

Vale S.A.  
Form 6-K  
April 28, 2016  
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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**

**March, 2016**

**Vale S.A.**

**Avenida das Américas, No. 700  
22640-100 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

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7)

(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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**Interim Financial Statements**

**March 31, 2016**

**IFRS**

Filed with the CVM, SEC and HKEx on

April 28, 2016

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**Vale S.A. Interim Financial Statements**

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|   |  |
|---|--|
| <b>KPMG Auditores Independentes</b>     | Central Tel 55 (21) 3515-9400                        |
| Av. Almirante Barroso, 52 - 4º          | Fax  |
| 20031-000 - Rio de Janeiro, RJ - Brasil | 55 (21) 3515-9000                                    |
| Caixa Postal 2888                       | Internet   |
| 20001-970 - Rio de Janeiro, RJ - Brasil | <a href="http://www.kpmg.com.br">www.kpmg.com.br</a> |

**Report of independent registered public accounting firm**

To the Board of Directors and Stockholders of

Vale S.A.

Rio de Janeiro - RJ

We have reviewed the accompanying condensed consolidated balance sheet of Vale S.A. ( the Company ) and its subsidiaries as of March 31, 2016 and the related condensed consolidated statements of income (loss), comprehensive income (loss), cash flows and the condensed consolidated statements of changes in stockholders' equity for the three-month period ended on March 31, 2016 and 2015. These condensed consolidated financial statements are the responsibility of the Company's management.

We conducted our review in accordance with the standards of the Public Company Accounting Oversight Board (United States). A review of interim financial information consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the Public Company Accounting Oversight Board (United States), the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an audit opinion.

Based on our review, we are not aware of any material modification that should be made to the condensed consolidated financial statements referred to above for them to be in conformity with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

We have previously audited, in accordance with standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheet of Vale S.A. and its subsidiaries as of December 31, 2015 and the related consolidated statements of income, comprehensive income, stockholders' equity and cash flows for the year then ended, and in our report dated February 24, 2016, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated balance sheet as of December 31, 2015, is fairly stated, in all material respects, in relation to the consolidated balance sheet from which it has been derived.

KPMG Auditores Independentes

Rio de Janeiro, Brazil

April 27, 2016

Table of Contents**Condensed Consolidated Income Statement**

In millions of United States dollars, except as otherwise stated

|   | Notes | Three-month period ended March 31<br>2016 | 2015           |
|---|-------|---|----------------|
| Net operating revenue   | 3(c)  | 5,719                                     | 6,240          |
| Cost of goods sold and services rendered                                    | 21(a) | (4,249)                                   | (5,168)        |
| <b>Gross profit</b>   |       | <b>1,470</b>                              | <b>1,072</b>   |
| <b>Operating (expenses) income</b>  |       |   |                |
| Selling and administrative expenses   | 21(b) | (119)                                     | (195)          |
| Research and evaluation expenses  |       | (60)                                      | (119)          |
| Pre operating and operational stoppage                                      |       | (102)                                     | (264)          |
| Other operating income (expenses), net                                      | 21(c) | (35)                                      | 46             |
|   |       | <b>(316)</b>                              | <b>(532)</b>   |
| Results on measurement or sale of non-current assets                        | 6     |   | 193            |
| <b>Operating income</b>   |       | <b>1,154</b>                              | <b>733</b>     |
| Financial income  | 22    | 3,283                                     | 2,350          |
| Financial expenses  | 22    | (1,858)                                   | (6,860)        |
| Equity results in associates and joint ventures                             | 10    | 156                                       | (271)          |
| Results on sale or disposal of investments in associates and joint ventures | 6     |   | 18             |
| <b>Net income (loss) before income taxes</b>                                |       | <b>2,735</b>                              | <b>(4,030)</b> |
| <b>Income taxes</b>   |       |   |                |
|   | 15    |   |                |
| Current tax   |       | (345)                                     | (70)           |
| Deferred tax  |       | (610)                                     | 930            |
|   |       | <b>(955)</b>                              | <b>860</b>     |
| <b>Net income (loss)</b>  |       | <b>1,780</b>                              | <b>(3,170)</b> |
| Income (loss) attributable to noncontrolling interests                      |       | 4   | (52)           |
| <b>Net income (loss) attributable to Vale's stockholders</b>                |       | <b>1,776</b>                              | <b>(3,118)</b> |
| <b>Earnings per share attributable to Vale's stockholders:</b>              |       |   |                |
| <b>Basic and diluted earnings per share:</b>                                |       |   |                |
|   | 20(b) |   |                |
| Preferred share (US\$)  |       | 0.34                                      | (0.61)         |
| Common share (US\$)   |       | 0.34                                      | (0.61)         |

The accompanying notes are an integral part of these interim financial statements.





Table of Contents**Condensed Consolidated Statement of Comprehensive Income**

In millions of United States dollars

|   | Three-month period ended March 31 |                |
|---|-----------------------------------|----------------|
|   | 2016                              | 2015           |
| <b>Net income (loss)</b>  | <b>1,780</b>                      | <b>(3,170)</b> |
| <b>Other comprehensive income (loss):</b>   |                                   |                |
| <b>Items that will not be reclassified subsequently to the income statement</b>       |                                   |                |
| <b>Cumulative translation adjustments</b>   | <b>3,246</b>                      | <b>(9,494)</b> |
| <b>Retirement benefit obligations</b>   |                                   |                |
| Gross balance for the period  | (85)                              | (101)          |
| Effect of taxes   | 27                                | 50             |
|   | <b>(58)</b>                       | <b>(51)</b>    |
| <b>Total items that will not be reclassified subsequently to the income statement</b> | <b>3,188</b>                      | <b>(9,545)</b> |
| <b>Items that may be reclassified subsequently to the income statement</b>            |                                   |                |
| <b>Cumulative translation adjustments</b>   |                                   |                |
| Gross balance for the period  | (1,601)                           | 4,593          |
| Effect of taxes   | (148)                             |                |
|   | <b>(1,749)</b>                    | <b>4,593</b>   |
| <b>Cash flow hedge</b>  |                                   |                |
| Gross balance for the period  | 6                                 | 260            |
| Effect of taxes   | (1)                               |                |
| Equity results in associates and joint ventures                                       |                                   | (2)            |
| Transfer of realized results to net income, net of taxes                              | (3)                               | (145)          |
|   | <b>2</b>                          | <b>113</b>     |
| <b>Total of items that may be reclassified subsequently to the income statement</b>   | <b>(1,747)</b>                    | <b>4,706</b>   |
| <b>Total comprehensive income (loss)</b>  | <b>3,221</b>                      | <b>(8,009)</b> |
| Comprehensive income (loss) attributable to noncontrolling interests                  | 68                                | (58)           |
| <b>Comprehensive income (loss) attributable to Vale's stockholders</b>                | <b>3,153</b>                      | <b>(7,951)</b> |

The accompanying notes are an integral part of these interim financial statements.

Table of Contents**Condensed Consolidated Cash Flow Statement**

In millions of United States dollars

|   | <b>Three-month period ended March 31</b> |                |
|---|--|----------------|
|   | <b>2016</b>                              | <b>2015</b>    |
| <b>Cash flow from operating activities:</b>                                   |  |                |
| Net income (loss) before income taxes   | 2,735                                    | (4,030)        |
| <b>Adjustments for:</b>   |  |                |
| Equity results from associates and joint ventures                             | (156)                                    | 271            |
| Results on measurement or sale of non-current assets                          |  | (193)          |
| Results on sale or disposal of investments in associates and joint ventures   |  | (18)           |
| Results on disposal of property, plant and equipment and intangibles          | 9  | (215)          |
| Depreciation, amortization and depletion                                      | 850                                      | 1,035          |
| Financial results, net  | (1,425)                                  | 4,510          |
| <b>Changes in assets and liabilities:</b>                                     |  |                |
| Accounts receivable   | (1,016)                                  | 817            |
| Inventories   | (62)                                     | 189            |
| Suppliers and contractors   | (383)                                    | (387)          |
| Payroll and related charges   |  | (567)          |
| Other taxes assets and liabilities, net                                       | (47)                                     | 173            |
| Deferred revenue - Gold stream (note 23)                                      |  | 532            |
| Other assets and liabilities, net   | 191                                      | (69)           |
| <b>Cash generated from operations</b>   | <b>696</b>                               | <b>2,048</b>   |
| Interest on loans and borrowings paid   | (460)                                    | (471)          |
| Derivatives received (paid), net (note 19)                                    | (510)                                    | (657)          |
| Interest on participative stockholders' debentures paid                       |  | (39)           |
| Income taxes  | (146)                                    | (244)          |
| Income taxes - Settlement program   | (88)                                     | (106)          |
| <b>Net cash provided by (used in) operating activities</b>                    | <b>(508)</b>                             | <b>531</b>     |
| <b>Cash flow from investing activities:</b>                                   |  |                |
| Financial investments redeemed (invested)                                     | 89                                       | 145            |
| Loans and advances received (granted)   | (3)                                      | (5)            |
| Guarantees and deposits received (granted)                                    | (38)                                     | (26)           |
| Additions to investments  | (90)                                     | (10)           |
| Acquisition of subsidiary, net of cash acquired                               | 5  | (90)           |
| Additions to property, plant and equipment and intangible (note 3(b))         | (1,366)                                  | (2,200)        |
| Dividends and interest on capital received from associates and joint ventures | 1  | 27             |
| Proceeds from disposal of assets and investments                              | 12                                       | 107            |
| Proceeds from gold stream transaction (note 23)                               |  | 368            |
| <b>Net cash used in investing activities</b>                                  | <b>(1,390)</b>                           | <b>(1,684)</b> |
| <b>Cash flow from financing activities:</b>                                   |  |                |
| <b>Loans and borrowings (i)</b>   |  |                |
| Additions   | 3,200                                    | 1,342          |

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|  |              |              |
|--|--------------|--------------|
| Repayments   | (1,158)      | (301)        |
| <b>Transactions with stockholders:</b>   |              |              |
| Dividends and interest on capital paid to noncontrolling interest                  | (4)          | (3)          |
| Transactions with noncontrolling stockholders                                      | (17)         |              |
| <b>Net cash provided by financing activities</b>                                   | <b>2,021</b> | <b>1,038</b> |
| <b>Increase (decrease) in cash and cash equivalents</b>                            |              |              |
|  | <b>123</b>   | <b>(115)</b> |
| Cash and cash equivalents in the beginning of the period                           | 3,591        | 3,974        |
| Effect of exchange rate changes on cash and cash equivalents                       | 68           | (175)        |
| <b>Cash and cash equivalents at end of the period</b>                              | <b>3,782</b> | <b>3,684</b> |
| <b>Non-cash transactions:</b>  |              |              |
| Additions to property, plant and equipment - capitalized loans and borrowing costs | 177          | 196          |

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(i) Includes transactions with related parties: Banco Bradesco, Banco do Brasil e Banco Nacional do Desenvolvimento econômico e Social - BNDES.

The accompanying notes are an integral part of these interim financial statements.

Table of Contents**Condensed Consolidated Balance Sheet**

In millions of United States dollars

|  | Notes | March 31, 2016 | December 31, 2015 |
|--|-------|----------------|-------------------|
| <b>Assets</b>                                |       |                |                   |
| <b>Current assets</b>                        |       |                |                   |
| Cash and cash equivalents                    | 7     | 3,782          | 3,591             |
| Financial investments                        |       | 27             | 28                |
| Derivative financial instruments             | 19    | 141            | 121               |
| Accounts receivable                          | 8     | 2,553          | 1,476             |
| Inventories                                  | 9     | 3,801          | 3,528             |
| Prepaid income taxes                         |       | 625            | 900               |
| Recoverable taxes                            |       | 1,523          | 1,404             |
| Related parties                              | 25    | 100            | 70                |
| Others                                       |       | 582            | 311               |
|  |       | <b>13,134</b>  | <b>11,429</b>     |
| Assets held for sale                         | 5     | 4,091          | 4,044             |
|  |       | <b>17,225</b>  | <b>15,473</b>     |
| <b>Non-current assets</b>                    |       |                |                   |
| Derivative financial instruments             | 19    | 170            | 93                |
| Loans  |       | 194            | 188               |
| Prepaid income taxes                         |       | 517            | 471               |
| Recoverable taxes                            |       | 544            | 501               |
| Deferred income taxes                        | 15(a) | 7,675          | 7,904             |
| Judicial deposits                            | 14(c) | 984            | 882               |
| Related parties                              | 25    |                | 1                 |
| Others                                       |       | 623            | 613               |
|  |       | <b>10,707</b>  | <b>10,653</b>     |
| Investments in associates and joint ventures | 10    | 3,397          | 2,940             |
| Intangibles                                  | 11    | 6,018          | 5,324             |
| Property, plant and equipment                | 12    | 57,925         | 54,102            |
|  |       | <b>78,047</b>  | <b>73,019</b>     |
| <b>Total assets</b>                          |       | <b>95,272</b>  | <b>88,492</b>     |
| <b>Liabilities</b>                           |       |                |                   |
| <b>Current liabilities</b>                   |       |                |                   |
| Suppliers and contractors                    |       | 3,147          | 3,365             |
| Payroll and related charges                  |       | 413            | 375               |
| Derivative financial instruments             | 19    | 1,629          | 2,076             |
| Loans and borrowings                         | 13    | 3,255          | 2,506             |
| Related parties                              | 25    | 732            | 475               |
| Income taxes - Settlement program            | 15(c) | 389            | 345               |
| Taxes payable                                |       | 223            | 250               |

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|   |       |               |               |
|---|-------|---------------|---------------|
| Provision for income taxes                        |       | 167           | 241           |
| Employee postretirement obligations               | 16    | 71            | 68            |
| Asset retirement obligations                      |       | 88            | 89            |
| Others  |       | 1,191         | 648           |
|   |       | <b>11,305</b> | <b>10,438</b> |
| Liabilities associated with assets held for sale  | 5     | 94            | 107           |
|   |       | <b>11,399</b> | <b>10,545</b> |
| <b>Non-current liabilities</b>                    |       |               |               |
| Derivative financial instruments                  | 19    | 1,225         | 1,429         |
| Loans and borrowings                              | 13    | 28,215        | 26,347        |
| Related parties                                   | 25    | 123           | 213           |
| Employee postretirement obligations               | 16    | 1,957         | 1,750         |
| Provisions for litigation                         | 14(a) | 851           | 822           |
| Income taxes - Settlement program                 | 15(c) | 4,502         | 4,085         |
| Deferred income taxes                             | 15(a) | 1,817         | 1,670         |
| Asset retirement obligations                      |       | 2,622         | 2,385         |
| Participative stockholders' debentures            | 24(b) | 502           | 342           |
| Deferred revenue - Gold stream                    | 23    | 1,715         | 1,749         |
| Others  |       | 1,572         | 1,451         |
|   |       | <b>45,101</b> | <b>42,243</b> |
| <b>Total liabilities</b>                          |       | <b>56,500</b> | <b>52,788</b> |
| <b>Stockholders' equity</b>                       |       |               |               |
| Equity attributable to Vale's stockholders        | 20    | 36,742        | 33,589        |
| Equity attributable to noncontrolling interests   |       | 2,030         | 2,115         |
| <b>Total stockholders' equity</b>                 |       | <b>38,772</b> | <b>35,704</b> |
| <b>Total liabilities and stockholders' equity</b> |       | <b>95,272</b> | <b>88,492</b> |

The accompanying notes are an integral part of these interim financial statements.

