



# Interim Financial Statements

## March 31, 2018

IFRS in US\$

**Vale S.A. Interim Financial Statements  
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# Report of independent registered public accounting firm

**To the Stockholders and Board of Directors of  
Vale S.A.**  
Rio de Janeiro - RJ

## Results of review of interim financial information

We have reviewed the accompanying condensed consolidated statement of financial position of Vale S.A. and subsidiaries ("the Company") as of March 31, 2018, the related condensed consolidated statements of income and comprehensive income, changes in equity and cash flows for the three-month periods ended March 31, 2018 and 2017, and the related notes (collectively, the consolidated interim financial information). Based on our reviews, we are not aware of any material modifications that should be made to the consolidated interim financial information for it to be in conformity with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statement of financial position of the Company as of December 31, 2017, and the related consolidated statements of income and comprehensive income, changes in equity and cash flows for the year then ended (not presented herein); and in our report dated February 27, 2018, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying condensed consolidated statement of financial position as of December 31, 2017, is fairly stated, in all material respects, in relation to the consolidated statement of financial position from which it has been derived.

## Basis for review results

This consolidated interim financial information is the responsibility of the Company's management. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our reviews in accordance with the standards of the PCAOB. A review of consolidated 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 PCAOB, 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 opinion.

KPMG Auditores Independentes

Rio de Janeiro, Brazil

April 25, 2018

## Consolidated Income Statement

In millions of United States dollars, except earnings per share data

	Notes	Three-month period ended March 31,	
		2018	2017
<b>Continuing operations</b>			
Net operating revenue	3(c)	8,603	8,515
Cost of goods sold and services rendered	5(a)	(5,224)	(4,734)
<b>Gross profit</b>		<b>3,379</b>	<b>3,781</b>
<b>Operating expenses</b>			
Selling and administrative expenses	5(b)	(124)	(124)
Research and evaluation expenses		(69)	(65)
Pre operating and operational stoppage		(78)	(115)
Other operating expenses, net	5(c)	(125)	(77)
		<b>(396)</b>	<b>(381)</b>
Impairment and other results on non-current assets	4	(18)	512
<b>Operating income</b>		<b>2,965</b>	<b>3,912</b>
Financial income	6	237	379
Financial expenses	6	(676)	(1,150)
Other financial items	6	(185)	158
Equity results in associates and joint ventures	13	85	73
Impairment and other results in associates and joint ventures	17	(14)	(61)
<b>Income before income taxes</b>		<b>2,412</b>	<b>3,311</b>
<b>Income taxes</b>			
	7		
Current tax		(93)	(501)
Deferred tax		(628)	(222)
		<b>(721)</b>	<b>(723)</b>
<b>Net income from continuing operations</b>		<b>1,691</b>	<b>2,588</b>
Net income attributable to noncontrolling interests		19	15
<b>Net income from continuing operations attributable to Vale's stockholders</b>		<b>1,672</b>	<b>2,573</b>
<b>Discontinued operations</b>			
	12		
Loss from discontinued operations		(82)	(82)
Net income attributable to noncontrolling interests		-	1
<b>Loss from discontinued operations attributable to Vale's stockholders</b>		<b>(82)</b>	<b>(83)</b>
<b>Net income</b>		<b>1,609</b>	<b>2,506</b>
Net income attributable to noncontrolling interests		19	16
<b>Net income attributable to Vale's stockholders</b>		<b>1,590</b>	<b>2,490</b>
<b>Earnings per share attributable to Vale's stockholders:</b>			
<b>Basic and diluted earnings per share (restated):</b>	8		
Common share (US\$)		0.30	0.48

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

## Consolidated Statement of Comprehensive Income

In millions of United States dollars

	Three-month period ended March 31,	
	2018	2017
<b>Net income</b>	<b>1,609</b>	<b>2,506</b>
<b>Other comprehensive income:</b>		
<b>Items that will not be reclassified subsequently to the income statement</b>		
Translation adjustments	(230)	1,114
Retirement benefit obligations	53	(23)
Fair value adjustment to investment in equity securities	(35)	-
Transfer to retained earnings	(20)	-
<b>Total items that will not be reclassified subsequently to the income statement, net of tax</b>	<b>(232)</b>	<b>1,091</b>
<b>Items that may be reclassified subsequently to the income statement</b>		
Translation adjustments	(11)	(617)
Net investments hedge	(27)	157
Transfer of realized results to net income	(78)	-
<b>Total of items that may be reclassified subsequently to the income statement, net of tax</b>	<b>(116)</b>	<b>(460)</b>
<b>Total comprehensive income</b>	<b>1,261</b>	<b>3,137</b>
Comprehensive income attributable to noncontrolling interests	17	37
<b>Comprehensive income attributable to Vale's stockholders</b>	<b>1,244</b>	<b>3,100</b>
From continuing operations	1,239	3,109
From discontinued operations	5	(9)
	<b>1,244</b>	<b>3,100</b>

Items above are stated net of tax and the related taxes are disclosed in note 7.

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

## Consolidated Statement of Cash Flows

In millions of United States dollars

	Three-month period ended March 31,	
	2018	2017
<b>Cash flow from operating activities:</b>		
Income before income taxes from continuing operations	2,412	3,311
<b>Continuing operations adjustments for:</b>		
Equity results in associates and joint ventures	(85)	(73)
Impairment and other results on non-current assets and associates and joint ventures	32	(451)
Depreciation, amortization and depletion	873	908
Financial results, net	624	613
<b>Changes in assets and liabilities:</b>		
Accounts receivable	17	298
Inventories	56	(221)
Suppliers and contractors	(340)	82
Provision - Payroll, related charges and others remunerations	(541)	(242)
Other assets and liabilities, net	(105)	(169)
	<b>2,943</b>	<b>4,056</b>
Interest on loans and borrowings paid	(381)	(515)
Derivatives paid, net	(25)	(107)
Income taxes	(240)	(368)
Income taxes - Settlement program	(125)	(121)
<b>Net cash provided by operating activities from continuing operations</b>	<b>2,172</b>	<b>2,945</b>
<b>Cash flow from investing activities:</b>		
Financial investments redeemed (invested)	(16)	(53)
Loans and advances - net receipts (payments) (note 25)	2,640	(144)
Additions to property, plant and equipment, intangibles and investments	(907)	(1,116)
Proceeds from disposal of assets and investments (note 12)	1,101	515
Dividends and interest on capital received from associates and joint ventures	10	-
Others investments activities	15	(2)
<b>Net cash provided by (used in) investing activities from continuing operations</b>	<b>2,843</b>	<b>(800)</b>
<b>Cash flow from financing activities:</b>		
<b>Loans and borrowings</b>		
Additions	-	1,150
Repayments	(2,277)	(1,118)
<b>Transactions with stockholders:</b>		
Dividends and interest on capital paid to stockholders	(1,437)	-
Dividends and interest on capital paid to noncontrolling interest	(91)	(3)
Transactions with noncontrolling stockholders	(17)	255
<b>Net cash provided by (used in) financing activities from continuing operations</b>	<b>(3,822)</b>	<b>284</b>
<b>Net cash used in discontinued operations (note 12)</b>	<b>(44)</b>	<b>(5)</b>
<b>Increase in cash and cash equivalents</b>	<b>1,149</b>	<b>2,424</b>
Cash and cash equivalents in the beginning of the period	4,328	4,262
Effect of exchange rate changes on cash and cash equivalents	(6)	44
Effects of disposals of subsidiaries and merger, net on cash and cash equivalents	(103)	(14)
<b>Cash and cash equivalents at end of the period</b>	<b>5,368</b>	<b>6,716</b>
<b>Non-cash transactions:</b>		
Additions to property, plant and equipment - capitalized loans and borrowing costs	60	103

