prices, and lower costs for nickel materials (US\$ 27 million), reflecting the end of the annual scheduled maintenance in Sudbury and Thompson.

Costs of energy (electricity, fuel and gas) reached US\$ 688 million, an increase of US\$ 36 million when compared to 3Q13. Costs with electricity were US\$ 181 million, US\$ 5 million higher than in 3Q13. Fuel and gases costs came to US\$ 507 million, US\$ 31 million higher than in 3Q13. This reflects mainly the increase of 8% in the price of diesel oil in Brazil.

The cost of purchasing products, ore and finished products from third parties amounted to US\$ 424 million against US\$ 286 million in 3Q13. The most relevant third party purchases were:

- The purchase of iron ore amounting to US\$ 128 million, against US\$ 101 million in the previous quarter as the volume of iron ore bought from smaller miners reached 3.8 Mt in 4Q13 compared to 2.6 Mt in 3Q13.
- The purchase of base metals products which increased to US\$ 128 million from US\$ 114 million in 3Q13 as a result of higher nickel and copper volumes purchased from third parties. We bought 1,700 t of finished and intermediary nickel against 1,600 t in 3Q13. Additionally, we bought 5,400 t of copper against 5,300 t in 3Q13.
- The costs of acquiring other products increased to US\$ 168 million from US\$ 71 million, partially reflecting a surplus in our pre-existing long term energy contracts, which was sold in the spot market. The associated revenues are recognized under Other Revenues.

Personnel costs amounted to US\$ 943 million, an increase of US\$ 75 million against the US\$ 868 million in 3Q13. The two-year collective agreement settled with our employees in Brazil increased costs by US\$ 64 million as a result of the 6.0% wage rise in Brazilian Reais in November 2013 and the one-off impact of the increase on accrued vacation and profit sharing provisions. The semi-annual bonuses for employees working in remote areas in Brazil (Carajás, Sossego and Onça Puma) were paid during 4Q13 and amounted to US\$ 12 million.

Maritime freight costs reached US\$ 1.036 billion in 4Q13, which, as stated previously, are fully accrued as cost of goods sold. Freight costs were up US\$ 164 million, when compared to 3Q13, as a result of the increase in CFR shipments, different routes used and higher rates on freights contracted on a spot basis.

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Depreciation and amortization amounted to US\$ 1.032 billion, against US\$ 945 million in 3Q13, mainly reflecting higher depreciation costs of iron ore and pellets (US\$ 41 million) and nickel (US\$ 58 million).

Costs with shared services decreased to US\$ 85 million in 4Q13, down from US\$ 103 million in the previous quarter.

Other operational costs reached US\$ 637 million, decreasing from the US\$ 679 million in 3Q13. The TFRM was US\$ 54 million in 4Q13, in line with 3Q13. CFEM, Brazil's federal mining royalty, was US\$ 131 million, US\$ 25 million higher than 3Q13, mostly because of the higher average price for iron ore.



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## COGS

US\$ million	4Q13	3Q13	4Q12	2013	% 2013	2012	% 2012
<b>Outsourced services</b>	<b>1,036</b>	<b>1,069</b>	<b>1,153</b>	<b>3,951</b>	<b>15.5</b>	<b>4,769</b>	<b>18.0</b>
Cargo freight	214	291	294	1,059	4.2	1,191	4.5
Maintenance of equipment and facilities	179	197	179	706	2.8	792	3.0
Operational Services	212	147	296	591	2.3	1,131	4.3
Others	431	434	385	1,595	6.3	1,656	6.3
<b>Material</b>	<b>1,102</b>	<b>1,077</b>	<b>995</b>	<b>4,152</b>	<b>16.3</b>	<b>4,264</b>	<b>16.1</b>
Spare parts and maintenance equipment	332	321	301	1,222	4.8	1,417	5.4
Inputs	501	488	514	1,898	7.5	2,018	7.6
Tires and conveyor belts	56	49	59	297	1.2	233	0.9
Others	212	219	121	735	2.9	595	2.2
<b>Energy</b>	<b>688</b>	<b>652</b>	<b>749</b>	<b>2,600</b>	<b>10.2</b>	<b>2,937</b>	<b>11.1</b>
Fuel and gases	507	476	530	1,934	7.6	2,071	7.8
Electric energy	181	176	218	666	2.6	866	3.3
<b>Acquisition of products</b>	<b>424</b>	<b>286</b>	<b>334</b>	<b>1,406</b>	<b>5.5</b>	<b>1,368</b>	<b>5.2</b>
Iron ore and pellets	128	101	115	405	1.6	699	2.6
Base metals products	128	97	70	461	1.8	339	1.3
Other products	168	88	148	541	2.1	330	1.2
<b>Personnel</b>	<b>943</b>	<b>868</b>	<b>923</b>	<b>3,433</b>	<b>13.5</b>	<b>3,545</b>	<b>13.4</b>
<b>Maritime freight</b>	<b>1,036</b>	<b>872</b>	<b>922</b>	<b>3,190</b>	<b>12.5</b>	<b>2,801</b>	<b>10.6</b>
<b>Shared services</b>	<b>85</b>	<b>103</b>	<b>73</b>	<b>363</b>	<b>1.4</b>	<b>303</b>	<b>1.1</b>
<b>Others</b>	<b>637</b>	<b>679</b>	<b>741</b>	<b>2,504</b>	<b>9.8</b>	<b>2,673</b>	<b>10.1</b>
<b>Total Costs before depreciation and amortization</b>	<b>5,951</b>	<b>5,606</b>	<b>5,889</b>	<b>21,598</b>	<b>84.8</b>	<b>22,660</b>	<b>85.7</b>
Depreciation and amortization	1,032	945	1,083	3,879	15.2	3,789	14.3
<b>Total COGS (Cost of Goods Sold)</b>	<b>6,983</b>	<b>6,551</b>	<b>6,972</b>	<b>25,477</b>	<b>100.0</b>	<b>26,449</b>	<b>100.0</b>