Table of Contents**Condensed Consolidated Statement of Changes in Equity**

In millions of United States dollars

|  | Share capital | Results on conversion of shares | Results from operation with noncontrolling interest | Profit reserves | Treasury stocks | Unrealized fair value gain (losses) | Cumulative translation adjustments | Retained earnings | Equity attributable to Vale s stockholders | Equity attributable to noncontrolling interests | Total stockholder equity |
|--|---------------|---------------------------------|---|-----------------|-----------------|-------------------------------------|------------------------------------|-------------------|--|---|--------------------------|
| <b>Balance at December 31, 2015</b>                | <b>61,614</b> | <b>(152)</b>                    | <b>(702)</b>  | <b>985</b>      | <b>(1,477)</b>  | <b>(992)</b>                        | <b>(25,687)</b>                    |                   | <b>33,589</b>                              | <b>2,115</b>                                    | <b>35,704</b>            |
| <b>Net income</b>                                  |               |                                 |   |                 |                 |                                     |                                    | <b>1,776</b>      | <b>1,776</b>                               | <b>4</b>  | <b>1,780</b>             |
| <b>Other comprehensive income:</b>                 |               |                                 |   |                 |                 |                                     |                                    |                   |  |   |                          |
| Retirement benefit obligations                     |               |                                 |   |                 |                 | (58)                                |                                    |                   | (58)                                       |   | (58)                     |
| Cash flow hedge                                    |               |                                 |   |                 |                 | 2                                   |                                    |                   | 2  |   | 2                        |
| Translation adjustments                            |               |                                 |   | 96              |                 | (43)                                | 1,383                              | (3)               | 1,433                                      | 64  | 1,497                    |
| <b>Transactions with stockholders:</b>             |               |                                 |   |                 |                 |                                     |                                    |                   |  |   |                          |
| Dividends of noncontrolling interest               |               |                                 |   |                 |                 |                                     |                                    |                   |  | (159)   | (159)                    |
| Capitalization of noncontrolling interest advances |               |                                 |   |                 |                 |                                     |                                    |                   |  | 6   | 6                        |
| <b>Balance at March 31, 2016</b>                   | <b>61,614</b> | <b>(152)</b>                    | <b>(702)</b>  | <b>1,081</b>    | <b>(1,477)</b>  | <b>(1,091)</b>                      | <b>(24,304)</b>                    | <b>1,773</b>      | <b>36,742</b>                              | <b>2,030</b>                                    | <b>38,772</b>            |
|  | Share capital | Results on conversion of shares | Results from operation with noncontrolling interest | Profit reserves | Treasury stocks | Unrealized fair value gain (losses) | Cumulative translation adjustments | Retained earnings | Equity attributable to Vale s stockholders | Equity attributable to noncontrolling interests | Total stockholder equity |
| <b>Balance at December 31, 2014</b>                | <b>61,614</b> | <b>(152)</b>                    | <b>(449)</b>  | <b>19,985</b>   | <b>(1,477)</b>  | <b>(1,713)</b>                      | <b>(22,686)</b>                    |                   | <b>55,122</b>                              | <b>1,199</b>                                    | <b>56,321</b>            |
| <b>Loss</b>  |               |                                 |   |                 |                 |                                     |                                    | <b>(3,118)</b>    | <b>(3,118)</b>                             | <b>(52)</b>                                     | <b>(3,170)</b>           |
| <b>Other comprehensive income:</b>                 |               |                                 |   |                 |                 |                                     |                                    |                   |  |   |                          |

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|   |               |              |              |               |                |                |                 |                |               |              |               |
|---|---------------|--------------|--------------|---------------|----------------|----------------|-----------------|----------------|---------------|--------------|---------------|
| Retirement benefit obligations  |               |              |              |               |                | (51)           |                 |                | (51)          |              | (51)          |
| Cash flow hedge   |               |              |              |               |                | 113            |                 |                | 113           |              | 113           |
| Translation adjustments   |               |              | (3,437)      |               |                | 104            | (1,707)         | 145            | (4,895)       | (6)          | (4,901)       |
| <b>Transactions with stockholders:</b>                                |               |              |              |               |                |                |                 |                |               |              |               |
| Dividends of noncontrolling interest                                  |               |              |              |               |                |                |                 |                |               | (2)          | (2)           |
| Acquisitions and disposal of participation of noncontrolling interest |               |              | (2)          |               |                |                |                 |                | (2)           | 2            |               |
| Capitalization of noncontrolling interest advances                    |               |              |              |               |                |                |                 |                |               | 7            | 7             |
| <b>Balance at</b>   |               |              |              |               |                |                |                 |                |               |              |               |
| <b>March 31, 2015</b>   | <b>61,614</b> | <b>(152)</b> | <b>(451)</b> | <b>16,548</b> | <b>(1,477)</b> | <b>(1,547)</b> | <b>(24,393)</b> | <b>(2,973)</b> | <b>47,169</b> | <b>1,148</b> | <b>48,317</b> |

The accompanying notes are an integral part of these interim financial statements.

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**Selected Notes to the Interim Financial Statements**

**Expressed in millions of United States dollar, unless otherwise stated**

**1. Corporate information**

Vale S.A. (the Parent Company) is a public company headquartered at 700, Avenida das Américas, Rio de Janeiro, Brazil with securities traded on the stock exchanges of São Paulo - BM&F BOVESPA (Vale3 and Vale5), New York - NYSE (VALE and VALE.P), Paris - NYSE Euronext (Vale3 and Vale5) and Hong Kong - HKEX (codes 6210 and 6230).

Vale and its direct and indirect subsidiaries ( Vale , Group or Company ) are producers of iron ore and iron ore pellets, key raw materials for steelmaking, and producers of nickel, which is used to produce stainless steel and metal alloys employed in the production of several products. The Group also produces copper, metallurgical and thermal coal, potash, phosphates and other fertilizer nutrients, manganese ore, ferroalloys, platinum group metals, gold, silver and cobalt. The information by segment is presented in note 3.

**2. Basis for preparation of the interim financial statements**

**a) Statement of compliance**

The condensed consolidated interim financial statements of the Company ( interim financial statements ) present the accounts of the Group, and have been prepared in accordance with IAS 34 Interim Financial Reporting of the International Financial Reporting Standards ( IFRS ) as adopted by the International Accounting Standards Board ( IASB ).

**b) Basis of presentation**

The interim financial statements have been prepared under the historical cost convention as adjusted to reflect: (i) the fair value of financial instruments measured at fair value through income statement or available-for-sale financial instruments measured at fair value through the statement of comprehensive income; and (ii) impairment of assets.



The accounting practices, accounting estimates and judgments, risk management and measurement methods are the same as those adopted when preparing the financial statements for the year ended December 31, 2015. These interim financial statements were prepared to update users about relevant information presented in the period and should be read in conjunction with the financial statements for the year ended December 31, 2015.

The interim financial statements of the Group and its associates and joint ventures are measured using the currency of the primary economic environment in which each entity operates ( functional currency ). In the case of the Parent Company the functional currency is the Brazilian real ( BRL or R\$ ). For presentation purposes, these interim financial statements are presented in United States dollar ( USD or US\$ ) as the Company believes that this is how international investors analyze the financial statements.

The exchange rates used by the Group for major currencies to translate its operations are as follows:

|                           | Closing rate   |                   | Average rate for the three-month period ended |                |
|---------------------------|----------------|-------------------|---|----------------|
|                           | March 31, 2016 | December 31, 2015 | March 31, 2016                                | March 31, 2015 |
| Brazilian Reals ( R\$ )   | 3.5589         | 3.9048            | 3.9022  | 2.8702         |
| Canadian dollar ( CAD )   | 2.7446         | 2.8171            | 2.8421  | 2.3120         |
| Australian dollar ( AUD ) | 2.7322         | 2.8532            | 2.8165  | 2.2543         |
| Euro ( EUR or )           | 4.0539         | 4.2504            | 4.3008  | 3.2212         |

Subsequent events were evaluated through April 27, 2016, which is the date the interim financial statements were approved by the Board of Directors.

**c) Accounting standards issued but not yet effective**

The standards and interpretations issued by IASB relevant to the Company but not yet effective are the same as those adopted when preparing the financial statements for the year ended December 31, 2015.

Table of Contents**3. Information by business segment and by geographic area**

The information presented to the Executive Board on the performance of each segment is derived from the accounting records, adjusted for reallocations between segments.

**a) Operating income and adjusted EBITDA**

Adjusted EBITDA is used by management to support the decision making process for segments. The definition of adjusted EBITDA for the Company is the operating income or loss adding dividends received from associates and joint ventures, and excluding the depreciation, depletion and amortization, impairment, onerous contracts and results on measurement or sales of non-current assets.

|                                     | Three-month period ended March 31, 2016 |                |               |                                  |  |                                |                         | Adjusted by   |  | Adjusted EBITDA |
|-------------------------------------|---|----------------|---------------|----------------------------------|--|--------------------------------|-------------------------|---|--|-----------------|
|                                     | Income statement                        |                |               |                                  |  |                                |                         | Dividends received from associates and joint ventures | Depreciation, depletion and amortization |                 |
|                                     | Net operating revenue                   | Costs          | Expenses, net | Research and evaluation expenses | Pre operating and operational stoppage | Depreciation and other results | Operating income (loss) |   |  |                 |
| <b>Ferrous minerals</b>             |   |                |               |                                  |  |                                |                         |   |  |                 |
| Iron ore                            | 2,917                                   | (1,309)        | (156)         | (11)                             | (32)                                   | (241)                          | 1,168                   |   | 241                                      | 1,409           |
| Pellets                             | 753                                     | (437)          | (16)          |                                  | (4)                                    | (80)                           | 216                     |   | 80                                       | 296             |
| Ferroalloys and manganese           | 47                                      | (46)           | 2             |                                  | (2)                                    | (8)                            | (7)                     |   | 8  | 1               |
| Other ferrous products and services | 87                                      | (59)           | 5             |                                  | (1)                                    | (18)                           | 14                      |   | 18                                       | 32              |
|                                     | <b>3,804</b>                            | <b>(1,851)</b> | <b>(165)</b>  | <b>(11)</b>                      | <b>(39)</b>                            | <b>(347)</b>                   | <b>1,391</b>            |   | <b>347</b>                               | <b>1,738</b>    |
| <b>Coal</b>                         | <b>154</b>                              | <b>(293)</b>   | <b>49</b>     | <b>(2)</b>                       | <b>(1)</b>                             | <b>(23)</b>                    | <b>(116)</b>            |   | <b>23</b>                                | <b>(93)</b>     |
| <b>Base metals</b>                  |   |                |               |                                  |  |                                |                         |   |  |                 |
| Nickel and other products           | 1,000                                   | (764)          | (24)          | (14)                             | (32)                                   | (364)                          | (198)                   |   | 364                                      | 166             |
| Copper                              | 353                                     | (192)          | 3             | (1)                              |  | (43)                           | 120                     |   | 43                                       | 163             |

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|                            |              |                |              |             |             |              |              |          |            |              |
|----------------------------|--------------|----------------|--------------|-------------|-------------|--------------|--------------|----------|------------|--------------|
|                            | <b>1,353</b> | <b>(956)</b>   | <b>(21)</b>  | <b>(15)</b> | <b>(32)</b> | <b>(407)</b> | <b>(78)</b>  |          | <b>407</b> | <b>329</b>   |
| <b>Fertilizers</b>         |              |                |              |             |             |              |              |          |            |              |
| Potash                     | 23           | (18)           | 4            | (2)         | (4)         | (6)          | (3)          |          | 6          | 3            |
| Phosphates                 | 290          | (234)          | (13)         | (3)         |             | (56)         | (16)         |          | 56         | 40           |
| Nitrogen                   | 58           | (42)           | (2)          |             |             | (5)          | 9            |          | 5          | 14           |
| Other fertilizers products | 13           |                |              |             |             |              | 13           |          |            | 13           |
|                            | <b>384</b>   | <b>(294)</b>   | <b>(11)</b>  | <b>(5)</b>  | <b>(4)</b>  | <b>(67)</b>  | <b>3</b>     |          | <b>67</b>  | <b>70</b>    |
| <b>Others</b>              | <b>24</b>    | <b>(45)</b>    | <b>8</b>     | <b>(27)</b> |             | <b>(6)</b>   | <b>(46)</b>  | <b>1</b> | <b>6</b>   | <b>(39)</b>  |
| <b>Total</b>               | <b>5,719</b> | <b>(3,439)</b> | <b>(140)</b> | <b>(60)</b> | <b>(76)</b> | <b>(850)</b> | <b>1,154</b> | <b>1</b> | <b>850</b> | <b>2,005</b> |

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|                                     | Three-month period ended March 31, 2015 |                |               |  |              |                                |                         |  |           |   |  |
|-------------------------------------|---|----------------|---------------|--|--------------|--------------------------------|-------------------------|--|-----------|---|--|
|                                     | Statement of income                     |                |               | Pre operating and operational stoppage |              | Depreciation and other results |                         | Results on measurement or sale of non-current assets |           | Adjusted by Dividends received from associates and joint ventures | Depreciation, depletion and amortization |
|                                     | Net operating revenue                   | Costs          | Expenses, net | Research and evaluation expenses       |              |                                | Operating income (loss) |  |           |   |  |
| <b>Ferrous minerals</b>             |   |                |               |  |              |                                |                         |  |           |   |  |
| Iron ore                            | 2,716                                   | (1,898)        | (169)         | (33)                                   | (27)         | (359)                          | 230                     |  |           |   | 359                                      |
| Pellets                             | 965                                     | (591)          | 3             | (1)                                    | (5)          | (85)                           | 286                     |  | 26        |   | 85                                       |
| Ferroalloys and manganese           | 70                                      | (47)           |               |  | (6)          | (6)                            | 11                      |  |           |   | 6  |
| Other ferrous products and services | 117                                     | (100)          | 8             | (1)                                    |              | (20)                           | 4                       |  |           |   | 20                                       |
|                                     | <b>3,868</b>                            | <b>(2,636)</b> | <b>(158)</b>  | <b>(35)</b>                            | <b>(38)</b>  | <b>(470)</b>                   | <b>531</b>              |  | <b>26</b> |   | <b>470</b>                               |
| <b>Coal</b>                         | <b>145</b>                              | <b>(186)</b>   | <b>(70)</b>   | <b>(5)</b>                             | <b>(12)</b>  | <b>(23)</b>                    | <b>(151)</b>            |  |           |   | <b>23</b>                                |
| <b>Base metals</b>                  |   |                |               |  |              |                                |                         |  |           |   |  |
| Nickel and other products           | 1,335                                   | (847)          | (61)          | (27)                                   | (105)        | (422)                          | (127)                   |  |           |   | 422                                      |
| Copper                              | 375                                     | (224)          | 4             | (1)                                    | (1)          | (48)                           | 105                     |  |           |   | 48                                       |
| Other base metals products          |   |                | 230           |  |              |                                | 230                     |  |           |   |  |
|                                     | <b>1,710</b>                            | <b>(1,071)</b> | <b>173</b>    | <b>(28)</b>                            | <b>(106)</b> | <b>(470)</b>                   | <b>208</b>              |  |           |   | <b>470</b>                               |
| <b>Fertilizers</b>                  |   |                |               |  |              |                                |                         |  |           |   |  |
| Potash                              | 30                                      | (21)           | (1)           | (10)                                   | (4)          | (6)                            | (12)                    |  |           |   | 6  |
| Phosphates                          | 357                                     | (261)          | (16)          | (6)                                    | (9)          | (55)                           | 10                      |  |           |   | 55                                       |
| Nitrogen                            | 79                                      | (55)           | (3)           | (1)                                    | (1)          | (6)                            | 13                      |  |           |   | 6  |
| Other fertilizers products          | 12                                      |                |               |  |              |                                | 12                      |  |           |   |  |
|                                     | <b>478</b>                              | <b>(337)</b>   | <b>(20)</b>   | <b>(17)</b>                            | <b>(14)</b>  | <b>(67)</b>                    | <b>23</b>               |  |           |   | <b>67</b>                                |
| <b>Others</b>                       | <b>39</b>                               | <b>(27)</b>    | <b>(44)</b>   | <b>(34)</b>                            |              | <b>188</b>                     | <b>122</b>              | <b>(193)</b>   | <b>1</b>  |   | <b>5</b>                                 |
| <b>Total</b>                        | <b>6,240</b>                            | <b>(4,257)</b> | <b>(119)</b>  | <b>(119)</b>                           | <b>(170)</b> | <b>(842)</b>                   | <b>733</b>              | <b>(193)</b>   | <b>27</b> |   | <b>1,035</b>                             |

Table of Contents**b) Assets by segment**

|  | As at March 31, 2016 |                   |  |   | Three-month period ended<br>March 31, 2016                          |
|--|----------------------|-------------------|--|---|---|
|  | Trade receivables    | Product inventory | Investments in<br>associates and<br>joint ventures | Property, plant and<br>equipment and<br>intangible assets | Additions to property, plant<br>and equipment and<br>intangible (i) |
| <b>Ferrous minerals</b>                |                      |                   |  |   |   |
| Iron ore                               | 745                  | 956               | 443  | 29,682  | 904   |
| Pellets                                | 925                  | 180               | 352  | 1,218   | 7   |
| Ferroalloys and<br>manganese           | 51                   | 65                |  | 173   | 6   |
| Other ferrous<br>products and services | 108                  | 2                 | 849  | 231   |   |
|  | <b>1,829</b>         | <b>1,203</b>      | <b>1,644</b>                                       | <b>31,304</b>   | <b>917</b>  |
| <b>Coal</b>                            | <b>27</b>            | <b>44</b>         | <b>298</b>   | <b>1,881</b>  | <b>133</b>  |
| <b>Base metals</b>                     |                      |                   |  |   |   |
| Nickel and other<br>products           | 391                  | 1,121             | 15   | 22,097  | 176   |
| Copper                                 | 199                  | 32                |  | 2,490   | 93  |
|  | <b>590</b>           | <b>1,153</b>      | <b>15</b>  | <b>24,587</b>   | <b>269</b>  |
| <b>Fertilizers</b>                     |                      |                   |  |   |   |
| Potash                                 | 6                    | 21                |  | 152   |   |
| Phosphates                             | 107                  | 336               | 83   | 4,015   | 39  |
| Nitrogen                               | 16                   | 13                |  |   |   |
|  | <b>129</b>           | <b>370</b>        | <b>83</b>  | <b>4,167</b>  | <b>39</b>   |
| <b>Others</b>                          | <b>38</b>            | <b>4</b>          | <b>1,357</b>                                       | <b>2,004</b>  | <b>8</b>  |
| <b>Total</b>                           | <b>2,613</b>         | <b>2,774</b>      | <b>3,397</b>                                       | <b>63,943</b>   | <b>1,366</b>  |

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(i) Include only cash effect.

|                         | December 31, 2015 |                   |  |   | Three-month period ended<br>March 31, 2015                          |
|-------------------------|-------------------|-------------------|--|---|---|
|                         | Trade receivables | Product inventory | Investments in<br>associates and<br>joint ventures | Property, plant and<br>equipment and<br>intangible assets | Additions to property, plant<br>and equipment and<br>intangible (i) |
| <b>Ferrous minerals</b> |                   |                   |  |   |   |
| Iron ore                | 76                | 812               | 405  | 26,772  | 1,460   |
| Pellets                 | 715               | 159               | 296  | 1,079   | 11  |
|                         | 52                | 63                |  | 140   | 2   |

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|                                     |              |              |              |               |              |
|-------------------------------------|--------------|--------------|--------------|---------------|--------------|
| Ferroalloys and manganese           |              |              |              |               |              |
| Other ferrous products and services | 77           | 2            | 778          | 211           | 3            |
|                                     | <b>920</b>   | <b>1,036</b> | <b>1,479</b> | <b>28,202</b> | <b>1,476</b> |
| <b>Coal</b>                         | <b>44</b>    | <b>53</b>    | <b>306</b>   | <b>1,812</b>  | <b>354</b>   |
| <b>Base metals</b>                  |              |              |              |               |              |
| Nickel and other products           | 411          | 1,142        | 17           | 21,286        | 217          |
| Copper                              | 17           | 24           |              | 2,236         | 71           |
|                                     | <b>428</b>   | <b>1,166</b> | <b>17</b>    | <b>23,522</b> | <b>288</b>   |
| <b>Fertilizers</b>                  |              |              |              |               |              |
| Potash                              | 3            | 13           |              | 146           |              |
| Phosphates                          | 84           | 272          | 75           | 3,720         | 56           |
| Nitrogen                            | 14           | 10           |              |               |              |
|                                     | <b>101</b>   | <b>295</b>   | <b>75</b>    | <b>3,866</b>  | <b>56</b>    |
| <b>Others</b>                       | <b>41</b>    | <b>3</b>     | <b>1,063</b> | <b>2,024</b>  | <b>26</b>    |
| <b>Total</b>                        | <b>1,534</b> | <b>2,553</b> | <b>2,940</b> | <b>59,426</b> | <b>2,200</b> |

(i) Include only cash effect.