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

## Consolidated Statement of Financial Position

In millions of United States dollars

	Notes	March 31, 2018	December 31, 2017
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	16	5,368	4,328
Accounts receivable	9	2,689	2,600
Other financial assets	11	376	2,022
Inventories	10	3,967	3,926
Prepaid income taxes		722	781
Recoverable taxes		1,055	1,172
Others		602	538
		<b>14,779</b>	<b>15,367</b>
Non-current assets held for sale	12	460	3,587
		<b>15,239</b>	<b>18,954</b>
<b>Non-current assets</b>			
Judicial deposits	22(c)	1,993	1,986
Other financial assets	11	3,047	3,232
Prepaid income taxes		587	530
Recoverable taxes		667	638
Deferred income taxes	7(a)	6,106	6,638
Others		282	267
		<b>12,682</b>	<b>13,291</b>
Investments in associates and joint ventures	13	3,722	3,568
Intangibles	14	8,592	8,493
Property, plant and equipment	15	54,149	54,878
		<b>79,145</b>	<b>80,230</b>
<b>Total assets</b>		<b>94,384</b>	<b>99,184</b>
<b>Liabilities</b>			
<b>Current liabilities</b>			
Suppliers and contractors		3,598	4,041
Loans and borrowings	16	1,966	1,703
Other financial liabilities	11	1,008	986
Taxes payable	7(c)	703	697
Provision for income taxes		227	355
Liabilities related to associates and joint ventures	17	369	326
Provisions	21	868	1,394
Dividends and interest on capital		-	1,441
Others		1,038	992
		<b>9,777</b>	<b>11,935</b>
Liabilities associated with non-current assets held for sale	12	213	1,179
		<b>9,990</b>	<b>13,114</b>
<b>Non-current liabilities</b>			
Loans and borrowings	16	18,310	20,786
Other financial liabilities	11	2,901	2,894
Taxes payable	7(c)	4,796	4,890
Deferred income taxes	7(a)	1,704	1,719
Provisions	21	6,984	7,027
Liabilities related to associates and joint ventures	17	633	670
Deferred revenue - Gold stream		1,793	1,849
Others		1,466	1,463
		<b>38,587</b>	<b>41,298</b>
<b>Total liabilities</b>		<b>48,577</b>	<b>54,412</b>
<b>Stockholders' equity</b>			
Equity attributable to Vale's stockholders	24	44,702	43,458
Equity attributable to noncontrolling interests		1,105	1,314
<b>Total stockholders' equity</b>		<b>45,807</b>	<b>44,772</b>
<b>Total liabilities and stockholders' equity</b>		<b>94,384</b>	<b>99,184</b>

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



## Consolidated Statement of Changes in Equity

In millions of United States dollars

	Share capital	Results on conversion of shares	Capital reserve	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 stockholders' equity
<b>Balance at December 31, 2017</b>	<b>61,614</b>	<b>(152)</b>	<b>1,139</b>	<b>(954)</b>	<b>7,419</b>	<b>(1,477)</b>	<b>(1,183)</b>	<b>(22,948)</b>	-	<b>43,458</b>	<b>1,314</b>	<b>44,772</b>
<b>Net income</b>	-	-	-	-	-	-	-	-	1,590	1,590	19	1,609
<b>Other comprehensive income:</b>												
Retirement benefit obligations	-	-	-	-	-	-	53	-	(20)	33	-	33
Net investments hedge (note 20c)	-	-	-	-	-	-	-	(27)	-	(27)	-	(27)
Fair value adjustment to investment in equity securities	-	-	-	-	-	-	(35)	-	-	(35)	-	(35)
Translation adjustments	-	-	-	-	(35)	-	-	(282)	-	(317)	(2)	(319)
<b>Transactions with stockholders:</b>												
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(1)	(1)
Acquisitions and disposal of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(225)	(225)
<b>Balance at March 31, 2018</b>	<b>61,614</b>	<b>(152)</b>	<b>1,139</b>	<b>(954)</b>	<b>7,384</b>	<b>(1,477)</b>	<b>(1,165)</b>	<b>(23,257)</b>	<b>1,570</b>	<b>44,702</b>	<b>1,105</b>	<b>45,807</b>

	Share capital	Results on conversion of shares	Capital reserve	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 stockholders' equity
<b>Balance at December 31, 2016</b>	<b>61,614</b>	<b>(152)</b>	-	<b>(699)</b>	<b>4,203</b>	<b>(1,477)</b>	<b>(1,147)</b>	<b>(23,300)</b>	-	<b>39,042</b>	<b>1,982</b>	<b>41,024</b>
<b>Net income</b>	-	-	-	-	-	-	-	-	2,490	2,490	16	2,506
<b>Other comprehensive income:</b>												
Retirement benefit obligations	-	-	-	-	-	-	(23)	-	-	(23)	-	(23)
Net investments hedge (note 20c)	-	-	-	-	-	-	-	174	-	174	-	174
Translation adjustments	-	-	-	-	120	-	(18)	356	1	459	21	480
<b>Transactions with stockholders:</b>												
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(2)	(2)
Acquisitions and disposal of noncontrolling interest	-	-	-	(105)	-	-	-	-	-	(105)	(508)	(613)
Capitalization of noncontrolling interest advances	-	-	-	-	-	-	-	-	-	-	25	25
<b>Balance at March 31, 2017</b>	<b>61,614</b>	<b>(152)</b>	-	<b>(804)</b>	<b>4,323</b>	<b>(1,477)</b>	<b>(1,188)</b>	<b>(22,770)</b>	<b>2,491</b>	<b>42,037</b>	<b>1,534</b>	<b>43,571</b>

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

## 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 in the city of Rio de Janeiro, Brazil with securities traded on the stock exchanges of São Paulo – B3 S.A. (Vale3), New York - NYSE (VALE), Paris - NYSE Euronext (Vale3) and Madrid – LATIBEX (XVALO).

Vale S.A. and its direct and indirect subsidiaries ("Vale" or "Company") are global 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 Company also produces copper, metallurgical and thermal coal, 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") have been prepared and are being presented in accordance with IAS 34 Interim Financial Reporting of the International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

#### b) Basis of presentation

The interim financial statements have been prepared to update users about relevant events and transactions occurred in the period and should be read in conjunction with the financial statements for the year ended December 31, 2017. The accounting policies, accounting estimates and judgments, risk management and measurement methods are the same as those applied when preparing the last annual financial statements, except for new accounting policies related to the application of IFRS 9 – Financial instrument and IFRS 15 – Revenue from contracts with customers, which are described in note 2(c). The accounting policy for recognizing and measuring income taxes in the interim period is described in note 7.

The interim financial statements of the Company and its associates and joint ventures are measured using the currency of the primary economic environment in which the entity operates ("functional currency"), which in the case of the Parent Company is the Brazilian real ("R\$"). For presentation purposes, these interim financial statements are presented in United States dollars ("US\$") as the Company believes that this is the relevant currency used by international investors.

The exchange rates used by the Company to translate its foreign operations are as follows:

	Closing rate		Average rate	
	March 31, 2018	December 31, 2017	Three-month period ended March 31, 2018	March 31, 2017
US Dollar ("US\$")	3.3238	3.3080	3.2433	3.1451
Canadian dollar ("CAD")	2.5778	2.6344	2.5649	2.3760
Australian dollar ("AUD")	2.5497	2.5849	2.5505	2.3824
Euro ("EUR" or "€")	4.0850	3.9693	3.9866	3.3510

The issue of these interim financial statements was authorized by the Board of Directors on April 25, 2018.

#### c) Changes in significant accounting policies

**i) IFRS 9 Financial instrument** – The Company has adopted IFRS 9 *Financial Instruments* starting January 1, 2018. This standard addresses the classification and measurement of financial assets and liabilities, new impairment model and new rules for hedge accounting. The main changes are described below:

- Classification and measurement - Under IFRS 9, the Company's financial assets are initially measured at fair value (plus transaction costs if is not measured at fair value through profit or loss).

The investments in debt financial instruments are subsequently measured at fair value through profit or loss (“FVTPL”), amortized cost, or fair value through other comprehensive income (“FVOCI”). The classification is based on two conditions: the Company’s business model in which the asset is held; and whether the contractual terms give rise on specified dates to cash flows that are ‘solely payments of principal and interest’ on the principal amount outstanding (“SPPI”).

The FVOCI category only includes equity instruments, which is not held for trading and the Company has irrevocably elected to designate upon initial recognition. The gains or losses from equity instruments at FVOCI are not recycled to income statement on derecognition and these financial assets are not subject to an impairment assessment under IFRS 9.

The Company has assessed its business models as of the date of IFRS 9 initial application, 1 January 2018, and no significant impact were identified in the financial statements.