## Expenses

## Annual performance

In 2013, expenses were US\$ 5.036 billion, a decrease of US\$ 2.321 billion from US\$ 7.357 billion in 2012, mainly due to lower Sales, General and Administrative expenses (SG&A), Research and Development expenditures (R&D) and other expenses, which were partially offset by higher pre-operating and stoppage expenses(7). Excluding the effect of depreciation (US\$ 429 million), total expenses amounted to US\$ 4.607 billion a decrease of US\$ 1.708 billion(8) when compared to 2012.

The simplification of our organizational structure was the main driver for the reduction of US\$ 865 million in SG&A. In 2013, SG&A amounted to US\$ 1.375 billion, decreasing 38.6% when compared to US\$ 2.240 billion in 2012, with savings much higher than our 20% target for the year. In 2014, our target is to further reduce SG&A expenses by 10%.

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In 2013, R&D expenditures were US\$ 815 million, being US\$ 285 million lower than our budget of US\$ 1.1 billion for the year and US\$ 663 million lower than 2012, a decrease of 45.0%. The reduction of our portfolio of projects and the closure of exploration offices around the world were mostly responsible for this result. In 2014, we will continue focusing on having an efficient exploration portfolio.

Pre-operating and stoppage expenses were US\$ 1.859 billion in 2013, an increase of US\$ 267 million when compared to 2012. Pre-operating expenses were in line with the previous year's numbers at US\$ 1.231 billion in 2013 against US\$ 1.240 billion in 2012. On the other hand, stoppage expenses increased by US\$ 276 million, amounting to US\$ 628 million, mainly reflecting the US\$ 381 million in expenses with Rio Colorado in 2013.

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(7) As previously mentioned, we revised the concept of pre-operating, stoppage and idle capacity expenses to pre-operating and stoppage.

(8) Excluding the effect of the CFEM provision (US\$ 542 million) in 3Q12.

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Other expenses totaled US\$ 987 million in 2013, against US\$ 2.047 billion in 2012 as a result of lower contingencies and provisions made during 2013. For instance, in 3Q12 we had the one-off effect of CFEM expenses, which amounted to US\$ 542 million.

**Quarterly performance**

SG&A(9) was US\$ 362 million in 4Q13, US\$ 47 million above 3Q13. Higher SG&A expenses were driven by an increase in administrative expenses (US\$ 65 million), mainly due to the higher third party services expenses (US\$ 27 million). Sales expenses were down by US\$ 18 million, amounting to US\$ 11 million in 4Q13.

- Despite the two-year collective agreement settled with our employees in Brazil, which resulted in the 6.0% wage rise in Brazilian Reais in November 2013, expenses with personnel increased by only US\$ 4 million, amounting to US\$ 121 million in 4Q13.

R&D expenditure totaled US\$ 276 million in 4Q13, higher than the US\$ 205 million in 3Q13.

Pre-operating and stoppage expenses(9) decreased to US\$ 473 million in 4Q13 from US\$ 549 million in 3Q13.

- Pre-operating expenses were US\$ 321 million in 4Q13, determined by expenses related to VNC (US\$ 167 million), Long Harbour (US\$ 65 million) and S11D (US\$ 27 million). VNC expenses were up US\$ 38 million when compared to 3Q13, due to the operational problems with the effluent pipeline, which not only cost US\$ 27 million to repair but also caused production to stop and prevented further dilution of expenditures over production and sales. The repair work was completed successfully and the plant began a sequential restart on January 1, 2014. In 2013 VNC pre-operating expenses dropped to US\$ 606 million from US\$ 767 million in 2012. We continue to aim at reaching break-even at VNC during 2014, in which costs and expenses will be matched by revenues.