Table of Contents**c) Results by segment and revenues by geographic area**

|  | Three-month period ended March 31, 2016 |              |              |             |             |              |
|--|---|--------------|--------------|-------------|-------------|--------------|
|  | Ferrous<br>minerals                     | Coal         | Base metals  | Fertilizers | Others      | Total        |
| <b>Results</b>   |   |              |              |             |             |              |
| Net operating revenue                                    | 3,804                                   | 154          | 1,353        | 384         | 24          | 5,719        |
| Cost and expenses  | (2,066)                                 | (247)        | (1,024)      | (314)       | (64)        | (3,715)      |
| Depreciation, depletion and amortization                 | (347)                                   | (23)         | (407)        | (67)        | (6)         | (850)        |
| <b>Operating income (loss)</b>                           | <b>1,391</b>                            | <b>(116)</b> | <b>(78)</b>  | <b>3</b>    | <b>(46)</b> | <b>1,154</b> |
| Financial result   | 1,514                                   | 40           | (140)        | 14          | (3)         | 1,425        |
| Equity results in associates and joint ventures          | 40                                      | (10)         | (2)          |             | 128         | 156          |
| Income taxes   | (993)                                   |              | 45           | (7)         |             | (955)        |
| <b>Net income (loss)</b>                                 | <b>1,952</b>                            | <b>(86)</b>  | <b>(175)</b> | <b>10</b>   | <b>79</b>   | <b>1,780</b> |
| Income (loss) attributable to noncontrolling interests   | 41                                      | (25)         | (18)         | 5           | 1           | 4            |
| <b>Income (loss) attributable to Vale's stockholders</b> | <b>1,911</b>                            | <b>(61)</b>  | <b>(157)</b> | <b>5</b>    | <b>78</b>   | <b>1,776</b> |
| <b>Sales classified by geographic area:</b>              |   |              |              |             |             |              |
| America, except United States and Brazil                 | 91                                      | 3            | 278          | 10          |             | 382          |
| United States of America                                 | 34                                      |              | 171          |             | 4           | 209          |
| Europe   | 485                                     | 7            | 423          | 21          |             | 936          |
| Middle East/Africa/Oceania                               | 164                                     | 19           | 9            |             |             | 192          |
| Japan  | 254                                     | 34           | 52           |             |             | 340          |
| China  | 2,272                                   | 25           | 157          |             |             | 2,454        |
| Asia, except Japan and China                             | 156                                     | 66           | 245          | 20          |             | 487          |
| Brazil   | 348                                     |              | 18           | 333         | 20          | 719          |
| <b>Net operating revenue</b>                             | <b>3,804</b>                            | <b>154</b>   | <b>1,353</b> | <b>384</b>  | <b>24</b>   | <b>5,719</b> |

|   | Three-month period ended March 31, 2015 |              |             |             |            |            |
|---|---|--------------|-------------|-------------|------------|------------|
|   | Ferrous<br>minerals                     | Coal         | Base metals | Fertilizers | Others     | Total      |
| <b>Results</b>  |   |              |             |             |            |            |
| Net operating revenue                                 | 3,868                                   | 145          | 1,710       | 478         | 39         | 6,240      |
| Cost and expenses                                     | (2,867)                                 | (273)        | (1,032)     | (388)       | (105)      | (4,665)    |
| Results on measurement or sales of non-current assets |   |              |             |             | 193        | 193        |
| Depreciation, depletion and amortization              | (470)                                   | (23)         | (470)       | (67)        | (5)        | (1,035)    |
| <b>Operating income (loss)</b>                        | <b>531</b>                              | <b>(151)</b> | <b>208</b>  | <b>23</b>   | <b>122</b> | <b>733</b> |
| Financial result                                      | (4,430)                                 | 83           | (101)       | (68)        | 6          | (4,510)    |

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|   |                |             |              |              |           |                |
|---|----------------|-------------|--------------|--------------|-----------|----------------|
| Results on sale or disposal of investments in associates and joint ventures |                |             |              |              | 18        | 18             |
| Equity results in associates and joint ventures                             | (142)          |             | (5)          |              | (124)     | (271)          |
| Income taxes  | 1,048          | (23)        | (33)         | (126)        | (6)       | 860            |
| <b>Net income (loss)</b>  | <b>(2,993)</b> | <b>(91)</b> | <b>69</b>    | <b>(171)</b> | <b>16</b> | <b>(3,170)</b> |
| Income (loss) attributable to noncontrolling interests                      | (6)            | (11)        | (32)         | 6            | (9)       | (52)           |
| <b>Income (loss) attributable to Vale's stockholders</b>                    | <b>(2,987)</b> | <b>(80)</b> | <b>101</b>   | <b>(177)</b> | <b>25</b> | <b>(3,118)</b> |
| <b>Sales classified by geographic area:</b>                                 |                |             |              |              |           |                |
| America, except United States and Brazil                                    | 95             |             | 305          | 15           |           | 415            |
| United States of America  | 10             |             | 239          |              | 8         | 257            |
| Europe  | 649            | 13          | 437          | 28           |           | 1,127          |
| Middle East/Africa/Oceania  | 295            | 34          | 39           | 3            |           | 371            |
| Japan   | 408            | 29          | 145          |              |           | 582            |
| China   | 1,634          |             | 142          |              |           | 1,776          |
| Asia, except Japan and China  | 309            | 59          | 276          | 11           |           | 655            |
| Brazil  | 468            | 10          | 127          | 421          | 31        | 1,057          |
| <b>Net operating revenue</b>  | <b>3,868</b>   | <b>145</b>  | <b>1,710</b> | <b>478</b>   | <b>39</b> | <b>6,240</b>   |



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**4. Relevant event Dam failure at Samarco Mineração S.A. ( Samarco )**

On November 5, 2015, Samarco experienced the failure of an iron ore tailings dam (Fundão) in the state of Minas Gerais - Brazil, which affected communities and ecosystems, including the Rio Doce river.

Following the dam failure, the state government of Minas Gerais ordered the suspension of Samarco's operations.

Samarco and its shareholders, Vale and BHP Billiton Brasil Ltda. ( BHPB ), entered into a settlement agreement on March 2, 2016 with the federal Attorney General of Brazil, the two Brazilian states affected by the failure (Espírito Santo and Minas Gerais) and certain other parties. The settlement agreement, which includes no admission of civil, criminal or administrative liability for the Fundão dam failure, is expected to resolve the lawsuit brought in Brazilian courts by several Brazilian governmental authorities. The settlement agreement is already effective, though the resolution of claims pursuant to the agreement remains subject to judicial approval. There is no assurance as to whether and when the court will approve the resolution of claims. The term of the agreement is 15 years, renewable for successive one-year periods until all obligations under the agreement have been performed.

Under the settlement agreement, Samarco, Vale and BHPB will establish a foundation to develop and implement remediation programs to restore the environment, local communities and the social condition of the affected areas, as well as compensation programs.

Samarco has agreed to provide funding to the foundation in the amount of R\$2.0 billion (US\$562) in 2016, R\$1.2 billion (US\$337) in 2017 and R\$1.2 billion (US\$337) in 2018. Amounts that Samarco has already spent on remediation and compensation will be applied towards its funding obligations. From 2019 to 2021, Samarco has agreed to provide funding based on the amounts needed to complete remaining remediation and compensation projects, subject to an annual minimum of R\$800 (US\$225) and an annual maximum of R\$1.6 billion (US\$450). The foundation will allocate an annual amount of R\$240 (US\$67) over 15 years to the implementation of compensation programs, and these annual amounts are included in the annual contributions described above for the first six years. Through the end of 2018, the foundation will also set aside R\$500 (US\$140) for basic sanitation in the affected areas.

To comply with the settlement agreement, Samarco will continue to conduct and fund the humanitarian and environmental recovery and compensation works until the foundation is operational, which is likely to occur before the end of 2016.

Samarco is currently unable to conduct ordinary mining and processing. Samarco's management is working on a plan that would permit it to resume operations, but the feasibility, timing and scope of restarting remain uncertain.

To the extent of Samarco does not meet its funding obligations in the foundation, each of Vale and BHPB is liable, under the terms of the agreement, to provide funds to the foundation in proportion to its 50% interest in Samarco.

Samarco and its shareholders expect that Samarco will be able to generate all or a substantial part of the funding required under the arrangement. Therefore, Samarco's future cash flow projections require the use of critical estimates and assumptions in their preparation, including but not limited to: (i) judicial approval of the agreement; (ii) the release of certain escrow accounts in connection with judicial proceedings in progress; (iii) the resumption of operations within a reasonable period of time; and (iv) the management of debt held by Samarco with financial institutions and bond holders.

Until new facts and circumstances are available and the referred uncertainties are reduced, it is not possible to estimate or reliably measure whether Vale will be required to provide the contributions to Samarco to comply with the agreement or to provide guarantees of its other obligations. Therefore, no provision was recognized in the Company's interim financial statements as of March 31, 2016.

In addition, Samarco and its shareholders are named as a defendant in several other lawsuits brought by individuals, corporations and governmental entities seeking damages for personal injury, wrongful death, commercial or economic injury, breach of contract and violations of statutes. Because these pending lawsuits are at the very early stages, it is not possible to determine a range of outcomes or reliable estimates of the potential exposure at this time. Therefore, no provision has been recognized and no contingent liability has been quantified.

The Company will reassess each reporting period the key assumptions used in Samarco's cash flow and any impact identified and related to this matter will be reflect in its financial statements.

Table of Contents**5. Assets held for sale****a) Coal - Nacala logistic corridor ( Nacala )**

As at March 31, 2016 and December 31, 2015, assets held for sale refers to Nacala logistic corridor ( Nacala ).

In December 2014, the Company signed an agreement with Mitsui & Co., Ltd. ( Mitsui ) to sell 50% of its stake of 70% in the Nacala corridor. Nacala is a combination of railroad and port concessions under construction located in Mozambique and Malawi. After completion of the transaction, Vale will share control of Nacala with Mitsui and therefore will not consolidate the assets, liabilities and results of those entities. The assets and liabilities were classified as assets held for sale with no impact in the income statement. As at March 2016, completion of the transaction remains dependent upon certain conditions. The Company remains committed to its plan to sell its 50% interest.

|   | March 31, 2016 | December 31, 2015 |
|---|----------------|-------------------|
| <b>Assets held for sale</b>                             |                |                   |
| Accounts receivable                                     | 8              | 3                 |
| Other current assets                                    | 121            | 134               |
| Property, plant and equipment and Intangible, net       | 3,962          | 3,907             |
| <b>Total assets</b>                                     | <b>4,091</b>   | <b>4,044</b>      |
| <b>Liabilities associated with assets held for sale</b> |                |                   |
| Suppliers and contractors                               | 83             | 93                |
| Other current liabilities                               | 11             | 14                |
| <b>Total liabilities</b>                                | <b>94</b>      | <b>107</b>        |
| <b>Net assets held for sale</b>                         | <b>3,997</b>   | <b>3,937</b>      |

**6. Acquisitions and divestitures****2016**

**Minas da Serra Geral S.A. ( MSG )** In March 2016, the Company completed the purchase option on additional 50% participation at MSG which was owned by JFE Steel Corporation ( JFE ) in the amount of US\$17. Vale now holds 100% of MSG s total stockholder s equity.

2015

**Energy generation assets** - In December 2013, the Company signed agreements with CEMIG Geração e Transmissão S.A. ( CEMIG GT ) to incorporate two joint ventures, Aliança Norte Participações S.A. and Aliança Geração de Energia S.A. and exchange of assets and shares. The transaction was completed in the first quarter of 2015, in which Vale received cash proceeds of US\$97 and recognized a gain of US\$18 as result on sale or disposal of investments in associates and joint ventures and a gain of US\$193 as results on measurement or sales of non-current assets.

## 7. Cash and cash equivalents

|                        | March 31, 2016 | December 31, 2015 |
|------------------------|----------------|-------------------|
| Cash and bank deposits | 2,622          | 2,018             |
| Short-term investments | 1,160          | 1,573             |
|                        | <b>3,782</b>   | <b>3,591</b>      |

Cash and cash equivalents includes cash, immediately redeemable deposits and short-term investments with an insignificant risk of change in value. They are readily convertible to cash, part in R\$, indexed to the Brazilian Interbank Interest rate ( DI Rate or CDI ) and part denominated in US\$, mainly time deposits.

Table of Contents**8. Accounts receivable**

|   | March 31, 2016 | December 31, 2015 |
|---|----------------|-------------------|
| Trade receivables                                 | 2,613          | 1,534             |
| Provision for doubtful debts                      | (60)           | (58)              |
|   | <b>2,553</b>   | <b>1,476</b>      |
| Trade receivables related to the steel sector - % | 76.25%         | 75.32%            |

|  | Three-month period ended March 31<br>2016 | 2015 |
|--|---|------|
| Reversal (provision) for doubtful debts recorded in the income statement |   |      |
| Trade receivables write-offs recorded in the income statement            |   |      |

Trade receivables by segments are presented in note 3(b). No individual customer represents over 10% of receivables or revenues.

**9. Inventories**

|                      | March 31, 2016 | December 31, 2015 |
|----------------------|----------------|-------------------|
| Product inventory    | 2,774          | 2,553             |
| Consumable inventory | 1,027          | 975               |
| <b>Total</b>         | <b>3,801</b>   | <b>3,528</b>      |

Product inventory is stated net of provisions, as follows:

|                                 | March 31, 2016 | December 31, 2015 |
|---------------------------------|----------------|-------------------|
| Product inventory, gross amount | 3,216          | 3,071             |
| Iron ore                        | (21)           | (19)              |
| Coal                            | (355)          | (423)             |
| Manganese                       | (4)            | (4)               |
| Nickel                          | (54)           | (70)              |
| Phosphate                       | (8)            | (2)               |
| <b>Total</b>                    | <b>2,774</b>   | <b>2,553</b>      |

Product inventories by segments are presented in note 3(b).

## 10. Investments in associates and joint ventures

Changes in investments in associates and joint ventures are as follows:

|   | Three-month period ended March 31 |              |
|---|-----------------------------------|--------------|
|   | 2016                              | 2015         |
| <b>Balance at beginning of the period</b>           | <b>2,940</b>                      | <b>4,133</b> |
| Acquisitions (i)                                    |                                   | 579          |
| Additions   | 83                                | 10           |
| Translation adjustment                              | 259                               | (605)        |
| Equity results on income statement                  | 156                               | (271)        |
| Equity results on statement of comprehensive income |                                   | (2)          |
| Dividends declared                                  | (29)                              | (27)         |
| Transfer to held for sale                           |                                   | (5)          |
| Others  | (12)                              |              |
| <b>Balance at end of the period</b>                 | <b>3,397</b>                      | <b>3,812</b> |

(i) Refers to Aliança Geração transaction, see note 6.

In April 2016 (subsequent events), the Company announced the sale of its 26.87% interest at Thyssenkrupp Companhia Siderúrgica do Atlântico Ltd for a symbolic amount. The transaction will result in US\$92 loss on recycling the Cumulative translation adjustments.

The Company indirectly holds a 4.6% interest in Norte Energia S.A. (through Aliança Norte Energia Participações S.A.), and the Company's investment and equity results as of March 31, 2016, are respectively US\$110 and US\$(2). The independent auditor's opinion on the Norte Energia financial statements for the year ended December 31, 2015, was qualified due to an investigation related to possible breaches of law and regulation that had not been completed when the mentioned the opinion was issued. Vale believes that the auditor's qualification has no quantitative or qualitative impact on its interim financial information as of March 31, 2016.