- Impairment - IFRS 9 has replaced the IAS 39’s incurred loss approach with a forward-looking expected credit loss (ECL) approach.

For accounts receivables, the Company has applied the standard’s simplified approach and has calculated ECLs based on lifetime expected credit losses. The Company has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the economic environment and by any financial guarantees related to these accounts receivables.

For other financial assets, the ECL is based on the 12-month ECL. The 12-month ECL is the proportion of lifetime ECLs that results from default events on a financial instrument that are possible within 12 months after the reporting date. However, when there has been a significant increase in credit risk since origination, the allowance will be based on the lifetime ECL.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company’s historical experience and informed credit assessment including forward-looking information.

At each reporting date, the Company assesses whether financial assets carried at amortized cost are credit-impaired. A financial asset is ‘credit-impaired’ when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

There is no significant impact on its financial statements resulting from this new impairment approach given Vale’s credit rating and risk management policies in place.

- Hedge accounting - The Company has elected to adopt the new general hedge accounting model in IFRS 9. The changes introduced by IFRS 9 relating to hedge accounting currently have no impact, as the Company does not currently apply cash flow or fair value hedge accounting. The Company currently applies the net investment hedge for which there are no changes introduced by this new standard.

**ii) IFRS 15 Revenue from contracts with customers** - The Company has adopted IFRS 15 *Revenue from contracts with customers* starting January 1, 2018. IFRS 15 establishes a comprehensive framework for revenue recognition and replaced IAS 18 Revenue, IAS 11 Construction Contracts and related interpretations. The Company has adopted IFRS 15 using the modified retrospective method. Accordingly, the information presented for 2017 has not been restated.

- Sales of commodities - IFRS 15 introduced the five-step model for revenue recognition from contracts with customers. The new standard is based on the core principle that revenue is recognized when the control of a good or service transfers to a customer of an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

There is no significant impact on the timing of commodities revenue recognition under IFRS 15, since usually the transfer of risks and rewards and the transfer of control under the sales contracts are at the same point in time.

The disaggregated revenue information is disclosed in note 3.

- Shipping services - A proportion of Vale’s sales are under Cost and Freight (“CFR”) or Cost, Insurance and Freight (“CIF”) Incoterms, in which the Company is responsible for providing shipping services after the date that Vale transfers control of the goods to the customers. According to the previous standard (IAS 18), the revenue from shipping services was recognized upon loading, as well as the related costs, and was not considered a separate service.

Under IFRS 15, the provision of shipping services for CFR and CIF contracts should be considered as a separate performance obligation in which a proportion of the transaction price would be allocated and recognized over time as the shipping services are provided. The impact on the timing of revenue recognition of the proportion allocated to the shipping service is not significant to the Company's quarter-end results ended March 31, 2018. Therefore, such revenue has not been presented separately in these interim financial statements.

- Provisionally priced commodities sales - Under IFRS 9 and 15, the treatment of the provisional pricing mechanisms embedded within the provisionally priced commodities sales remains unmodified. Therefore, these revenues are recognized based on the estimated fair value of the total consideration receivable, and the provisionally priced sales mechanism embedded within these sale arrangements has the character of a derivative.

The Company is mostly exposed to the fluctuations in the iron ore and copper price.

The selling price of these products can be measured reliably at each period, since the price is quoted on an active market. The fair value of the sales price adjustment, in the amount of US\$162 in the period ended March 31, 2018, were recognized as operational revenue in the income statement.

#### **d) 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 applicable when preparing the financial statements for the year ended December 31, 2017. The other new standards effective from January 1, 2018 do not have a material effect on the Company's interim financial statements.

### 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 reclassifications between segments.

#### a) Adjusted EBITDA

Management uses adjusted EBITDA to assess each segment's contribution to the Company's performance and to support the decision making process. Adjusted EBITDA is calculated for each segment using operating income or loss plus dividends received and interest from associates and joint ventures, and adding back the amounts charged as (i) depreciation, depletion and amortization and (ii) special events (additional information can be found in note 4).

In 2018, the Company has allocated general and corporate expenses to "Others" as these expenses are not directly related to the performance of each business segment. Therefore, "Others" includes unallocated corporate expenses. The comparative period was restated in order to reflect this change in the criteria for allocation.

	Three-month period ended March 31, 2018						
	Net operating revenue	Cost of goods sold and services rendered	Sales, administrative and other operating expenses (i)	Research and evaluation	Pre operating and operational stoppage	Dividends received and interest from associates and joint ventures	Adjusted EBITDA
<b>Ferrous minerals</b>							
Iron ore	4,703	(2,078)	(13)	(20)	(35)	-	2,557
Iron ore Pellets	1,585	(813)	(1)	(5)	(3)	-	763
Ferroalloys and manganese	124	(74)	(1)	-	-	-	49
Other ferrous products and services	115	(73)	(3)	-	-	-	39
	<b>6,527</b>	<b>(3,038)</b>	<b>(18)</b>	<b>(25)</b>	<b>(38)</b>	-	<b>3,408</b>
<b>Coal</b>	<b>380</b>	<b>(335)</b>	<b>2</b>	<b>(3)</b>	-	<b>60</b>	<b>104</b>
<b>Base metals</b>							
Nickel and other products	1,132	(705)	(15)	(9)	(8)	-	395
Copper	502	(248)	(1)	(4)	-	-	249
	<b>1,634</b>	<b>(953)</b>	<b>(16)</b>	<b>(13)</b>	<b>(8)</b>	-	<b>644</b>
Others	62	(70)	(153)	(28)	(6)	10	(185)
<b>Total of continuing operations</b>	<b>8,603</b>	<b>(4,396)</b>	<b>(185)</b>	<b>(69)</b>	<b>(52)</b>	<b>70</b>	<b>3,971</b>
Discontinued operations (Fertilizers)	89	(84)	(1)	-	-	-	4
<b>Total</b>	<b>8,692</b>	<b>(4,480)</b>	<b>(186)</b>	<b>(69)</b>	<b>(52)</b>	<b>70</b>	<b>3,975</b>

(i) Adjusted for the special events occurred in the period.

	Three-month period ended March 31, 2017						
	Net operating revenue	Cost of goods sold and services rendered	Sales, administrative and other operating expenses	Research and evaluation	Pre operating and operational stoppage		Adjusted EBITDA
<b>Ferrous minerals</b>							
Iron ore	4,826	(1,677)	69	(16)	(41)		3,161
Iron ore Pellets	1,459	(652)	-	(3)	(1)		803
Ferroalloys and manganese	86	(44)	(1)	-	(3)		38
Other ferrous products and services	126	(76)	(3)	(1)	-		46
	<b>6,497</b>	<b>(2,449)</b>	<b>65</b>	<b>(20)</b>	<b>(45)</b>		<b>4,048</b>
<b>Coal</b>	<b>324</b>	<b>(248)</b>	<b>(4)</b>	<b>(3)</b>	-		<b>69</b>
<b>Base metals</b>							
Nickel and other products	1,132	(862)	(14)	(9)	(38)		209
Copper	465	(230)	-	(2)	-		233
	<b>1,597</b>	<b>(1,092)</b>	<b>(14)</b>	<b>(11)</b>	<b>(38)</b>		<b>442</b>
Others	97	(99)	(217)	(31)	(1)		(251)
<b>Total of continuing operations</b>	<b>8,515</b>	<b>(3,888)</b>	<b>(170)</b>	<b>(65)</b>	<b>(84)</b>		<b>4,308</b>
Discontinued operations (Fertilizers)	370	(339)	(15)	(2)	(11)		3
<b>Total</b>	<b>8,885</b>	<b>(4,227)</b>	<b>(185)</b>	<b>(67)</b>	<b>(95)</b>		<b>4,311</b>

Adjusted EBITDA is reconciled to net income (loss) as follows:

### From Continuing operations

	Three-month period ended March 31,	
	2018	2017
<b>Adjusted EBITDA from continuing operations</b>	<b>3,971</b>	<b>4,308</b>
Depreciation, depletion and amortization	(873)	(908)
Dividends received and interest from associates and joint ventures	(70)	-
Special events (note 4)	(63)	512
<b>Operating income</b>	<b>2,965</b>	<b>3,912</b>
Financial results, net	(624)	(613)
Equity results in associates and joint ventures	85	73
Impairment and other results in associates and joint ventures	(14)	(61)
Income taxes	(721)	(723)
<b>Net income from continuing operations</b>	<b>1,691</b>	<b>2,588</b>
Net income attributable to noncontrolling interests	19	15
<b>Net income attributable to Vale's stockholders</b>	<b>1,672</b>	<b>2,573</b>