- Stoppage expenses reached US\$ 152 million in 4Q13, mainly reflecting Rio Colorado expenses (US\$ 102 million) and the shutdown of pellet plants, Tubarão I and II and São Luís (US\$ 24 million) and Onça Puma (US\$ 22 million).

Other operating expenses(9) were US\$ 30 million higher than 3Q13, amounting to US\$ 310 million in 4Q13.

**EXPENSES**

US\$ million	4Q13	3Q13	4Q12	2013	% 2013	2012	% 2012
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<b>SG&amp;A</b>	<b>362</b>	<b>315</b>	<b>577</b>	<b>1,375</b>	<b>27.3</b>	<b>2,240</b>	<b>30.4</b>
<b>Administrative</b>	<b>351</b>	<b>286</b>	<b>527</b>	<b>1,269</b>	<b>25.2</b>	<b>1,960</b>	<b>26.6</b>
Personnel	121	117	217	531	10.5	806	11.0
Services	116	89	144	343	6.8	489	6.6
Depreciation	52	46	69	194	3.9	240	3.3
Others	62	34	97	201	4.0	425	5.8
<b>Selling</b>	<b>11</b>	<b>29</b>	<b>50</b>	<b>106</b>	<b>2.1</b>	<b>280</b>	<b>3.8</b>
<b>R&amp;D</b>	<b>276</b>	<b>205</b>	<b>460</b>	<b>815</b>	<b>16.2</b>	<b>1,478</b>	<b>20.1</b>
<b>Pre-operating and stoppage expenses</b>	<b>473</b>	<b>549</b>	<b>590</b>	<b>1,859</b>	<b>36.9</b>	<b>1,592</b>	<b>21.6</b>
<b>Other operating expenses</b>	<b>310</b>	<b>280</b>	<b>688</b>	<b>987</b>	<b>19.6</b>	<b>2,047</b>	<b>27.8</b>
<b>Total(1)</b>	<b>1,421</b>	<b>1,349</b>	<b>2,315</b>	<b>5,036</b>	<b>100.0</b>	<b>7,357</b>	<b>100.0</b>

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(1) Does not include gain/loss on sale of assets

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(9) Including depreciation.

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CASH GENERATION AND OPERATING INCOME

**Annual performance**

Cash generation, measured by adjusted EBITDA, reached US\$ 22.679 billion in 2013, showing an increase of 18.3% from the US\$ 19.178 billion in 2012. The increase in adjusted EBITDA was mainly due to our efforts to cut costs and expenses which resulted in a year-over-year reduction of US\$ 2.8 billion in 2013.

Operating income, measured by adjusted EBIT, showed a significant improvement versus the previous year, reaching US\$ 17.537 billion in 2013, 21.5% higher than the US\$ 14.430 billion in 2012. Our adjusted EBIT margin increased to 36.5% in 2013 versus 30.3% in 2012.

The share of ferrous minerals in cash generation in 2013 decreased to 95.0% from 97.6% in 2012, while base metals improved to 7.2% from 3.1% in the previous year. The share of logistics was 0.5%, while fertilizers and coal had a negative contribution of -0.2% and -2.0%, respectively.

**Quarterly performance**

Adjusted EBITDA was US\$ 6.637 billion in 4Q13, 12.8% higher than 3Q13. The positive effects of higher prices of ferrous minerals and coal (US\$ 574 million) and higher dividends received from non-consolidated affiliates (US\$ 437 million) were the main factors for the increase in adjusted EBITDA versus 3Q13. Those were partly mitigated by lower sales volumes of fertilizers, general cargo logistics and others (US\$ 168 million) and lower prices of base metals, fertilizers and general cargo logistics (US\$ 136 million).

Adjusted EBIT was US\$ 5.002 billion in 4Q13, slightly higher than 3Q13. Adjusted EBIT margin was 37.3% in 4Q13, lower than the 37.7% in 3Q13.

Main adjustments to adjusted EBIT and adjusted EBITDA in 4Q13 were: (i) impairment on assets, mainly related to the Rio Colorado project, (US\$ 2.298 billion); (ii) loss in the sale of Tres Valles (US\$ 215 million); and (iii) negative impact of fair value from the sale of VLI (US\$ 151 million).

**ADJUSTED EBITDA**

US\$ million	4Q13	3Q13	4Q12	2013	2012
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Gross operating revenues	13,606	12,910	12,537	48,994	48,753
Net operating revenues	13,406	12,677	12,258	48,050	47,694
COGS	(6,983)	(6,551)	(6,972)	(25,477)	(26,449)
SG&A	(362)	(315)	(577)	(1,375)	(2,240)
Research and development	(276)	(205)	(460)	(815)	(1,478)
Other operational expenses	(783)	(829)	(1,278)	(2,846)	(3,097)
<b>Adjusted EBIT</b>	<b>5,002</b>				