Table of Contents**11. Intangibles**

Changes in intangibles are as follows:

|                                     | Goodwill (i) | Concessions (ii) | Right of use (ii) | Software (ii) | Total        |
|-------------------------------------|--------------|------------------|-------------------|---------------|--------------|
| <b>Balance at December 31, 2015</b> | <b>2,956</b> | <b>1,814</b>     | <b>207</b>        | <b>347</b>    | <b>5,324</b> |
| Additions                           |              | 365              | 1                 | 1             | 367          |
| Disposals                           |              | (1)              |                   |               | (1)          |
| Amortization                        |              | (32)             | (11)              | (37)          | (80)         |
| Translation adjustment              | 139          | 208              | 19                | 35            | 401          |
| Transfers                           |              |                  | (67)              | 74            | 7            |
| <b>Balance at March 31, 2016</b>    | <b>3,095</b> | <b>2,354</b>     | <b>149</b>        | <b>420</b>    | <b>6,018</b> |
| Cost                                | 3,095        | 3,238            | 256               | 1,391         | 7,980        |
| Accumulated amortization            |              | (884)            | (107)             | (971)         | (1,962)      |
|                                     | <b>3,095</b> | <b>2,354</b>     | <b>149</b>        | <b>420</b>    | <b>6,018</b> |

|                                     | Goodwill (i) | Concessions (ii) | Right of use (ii) | Software (ii) | Total        |
|-------------------------------------|--------------|------------------|-------------------|---------------|--------------|
| <b>Balance at December 31, 2014</b> | <b>3,760</b> | <b>2,213</b>     | <b>297</b>        | <b>550</b>    | <b>6,820</b> |
| Additions                           |              | 122              |                   | 74            | 196          |
| Disposals                           |              | (13)             |                   |               | (13)         |
| Amortization                        |              | (42)             | (11)              | (44)          | (97)         |
| Translation adjustment              | (405)        | (388)            | (29)              | (97)          | (919)        |
| Acquisition of subsidiary           | 39           |                  |                   |               | 39           |
| <b>Balance at March 31, 2015</b>    | <b>3,394</b> | <b>1,892</b>     | <b>257</b>        | <b>483</b>    | <b>6,026</b> |
| Cost                                | 3,394        | 2,925            | 466               | 1,189         | 7,974        |
| Accumulated amortization            |              | (1,033)          | (209)             | (706)         | (1,948)      |
|                                     | <b>3,394</b> | <b>1,892</b>     | <b>257</b>        | <b>483</b>    | <b>6,026</b> |

(i) Indefinite useful life.

(ii) Finite useful life.

**12. Property, plant and equipment**

Changes in property, plant and equipment are as follows:

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|                                     | Land       | Building     | Facilities   | Equipment    | Mineral properties | Others       | Constructions in progress | Total         |
|-------------------------------------|------------|--------------|--------------|--------------|--------------------|--------------|---------------------------|---------------|
| <b>Balance at December 31, 2015</b> | <b>766</b> | <b>9,101</b> | <b>8,292</b> | <b>7,307</b> | <b>10,304</b>      | <b>7,206</b> | <b>11,126</b>             | <b>54,102</b> |
| Additions (i)                       |            |              |              |              |                    |              | 873                       | 873           |
| Disposals                           |            |              |              | (10)         | (3)                | (8)          | (1)                       | (22)          |
| Depreciation and amortization       |            | (114)        | (140)        | (214)        | (177)              | (140)        |                           | (785)         |
| Translation adjustment              | 59         | 627          | 512          | 372          | 682                | 555          | 919                       | 3,726         |
| Assets retirement obligations       |            |              |              |              | 38                 |              |                           | 38            |
| Transfers                           | (4)        | 227          | 48           | 229          | 94                 | 32           | (633)                     | (7)           |
| <b>Balance at March 31, 2016</b>    | <b>821</b> | <b>9,841</b> | <b>8,712</b> | <b>7,684</b> | <b>10,938</b>      | <b>7,645</b> | <b>12,284</b>             | <b>57,925</b> |
| Cost                                | 821        | 14,754       | 14,070       | 13,128       | 18,271             | 11,290       | 12,284                    | 84,618        |
| Accumulated depreciation            |            | (4,913)      | (5,358)      | (5,444)      | (7,333)            | (3,645)      |                           | (26,693)      |
|                                     | <b>821</b> | <b>9,841</b> | <b>8,712</b> | <b>7,684</b> | <b>10,938</b>      | <b>7,645</b> | <b>12,284</b>             | <b>57,925</b> |

|                                     | Land         | Building      | Facilities    | Equipment    | Mineral properties | Others        | Constructions in progress | Total         |
|-------------------------------------|--------------|---------------|---------------|--------------|--------------------|---------------|---------------------------|---------------|
| <b>Balance at December 31, 2014</b> | <b>1,069</b> | <b>11,654</b> | <b>10,813</b> | <b>9,287</b> | <b>14,929</b>      | <b>10,954</b> | <b>19,416</b>             | <b>78,122</b> |
| Additions (i)                       |              |               |               |              |                    |               | 2,097                     | 2,097         |
| Disposals                           |              | (5)           | (1)           | (5)          | (151)              | (6)           | (2)                       | (170)         |
| Depreciation and amortization       |              | (135)         | (208)         | (308)        | (217)              | (198)         |                           | (1,066)       |
| Translation adjustment              | (156)        | (1,623)       | (1,558)       | (935)        | (1,429)            | (1,285)       | (2,409)                   | (9,395)       |
| Transfers                           | 10           | 1,451         | 774           | 926          | (457)              | 397           | (3,101)                   |               |
| Acquisition of subsidiary           |              |               |               | 1            |                    | 119           |                           | 120           |
| <b>Balance at March 31, 2015</b>    | <b>923</b>   | <b>11,342</b> | <b>9,820</b>  | <b>8,966</b> | <b>12,675</b>      | <b>9,981</b>  | <b>16,001</b>             | <b>69,708</b> |
| Cost                                | 923          | 13,766        | 14,637        | 13,711       | 18,288             | 13,851        | 16,001                    | 91,177        |
| Accumulated depreciation            |              | (2,424)       | (4,817)       | (4,745)      | (5,613)            | (3,870)       |                           | (21,469)      |
|                                     | <b>923</b>   | <b>11,342</b> | <b>9,820</b>  | <b>8,966</b> | <b>12,675</b>      | <b>9,981</b>  | <b>16,001</b>             | <b>69,708</b> |

(i) Includes capitalized borrowing costs, see cash flow.

There are no material changes to the net book value of consolidated property, plant and equipment pledged to secure judicial claims and loans and borrowings (note 13(d)) compared to those disclosed in the financial statements as at December 31, 2015.



Table of Contents**13. Loans and borrowings****a) Total debt**

|  | Current liabilities |                   | Non-current liabilities |                   |
|--|---------------------|-------------------|-------------------------|-------------------|
|  | March 31, 2016      | December 31, 2015 | March 31, 2016          | December 31, 2015 |
| <b>Debt contracts in the international markets</b> |                     |                   |                         |                   |
| <b>Floating rates in:</b>                          |                     |                   |                         |                   |
| US\$   | 241                 | 241               | 8,091                   | 5,174             |
| <b>Fixed rates in:</b>                             |                     |                   |                         |                   |
| US\$   | 1,927               | 1,191             | 11,416                  | 12,923            |
| EUR  |                     | 1,709             | 1,633                   |                   |
| Other currencies                                   | 17                  | 14                | 179                     | 169               |
| <b>Accrued charges</b>                             | <b>218</b>          | <b>326</b>        |                         |                   |
|  | <b>2,403</b>        | <b>1,772</b>      | <b>21,395</b>           | <b>19,899</b>     |
| <b>Debt contracts in Brazil</b>                    |                     |                   |                         |                   |
| <b>Floating rates in:</b>                          |                     |                   |                         |                   |
| R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI      | 233                 | 212               | 5,134                   | 4,709             |
| Basket of currencies and US\$ indexed to LIBOR     | 313                 | 290               | 1,264                   | 1,342             |
| <b>Fixed rates in:</b>                             |                     |                   |                         |                   |
| R\$  | 70                  | 63                | 277                     | 268               |
| <b>Accrued charges</b>                             | <b>236</b>          | <b>169</b>        | <b>145</b>              | <b>129</b>        |
|  | <b>852</b>          | <b>734</b>        | <b>6,820</b>            | <b>6,448</b>      |
|  | <b>3,255</b>        | <b>2,506</b>      | <b>28,215</b>           | <b>26,347</b>     |

The future flows of debt payments (principal and interest) per nature of funding are as follows:

|                       | Bank loans (i) | Capital markets (i) | Development agencies (i) | Debt principal (i) | Estimated future payments of interest (ii) |
|-----------------------|----------------|---------------------|--------------------------|--------------------|--|
| 2016                  | 622            |                     | 358                      | 980                | 1,556                                      |
| 2017                  | 954            | 1,212               | 1,085                    | 3,251              | 1,581                                      |
| 2018                  | 1,002          | 854                 | 3,060                    | 4,916              | 1,430                                      |
| 2019                  | 1,179          | 1,000               | 698                      | 2,877              | 1,230                                      |
| 2020                  | 785            | 1,309               | 3,434                    | 5,528              | 1,085                                      |
| 2021                  | 759            | 84                  | 397                      | 1,240              | 920  |
| Between 2022 and 2025 | 947            | 3,334               | 1,090                    | 5,371              | 2,388                                      |
| 2026 onwards          | 137            | 6,486               | 85                       | 6,708              | 5,807                                      |
|                       | <b>6,385</b>   | <b>14,279</b>       | <b>10,207</b>            | <b>30,871</b>      | <b>15,997</b>                              |

- 
- (i) Does not include accrued charges.
  - (ii) Consists of estimated future payments of interest, calculated based on interest rate curves and foreign exchange rates applicable as at March 31, 2016 and considering that all amortization payments and payments at maturity on loans and borrowings will be made on their contracted payments dates. The amount includes the estimated values of future interest payments (not yet accrued), in addition to interest already recognized in the financial statements.

At March 31, 2016, the average annual interest rates by currency are as follows:

| <b>Loans and borrowings in</b> | <b>Average interest rate (i)</b> | <b>Total debt</b> |
|--------------------------------|----------------------------------|-------------------|
| US\$                           | 4.20%                            | 23,469            |
| R\$ (ii)                       | 9.96%                            | 6,087             |
| EUR (iii)                      | 4.06%                            | 1,718             |
| Other currencies               | 6.14%                            | 196               |
|                                |                                  | <b>31,470</b>     |

- 
- (i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the last renegotiated rate at March 31, 2016.
  - (ii) R\$ denominated debt that bears interest at IPCA, CDI, TR or TJLP, plus spread. For a total of US\$4,425, the Company entered into derivative transactions to mitigate the exposure to the cash flow variations of the floating rate debt denominated in R\$, resulting in an average cost of 2.21% per year in US\$.
  - (iii) Eurobonds, for which the Company entered into derivatives to mitigate the exposure to the cash flow variations of the debt denominated in EUR, resulting in an average cost of 4.29% per year in US\$.

Table of Contents**b) Credit and financing lines**

| Type                          | Contractual currency | Date of agreement | Period of the agreement | Total amount | Available amount March 31, 2016 |
|-------------------------------|----------------------|-------------------|-------------------------|--------------|---------------------------------|
| <b>Credit lines</b>           |                      |                   |                         |              |                                 |
| Revolving credit facilities   | US\$                 | May 2015          | 5 years                 | 3,000        | 1,200                           |
| Revolving credit facilities   | US\$                 | July 2013         | 5 years                 | 2,000        | 800                             |
| <b>Financing lines</b>        |                      |                   |                         |              |                                 |
| BNDES (i)                     | R\$                  | April 2008        | 10 years                | 2,051        | 492                             |
| BNDES - CLN 150               | R\$                  | September 2012    | 10 years                | 1,091        | 6                               |
| BNDES - S11D e S11D Logística | R\$                  | May 2014          | 10 years                | 1,732        | 800                             |

(i) Memorandum of understanding signature date, however term is considered from the signature date of each contract amendment. This credit line supported or supports the Usina VIII, Onça Puma, Salobo I and II and capital expenditure of Itabira projects.

**c) Funding**

In January 2016, the Company drew down on US\$3,000 of its revolving credit facilities. The amount of US\$1,800 was drawn down on by Vale International S.A. and US\$1,200 by the Parent Company.

**d) Guarantees**

As at March 31, 2016 and December 31, 2015, loans and borrowings are secured by property, plant and equipment and receivables in the amount of US\$507 and US\$495, respectively.

The securities issued through Vale's 100%-owned finance subsidiary Vale Overseas Limited are fully and unconditionally guaranteed by Vale.

**e) Covenants**

Some of the Company's debt agreements with lenders contain financial covenants. The main covenants in those agreements require maintaining certain ratios, such as debt to EBITDA (Earnings before Interest Taxes, Depreciation and Amortization) and interest coverage. The Company has not identified any instances of noncompliance as at March 31, 2016 and December 31, 2015.

## 14. Litigation

### a) Provision for litigation

Vale is party to labor, civil, tax and other ongoing lawsuits, at administrative and court levels. Provisions for losses resulting from lawsuits are estimated and updated by the Company, based on analysis from the Company's legal consultants. Changes in provision for litigation are as follows:

|                                     | Tax litigation | Civil litigation | Labor litigation | Environmental litigation | Total of litigation provision |
|-------------------------------------|----------------|------------------|------------------|--------------------------|-------------------------------|
| <b>Balance at December 31, 2015</b> | <b>269</b>     | <b>79</b>        | <b>454</b>       | <b>20</b>                | <b>822</b>                    |
| Additions                           | 3              | 12               | 47               | 2                        | 64                            |
| Reversals                           | (9)            | (4)              | (18)             | (2)                      | (33)                          |
| Payments                            | (62)           | (18)             | (24)             |                          | (104)                         |
| Indexation and interest             | 2              | 24               | 3                | 1                        | 30                            |
| Translation adjustment              | 15             | 10               | 45               | 2                        | 72                            |
| <b>Balance at March 31, 2016</b>    | <b>218</b>     | <b>103</b>       | <b>507</b>       | <b>23</b>                | <b>851</b>                    |

|                                     | Tax litigation | Civil litigation | Labor litigation | Environmental litigation | Total of litigation provision |
|-------------------------------------|----------------|------------------|------------------|--------------------------|-------------------------------|
| <b>Balance at December 31, 2014</b> | <b>366</b>     | <b>118</b>       | <b>706</b>       | <b>92</b>                | <b>1,282</b>                  |
| Additions                           | 145            | 16               | 34               |                          | 195                           |
| Reversals                           | (174)          | (12)             | (26)             |                          | (212)                         |
| Payments                            | (8)            | 2                | (4)              | (11)                     | (21)                          |
| Indexation and interest             | 19             | 11               | 7                | (2)                      | 35                            |
| Translation adjustment              | (43)           | (21)             | (121)            | (7)                      | (192)                         |
| <b>Balance at March 31, 2015</b>    | <b>305</b>     | <b>114</b>       | <b>596</b>       | <b>72</b>                | <b>1,087</b>                  |

Table of Contents**b) Contingent liabilities**

Contingent liabilities consist of administrative and judicial claims, which expectation of loss is classified as possible, and for which the recognition of a provision is not considered necessary by the Company, based on legal support.

|                          | March 31, 2016 | December 31, 2015 |
|--------------------------|----------------|-------------------|
| Tax litigation           | 6,397          | 5,326             |
| Civil litigation         | 1,598          | 1,335             |
| Labor litigation         | 1,807          | 1,866             |
| Environmental litigation | 1,596          | 1,381             |
| <b>Total</b>             | <b>11,398</b>  | <b>9,908</b>      |

**i - Tax litigation** - The most significant claims relate to pending challenges by the Brazilian federal tax authority concerning the deductibility of Brazilian social contribution payments for income tax purposes and demands by Brazilian state tax authorities for additional payments of the value-added tax on services and circulation of goods ( ICMS ) in relation to the use of ICMS credits from sales and energy transmission. The change in the period is basically a new tax enforcement on services and circulation of goods ( ICMS ) and Tax on services of any nature ( ISS).

**ii - Civil litigation** - Most of these claim have been filed by suppliers for indemnification under construction contracts, primarily relating to certain alleged damages, payments and contractual penalties. A number of other claims involve disputed contractual terms for inflation indexation.

**iii - Labor litigation** - These line represent a very large number of individual claims by (i) employees and service providers, primarily involving demands for additional compensation for overtime work, time spent commuting or health and safety conditions; and (ii) the Brazilian federal social security administration ( INSS ) regarding contributions on compensation programs based on profits.

**iv - Environmental litigation** - The most significant claims concern alleged procedural deficiencies in licensing processes, non-compliance with existing environmental licenses or damage to the environment.

c) **Judicial deposits**

In addition to the provisions and contingent liabilities, the Company is required by law to make judicial deposits to secure a potential adverse outcome of certain lawsuits. These court-ordered deposits are monetarily adjusted and reported as non-current assets until a judicial decision to draw the deposit occurs.

|                          | March 31, 2016 | December 31, 2015 |
|--------------------------|----------------|-------------------|
| Tax litigation           | 240            | 211               |
| Civil litigation         | 99             | 102               |
| Labor litigation         | 627            | 553               |
| Environmental litigation | 18             | 16                |
| <b>Total</b>             | <b>984</b>     | <b>882</b>        |

d) **Others**

**i - Samarco** Vale S.A. and certain of its officers have been named as defendants in putative securities class action suits in federal court in New York brought by holders of Vale's securities under U.S. federal securities laws. The lawsuits allege that Vale made false and misleading statements or omitted to make disclosures concerning the risks and dangers of the operations of Samarco's Fundão dam and the adequacy of related programs and security procedures. The plaintiffs have not specified an amount of alleged damages in these actions. Vale intends to vigorously defend these actions and mount a full defense against the allegations, considering they do not represent true facts and therefore lack legal foundation. The litigation is at a very early stage. On March 7, 2016, the judge overseeing the putative securities class actions issued an order consolidating these actions and designating lead plaintiffs and counsel. The judge has given lead plaintiffs until April 29, 2016 to file a consolidated amended complaint that will serve as the operative complaint in the litigation. As a consequence of the preliminary nature of these suits, it is not possible to determine a range of outcomes or reliable estimates of the potential exposure at this time, and no provision has been recognized.

**ii - Compulsory deposits** - In the third quarter of 2015, the Company filed an enforceable action in the amount of R\$524 (US\$147) referring to the final court decision in favor of the Company of the accrued interest of compulsory deposits from 1987 to 1993. Currently it is not possible to estimate the economic benefit inflow as the counterparty can appeal on the calculation. Consequently, the asset was not recognized in the financial statements.