### From Discontinued operations

	Three-month period ended March 31,	
	2018	2017
<b>Adjusted EBITDA from discontinued operations</b>	<b>4</b>	<b>3</b>
Impairment of non-current assets	(113)	(111)
<b>Operating loss</b>	<b>(109)</b>	<b>(108)</b>
Financial results, net	(4)	(4)
Income taxes	31	30
<b>Loss from discontinued operations</b>	<b>(82)</b>	<b>(82)</b>
Net income attributable to noncontrolling interests	-	1
<b>Loss attributable to Vale's stockholders</b>	<b>(82)</b>	<b>(83)</b>

### b) Assets by segment

	March 31, 2018			Three-month period ended March 31, 2018	
	Product inventory	Investments in associates and joint ventures	Property, plant and equipment and intangible (i)	Additions to property, plant and equipment and intangible (ii)	Depreciation, depletion and amortization (iii)
Ferrous minerals	1,723	1,988	36,078	654	432
Coal	70	336	1,683	33	65
Base metals	1,146	14	23,136	197	350
Others	16	1,384	1,844	6	26
<b>Total</b>	<b>2,955</b>	<b>3,722</b>	<b>62,741</b>	<b>890</b>	<b>873</b>

	December 31, 2017			Three-month period ended March 31, 2017	
	Product inventory	Investments in associates and joint ventures	Property, plant and equipment and intangible (i)	Additions to property, plant and equipment and intangible (ii)	Depreciation, depletion and amortization (iii)
Ferrous minerals	1,770	1,922	36,103	830	417
Coal	82	317	1,719	56	105
Base metals	1,009	13	23,603	211	381
Others	6	1,316	1,946	10	5
<b>Total</b>	<b>2,867</b>	<b>3,568</b>	<b>63,371</b>	<b>1,107</b>	<b>908</b>

(i) Goodwill is allocated mainly to ferrous minerals and base metals segments in the amount of US\$2,146 and US\$1,906 in March 31, 2018 and US\$2,157 and US\$1,953 in December 31, 2017, respectively.

(ii) Includes only cash outflows.

(iii) Refers to amounts recognized in the income statement.

In September 2017, the Federal Court granted an injunction suspending certain of nickel mining operations at Onça Puma (base metals segment). The Company has appealed this decision to seek a suspension of this injunction, but it is not possible to anticipate when Onça Puma activities will resume. The Company has assessed the impairment risk related to this specific cash-generating unit and concluded that no loss should be recognized in the income statement for the period ended March 31, 2018.

### c) Net operating revenue by geographic area

	Three-month period ended March 31, 2018				
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	219	-	157	-	376
United States of America	82	-	244	8	334
Germany	325	-	71	-	396
Europe, except Germany	471	102	499	-	1,072
Middle East/Africa/Oceania	593	43	4	-	640
Japan	457	33	115	-	605
China	3,386	-	208	-	3,594
Asia, except Japan and China	346	150	249	-	745
Brazil	648	52	87	54	841
<b>Net operating revenue</b>	<b>6,527</b>	<b>380</b>	<b>1,634</b>	<b>62</b>	<b>8,603</b>

	Three-month period ended March 31, 2017				
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	142	-	304	-	446
United States of America	53	-	186	45	284
Germany	309	-	52	16	377
Europe, except Germany	581	89	453	-	1,123
Middle East/Africa/Oceania	427	51	3	-	481
Japan	390	33	88	-	511
China	3,658	-	160	-	3,818
Asia, except Japan and China	255	101	311	-	667
Brazil	682	50	40	36	808
<b>Net operating revenue</b>	<b>6,497</b>	<b>324</b>	<b>1,597</b>	<b>97</b>	<b>8,515</b>

**Provisionally priced commodities sales** - As at March 31, 2018, there were 29 million metric tons of iron ore (2017: 33 million metric tons) and 73 thousand metric tons of copper (2017: 106 thousand metric tons) provisionally priced based on forward prices. The final price of these sales will be determined during the second quarter of 2018. A 10% change in the realized prices compared to the provisionally priced sales, all other factors held constant, would increase or reduce iron ore net income by US\$183 and copper net income by US\$58.

#### 4. Special events occurred during the period

The special events occurred during the period are those that, in the Company's judgment, have non-operational effect on the performance of the period due to their size and nature. To determine whether an event or transaction should be disclosed as "special events", the Company considers quantitative and qualitative factors, such as frequency and magnitude.

The special events identified by the Company are as follows:

	Three-month period ended March 31,	
	2018	2017
Disposals of assets	(18)	(3)
Provision for litigation	(45)	-
Nacala Logistic Corridor	-	515
<b>Total</b>	<b>(63)</b>	<b>512</b>

**Disposals of assets** - The Company recognized a loss of US\$18 in the income statement during the period ended March 31, 2018 as "Impairment and other results on noncurrent assets" due to non-viable projects and operating assets written off through sale or obsolescence.

**Provision for litigation** - During the period ended March 31, 2018, the Company's assessment of the likelihood of loss for various labor litigations have been updated and a net impact of US\$45 was charged to the income statement.

**Nacala Logistic Corridor** - In March 2017, the Company concluded the transaction with Mitsui to sell 15% of its stake in Vale Moçambique and 50% of its stake in the Nacala Logistics Corridor and recognized a gain in the income statement of US\$515.

## 5. Costs and expenses by nature

### a) Cost of goods sold and services rendered

	Three-month period ended March 31,	
	2018	2017
Personnel	553	547
Materials and services	884	782
Fuel oil and gas	353	309
Maintenance	737	723
Energy	238	215
Acquisition of products	123	164
Depreciation and depletion	828	846
Freight	901	659
Others	607	489
<b>Total</b>	<b>5,224</b>	<b>4,734</b>
Cost of goods sold	5,077	4,595
Cost of services rendered	147	139
<b>Total</b>	<b>5,224</b>	<b>4,734</b>

### b) Selling and administrative expenses

	Three-month period ended March 31,	
	2018	2017
Personnel	62	54
Services	19	12
Depreciation and amortization	19	29
Others	24	29
<b>Total</b>	<b>124</b>	<b>124</b>

### c) Other operating expenses, net

	Three-month period ended March 31,	
	2018	2017
Provision for litigation	45	12
Profit sharing program	47	39
Others	33	26
<b>Total</b>	<b>125</b>	<b>77</b>

## 6. Financial result

	Three-month period ended March 31,	
	2018	2017
<b>Financial income</b>		
Short-term investments	25	36
Derivative financial instruments	119	315
Others	93	28
	<b>237</b>	<b>379</b>
<b>Financial expenses</b>		
Loans and borrowings gross interest	(336)	(452)
Capitalized loans and borrowing costs	60	103
Derivative financial instruments	(29)	(106)
Participative stockholders' debentures	(183)	(412)
Expenses of REFIS	(58)	(126)
Others	(130)	(157)
	<b>(676)</b>	<b>(1,150)</b>
<b>Other financial items</b>		
Net foreign exchange gains (losses) on loans and borrowings	(117)	499
Other net foreign exchange gains (losses)	53	(264)
Net indexation losses	(121)	(77)
	<b>(185)</b>	<b>158</b>
<b>Financial results, net</b>	<b>(624)</b>	<b>(613)</b>



## 7. Income taxes

### a) Deferred income tax assets and liabilities

Changes in deferred tax are as follows:

	Assets	Liabilities	Total
<b>Balance at December 31, 2017</b>	<b>6,638</b>	<b>1,719</b>	<b>4,919</b>
Effect in income statement	(628)	-	(628)
Transfers between asset and liabilities	8	8	-
Translation adjustment	(24)	(32)	8
Other comprehensive income	86	9	77
<b>Effect of discontinued operations</b>			
Effect in income statement	31	-	31
Transfer to net assets held for sale	(5)		(5)
<b>Balance at March 31, 2018</b>	<b>6,106</b>	<b>1,704</b>	<b>4,402</b>