Table of Contents**15. Income taxes****a) Deferred income tax**

Changes in deferred tax are as follows:

|   | Assets       | Liabilities  | Total        |
|---|--------------|--------------|--------------|
| <b>Balance at December 31, 2015</b>     | <b>7,904</b> | <b>1,670</b> | <b>6,234</b> |
| Effect in income statement              | (654)        | (44)         | (610)        |
| Transfers between asset and liabilities | 84           | 84           |              |
| Translation adjustment                  | 481          | 125          | 356          |
| Other comprehensive income              | (140)        | (18)         | (122)        |
| <b>Balance at March 31, 2016</b>        | <b>7,675</b> | <b>1,817</b> | <b>5,858</b> |

|                                     | Assets       | Liabilities  | Total        |
|-------------------------------------|--------------|--------------|--------------|
| <b>Balance at December 31, 2014</b> | <b>3,976</b> | <b>3,341</b> | <b>635</b>   |
| Effect in income statement          | 923          | (7)          | 930          |
| Translation adjustment              | (515)        | (186)        | (329)        |
| Other comprehensive income          | 1            | (49)         | 50           |
| Acquisition of subsidiary           | (11)         |              | (11)         |
| <b>Balance at March 31, 2015</b>    | <b>4,374</b> | <b>3,099</b> | <b>1,275</b> |

**b) Income tax reconciliation**

The total amount presented as income taxes in the income statement is reconciled to the rate established by law, as follows:

|  | Three-month period ended March 31 |                |
|--|-----------------------------------|----------------|
|  | 2016                              | 2015           |
| <b>Net income (loss) before income taxes</b>             | <b>2,735</b>                      | <b>(4,030)</b> |
| <b>Income taxes at statutory rates - 34%</b>             | <b>(930)</b>                      | <b>1,370</b>   |
| <b>Adjustments that affect the basis of taxes:</b>       |                                   |                |
| Income tax benefit from interest on stockholders' equity |                                   | 190            |
| Equity results   | 57                                | (92)           |

|                                       |              |            |
|---------------------------------------|--------------|------------|
| Additions of tax loss carry forward   | 57           |            |
| Unrecognized tax losses of the period | (185)        | (420)      |
| Others                                | 46           | (188)      |
| <b>Income taxes</b>                   | <b>(955)</b> | <b>860</b> |

c) **Income taxes - Settlement program ( REFIS )**

In 2013, the Company elected to participate in the REFIS, a federal tax settlement program, to settle most of the claims related to the collection of income tax and social contribution on equity gains of foreign subsidiaries and affiliates from 2003 to 2012.

At March 31, 2016, the balance of US\$4,891 (US\$389 as current and US\$4,502 as non-current) is due in 151 remaining monthly installments, bearing interest at the SELIC rate.



Table of Contents**16. Employee benefits obligations****Reconciliation of assets and liabilities recognized in the balance sheet**

|  | Overfunded<br>pension plans | March 31, 2016<br>Underfunded<br>pension plans | Other benefits | Total<br>Overfunded<br>pension plans | December 31, 2015<br>Underfunded<br>pension plans | Other benefits |
|--|-----------------------------|--|----------------|--------------------------------------|---|----------------|
| <b>Balance at beginning of the period</b>      | <b>961</b>                  |  |                | <b>1,301</b>                         |   |                |
| Interest income                                | 33                          |  |                | 130                                  |   |                |
| Changes in asset ceiling and onerous liability | 228                         |  |                | (54)                                 |   |                |
| Translation adjustment                         | 118                         |  |                | (416)                                |   |                |
| <b>Balance at end of the period</b>            | <b>1,340</b>                |  |                | <b>961</b>                           |   |                |
| <b>Amount recognized in the balance sheet</b>  |                             |  |                |                                      |   |                |
| Present value of actuarial liabilities         | (2,742)                     | (3,930)  | (1,314)        | (2,474)                              | (3,689)   | (1,223)        |
| Fair value of assets                           | 4,081                       | 3,216  |                | 3,435                                | 3,094   |                |
| Effect of the asset ceiling                    | (1,339)                     |  |                | (961)                                |   |                |
| <b>Liabilities</b>                             |                             | <b>(714)</b>                                   | <b>(1,314)</b> |                                      | <b>(595)</b>                                      | <b>(1,223)</b> |
| Current liabilities                            |                             | (20)   | (51)           |                                      | (17)  | (51)           |
| Non-current liabilities                        |                             | (694)  | (1,263)        |                                      | (578)   | (1,172)        |
| <b>Liabilities</b>                             |                             | <b>(714)</b>                                   | <b>(1,314)</b> |                                      | <b>(595)</b>                                      | <b>(1,223)</b> |

**17. Financial instruments classification**

|                                  | March 31, 2016                          |                                  |       | December 31, 2015                       |                                  |  |       |
|----------------------------------|---|----------------------------------|-------|---|----------------------------------|--|-------|
| Financial assets                 | Loans and receivables or amortized cost | At fair value through net income | Total | Loans and receivables or amortized cost | At fair value through net income | Derivatives designated as hedge accounting | Total |
| <b>Current</b>                   |   |                                  |       |   |                                  |  |       |
| Cash and cash equivalents        | 3,782                                   |                                  | 3,782 | 3,591                                   |                                  |  | 3,591 |
| Financial investments            | 27                                      |                                  | 27    | 28                                      |                                  |  | 28    |
| Derivative financial instruments |   | 141                              | 141   |   | 121                              |  | 121   |

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|                                       |               |              |               |               |              |           |               |
|---------------------------------------|---------------|--------------|---------------|---------------|--------------|-----------|---------------|
| Accounts receivable                   | 2,553         |              | 2,553         | 1,476         |              |           | 1,476         |
| Related parties                       | 100           |              | 100           | 70            |              |           | 70            |
|                                       | <b>6,462</b>  | <b>141</b>   | <b>6,603</b>  | <b>5,165</b>  | <b>121</b>   |           | <b>5,286</b>  |
| <b>Non-current</b>                    |               |              |               |               |              |           |               |
| Derivative financial instruments      |               | 170          | 170           |               | 93           |           | 93            |
| Loans                                 | 194           |              | 194           | 188           |              |           | 188           |
| Related parties                       |               |              |               | 1             |              |           | 1             |
|                                       | <b>194</b>    | <b>170</b>   | <b>364</b>    | <b>189</b>    | <b>93</b>    |           | <b>282</b>    |
| <b>Total of financial assets</b>      | <b>6,656</b>  | <b>311</b>   | <b>6,967</b>  | <b>5,354</b>  | <b>214</b>   |           | <b>5,568</b>  |
| <b>Financial liabilities</b>          |               |              |               |               |              |           |               |
| <b>Current</b>                        |               |              |               |               |              |           |               |
| Suppliers and contractors             | 3,147         |              | 3,147         | 3,365         |              |           | 3,365         |
| Derivative financial instruments      |               | 1,629        | 1,629         |               | 2,023        | 53        | 2,076         |
| Loans and borrowings                  | 3,255         |              | 3,255         | 2,506         |              |           | 2,506         |
| Related parties                       | 732           |              | 732           | 475           |              |           | 475           |
|                                       | <b>7,134</b>  | <b>1,629</b> | <b>8,763</b>  | <b>6,346</b>  | <b>2,023</b> | <b>53</b> | <b>8,422</b>  |
| <b>Non-current</b>                    |               |              |               |               |              |           |               |
| Derivative financial instruments      |               | 1,225        | 1,225         |               | 1,429        |           | 1,429         |
| Loans and borrowings                  | 28,215        |              | 28,215        | 26,347        |              |           | 26,347        |
| Related parties                       | 123           |              | 123           | 213           |              |           | 213           |
| Participative stockholders debentures |               | 502          | 502           |               | 342          |           | 342           |
| Others (i)                            |               | 168          | 168           |               | 141          |           | 141           |
|                                       | <b>28,338</b> | <b>1,895</b> | <b>30,233</b> | <b>26,560</b> | <b>1,912</b> |           | <b>28,472</b> |
| <b>Total of financial liabilities</b> | <b>35,472</b> | <b>3,524</b> | <b>38,996</b> | <b>32,906</b> | <b>3,935</b> | <b>53</b> | <b>36,894</b> |

(i) See note 18(a).

Table of Contents**18. Fair value estimate****a) Assets and liabilities measured and recognized at fair value:**

|                                       | March 31, 2016 |            |              | December 31, 2015 |            |              |
|---------------------------------------|----------------|------------|--------------|-------------------|------------|--------------|
|                                       | Level 2        | Level 3    | Total        | Level 2           | Level 3    | Total        |
| <b>Financial assets</b>               |                |            |              |                   |            |              |
| Derivative financial instruments      | 311            |            | 311          | 214               |            | 214          |
| <b>Total</b>                          | <b>311</b>     |            | <b>311</b>   | <b>214</b>        |            | <b>214</b>   |
| <b>Financial liabilities</b>          |                |            |              |                   |            |              |
| Derivative financial instruments      | 2,854          |            | 2,854        | 3,505             |            | 3,505        |
| Participative stockholders debentures | 502            |            | 502          | 342               |            | 342          |
| Others (minimum return instrument)    |                | 168        | 168          |                   | 141        | 141          |
| <b>Total</b>                          | <b>3,356</b>   | <b>168</b> | <b>3,524</b> | <b>3,847</b>      | <b>141</b> | <b>3,988</b> |

There are no changes in the methods and techniques of evaluation of instruments disclosed above in the financial statements as at December 31, 2015.

**b) Fair value of financial instruments not measured at fair value**

The fair values and carrying amounts of loans (net of interest) are as follows:

| Financial liabilities    | Balance | Fair value | Level 1 | Level 2 |
|--------------------------|---------|------------|---------|---------|
| <b>March 31, 2016</b>    |         |            |         |         |
| Debt principal           | 30,871  | 28,504     | 12,316  | 16,188  |
| <b>December 31, 2015</b> |         |            |         |         |
| Debt principal           | 28,229  | 26,233     | 12,297  | 13,936  |

**19. Derivative financial instruments**

## a) Derivatives effects on balance sheet

|  | March 31, 2016 |             | December 31, 2015 |             |
|--|----------------|-------------|-------------------|-------------|
|  | Current        | Non-current | Current           | Non-current |
| <b>Derivatives designated as economic hedge</b>  |                |             |                   |             |
| <b>Foreign exchange and interest rate risk</b>   |                |             |                   |             |
| CDI & TJLP vs. US\$ fixed and floating rate swap | 99             | 26          | 69                |             |
| IPCA swap  | 4              | 58          | 2                 | 16          |
| Eurobonds swap                                   | 2              |             |                   |             |
| Pré-dolar swap                                   | 1              |             |                   |             |
|  | <b>106</b>     | <b>84</b>   | <b>71</b>         | <b>16</b>   |
| <b>Commodities price risk</b>                    |                |             |                   |             |
| Nickel   | 35             | 8           | 50                | 11          |
|  | <b>35</b>      | <b>8</b>    | <b>50</b>         | <b>11</b>   |
| <b>Others</b>                                    |                | 78          |                   | 66          |
|  |                | <b>78</b>   |                   | <b>66</b>   |
| <b>Total</b>                                     | <b>141</b>     | <b>170</b>  | <b>121</b>        | <b>93</b>   |

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|   | March 31, 2016 |              | December 31, 2015 |              |
|---|----------------|--------------|-------------------|--------------|
|   | Current        | Non-current  | Current           | Non-current  |
| <b>Liabilities</b>  |                |              |                   |              |
| <b>Derivatives designated as economic hedge</b>             |                |              |                   |              |
| <b>Foreign exchange and interest rate risk</b>              |                |              |                   |              |
| CDI & TJLP vs. US\$ fixed and floating rate swap            | 791            | 944          | 799               | 1,131        |
| IPCA swap   | 22             | 109          | 21                | 101          |
| Eurobonds swap  | 5              | 14           | 146               | 29           |
| Pre dollar swap   | 24             | 45           | 93                | 72           |
|   | <b>842</b>     | <b>1,112</b> | <b>1,059</b>      | <b>1,333</b> |
| <b>Commodities price risk</b>                               |                |              |                   |              |
| Nickel  | 31             | 7            | 40                | 10           |
| Bunker oil  | 756            |              | 924               |              |
|   | <b>787</b>     | <b>7</b>     | <b>964</b>        | <b>10</b>    |
| <b>Others</b>   |                |              |                   |              |
|   |                | 106          |                   | 86           |
|   |                | <b>106</b>   |                   | <b>86</b>    |
| <b>Derivatives designated as cash flow hedge accounting</b> |                |              |                   |              |
| Bunker oil  |                |              | 50                |              |
| Foreign exchange  |                |              | 3                 |              |
|   |                |              | <b>53</b>         |              |
| <b>Total</b>  | <b>1,629</b>   | <b>1,225</b> | <b>2,076</b>      | <b>1,429</b> |

b) **Effects of derivatives on the income statement, cash flow and other comprehensive income**

|  | Gain (loss) recognized in the income statement |                | Three-month period ended March 31 Financial settlement inflows(outflows) |              | Gain(loss) recognized in other comprehensive income |      |
|--|--|----------------|--|--------------|---|------|
|  | 2016   | 2015           | 2016   | 2015         | 2016  | 2015 |
| <b>Derivatives designated as economic hedge</b>  |  |                |  |              |   |      |
| <b>Foreign exchange and interest rate risk</b>   |  |                |  |              |   |      |
| CDI & TJLP vs. US\$ fixed and floating rate swap | 394  | (950)          | (43)   | (344)        |   |      |
| IPCA swap  | 42   | (73)           | 1  | 4            |   |      |
| Eurobonds swap                                   | 16   | (151)          | (142)  |              |   |      |
| Pre dollar swap                                  | 34   | (89)           | (73)   | (2)          |   |      |
|  | <b>486</b>                                     | <b>(1,263)</b> | <b>(257)</b>   | <b>(342)</b> |   |      |
| <b>Commodities price risk</b>                    |  |                |  |              |   |      |
| Nickel   | (24)   | (8)            | (17)   | (15)         |   |      |
| Bunker oil                                       | (14)   | (49)           | (182)  | (155)        |   |      |
|  | <b>(38)</b>                                    | <b>(57)</b>    | <b>(199)</b>   | <b>(170)</b> |   |      |
| <b>Others</b>                                    |  |                |  |              |   |      |
|  | (5)  | (5)            |  |              |   |      |

| <b>Derivatives designated as cash flow hedge accounting</b> |            |                |              |              |          |            |
|---|------------|----------------|--------------|--------------|----------|------------|
| Bunker oil  |            | (120)          | (51)         | (130)        |          | 116        |
| Foreign exchange  | (3)        | (15)           | (3)          | (15)         | 2        | (1)        |
|   | (3)        | (135)          | (54)         | (145)        | 2        | 115        |
| <b>Total</b>  | <b>440</b> | <b>(1,460)</b> | <b>(510)</b> | <b>(657)</b> | <b>2</b> | <b>115</b> |

Related to the effects of derivatives in the Income statements, the Company recognized as costs of goods sold and financial results the amounts of US\$120 and US\$1,340, respectively, for the 1st quarter of 2015. In 2016, all derivatives impacts were charged to financial results.

The maturities dates of the derivative financial instruments are as follows:

|                               | <b>Maturity dates</b> |
|-------------------------------|-----------------------|
| Currencies and interest rates | July 2023             |
| Bunker oil                    | December 2016         |
| Nickel                        | June 2018             |
| Others                        | December 2027         |

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**Additional information about derivatives financial instruments**

The risk of the derivatives portfolio is measured using the delta-Normal parametric approach, and considers that the future distribution of the risk factors and its correlations tends to present the same statistic properties verified in the historical data. The value at risk estimate considers a 95% confidence level for a one-business day time horizon.

There was no cash amount deposited as margin call regarding derivative positions on March 31, 2016. The derivative positions described in this document did not have initial costs associated.

The following tables detail the derivatives positions for Vale and its controlled companies as of March 31, 2016, with the following information: notional amount, fair value including credit risk, gains or losses in the period, value at risk and the fair value breakdown by year of maturity.

a) **Foreign exchange and interest rates derivative positions**

(i) **Protection programs for the R\$ denominated debt instruments**

In order to reduce cash flow volatility, swap transactions were implemented to convert into US\$ the cash flows from certain debt instruments denominated in R\$ with interest rates linked mainly to CDI, TJLP and IPCA. In those swaps, Vale pays fixed or floating rates in US\$ and receives payments in R\$ linked to the interest rates of the protected debt instruments.

The swap transactions were negotiated over-the-counter and the protected items are the cash flows from debt instruments linked to R\$. These programs transform into US\$ the obligations linked to R\$ to achieve a currency offset in the Company's cash flows, by matching its receivables - mainly linked to US\$ - with its payables.

| Flow | Notional       |                   | Index | Average rate | Fair value                           |                | Financial Settlement | Value at Risk |       | Fair value by year |       |  |
|------|----------------|-------------------|-------|--------------|--------------------------------------|----------------|----------------------|---------------|-------|--------------------|-------|--|
|      | March 31, 2016 | December 31, 2015 |       |              | Inflows (Outflows)<br>March 31, 2016 | March 31, 2016 | 2016                 | 2017          | 2018  | 2019+              |       |  |
|      |                |                   |       |              | (681)                                | (783)          | 20                   | 43            | (440) | (31)               | (210) |  |

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|  |            |            |       |         |       |         |      |       |       |       |
|--|------------|------------|-------|---------|-------|---------|------|-------|-------|-------|
| <b>CDI vs. US\$ fixed rate swap</b>            |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     | R\$ 5,739  | R\$ 5,239  | CDI   | 107.57% |       |         |      |       |       |       |
| Payable  | US\$ 2,399 | US\$ 2,288 | Fix   | 3.46%   |       |         |      |       |       |       |
| <b>TJLP vs. US\$ fixed rate swap</b>           |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     |            |            | TJLP  |         | (872) | (1,015) | (63) | 71    | (161) | (253) |
|  | R\$ 5,180  | R\$ 5,484  | +     | 1.31%   |       |         |      | (125) | (334) |       |
| Payable  | US\$ 2,486 | US\$ 2,611 | Fix   | 1.69%   |       |         |      |       |       |       |
| <b>TJLP vs. US\$ floating rate swap</b>        |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     |            |            | TJLP  |         | (57)  | (63)    | (0)  | 5     | (3)   | (4)   |
|  | R\$ 32     | R\$ 267    | +     | 0.92%   |       |         |      | (5)   | (45)  |       |
| Payable  | US\$ 155   | US\$ 156   | Libor |         |       |         |      |       |       |       |
|  |            |            | +     | -1.21%  |       |         |      |       |       |       |
| <b>R\$ fixed rate vs. US\$ fixed rate swap</b> |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     | R\$ 1,139  | R\$ 1,356  | Fix   | 7.32%   | (68)  | (165)   | (73) | 21    | (21)  | (7)   |
| Payable  | US\$ 398   | US\$ 528   | Fix   | -0.83%  |       |         |      | 7     | (46)  |       |
| <b>IPCA vs. US\$ fixed rate swap</b>           |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     |            |            | IPCA  |         | (84)  | (105)   | 1    | 11    | 3     | 2.3   |
|  | R\$ 1,000  | R\$ 1,000  | +     | 6.55%   |       |         |      | (90)  |       |       |
| Payable  | US\$ 434   | US\$ 434   | Fix   | 3.98%   |       |         |      |       |       |       |
| <b>IPCA vs. CDI swap</b>                       |            |            |       |         |       |         |      |       |       |       |
| Receivable                                     |            |            | IPCA  |         | 16    | 2       |      | 0.4   | (21)  | (16)  |
|  | R\$ 1,350  | R\$ 1,350  | +     | 6.62%   |       |         |      | (13)  | 66    |       |
| Payable  | US\$ 1,350 | US\$ 1,350 | CDI   | 98.58%  |       |         |      |       |       |       |

(ii) **Protection program for EUR denominated debt instruments**

In order to reduce the cash flow volatility, swap and forward transactions were implemented to convert into US\$ the cash flows from certain debt instruments issued in Euros by Vale. In those swaps, Vale receives fixed rates in EUR and pays fixed rates in US\$. And in those forwards only the principal amount of the debt is converted from EUR to US\$.

The swap and forward transactions were negotiated over-the-counter and the protected items are the cash flows from debt instruments linked to EUR. The financial settlement inflows/outflows are offset by the protected items losses/gains due to EUR/US\$ exchange rate.

| Flow   | Notional       |                   |                | Index | Average rate | Fair value        |                                   | Financial Settlement | Value at Risk |      | Fair value by year |       |
|--|----------------|-------------------|----------------|-------|--------------|-------------------|-----------------------------------|----------------------|---------------|------|--------------------|-------|
|  | March 31, 2016 | December 31, 2016 | March 31, 2016 |       |              | December 31, 2015 | Inflows (Outflows) March 31, 2016 | March 31, 2016       | 2016          | 2017 | 2018               | 2019+ |
| <b>EUR fixed rate vs. US\$ fixed rate swap</b> |                |                   |                |       |              |                   |                                   |                      |               |      |                    |       |
| Receivable                                     | 500            | 1,000             | Fix            | 3.75% | (19)         | (175)             | (141)                             | 18                   | (5)           | (4)  | (10)               |       |



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|         |          |            |     |       |
|---------|----------|------------|-----|-------|
| Payable | US\$ 613 | US\$ 1,302 | Fix | 4.29% |
|---------|----------|------------|-----|-------|

| Flow     | Notional       |                   | Bought / Sold | Average rate<br>(USD/EUR) | Fair value     |                   | Financial Settlement                 |                | Value at Risk  |      | Fair value by year |   |
|----------|----------------|-------------------|---------------|---------------------------|----------------|-------------------|--------------------------------------|----------------|----------------|------|--------------------|---|
|          | March 31, 2016 | December 31, 2015 |               |                           | March 31, 2016 | December 31, 2015 | Inflows (Outflows)<br>March 31, 2016 | March 31, 2016 | March 31, 2016 | 2016 | 2017               |   |
| Forwards | 500            |                   | B             | 1.143                     | 2              |                   |                                      |                |                | 6.4  |                    | 2 |

Table of Contents**(iii) Foreign exchange hedging program for disbursements in CAD**

In order to reduce the cash flow volatility, forward transactions were implemented to mitigate the foreign exchange exposure that arises from the currency mismatch between revenues denominated in US\$ and disbursements denominated in CAD.

The forward transactions were negotiated over-the-counter and the protected item is part of the CAD denominated disbursements. The financial settlement inflows/outflows are offset by the protected items losses/gains due to CAD/US\$ exchange rate. This program is classified under the hedge accounting requirements, and it was settled in this quarter.

| Flow     | Notional       |                   | Bought /<br>Sold | Average rate<br>(CAD / USD) | Fair value                           |                | Financial Settlement | Value at Risk | Fair value |
|----------|----------------|-------------------|------------------|-----------------------------|--------------------------------------|----------------|----------------------|---------------|------------|
|          | March 31, 2016 | December 31, 2015 |                  |                             | Inflows (Outflows)<br>March 31, 2016 | March 31, 2016 | by year<br>2016      |               |            |
| Forwards |                | CAD 10            | B                | 1.028                       |                                      |                | (2)                  |               |            |

**b) Commodities derivative positions****(i) Bunker Oil purchase cash flows protection program**

In order to reduce the impact of bunker oil price fluctuation on maritime freight hiring/supply and, consequently, reducing the company's cash flow volatility, bunker oil derivatives were implemented. These transactions are usually executed through forward purchases and zero cost-collars.

The derivative transactions were negotiated over-the-counter and the protected item is part of the Vale's costs linked to bunker oil prices. The financial settlement inflows/outflows are offset by the protected items losses/gains due to bunker oil prices changes.

| Flow | Notional (ton) |                   | Bought /<br>Sold | Average strike<br>(US\$/ton) | Fair value                           |                | Financial settlement | Value at Risk | Fair value |
|------|----------------|-------------------|------------------|------------------------------|--------------------------------------|----------------|----------------------|---------------|------------|
|      | March 31, 2016 | December 31, 2015 |                  |                              | Inflows (Outflows)<br>March 31, 2016 | March 31, 2016 | by year<br>2016      |               |            |

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| <b>Bunker Oil protection</b> |           |           |   |     |              |              |       |      |              |
|------------------------------|-----------|-----------|---|-----|--------------|--------------|-------|------|--------------|
| Forwards                     | 1,410,000 | 1,867,500 | B | 513 | (446)        | (577)        | (151) | 11   | (446)        |
| Call options                 | 1,507,500 | 2,041,500 | B | 383 | 0.16         | 0.02         |       | 0.07 | 0.16         |
| Put options                  | 1,507,500 | 2,041,500 | S | 308 | (199)        | (297)        | (93)  | 11   | (199)        |
| <b>Total</b>                 |           |           |   |     | <b>(644)</b> | <b>(873)</b> |       |      | <b>(644)</b> |

As at March 31, 2016 and December 31, 2015, excludes US\$112 and US\$102, respectively, of transactions in which the financial settlement occurs subsequently of the closing month.

(ii) **Protection programs for base metals raw materials and products**

In the operational protection program for nickel sales at fixed prices, derivatives transactions were implemented to convert into floating prices the contracts with clients that required a fixed price, in order to keep nickel revenues exposed to nickel price fluctuations. Those operations are usually implemented through the purchase of nickel forwards, which are unwound before the original maturity in order to match the settlement dates of the commercial contracts in which the prices were fixed.

In the operational protection program for the purchase of raw materials and products, derivatives transactions were implemented, usually through the sale of nickel and copper forward or futures, in order to reduce the mismatch between the pricing period of purchases (concentrate, cathode, sinter, scrap and others) and the pricing period of the final product sales to the clients.

The derivative transactions are negotiated at London Metal Exchange or over-the-counter and the protected item is part of Vale's revenues and costs linked to nickel and copper prices. The financial settlement inflows/outflows are offset by the protected items' losses/gains due to nickel and copper prices changes.

| Flow                                    | Notional (ton) |                   | Bought / Sold | Average strike (US\$/ton) | Fair value     |                   | Financial settlement              | Value at Risk March 31, 2016 | Fair value by |               |
|---|----------------|-------------------|---------------|---------------------------|----------------|-------------------|-----------------------------------|------------------------------|---------------|---------------|
|   | March 31, 2016 | December 31, 2015 |               |                           | March 31, 2016 | December 31, 2015 | Inflows (Outflows) March 31, 2016 |                              | 2016          | 2017          |
| <b>Fixed price sales protection</b>     |                |                   |               |                           |                |                   |                                   |                              |               |               |
| Nickel forwards                         | 16,102         | 16,917            | B             | 10,892                    | (35)           | (46)              | (18)                              | 5                            | (24)          | (11)          |
| <b>Raw material purchase protection</b> |                |                   |               |                           |                |                   |                                   |                              |               |               |
| Nickel forwards                         | 90             | 118               | S             | 8,486                     | 0.00           | 0.10              | 0.13                              | 0.02                         | 0.00          |               |
| Copper forwards                         | 398            | 385               | S             | 4,598                     | (0.09)         | 0.09              | 0.12                              | 0.04                         | (0.09)        |               |
| <b>Total</b>                            |                |                   |               |                           | <b>(0.09)</b>  | <b>0.19</b>       |                                   |                              |               | <b>(0.09)</b> |

Table of Contents**c) Silver Wheaton Corp. warrants**

The company owns warrants of Silver Wheaton Corp. (SLW), a Canadian company with stocks negotiated in Toronto Stock Exchange and New York Stock Exchange. Such warrants configure American call options and were received as part of the payment regarding the sale of part of gold payable flows produced as a sub product from Salobo copper mine and some nickel mines in Sudbury.

| Flow         | Notional (quantity) |                   | Bought /<br>Sold | Average strike<br>(US\$/share) | Fair value     |                   | Financial settlement<br>Inflows (Outflows) |                | Value at Risk<br>March 31, 2016 | Fair value<br>by year<br>2023 |
|--------------|---------------------|-------------------|------------------|--------------------------------|----------------|-------------------|--|----------------|---------------------------------|-------------------------------|
|              | March 31, 2016      | December 31, 2015 |                  |                                | March 31, 2016 | December 31, 2015 | March 31, 2016                             | March 31, 2016 |                                 |                               |
| Call options | 10,000,000          | 10,000,000        | B                | 65                             | 15             | 7                 |  | 2              | 15                              |                               |

**d) Call options from debentures**

The company has debentures in which lenders have call options of a specified quantity of Ferrovia Norte Sul ordinary shares, later changed to VLI SA shares. The call options strike price is given by the debentures remaining notional in each exercise date.

| Flow         | Notional (quantity) |                   | Bought /<br>Sold | Average strike<br>(R\$/share) | Fair value     |                   | Financial settlement<br>Inflows (Outflows) |                | Value at Risk<br>March 31, 2016 | Fair value<br>by year<br>2027 |
|--------------|---------------------|-------------------|------------------|-------------------------------|----------------|-------------------|--|----------------|---------------------------------|-------------------------------|
|              | March 31, 2016      | December 31, 2015 |                  |                               | March 31, 2016 | December 31, 2015 | March 31, 2016                             | March 31, 2016 |                                 |                               |
| Call options | 140,239             | 1 40,239          | S                | 8,570                         | (39)           | (39)              |  | 2              | (39)                            |                               |

**e) Options related to Minerações Brasileiras Reunidas S.A. ( MBR ) shares**

The Company entered into a contract that has options related to MBR shares. Under certain restrict and contingent conditions, which are beyond the buyer's control, the contract has a clause that gives the buyer the right to sell back its stake to the Company. In this case, the Company could settle through cash or shares. On the other hand, the Company has the right to buy back this non-controlling interest in the subsidiary.

Financial settlement                      Fair value

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| Flow    | Notional (quantity, in millions) |                   | Bought / Sold | Average strike (R\$/share) | Fair value     |                   | Inflows (Outflows) March 31, 2016 | Value at Risk March 31, 2016 | by year 2016+ |
|---------|----------------------------------|-------------------|---------------|----------------------------|----------------|-------------------|-----------------------------------|------------------------------|---------------|
|         | March 31, 2016                   | December 31, 2015 |               |                            | March 31, 2016 | December 31, 2015 |                                   |                              |               |
| Options | 2,139                            | 2,139             | B/S           | 1.8                        | (3)            | 15                |                                   | 6                            | (3)           |

f) **Embedded derivatives in commercial contracts**

The Company has some nickel concentrate and raw materials purchase agreements in which there are provisions based on nickel and copper future prices behavior. These provisions are considered as embedded derivatives.

| Flow            | Notional (ton) |                   | Bought / Sold | Average strike (US\$/ton) | Fair value     |                   | Financial settlement Inflows (Outflows) March 31, 2016 | Value at Risk March 31, 2016 | Fair value by year 2016 |
|-----------------|----------------|-------------------|---------------|---------------------------|----------------|-------------------|--|------------------------------|-------------------------|
|                 | March 31, 2016 | December 31, 2015 |               |                           | March 31, 2016 | December 31, 2015 |  |                              |                         |
| Nickel forwards | 5,799          | 3,877             | S             | 8,543                     | (0.3)          | 3.0               |  |                              | (0.3)                   |
| Copper forwards | 4,325          | 5,939             | S             | 4,653                     | (0.4)          | 2.0               |  |                              | (0.4)                   |
| <b>Total</b>    |                |                   |               |                           | <b>(0.6)</b>   | <b>5.0</b>        |  | <b>2.1</b>                   | <b>(0.6)</b>            |

The Company has also a natural gas purchase agreement in which there's a clause that defines that a premium can be charged if the Company's pellet sales prices trade above a pre-defined level. This clause is considered an embedded derivative.

| Flow         | Notional (volume/month) |                   | Bought / Sold | Average strike (US\$/ton) | Fair value     |                   | Financial settlement Inflows (Outflows) March 31, 2016 | Value at Risk March 31, 2016 | Fair value by year |       |       |
|--------------|-------------------------|-------------------|---------------|---------------------------|----------------|-------------------|--|------------------------------|--------------------|-------|-------|
|              | March 31, 2016          | December 31, 2015 |               |                           | March 31, 2016 | December 31, 2015 |  |                              | 2016               | 2017  | 2018+ |
| Call options | 746,667                 | 746,667           | S             | 179                       | (1.4)          |                   |  | 0.9                          | (0.0)              | (0.0) | (1.0) |

Table of Contentsg) **Sensitivity analysis of derivative financial instruments**

The following tables present the potential value of the instruments given hypothetical stress scenarios for the main market risk factors that impact the derivatives positions. The scenarios were defined as follows:

- *Scenario I:* fair value calculation considering market prices as of March 31, 2016
- *Scenario II:* fair value estimated considering a 25% deterioration in the associated risk variables
- *Scenario III:* fair value estimated considering a 50% deterioration in the associated risk variables

| Instrument                                     | Instrument s main risk events             | Scenario I | Scenario II | Scenario III |
|--|---|------------|-------------|--------------|
| <b>CDI vs. US\$ fixed rate swap</b>            | R\$ depreciation                          | (681)      | (1,293)     | (1,905)      |
|  | US\$ interest rate inside Brazil decrease | (681)      | (697)       | (713)        |
|  | Brazilian interest rate increase          | (681)      | (684)       | (687)        |
| Protected item: R\$ denominated debt           | R\$ depreciation                          | n.a.       |             |              |
| <b>TJLP vs. US\$ fixed rate swap</b>           | R\$ depreciation                          | (872)      | (1,473)     | (2,075)      |
|  | US\$ interest rate inside Brazil decrease | (872)      | (910)       | (950)        |
|  | Brazilian interest rate increase          | (872)      | (946)       | (1,013)      |
|  | TJLP interest rate decrease               | (872)      | (918)       | (966)        |
| Protected item: R\$ denominated debt           | R\$ depreciation                          | n.a.       |             |              |
| <b>TJLP vs. US\$ floating rate swap</b>        | R\$ depreciation                          | (57)       | (92)        | (127)        |
|  | US\$ interest rate inside Brazil decrease | (57)       | (61)        | (64)         |
|  | Brazilian interest rate increase          | (57)       | (62)        | (67)         |
|  | TJLP interest rate decrease               | (57)       | (60)        | (64)         |
| Protected item: R\$ denominated debt           | R\$ depreciation                          | n.a.       |             |              |
| <b>R\$ fixed rate vs. US\$ fixed rate swap</b> | R\$ depreciation                          | (68)       | (169)       | (271)        |
|  | US\$ interest rate inside Brazil decrease | (68)       | (83)        | (98)         |
|  | Brazilian interest rate increase          | (68)       | (99)        | (125)        |
| Protected item: R\$ denominated debt           | R\$ depreciation                          | n.a.       |             |              |
| <b>IPCA vs. US\$ fixed rate swap</b>           | R\$ depreciation                          | (84)       | (199)       | (315)        |
|  | US\$ interest rate inside Brazil decrease | (84)       | (93)        | (103)        |
|  | Brazilian interest rate increase          | (84)       | (118)       | (147)        |
|  | IPCA index decrease                       | (84)       | (103)       | (121)        |
| Protected item: R\$ denominated debt           | R\$ depreciation                          | n.a.       |             |              |