	Assets	Liabilities	Total
<b>Balance at December 31, 2016</b>	<b>7,343</b>	<b>1,700</b>	<b>5,643</b>
Effect in income statement	(251)	(29)	(222)
Translation adjustment	139	10	129
Other comprehensive income	(104)	(4)	(100)
<b>Effect of discontinued operations</b>			
Effect in income statement	30	-	30
Transfer to net assets held for sale	(30)		(30)
<b>Balance at March 31, 2017</b>	<b>7,127</b>	<b>1,677</b>	<b>5,450</b>

### b) Income tax reconciliation – Income statement

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,	
	2018	2017
<b>Income before income taxes</b>	<b>2,412</b>	<b>3,311</b>
<b>Income taxes at statutory rates - 34%</b>	<b>(820)</b>	<b>(1,126)</b>
<b>Adjustments that affect the basis of taxes:</b>		
Income tax benefit from interest on stockholders' equity	67	126
Tax incentives	27	178
Equity results	29	25
Unrecognized tax losses of the period	(147)	(176)
Gain on sale of subsidiaries (note 4)	-	175
Others	123	75
<b>Income taxes</b>	<b>(721)</b>	<b>(723)</b>

Income tax expense is recognized at an amount determined by the estimated tax rate, adjusted for the tax effect of certain items recognized in full in the interim period. Therefore, the effective tax rate in the interim financial statement may differ from management's estimate of the effective tax rate for the annual financial statement.

### c) Income taxes - Settlement program ("REFIS")

The balance mainly relates to REFIS 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. As at March 31, 2018, the balance of US\$5,284 (US\$488 as current and US\$4,796 as non-current) is due in 127 remaining monthly installments, bearing interest at the SELIC rate (Special System for Settlement and Custody).

## 8. Basic and diluted earnings (loss) per share

The basic and diluted earnings (loss) per share are presented below:

	Three-month period ended March 31,	
	2018	2017 (i)
<b>Net income attributable to Vale's stockholders:</b>		
Net income from continuing operations	1,672	2,573
Loss from discontinued operations	(82)	(83)
<b>Net income</b>	<b>1,590</b>	<b>2,490</b>
<b>Thousands of shares</b>		
Weighted average number of shares outstanding - common shares	5,197,432	5,197,432
<b>Basic and diluted earnings per share from continuing operations:</b>		
Common share (US\$)	0.32	0.50
<b>Basic and diluted loss per share from discontinued operations:</b>		
Common share (US\$)	(0.02)	(0.02)
<b>Basic and diluted earnings per share:</b>		
Common share (US\$)	0.30	0.48

(i) Restated to reflect the conversion of the class "A" preferred shares into common shares.

The Company does not have potential outstanding shares with dilutive effect on the earnings (loss) per share.

## 9. Accounts receivable

	March 31, 2018	December 31, 2017
Accounts receivable	2,784	2,660
Impairment of accounts receivable	(95)	(60)
	<b>2,689</b>	<b>2,600</b>
<b>Accounts receivable related to the steel sector - %</b>	<b>77.80%</b>	<b>82.90%</b>

There are no significant amounts recognized in the income statement related to impairment of accounts receivables for the three-month period ended March 31, 2018 and 2017.

There is no customer that individually represents over 10% of accounts receivable or revenues.

## 10. Inventories

	March 31, 2018	December 31, 2017
Product inventory	2,218	2,219
Work in progress	737	648
Consumable inventory	1,012	1,059
<b>Total</b>	<b>3,967</b>	<b>3,926</b>

There are no significant amounts recognized in income statement related as a provision in respect of the net realizable value of product inventory for the three-month period ended on March 31, 2018 (reversal of US\$37 for the three-month period ended March 31, 2017).

Product inventory by segments is presented in note 3(b).

## 11. Other financial assets and liabilities

	Current		Non-Current	
	March 31, 2018	December 31, 2017	March 31, 2018	December 31, 2017
<b>Other financial assets</b>				
Financial investments	7	18	-	-
Loans	-	-	150	151
Derivative financial instruments (note 20)	74	106	487	453
Investments in equity securities (note 12)	-	-	830	-
Related parties - Loans (note 25)	295	1,898	1,580	2,628
	<b>376</b>	<b>2,022</b>	<b>3,047</b>	<b>3,232</b>
<b>Other financial liabilities</b>				
Derivative financial instruments (note 20)	159	104	521	686
Related parties - Loans (note 25)	849	882	975	975
Participative stockholders' debentures	-	-	1,405	1,233
	<b>1,008</b>	<b>986</b>	<b>2,901</b>	<b>2,894</b>

## 12. Non-current assets and liabilities held for sale and discontinued operations

	March 31, 2018	December 31, 2017
	Fertilizers	Fertilizers
<b>Assets</b>		
Accounts receivable	27	90
Inventories	86	460
Other current assets	17	110
Investments in associates and joint ventures	-	83
Property, plant and equipment and Intangible	322	2,149
Other non-current assets	8	695
<b>Total assets</b>	<b>460</b>	<b>3,587</b>
<b>Liabilities</b>		
Suppliers and contractors	69	324
Other current liabilities	29	215
Other non-current liabilities	115	640
<b>Total liabilities</b>	<b>213</b>	<b>1,179</b>
<b>Net non-current assets held for sale</b>	<b>247</b>	<b>2,408</b>

### a) Fertilizers (Discontinued operations)

In December 2016, the Company entered into an agreement with The Mosaic Company ("Mosaic") to sell (i) the phosphate assets located in Brazil, except for the assets located in Cubatão, Brazil; (ii) the control of Compañía Minera Miski Mayo S.A.C., in Peru; (iii) the potassium assets located in Brazil; and (iv) the potash projects in Canada.

In January 2018, the Company and Mosaic concluded the transaction and the Company received US\$1,080 in cash and 34.2 million common shares, corresponding to 8.9% of Mosaic's equity after the issuance of these shares (US\$899, based on the Mosaic's quotation at closing date of the transaction) and a loss of US\$55 was recognized in the income statement from discontinued operations.

Mosaic shares received was accounted for an equity investment measured at fair value through other comprehensive income. For the three-month period ended March 31, 2018 a loss of US\$35 was recognized in other comprehensive income as "Fair value adjustment to investment in equity securities".

### b) Cubatão (part of the fertilizer segment)

In November 2017, the Company entered into an agreement with Yara International ASA ("Yara") to sell its assets located in Cubatão, Brazil. The agreed consideration is US\$255 to be paid in cash. The Company expects to complete the transaction by the end of 2018, subject to compliance with usual precedent conditions, including approval by the Brazilian anti-trust authority ("CADE") and other authorities.

These assets were adjusted to reflect their fair value less cost to sell and a loss of US\$58 was recognized for the three-month period ended March 31, 2018, in the income statement from discontinued operations.

The results and cash flows of discontinued operations of the Fertilizer segment for the three-month period ended March 31, 2018 and 2017 are presented as follows:

### Income statement

	Three-month period ended March 31,	
	2018	2017
<b>Discontinued operations</b>		
Net operating revenue	89	370
Cost of goods sold and services rendered	(84)	(339)
Operating expenses	(1)	(28)
Impairment of non-current assets	(113)	(111)
<b>Operating loss</b>	<b>(109)</b>	<b>(108)</b>
Financial Results, net	(4)	(4)
<b>Loss before income taxes</b>	<b>(113)</b>	<b>(112)</b>
Income taxes	31	30
<b>Loss from discontinued operations</b>	<b>(82)</b>	<b>(82)</b>
Net income attributable to noncontrolling interests	-	1
<b>Loss attributable to Vale's stockholders</b>	<b>(82)</b>	<b>(83)</b>

### Statement of cash flow

	Three-month period ended March 31,	
	2018	2017
<b>Discontinued operations</b>		
<b>Cash flow from operating activities</b>		
Loss before income taxes	(113)	(112)
<b>Adjustments:</b>		
Impairment of non-current assets	113	111
Increase (decrease) in assets and liabilities	(35)	93
<b>Net cash provided by operating activities</b>	<b>(35)</b>	<b>92</b>
<b>Cash flow from investing activities</b>		
Additions to property, plant and equipment	(9)	(63)
<b>Net cash used in investing activities</b>	<b>(9)</b>	<b>(63)</b>
<b>Cash flow from financing activities</b>		
<b>Loans and borrowings</b>		
Repayments	-	(34)
<b>Net cash used in financing activities</b>	<b>-</b>	<b>(34)</b>
<b>Net cash used in discontinued operations</b>	<b>(44)</b>	<b>(5)</b>