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|  |                                  |      |       |       |
|--|----------------------------------|------|-------|-------|
| <b>IPCA vs. CDI swap</b>                               | Brazilian interest rate increase | 16   | (35)  | (78)  |
|  | IPCA index decrease              | 16   | (13)  | (40)  |
| Protected item: R\$ denominated debt linked to<br>IPCA | IPCA index decrease              | n.a. | 13    | 40    |
| <b>EUR fixed rate vs. US\$ fixed rate swap</b>         | EUR depreciation                 | (19) | (197) | (374) |
|  | Euribor increase                 | (19) | (25)  | (32)  |
|  | US\$ Libor decrease              | (19) | (34)  | (50)  |
| Protected item: EUR denominated debt                   | EUR depreciation                 | n.a. | 197   | 374   |
| <b>EUR Forward</b>                                     | EUR depreciation                 | 2    | (140) | (282) |
|  | Euribor increase                 | 2    | 2     | 1     |
|  | US\$ Libor decrease              | 2    | 1     | 0     |
| Protected item: EUR denominated debt                   | EUR depreciation                 | n.a. | 140   | 282   |

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| Instrument  | Instrument's main risk events   | Scenario I | Scenario II | Scenario III |
|---|---------------------------------|------------|-------------|--------------|
| <b>Bunker Oil protection</b>                                    |                                 |            |             |              |
| Forwards and options  | Bunker Oil price decrease       | (644)      | (772)       | (901)        |
| Protected item: Part of costs linked to bunker oil prices       | Bunker Oil price decrease       | n.a.       | 772         | 901          |
| <b>Nickel sales fixed price protection</b>                      |                                 |            |             |              |
| Forwards  | Nickel price decrease           | (35)       | (70)        | (104)        |
| Protected item: Part of nickel revenues with fixed prices       | Nickel price fluctuation        | n.a.       | 70          | 104          |
| <b>Purchase protection program</b>                              |                                 |            |             |              |
| Nickel forwards   | Nickel price increase           | 0.0        | (0.2)       | (0.4)        |
| Protected item: Part of costs linked to nickel prices           | Nickel price increase           | n.a.       | 0.2         | 0.4          |
| Copper forwards   | Copper price increase           | (0.1)      | (0.6)       | (1.0)        |
| Protected item: Part of costs linked to copper prices           | Copper price increase           | n.a.       | 0.6         | 1.0          |
| <b>SLW warrants</b>   | SLW stock price decrease        | 15         | 6           | 1            |
| <b>VLI call options</b>   | VLI stock value increase        | (38)       | (62)        | (86)         |
| <b>Options regarding non-controlling interest in subsidiary</b> | Subsidiary stock value increase | 5          | (48)        | (75)         |

| Instrument  | Main risks            | Scenario I | Scenario II | Scenario III |
|---|-----------------------|------------|-------------|--------------|
| Embedded derivatives - Raw material purchase (nickel) | Nickel price increase | (0.3)      | (12.9)      | (25.5)       |
| Embedded derivatives - Raw material purchase (copper) | Copper price increase | (0.4)      | (5.7)       | (11.1)       |
| Embedded derivatives - Gas purchase                   | Pellet price increase | (1.4)      | (2.7)       | (4.6)        |

h) **Financial counterparties ratings**

The transactions of derivative instruments, cash and cash equivalents as well as investments are held with financial institutions whose exposure limits are periodically reviewed and approved by the delegated authority. The financial institutions credit risk is performed through a methodology that considers, among other information, ratings provided by international rating agencies.



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The table below presents the ratings in foreign currency published by agencies Moody's and S&P regarding the main financial institutions that we had outstanding positions as of March 31, 2016.

| Long term ratings by counterparty     | Moody's | S&P  |
|---------------------------------------|---------|------|
| ANZ Australia and New Zealand Banking | Aa2     | AA-  |
| Banco Bradesco                        | Ba3     | BB   |
| Banco de Credito del Peru             | Baa1    | BBB  |
| Banco do Brasil                       | Ba3     | BB   |
| Banco do Nordeste                     | Ba3     | BB   |
| Banco Safra                           | Ba3     | BB   |
| Banco Santander                       | Ba3     | BB   |
| Banco Votorantim                      | Ba3     | BB   |
| Bank of America                       | Baa1    | BBB+ |
| Bank of Nova Scotia                   | Aa3     | A+   |
| Bank of Tokyo Mitsubishi UFJ          | A1      | A    |
| Banpara                               | Ba3     | BB-  |
| Barclays                              | Baa3    | BBB  |
| BBVA                                  | A3      | BBB+ |
| BNP Paribas                           | A1      | A    |
| BTG Pactual                           | Ba3     | B+   |
| Caixa Economica Federal               | Ba3     | BB   |
| Citigroup                             | Baa1    | BBB+ |
| Credit Agricole                       | A2      | A    |
| Deutsche Bank                         | A2      | BBB+ |
| Goldman Sachs                         | A3      | BBB+ |
| HSBC                                  | A1      | A    |
| Intesa Sanpaolo Spa                   | A3      | BBB- |
| Itau Unibanco                         | Ba3     | BB   |
| JP Morgan Chase & Co                  | A3      | A-   |
| Macquarie Group Ltd                   | A3      | BBB  |
| Morgan Stanley                        | A3      | BBB+ |
| National Australia Bank NAB           | Aa2     | AA-  |
| Royal Bank of Canada                  | Aa3     | AA-  |
| Societe Generale                      | A2      | A    |
| Standard Bank Group                   | Baa3    |      |
| Standard Chartered                    | A1      | BBB+ |

Table of Contentsi) **Market curves**

The curves used on the pricing of derivatives instruments were developed based on data from BM&F, Central Bank of Brazil, London Metals Exchange and Bloomberg.

(i) **Products****Nickel**

| <b>Maturity</b> | <b>Price (US\$/ton)</b> | <b>Maturity</b> | <b>Price (US\$/ton)</b> | <b>Maturity</b> | <b>Price (US\$/ton)</b> |
|-----------------|-------------------------|-----------------|-------------------------|-----------------|-------------------------|
| SPOT            | 8,280                   | SEP16           | 8,531                   | MAR17           | 8,595                   |
| APR16           | 8,462                   | OCT16           | 8,543                   | MAR18           | 8,711                   |
| MAY16           | 8,476                   | NOV16           | 8,556                   | MAR19           | 8,813                   |
| JUN16           | 8,490                   | DEC16           | 8,567                   | MAR20           | 8,899                   |
| JUL16           | 8,503                   | JAN17           | 8,577                   |                 |                         |
| AUG16           | 8,519                   | FEB17           | 8,586                   |                 |                         |

**Copper**

| <b>Maturity</b> | <b>Price (US\$/lb)</b> | <b>Maturity</b> | <b>Price (US\$/lb)</b> | <b>Maturity</b> | <b>Price (US\$/lb)</b> |
|-----------------|------------------------|-----------------|------------------------|-----------------|------------------------|
| SPOT            | 2.19                   | SEP16           | 2.19                   | MAR17           | 2.19                   |
| APR16           | 2.21                   | OCT16           | 2.19                   | MAR18           | 2.19                   |
| MAY16           | 2.20                   | NOV16           | 2.19                   | MAR19           | 2.19                   |
| JUN16           | 2.20                   | DEC16           | 2.19                   | MAR20           | 2.19                   |
| JUL16           | 2.20                   | JAN17           | 2.19                   |                 |                        |
| AUG16           | 2.20                   | FEB17           | 2.19                   |                 |                        |

**Bunker Oil**

| <b>Maturity</b> | <b>Price (US\$/ton)</b> | <b>Maturity</b> | <b>Price (US\$/ton)</b> | <b>Maturity</b> | <b>Price (US\$/ton)</b> |
|-----------------|-------------------------|-----------------|-------------------------|-----------------|-------------------------|
| SPOT            | 172                     | SEP16           | 192                     | MAR17           | 210                     |
| APR16           | 175                     | OCT16           | 195                     | MAR18           | 236                     |

|       |     |       |     |       |     |
|-------|-----|-------|-----|-------|-----|
| MAY16 | 178 | NOV16 | 198 | MAR19 | 274 |
| JUN16 | 180 | DEC16 | 201 | MAR20 | 322 |
| JUL16 | 184 | JAN17 | 205 |       |     |
| AUG16 | 188 | FEB17 | 208 |       |     |

(ii) **Foreign exchange and interest rates****US\$-Brazil Interest Rate**

| Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) |
|----------|---------------|----------|---------------|----------|---------------|
| 05/02/16 | 3.73          | 03/01/17 | 3.25          | 07/01/19 | 3.34          |
| 06/01/16 | 3.65          | 04/03/17 | 3.23          | 10/01/19 | 3.37          |
| 07/01/16 | 3.41          | 07/03/17 | 3.26          | 01/02/20 | 3.45          |
| 08/01/16 | 3.35          | 10/02/17 | 3.22          | 04/01/20 | 3.52          |
| 09/01/16 | 3.20          | 01/02/18 | 3.20          | 07/01/20 | 3.65          |
| 10/03/16 | 3.12          | 04/02/18 | 3.17          | 10/01/20 | 3.86          |
| 11/01/16 | 3.11          | 07/02/18 | 3.19          | 01/04/21 | 4.01          |
| 12/01/16 | 3.11          | 10/01/18 | 3.21          | 07/01/21 | 4.09          |
| 01/02/17 | 3.20          | 01/02/19 | 3.23          | 01/03/22 | 4.36          |
| 02/01/17 | 3.24          | 04/01/19 | 3.29          | 01/02/23 | 4.81          |

**US\$ Interest Rate**

| Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) |
|----------|---------------|----------|---------------|----------|---------------|
| 1M       | 0.44          | 6M       | 0.71          | 11M      | 0.75          |
| 2M       | 0.52          | 7M       | 0.72          | 12M      | 0.75          |
| 3M       | 0.63          | 8M       | 0.73          | 2Y       | 0.86          |
| 4M       | 0.67          | 9M       | 0.74          | 3Y       | 0.98          |
| 5M       | 0.69          | 10M      | 0.74          | 4Y       | 1.11          |

**TJLP**

| Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) |
|----------|---------------|----------|---------------|----------|---------------|
| 05/02/16 | 7.50          | 03/01/17 | 7.50          | 07/01/19 | 7.50          |
| 06/01/16 | 7.50          | 04/03/17 | 7.50          | 10/01/19 | 7.50          |
| 07/01/16 | 7.50          | 07/03/17 | 7.50          | 01/02/20 | 7.50          |
| 08/01/16 | 7.50          | 10/02/17 | 7.50          | 04/01/20 | 7.50          |
| 09/01/16 | 7.50          | 01/02/18 | 7.50          | 07/01/20 | 7.50          |
| 10/03/16 | 7.50          | 04/02/18 | 7.50          | 10/01/20 | 7.50          |
| 11/01/16 | 7.50          | 07/02/18 | 7.50          | 01/04/21 | 7.50          |
| 12/01/16 | 7.50          | 10/01/18 | 7.50          | 07/01/21 | 7.50          |
| 01/02/17 | 7.50          | 01/02/19 | 7.50          | 01/03/22 | 7.50          |
| 02/01/17 | 7.50          | 04/01/19 | 7.50          | 01/02/23 | 7.50          |

Table of Contents**BRL Interest Rate**

| <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> |
|-----------------|----------------------|-----------------|----------------------|-----------------|----------------------|
| 05/02/16        | 14.14                | 03/01/17        | 13.83                | 07/01/19        | 13.92                |
| 06/01/16        | 14.12                | 04/03/17        | 13.80                | 10/01/19        | 13.93                |
| 07/01/16        | 14.10                | 07/03/17        | 13.77                | 01/02/20        | 13.93                |
| 08/01/16        | 14.06                | 10/02/17        | 13.73                | 04/01/20        | 13.92                |
| 09/01/16        | 14.06                | 01/02/18        | 13.72                | 07/01/20        | 13.91                |
| 10/03/16        | 14.03                | 04/02/18        | 13.78                | 10/01/20        | 13.90                |
| 11/01/16        | 13.97                | 07/02/18        | 13.80                | 01/04/21        | 13.91                |
| 12/01/16        | 13.92                | 10/01/18        | 13.83                | 07/01/21        | 13.93                |
| 01/02/17        | 13.88                | 01/02/19        | 13.86                | 01/03/22        | 13.94                |
| 02/01/17        | 13.85                | 04/01/19        | 13.89                | 01/02/23        | 14.05                |

**Implicit Inflation (IPCA)**

| <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> |
|-----------------|----------------------|-----------------|----------------------|-----------------|----------------------|
| 05/02/16        | 7.43                 | 03/01/17        | 7.13                 | 07/01/19        | 6.92                 |
| 06/01/16        | 7.41                 | 04/03/17        | 7.11                 | 10/01/19        | 6.92                 |
| 07/01/16        | 7.39                 | 07/03/17        | 7.02                 | 01/02/20        | 6.92                 |
| 08/01/16        | 7.36                 | 10/02/17        | 6.93                 | 04/01/20        | 6.90                 |
| 09/01/16        | 7.36                 | 01/02/18        | 6.87                 | 07/01/20        | 6.89                 |
| 10/03/16        | 7.32                 | 04/02/18        | 6.89                 | 10/01/20        | 6.88                 |
| 11/01/16        | 7.27                 | 07/02/18        | 6.88                 | 01/04/21        | 6.89                 |
| 12/01/16        | 7.23                 | 10/01/18        | 6.89                 | 07/01/21        | 6.90                 |
| 01/02/17        | 7.19                 | 01/02/19        | 6.89                 | 01/03/22        | 6.92                 |
| 02/01/17        | 7.16                 | 04/01/19        | 6.91                 | 01/02/23        | 7.03                 |

**EUR Interest Rate**

| <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> | <b>Maturity</b> | <b>Rate (% p.a.)</b> |
|-----------------|----------------------|-----------------|----------------------|-----------------|----------------------|
| 1M              | -0.33                | 6M              | -0.18                | 11M             | -0.15                |
| 2M              | -0.28                | 7M              | -0.17                | 12M             | -0.15                |
| 3M              | -0.25                | 8M              | -0.16                | 2Y              | -0.04                |
| 4M              | -0.22                | 9M              | -0.16                | 3Y              | 0.00                 |
| 5M              | -0.19                | 10M             | -0.15                | 4Y              | 0.02                 |

**CAD Interest Rate**

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| Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) | Maturity | Rate (% p.a.) |
|----------|---------------|----------|---------------|----------|---------------|
| 1M       | 0.90          | 6M       | 1.01          | 11M      | 0.89          |
| 2M       | 0.90          | 7M       | 0.97          | 12M      | 0.88          |
| 3M       | 0.90          | 8M       | 0.95          | 2Y       | 0.89          |
| 4M       | 0.95          | 9M       | 0.92          | 3Y       | 0.91          |
| 5M       | 0.99          | 10M      | 0.91          | 4Y       | 0.95          |

Currencies - Ending rates

|          |        |          |        |          |        |
|----------|--------|----------|--------|----------|--------|
| CAD/US\$ | 0.7709 | US\$/BRL | 3.5589 | EUR/US\$ | 1.1380 |
|----------|--------|----------|--------|----------|--------|

Table of Contents**20. Stockholders equity****a) Share capital**

At March 31, 2016 and December 31, 2015, the share capital was US\$61,614 corresponding to 5,244,316,120 shares issued and fully paid without par value.

|  | ON                   | March 31, 2016<br>PNA | Total                 |
|--|----------------------|-----------------------|-----------------------|
| <b>Stockholders</b>                              |                      |                       |                       |
| Valepar S.A.                                     | 1,716,435,045        | 20,340,000            | 1,736,775,045         |
| Brazilian Government (Golden Share)              |                      | 12                    | 12                    |
| Foreign investors - ADRs                         | 794,340,784          | 664,290,644           | 1,458,631,428         |
| FMP - FGTS                                       | 78,297,758           |                       | 78,297,758            |
| PIBB - BNDES                                     | 1,186,115            | 1,098,260             | 2,284,375             |
| BNDESPar   | 206,378,882          | 66,185,272            | 272,564,154           |
| Foreign institutional investors in local market  | 277,441,505          | 710,319,270           | 987,760,775           |
| Institutional investors                          | 75,906,803           | 121,112,309           | 197,019,112           |
| Retail investors in Brazil                       | 35,666,108           | 384,376,159           | 420,042,267           |
| <b>Shares outstanding</b>                        | <b>3,185,653,000</b> | <b>1,967,721,926</b>  | <b>5,153,374,926</b>  |
| Shares in treasury                               | 31,535,402           | 59,405,792            | 90,941,194            |
| <b>Total issued shares</b>                       | <b>3,217,188,402</b> | <b>2,027,127,718</b>  | <b>5,244,316,120</b>  |
| <b>Amounts per class of shares (in millions)</b> | <b>38,525</b>        | <b>23,089</b>         | <b>61,614</b>         |
| <b>Total authorized shares</b>                   | <b>7,200,000,000</b> | <b>3,600,000,000</b>  | <b>10,800,000,000</b> |

**b) Basic and diluted earnings per share**

Basic and diluted earnings per share are as follows:

|  | Three-month period ended March 31 |                |
|--|-----------------------------------|----------------|
|  | 2016                              | 2015           |
| <b>Net income (loss) attributable to Vale's stockholders</b> | <b>1,776</b>                      | <b>(3,118)</b> |

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|  |                  |                  |
|--|------------------|------------------|
| <b>Basic and diluted earnings per share:</b>   |                  |                  |
| Income (loss) available to preferred stockholders                                      | 678              | (1,191)          |
| Income (loss) available to common stockholders   | 1,098            | (1,927)          |
| <b>Total</b>   | <b>1,776</b>     | <b>(3,118)</b>   |
|  |                  |                  |
| Weighted average number of shares outstanding (thousands of shares) - preferred shares | 1,967,722        | 1,967,722        |
| Weighted average number of shares outstanding (thousands of shares) - common shares    | 3,185,653        | 3,185,653        |
| <b>Total</b>   | <b>5,153,375</b> | <b>5,153,375</b> |
|  |                  |                  |
| <b>Basic and diluted earnings per share</b>  |                  |                  |
| Preferred share  | 0.34             | (0.61)           |
| Common share   | 0.34             | (0.61)           |

Table of Contents**21. Costs and expenses by nature****a) Cost of goods sold and services rendered**

|                            | <b>Three-month period ended March 31</b> |              |
|----------------------------|--|--------------|
|                            | <b>2016</b>                              | <b>2015</b>  |
| Personnel                  | 505                                      | 526          |
| Material and service       | 788                                      | 958          |
| Fuel oil and gas           | 307                                      | 307          |
| Maintenance                | 621                                      | 655          |
| Energy                     | 162                                      | 141          |
| Acquisition of products    | 83                                       | 253          |
| Depreciation and depletion | 810                                      | 912          |
| Freight                    | 500                                      | 770          |
| Others                     | 473                                      | 646          |
| <b>Total</b>               | <b>4,249</b>                             | <b>5,168</b> |
| Cost of goods sold         | 4,142                                    | 5,022        |
| Cost of services rendered  | 107                                      | 146          |
| <b>Total</b>               | <b>4,249</b>                             | <b>5,168</b> |

**b) Selling and administrative expenses**

|  | <b>Three-month period ended March 31</b> |             |
|--|--|-------------|
|  | <b>2016</b>                              | <b>2015</b> |
| Personnel  | 51                                       | 84          |
| Services (consulting, infrastructure and others) | 16                                       | 29          |
| Advertising and publicity                        | 1  | 3           |
| Depreciation and amortization                    | 23                                       | 30          |
| Travel expenses                                  | 1  | 3           |
| Taxes and rents                                  | 4  | 6           |
| Others   | 23                                       | 40          |
| <b>Total</b>                                     | <b>119</b>                               | <b>195</b>  |

**c) Others operational expenses (incomes), net**



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|  | Three-month period ended March 31 |             |
|--|-----------------------------------|-------------|
|  | 2016                              | 2015        |
| Provision for litigation   | 31                                | (17)        |
| Provision for loss with VAT credits (ICMS)                                 | 30                                | 41          |
| Provision for profit sharing program                                       |                                   | 21          |
| Provision (reversal) for disposal of materials and inventories             | (71)                              | 63          |
| Gold stream transaction  |                                   | (230)       |
| Result on sale or disposal of property, plant and equipment and intangible | 9                                 | 15          |
| Others   | 36                                | 61          |
| <b>Total</b>   | <b>35</b>                         | <b>(46)</b> |

Table of Contents**22. Financial result**

|  | <b>Three-month period ended March 31</b> |                |
|--|--|----------------|
|  | <b>2016</b>                              | <b>2015</b>    |
| <b>Financial expenses</b>                                |  |                |
| Loans and borrowings gross interest                      | (412)                                    | (391)          |
| Capitalized loans and borrowing costs                    | 177                                      | 196            |
| Labor, tax and civil lawsuits                            | (21)                                     | (34)           |
| Derivative financial instruments                         | (58)                                     | (1,340)        |
| Indexation and exchange rate variation (a)               | (1,170)                                  | (5,301)        |
| Participative stockholders debentures                    | (116)                                    | 275            |
| Expenses of REFIS  | (114)                                    | (144)          |
| Others   | (144)                                    | (121)          |
|  | <b>(1,858)</b>                           | <b>(6,860)</b> |
| <b>Financial income</b>                                  |  |                |
| Short-term investments                                   | 42                                       | 26             |
| Derivative financial instruments                         | 498                                      |                |
| Indexation and exchange rate variation (b)               | 2,725                                    | 2,282          |
| Others   | 18                                       | 42             |
|  | <b>3,283</b>                             | <b>2,350</b>   |
| <b>Financial results, net</b>                            | <b>1,425</b>                             | <b>(4,510)</b> |
| <b>Summary of indexation and exchange rate variation</b> |  |                |
| Loans and borrowings                                     | 2,638                                    | (5,014)        |
| Others   | (1,083)                                  | 1,995          |
| <b>Net (a) + (b)</b>                                     | <b>1,555</b>                             | <b>(3,019)</b> |

**23. Deferred revenue - Gold stream**

In 2013 and 2015, the Company entered into gold stream transactions with Silver Wheaton Corp. ( SLW ) to sell part of the gold extracted during the life of the mine as a by-product of Salobo copper mine and Sudbury nickel mines. The Company received up-front cash proceeds, which were initially recognized as deferred revenue. This transaction was bifurcated into two identifiable components: (i) the sale of the mineral rights and, (ii) the services for gold extraction on the portion in which Vale operates as an agent for SLW gold extraction.

In 2015, the result of the sale of the mineral rights of US\$230 was recognized in the income statement of 2015 as other operating expenses, net and the portion related to the provision of future services for gold extraction was recorded as deferred revenue (liability) in the amount of US\$532. During the three-month period ended March 31, 2016 and 2015, the Company recognized in income statement US\$34 and US\$15, respectively, related to rendered services of the gold extraction.

24. **Commitments**

a) **Base metals operations** In March 2016, Vale Canada Limited purchased the equity interest held by Sumic Nickel Netherland B.V. in Vale Nouvelle-Calédonie S.A.S. for US\$135.

There have been no other material changes to the commitments of the base metals operations disclosed in the financial statements as at December 31, 2015, except for letters of credit and guarantees in the amount of US\$1,030 (US\$991 at December 31, 2015) associated with items such as environment reclamation, asset retirement obligation commitments, insurance, electricity commitments, post-retirement benefits, community service commitments and import and export duties.

b) **Participative stockholders debentures** - The Company paid as semiannual remuneration the amount of US\$39 for the three-month period ended March 31, 2015. At April 1st, 2016 (subsequently event), the company has paid the semiannual remuneration to stockholders debentures the amount of US\$36.

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c) **Operating lease and purchase obligations** - The future payment commitments for operating lease and purchase obligations are as follows:

|  |            |
|--|------------|
| 2016                                   | 46         |
| 2017                                   | 50         |
| 2018                                   | 53         |
| 2019                                   | 45         |
| 2020 and thereafter                    | 48         |
| <b>Total minimum payments required</b> | <b>242</b> |

d) **Guarantees provided** - At March 31, 2016, corporate guarantees provided by Vale (within the limit of its direct or indirect interest) for the companies Norte Energia S.A. and Companhia Siderúrgica do Pecém S.A. totaled US\$309 and US\$1,249, respectively. Due to the conclusion of the energy generation assets transaction (note 6), the guarantee of Norte Energia S.A. is shared with Cemig GT.

## 25. Related parties

Transactions with related parties are made by the Company at arm's-length, observing the price and usual market conditions and therefore do not generate any undue benefit to their counterparties or loss to the Company.

In the normal course of operations, Vale enters into contracts with related parties (subsidiaries, associates, joint ventures and stockholders), related to the sale and purchase of products and services, loans, leasing of assets, sale of raw material and railway transportation services.

The balances of these related party transactions and their effects on the financial statements are as follows:

| Cash and cash equivalents | March 31, 2016                   |                     |                 |        | December 31, 2015         |                                  |                     |                 |
|---------------------------|----------------------------------|---------------------|-----------------|--------|---------------------------|----------------------------------|---------------------|-----------------|
|                           | Derivative financial instruments | Accounts receivable | Related parties | Assets | Cash and cash equivalents | Derivative financial instruments | Accounts receivable | Related parties |
|                           |                                  |                     |                 |        |                           |                                  |                     |                 |

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|   |            |           |            |            |            |           |           |           |
|---|------------|-----------|------------|------------|------------|-----------|-----------|-----------|
| Banco Bradesco S.A.                               | 43         | 7         |            |            | 37         | 66        |           |           |
| Banco do Brasil S.A.                              | 254        | 22        |            |            | 395        | 16        |           |           |
| Baovale Mineração S.A.                            |            |           | 2          | 1          |            |           |           |           |
| Companhia<br>Coreano-Brasileira de<br>Pelotização |            |           |            | 6          |            |           |           | 6         |
| Companhia<br>Hispano-Brasileira de<br>Pelotização |            |           |            | 4          |            |           | 1         | 4         |
| Companhia Ítalo-Brasileira<br>de Pelotização      |            |           |            | 9          |            |           |           | 8         |
| Companhia Nipo-Brasileira<br>de Pelotização       |            |           |            | 10         |            |           |           | 9         |
| Consórcio de Rebocadores da<br>Baia de São Marcos |            |           | 21         |            |            |           | 15        |           |
| Ferrovia Norte Sul S.A.                           |            |           | 6          |            |            |           |           | 3         |
| Mitsui & Co., Ltd.                                |            |           | 1          |            |            |           |           | 1         |
| MRS Logística S.A.                                |            |           |            | 19         |            |           |           | 17        |
| VLI Multimodal S.A.                               |            |           | 5          |            |            |           |           | 9         |
| VLI Operações Portuárias<br>S.A.                  |            |           | 12         |            |            |           |           | 25        |
| VLI S.A.  |            |           | 119        | 10         |            |           |           | 10        |
| Others  |            |           | 42         | 41         |            |           |           | 24        |
| <b>Total</b>                                      | <b>297</b> | <b>29</b> | <b>208</b> | <b>100</b> | <b>432</b> | <b>82</b> | <b>78</b> | <b>71</b> |

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|  | Liabilities                            |                    |                                 |                         |  |                    |            |                         |
|--|--|--------------------|---------------------------------|-------------------------|--|--------------------|------------|-------------------------|
|  | Derivative<br>financial<br>instruments | March 31, 2016     |                                 | Loans and<br>borrowings | Derivative<br>financial<br>instruments | December 31, 2015  |            | Loans and<br>borrowings |
| Suppliers<br>and<br>contractors                |  | Related<br>parties | Suppliers<br>and<br>contractors |                         |  | Related<br>parties |            |                         |
| Aliança Geração de Energia S.A.                |  | 13                 | 35                              |                         |  | 11                 |            |                         |
| Baovale Mineração S.A.                         |  | 12                 |                                 |                         |  | 8                  |            |                         |
| Banco do Brasil S.A.                           | 247                                    |                    |                                 | 2,873                   | 250                                    |                    |            | 2,625                   |
| Banco Bradesco S.A.                            | 168                                    |                    |                                 | 467                     | 205                                    |                    |            | 370                     |
| BNDES  | 39                                     |                    |                                 | 4,202                   | 39                                     |                    |            | 4,066                   |
| BNDES Participações S.A.                       |  |                    |                                 | 416                     |  |                    |            | 371                     |
| Companhia Coreano-Brasileira de Pelotização    |  | 21                 | 62                              |                         |  | 4                  | 70         |                         |
| Companhia Hispano-Brasileira de Pelotização    |  | 14                 | 50                              |                         |  | 37                 | 7          |                         |
| Companhia Ítalo-Brasileira de Pelotização      |  | 11                 | 63                              |                         |  | 3                  | 64         |                         |
| Companhia Nipo-Brasileira de Pelotização       |  | 39                 | 103                             |                         |  | 9                  | 112        |                         |
| Consórcio de Rebocadores da Baía de São Marcos |  | 11                 |                                 |                         |  | 8                  |            |                         |
| Ferrovia Centro-Atlântica S.A.                 |  |                    | 75                              |                         |  |                    | 68         |                         |
| Mitsui & Co., Ltd.                             |  | 10                 |                                 |                         |  | 11                 |            |                         |
| MRS Logística S.A.                             |  | 24                 |                                 |                         |  | 23                 |            |                         |
| Sumic Nickel Netherland B.V.                   |  |                    | 352                             |                         |  |                    | 352        |                         |
| VLI S.A.                                       |  | 1                  | 90                              |                         |  |                    |            |                         |
| Others   |  | 27                 | 25                              |                         |  | 22                 | 15         |                         |
| <b>Total</b>                                   | <b>454</b>                             | <b>183</b>         | <b>855</b>                      | <b>7,958</b>            | <b>494</b>                             | <b>136</b>         | <b>688</b> | <b>7,432</b>            |

|   | Three-month period ended March 31 |                               |                     |                          |                               |                     |
|---|-----------------------------------|-------------------------------|---------------------|--------------------------|-------------------------------|---------------------|
|   | Net operating<br>revenue          | 2016<br>Costs and<br>expenses | Financial<br>result | Net operating<br>revenue | 2015<br>Costs and<br>expenses | Financial<br>result |
| Banco Bradesco S.A. (i)                     |                                   |                               | (18)                |                          |                               | (84)                |
| Banco do Brasil S.A. (i)                    |                                   |                               | (36)                |                          |                               | (136)               |
| Baovale Mineração S.A.                      |                                   | (3)                           |                     |                          | (5)                           |                     |
| BNDES (i)                                   |                                   |                               | (46)                |                          |                               | (17)                |
| BNDES Participações S.A. (i)                |                                   |                               | (6)                 |                          |                               | (10)                |
| Companhia Coreano-Brasileira de Pelotização |                                   | (18)                          |                     |                          | (16)                          |                     |
| Companhia Hispano-Brasileira de Pelotização |                                   | (10)                          |                     |                          | (12)                          |                     |
| Companhia Ítalo-Brasileira de Pelotização   |                                   | (10)                          |                     |                          | (14)                          |                     |

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|  |            |              |              |            |              |              |
|--|------------|--------------|--------------|------------|--------------|--------------|
| Companhia Nipo-Brasileira de Pelotização |            | (33)         |              |            | (25)         |              |
| Companhia Siderúrgica do Pecem           | 17         |              |              |            |              |              |
| Ferrovia Centro Atlântica S.A.           | 8          | (5)          |              | 12         | (12)         |              |
| Ferrovia Norte Sul S.A.                  | 5          |              |              | 4          |              |              |
| Mitsui & Co., Ltd.                       | 20         |              |              | 58         |              |              |
| MRS Logística S.A.                       |            | (63)         |              |            | (119)        |              |
| Samarco Mineração S.A.                   |            |              |              | 31         |              |              |
| VLI Operações Portuárias S.A.            | 29         |              |              |            |              |              |
| VLI S.A.                                 | 27         |              |              | 62         |              | 2            |
| Others                                   | 9          | (8)          | 1            | 18         | (11)         | 2            |
| <b>Total</b>                             | <b>115</b> | <b>(150)</b> | <b>(105)</b> | <b>185</b> | <b>(214)</b> | <b>(243)</b> |

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(i) Not include exchange rate variation.

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**Members of the Board of Directors, Fiscal Council, Advisory Committees and Executive Officers**

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**Chairman**

Sérgio Alexandre Figueiredo Clemente

**Vice-President**

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Marcel Juviniانو Barros

Tarcísio José Massote de Godoy

Motomu Takahashi

HiroYuki Kato

Oscar Augusto de Camargo Filho

Luciano Galvão Coutinho

Lucio Azevedo

Alberto Guth

**Alternate**

Gilberto Antonio Vieira

Moacir Nachbar Junior

Arthur Prado Silva

Francisco Ferreira Alexandre

Robson Rocha

Luiz Mauricio Leuzinger

Yoshitomo Nishimitsu

Eduardo de Oliveira Rodrigues Filho

Victor Guilherme Tito

Carlos Roberto de Assis Ferreira

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**Controlling Committee**

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Moacir Nachbar Junior

Oswaldo Mário Pego de Amorim Azevedo

Marcos Paulo Pereira da Silva

**Executive Development Committee**

Oscar Augusto de Camargo Filho

Marcel Juviniانو Barros

Fernando Jorge Buso Gomes

Tatiana Boavista Barros Heil

**Governance and Sustainability Committee**

Fernando Jorge Buso Gomes

Arthur Prado Silva

Eduardo de Oliveira Rodrigues Filho

Ricardo Rodrigues Morgado

Ricardo Simonsen

**Fiscal Council**

Marcelo Amaral Moraes

**Chairman**

Paulo José dos Reis Souza

Sandro Kohler Marcondes

Aníbal Moreira dos Santos

Raphael Manhães Martins

**Alternate**

Paula Bicudo de Castro Magalhães

Sergio Mamede Rosa do Nascimento

Oswaldo Mário Pego de Amorim Azevedo

Julio Sergio de Souza Cardozo

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Murilo Pinto de Oliveira Ferreira

**Chief Executive Officer**

Vânia Lucia Chaves Somavilla

**Executive Officer (Human Resources, Health & Safety, Sustainability and Energy)**

Luciano Siani Pires

**Executive Officer (Finance and Investors Relations)**

Roger Allan Downey

**Executive Officer (Fertilizers, Coal and Strategy)**

Gerd Peter Poppinga

**Executive Officer (Ferrous)**

Galib Abrahão Chaim



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Tatiana Boavista Barros Heil

**Executive Officer (Capital Projects Implementation)**

Humberto Ramos de Freitas

**Executive Officer (Logistics and Mineral Research)**

Jennifer Anne Maki

**Executive Officer (Base Metals)**

Marcelo Botelho Rodrigues

**Global Controller Director**

Murilo Muller

**Controllership Director**

Dioni Brasil

**Accounting Manager**

**TC-CRC-RJ 083305/O-8**

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**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Vale S.A.  
(Registrant)

Date: April 28, 2016

By:

/s/ Rogerio T. Nogueira  
Rogerio T. Nogueira  
Director of Investor Relations

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