### 13. Investments in associates and joint ventures

#### a) Changes during the period

Changes in investments in associates and joint ventures as follows:

	Associates	Joint ventures	Total
<b>Balance at December 31, 2017</b>	<b>1,441</b>	<b>2,127</b>	<b>3,568</b>
Additions	-	17	17
Translation adjustment	8	(12)	(4)
Equity results in income statement	(3)	88	85
Dividends declared	-	(27)	(27)
Transfer from non-current assets held for sale (i)	87	(4)	83
<b>Balance at March 31, 2018</b>	<b>1,533</b>	<b>2,189</b>	<b>3,722</b>

(i) Refers to 18% interest held by Vale Fertilizantes at Ultrafertil which was transferred to Vale as part of the final settlement occurred in January 2018 (note 12)

	Associates	Joint ventures	Total
<b>Balance at December 31, 2016</b>	<b>1,437</b>	<b>2,259</b>	<b>3,696</b>
Additions	-	31	31
Translation adjustment	33	58	91
Equity results in income statement	(5)	78	73
Dividends declared	(8)	-	(8)
<b>Balance at March 31, 2017</b>	<b>1,457</b>	<b>2,426</b>	<b>3,883</b>

#### b) Guarantees provided

As of March 31, 2018, 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. were US\$380 and US\$1,473, respectively.

The investments by segments are presented in note 3(b).

## Investments in associates and joint ventures (continued)

Associates and joint ventures	% ownership	% voting capital	Investments in associates and joint ventures		Equity results in the income statement		Dividends received	
			March 31, 2018	December 31, 2017	Three-month period ended March 31,		Three-month period ended March 31,	
					2018	2017	2018	2017
<b>Ferrous minerals</b>								
Baovale Mineração S.A.	50.00	50.00	28	26	2	2	-	-
Companhia Coreano-Brasileira de Pelotização	50.00	50.00	104	89	15	12	-	-
Companhia Hispano-Brasileira de Pelotização (i)	50.89	51.00	95	82	15	11	-	-
Companhia Ítalo-Brasileira de Pelotização (i)	50.90	51.00	95	80	16	7	-	-
Companhia Nipo-Brasileira de Pelotização (i)	51.00	51.11	166	137	30	22	-	-
MRS Logística S.A.	48.16	46.75	526	517	12	16	-	-
VLI S.A.	37.60	37.60	950	968	(13)	(13)	-	-
Zhuhai YPM Pellet Co.	25.00	25.00	24	23	-	-	-	-
			<b>1,988</b>	<b>1,922</b>	<b>77</b>	<b>57</b>	-	-
<b>Coal</b>								
Henan Longyu Energy Resources Co., Ltd.	25.00	25.00	336	317	4	10	-	-
			<b>336</b>	<b>317</b>	<b>4</b>	<b>10</b>	-	-
<b>Base metals</b>								
Korea Nickel Corp.	25.00	25.00	14	13	1	1	-	-
			<b>14</b>	<b>13</b>	<b>1</b>	<b>1</b>	-	-
<b>Others</b>								
Aliança Geração de Energia S.A. (i)	55.00	55.00	561	571	19	7	10	-
Aliança Norte Energia Participações S.A. (i)	51.00	51.00	173	160	7	3	-	-
California Steel Industries, Inc.	50.00	50.00	221	200	21	9	-	-
Companhia Siderúrgica do Pecém	50.00	50.00	219	262	(42)	(10)	-	-
Mineração Rio do Norte S.A.	40.00	40.00	103	101	3	(1)	-	-
Others			107	22	(5)	(3)	-	-
			<b>1,384</b>	<b>1,316</b>	<b>3</b>	<b>5</b>	<b>10</b>	-
<b>Total</b>			<b>3,722</b>	<b>3,568</b>	<b>85</b>	<b>73</b>	<b>10</b>	-

(i) Although the Company held a majority of the voting capital, the entities are accounted under equity method due to the stockholders' agreement where relevant decisions are shared with other parties.

## 14. Intangibles

Changes in intangibles are as follows:

	Goodwill	Concessions	Right of use	Software	Total
<b>Balance at December 31, 2017</b>	<b>4,110</b>	<b>4,002</b>	<b>152</b>	<b>229</b>	<b>8,493</b>
Additions	-	256	-	1	257
Disposals	-	(7)	-	-	(7)
Amortization	-	(33)	(3)	(31)	(67)
Translation adjustment	(58)	(25)	(1)	-	(84)
<b>Balance at March 31, 2018</b>	<b>4,052</b>	<b>4,193</b>	<b>148</b>	<b>199</b>	<b>8,592</b>
Cost	4,052	5,275	231	1,549	11,107
Accumulated amortization	-	(1,082)	(83)	(1,350)	(2,515)
<b>Balance at March 31, 2018</b>	<b>4,052</b>	<b>4,193</b>	<b>148</b>	<b>199</b>	<b>8,592</b>

	Goodwill	Concessions	Right of use	Software	Total
<b>Balance at December 31, 2016</b>	<b>3,081</b>	<b>3,301</b>	<b>147</b>	<b>342</b>	<b>6,871</b>
Additions	-	365	-	8	373
Disposals	-	(1)	-	-	(1)
Amortization	-	(49)	-	(37)	(86)
Translation adjustment	50	86	2	11	149
<b>Balance at March 31, 2017</b>	<b>3,131</b>	<b>3,702</b>	<b>149</b>	<b>324</b>	<b>7,306</b>
Cost	3,131	4,938	226	1,594	9,889
Accumulated amortization	-	(1,236)	(77)	(1,270)	(2,583)
<b>Balance at March 31, 2017</b>	<b>3,131</b>	<b>3,702</b>	<b>149</b>	<b>324</b>	<b>7,306</b>

## 15. Property, plant and equipment

Changes in property, plant and equipment are as follows:

	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
<b>Balance at December 31, 2017</b>	<b>718</b>	<b>12,100</b>	<b>11,786</b>	<b>6,893</b>	<b>9,069</b>	<b>8,193</b>	<b>6,119</b>	<b>54,878</b>
Additions (i)	-	-	-	-	-	-	519	519
Disposals	-	(36)	(15)	(2)	(4)	(1)	(3)	(61)
Assets retirement obligation	-	-	-	-	38	-	-	38
Depreciation, amortization and depletion	-	(156)	(184)	(235)	(140)	(189)	-	(904)
Translation adjustment	(4)	(69)	(80)	(28)	(152)	(62)	74	(321)
Transfers	4	(1)	363	181	201	213	(961)	-
<b>Balance at March 31, 2018</b>	<b>718</b>	<b>11,838</b>	<b>11,870</b>	<b>6,809</b>	<b>9,012</b>	<b>8,154</b>	<b>5,748</b>	<b>54,149</b>
Cost	718	18,947	18,436	12,922	17,375	12,503	5,748	86,649
Accumulated depreciation	-	(7,109)	(6,566)	(6,113)	(8,363)	(4,349)	-	(32,500)
<b>Balance at March 31, 2018</b>	<b>718</b>	<b>11,838</b>	<b>11,870</b>	<b>6,809</b>	<b>9,012</b>	<b>8,154</b>	<b>5,748</b>	<b>54,149</b>

	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
<b>Balance at December 31, 2016</b>	<b>724</b>	<b>10,674</b>	<b>9,471</b>	<b>6,794</b>	<b>8,380</b>	<b>7,515</b>	<b>11,861</b>	<b>55,419</b>
Additions (i)	-	-	-	-	-	-	503	503
Disposals	-	-	(6)	(3)	-	(2)	(5)	(16)
Assets retirement obligation	-	-	-	-	36	-	-	36
Depreciation, amortization and depletion	-	(147)	(167)	(193)	(153)	(173)	-	(833)
Translation adjustment	17	229	194	97	109	195	323	1,164
Transfers	14	831	1,432	273	639	771	(3,960)	-
<b>Balance at March 31, 2017</b>	<b>755</b>	<b>11,587</b>	<b>10,924</b>	<b>6,968</b>	<b>9,011</b>	<b>8,306</b>	<b>8,722</b>	<b>56,273</b>
Cost	755	17,746	17,413	12,424	16,803	12,310	8,722	86,173
Accumulated depreciation	-	(6,159)	(6,489)	(5,456)	(7,792)	(4,004)	-	(29,900)
<b>Balance at March 31, 2017</b>	<b>755</b>	<b>11,587</b>	<b>10,924</b>	<b>6,968</b>	<b>9,011</b>	<b>8,306</b>	<b>8,722</b>	<b>56,273</b>

(i) Includes capitalized borrowing costs.

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 16(c)) compared to those disclosed in the financial statements as at December 31, 2017.

## 16. Loans, borrowings, cash and cash equivalents and financial investments

### a) Net debt

The Company evaluates the net debt with the objective of ensuring the continuity of its business in the long term, being able to generate value to its stockholders, through the payment of dividends and capital gain.

	March 31, 2018	December 31, 2017
Debt contracts in the international markets	15,337	17,288
Debt contracts in Brazil	4,939	5,201
<b>Total of loans and borrowings</b>	<b>20,276</b>	<b>22,489</b>
(-) Cash and cash equivalents	5,368	4,328
(-) Financial investments	7	18
<b>Net debt</b>	<b>14,901</b>	<b>18,143</b>

### b) Cash and cash equivalents

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.

### c) Loans and borrowings

#### i) Total debt

	Current liabilities		Non-current liabilities	
	March 31, 2018	December 31, 2017	March 31, 2018	December 31, 2017
<b>Debt contracts in the international markets</b>				
<b>Floating rates in:</b>				
US\$	622	310	2,306	2,764
EUR	-	-	246	240
<b>Fixed rates in:</b>				
US\$	5	-	10,839	12,588
EUR	-	-	922	900
Other currencies	25	17	181	206
<b>Accrued charges</b>	<b>191</b>	<b>263</b>	-	-
	<b>843</b>	<b>590</b>	<b>14,494</b>	<b>16,698</b>
<b>Debt contracts in Brazil</b>				
<b>Floating rates in:</b>				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	448	447	3,037	3,195
Basket of currencies and US\$ indexed to LIBOR	339	339	623	708
<b>Fixed rates in:</b>				
R\$	67	68	156	173
<b>Accrued charges</b>	<b>269</b>	<b>259</b>	-	<b>12</b>
	<b>1,123</b>	<b>1,113</b>	<b>3,816</b>	<b>4,088</b>
	<b>1,966</b>	<b>1,703</b>	<b>18,310</b>	<b>20,786</b>

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

	Principal			Total	Estimated future interest payments (i)
	Bank loans	Capital markets	Development agencies		
2018	32	-	707	739	1,219
2019	789	-	907	1,696	1,095
2020	803	830	889	2,522	1,026
2021	413	383	861	1,657	904
Between 2022 and 2025	652	4,888	991	6,531	3,336
2026 onwards	88	6,471	112	6,671	5,319
	<b>2,777</b>	<b>12,572</b>	<b>4,467</b>	<b>19,816</b>	<b>12,899</b>

(i) Estimated future payments of interest, calculated based on interest rate curves and foreign exchange rates applicable as at March 31, 2018 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, 2018, the average annual interest rates by currency are as follows:

Loans and borrowings	Average interest rate (i)	Total debt
US\$	5.60%	14,921
R\$ (ii)	8.13%	3,970
EUR (iii)	3.33%	1,176
Other currencies	3.31%	209
		<b>20,276</b>

(i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the rate applicable at March 31, 2018.

(ii) R\$ denominated debt that bears interest at IPCA, CDI, TR or TJLP, plus spread. For a total of US\$1,917 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 2.08% 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\$.

## ii) Reconciliation of debt to cash flows arising from financing activities

	December 31, 2017	Cash flow				Non-cash changes		March 31, 2018
		Additions	Repayments	Interest paid	Transferences	Effect of exchange rate	Interest accretion	
<b>Loans and borrowings</b>								
Current	1,703	-	(2,277)	(381)	2,490	-	431	1,966
Non-current	20,786	-	-	-	(2,490)	14	-	18,310
<b>Total</b>	<b>22,489</b>	<b>-</b>	<b>(2,277)</b>	<b>(381)</b>	<b>-</b>	<b>14</b>	<b>431</b>	<b>20,276</b>

## iii) Credit and financing lines

Type	Contractual currency	Date of agreement	Period of the agreement	Available amount	
				Total amount	March 31, 2018
<b>Credit lines</b>					
Revolving credit facilities	US\$	May 2015	5 years	3,000	3,000
Revolving credit facilities	US\$	June 2017	5 years	2,000	2,000
<b>Financing lines</b>					
BNDES - CLN 150	R\$	September 2012	10 years	1,168	-
BNDES - S11D e S11D Logística	R\$	May 2014	10 years	1,854	303

## iv) Funding (Repayments)

In March 2018, the Company conducted a cash tender offer for Vale Overseas' 5.875% guaranteed notes due 2021 and 4.375% guaranteed notes due 2022 and repurchased in a cash tender offer a total of US\$969 in aggregate principal amount of its 2021 Notes and repurchased US\$781 in aggregate principal amount of its 2022 Notes.

On April 17, 2018 (event subsequent), the Company redeemed all of Vale Overseas' 4.625% guaranteed notes due 2020 totaling US\$499.

## v) Guarantees

As at March 31, 2018 and December 31, 2017, loans and borrowings are secured by property, plant and equipment in the amount of US\$279 and US\$275, respectively.

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

## vi) Covenants

Some of the Company's debt agreements with lenders contain financial covenants. The primary financial covenants in those agreements require maintaining certain ratios, such as debt to EBITDA and interest coverage. The Company has not identified any instances of noncompliance as at March 31, 2018 and December 31, 2017.

## 17. Liabilities related to associates and joint ventures

The movements of the provision to comply with the obligations under the agreement related to the dam failure of Samarco Mineração S.A. (“Samarco”), which is a Brazilian joint venture between Vale S.A. and BHP Billiton Brasil Ltda. (“BHPB”), in the three-month period ended March 31, 2018 and 2017 are as follows:

	2018	2017
<b>Balance at January 01,</b>	<b>996</b>	<b>1,077</b>
Payments	(59)	(83)
Interest accretion	70	47
Translation adjustment	(5)	30
<b>Balance at March 31,</b>	<b>1,002</b>	<b>1,071</b>
Current liabilities	369	284
Non-current liabilities	633	787
<b>Liabilities</b>	<b>1,002</b>	<b>1,071</b>

In addition to the provision above, Vale S.A. made available in the three-month period ended March 31, 2018 the amount of US\$14, which was fully used to fund Samarco’s working capital and was recognized in Vale’s income statement as “Impairment and other results in associates and joint ventures”. Vale S.A intends to make available until the second quarter of 2018 up to US\$34 to Samarco to support its working capital requirements, without any binding obligation to Samarco in this regard. Such amounts will be released by the shareholders, simultaneously and pursuant to the same terms and conditions, subject to the fulfillment of certain milestones.

Under Brazilian legislation and the terms of the joint venture agreement, Vale does not have an obligation to provide funding to Samarco. Therefore, Vale’s investment in Samarco was impaired in full and no provision was recognized in relation to the Samarco’s negative reserves.

The contingencies related to the Samarco dam failure are disclosed in note 22.

## 18. Financial instruments classification

	March 31, 2018				December 31, 2017			
	Amortized cost	At fair value through OCI	At fair value through profit or loss	Total	Amortized cost	At fair value through profit or loss	Total	
<b>Financial assets</b>								
<b>Current</b>								
Cash and cash equivalents	5,368	-	-	5,368	4,328	-	4,328	
Financial investments	7	-	-	7	18	-	18	
Derivative financial instruments	-	-	74	74	-	106	106	
Accounts receivable	2,793	-	(104)	2,689	2,418	182	2,600	
Related parties	295	-	-	295	1,898	-	1,898	
	<b>8,463</b>	<b>-</b>	<b>(30)</b>	<b>8,433</b>	<b>8,662</b>	<b>288</b>	<b>8,950</b>	
<b>Non-current</b>								
Derivative financial instruments	-	-	487	487	-	453	453	
Investments in equity securities	-	830	-	830	-	-	-	
Loans	150	-	-	150	151	-	151	
Related parties	1,580	-	-	1,580	2,628	-	2,628	
	<b>1,730</b>	<b>830</b>	<b>487</b>	<b>3,047</b>	<b>2,779</b>	<b>453</b>	<b>3,232</b>	
<b>Total of financial assets</b>	<b>10,193</b>	<b>830</b>	<b>457</b>	<b>11,480</b>	<b>11,441</b>	<b>741</b>	<b>12,182</b>	
<b>Financial liabilities</b>								
<b>Current</b>								
Suppliers and contractors	3,598	-	-	3,598	4,041	-	4,041	
Derivative financial instruments	-	-	159	159	-	104	104	
Loans and borrowings	1,966	-	-	1,966	1,703	-	1,703	
Related parties	849	-	-	849	882	-	882	
	<b>6,413</b>	<b>-</b>	<b>159</b>	<b>6,572</b>	<b>6,626</b>	<b>104</b>	<b>6,730</b>	
<b>Non-current</b>								
Derivative financial instruments	-	-	521	521	-	686	686	
Loans and borrowings	18,310	-	-	18,310	20,786	-	20,786	
Related parties	975	-	-	975	975	-	975	
Participative stockholders' debentures	-	-	1,405	1,405	-	1,233	1,233	
	<b>19,285</b>	<b>-</b>	<b>1,926</b>	<b>21,211</b>	<b>21,761</b>	<b>1,919</b>	<b>23,680</b>	
<b>Total of financial liabilities</b>	<b>25,698</b>	<b>-</b>	<b>2,085</b>	<b>27,783</b>	<b>28,387</b>	<b>2,023</b>	<b>30,410</b>	

## 19. Fair value estimate

### a) Assets and liabilities measured and recognized at fair value:

	March 31, 2018				December 31, 2017		
	Level 1	Level 2	Level 3	Total	Level 2	Level 3	Total
<b>Financial assets</b>							
Derivative financial instruments	-	299	262	561	289	270	559
Investments in equity securities	830	-	-	830	-	-	-
<b>Total</b>	<b>830</b>	<b>299</b>	<b>262</b>	<b>1,391</b>	<b>289</b>	<b>270</b>	<b>559</b>
<b>Financial liabilities</b>							
Derivative financial instruments	-	476	204	680	581	209	790
Participative stockholders' debentures	-	1,405	-	1,405	1,233	-	1,233
<b>Total</b>	<b>-</b>	<b>1,881</b>	<b>204</b>	<b>2,085</b>	<b>1,814</b>	<b>209</b>	<b>2,023</b>

The Company changed its accounting estimate on the calculation of the participative stockholders' debentures from January 1, 2018. The Company has replaced the assumption of spot price at the reporting date used on the calculation to the weighted average price traded on the market within the last month of the quarter.

There were no transfers between Level 1 and Level 2, or between Level 2 and Level 3 for the three-month period ended in March 31, 2018.

The following table presents the changes in Level 3 assets and liabilities for the three-month period ended in March 31, 2018:

	Derivative financial instruments	
	Financial assets	Financial liabilities
<b>Balance at December 31, 2017</b>	<b>270</b>	<b>209</b>
Gain and losses recognized in income statement	(8)	(5)
<b>Balance at March 31, 2018</b>	<b>262</b>	<b>204</b>

### Methods and techniques of evaluation

#### Derivative financial instruments

Financial instruments are evaluated by calculating their present value through the use of instrument yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are detailed in the "market curves".

The pricing method used for European options is the Black & Scholes model. In this model, the fair value of the derivative is a function of the volatility in the price of the underlying asset, the exercise price of the option, the interest rate and period to maturity. In the case of options which income is a function of the average price of the underlying asset over the period of the option, the Company uses Turnbull & Wakeman model. In this model, in addition to the factors that influence the option price in the Black-Scholes model, the formation period of the average price is also considered.

In the case of swaps, both the present value of the assets and liability are estimated by discounting the cash flow by the interest rate of the currency in which the swap is denominated. The difference between the present value of assets and liability of the swap generates its fair value.

For the TJLP swaps, the calculation of the fair value assumes that TJLP is constant, that is the projections of future cash flow in Brazilian Reais are made on the basis of the last TJLP disclosed.

Contracts for the purchase or sale of products, inputs and costs of selling with future settlement are priced using the forward yield curves for each product. Typically, these curves are obtained on the stock exchanges where the products are traded, such as the London Metals Exchange ("LME"), the Commodity Exchange ("COMEX") or other providers of market prices. When there is no price for the desired maturity, Vale uses an interpolation between the available maturities.

The fair value for derivatives are within level 3 are measured using discounted cash flows and option model valuation techniques with main unobservable inputs discount rates, stock prices and commodities prices.

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

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

Financial liabilities	Balance	Fair value	Level 1	Level 2
<b>March 31, 2018</b>				
Debt principal	19,816	20,818	13,084	7,734
<b>December 31, 2017</b>				
Debt principal	21,955	23,088	14,935	8,153

Due to the short-term cycle, the fair value of cash and cash equivalents balances, financial investments, accounts receivable and accounts payable approximate their book values.

## 20. Derivative financial instruments

### a) Derivatives effects on statement of financial position

	Assets			
	March 31, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
<b>Derivatives not designated as hedge accounting</b>				
<b>Foreign exchange and interest rate risk</b>				
CDI & TJLP vs. US\$ fixed and floating rate swap	22	-	38	-
IPCA swap	8	95	9	82
Eurobonds swap	-	57	-	27
Pré-dólar swap	22	46	22	32
	<b>52</b>	<b>198</b>	<b>69</b>	<b>141</b>
<b>Commodities price risk</b>				
Nickel	16	1	22	3
Bunker oil	6	-	15	-
	<b>22</b>	<b>1</b>	<b>37</b>	<b>3</b>
<b>Others</b>	-	288	-	309
	-	<b>288</b>	-	<b>309</b>
<b>Total</b>	<b>74</b>	<b>487</b>	<b>106</b>	<b>453</b>

	Liabilities			
	March 31, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
<b>Derivatives not designated as hedge accounting</b>				
<b>Foreign exchange and interest rate risk</b>				
CDI & TJLP vs. US\$ fixed and floating rate swap	133	279	95	410
IPCA swap	18	16	-	41
Eurobonds swap	3	-	4	-
Pré-dólar swap	5	20	5	24
	<b>159</b>	<b>315</b>	<b>104</b>	<b>475</b>
<b>Others</b>	-	206	-	211
	-	<b>206</b>	-	<b>211</b>
<b>Total</b>	<b>159</b>	<b>521</b>	<b>104</b>	<b>686</b>

## b) Effects of derivatives on the income statement and cash flow

	Three-month period ended March 31,			
	Gain (loss) recognized in the income statement		Financial settlement inflows (outflows)	
	2018	2017	2018	2017
<b>Derivatives not designated as hedge accounting</b>				
<b>Foreign exchange and interest rate risk</b>				
CDI & TJLP vs. US\$ fixed and floating rate swap	35	181	(46)	(44)
IPCA swap	19	24	-	-
Eurobonds swap	31	(27)	-	(39)
Euro forward	-	46	-	-
Pré-dólar swap	19	23	-	-
	<b>104</b>	<b>247</b>	<b>(46)</b>	<b>(83)</b>
<b>Commodities price risk</b>				
Nickel	4	-	12	(1)
Bunker oil	-	(72)	9	(23)
	<b>4</b>	<b>(72)</b>	<b>21</b>	<b>(24)</b>
<b>Others</b>	<b>(18)</b>	<b>34</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>90</b>	<b>209</b>	<b>(25)</b>	<b>(107)</b>

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

	Last maturity dates
Currencies and interest rates	January 2024
Bunker oil	September 2018
Nickel	December 2019
Others	December 2027

## c) Hedge in foreign operations

As at March 31, 2018 the carrying value of the debts designated as instrument hedge of the Company's investment in foreign operations (Vale International S.A. and Vale International Holding GmbH; hedging objects) are US\$5,103 and EUR750. The foreign exchange gain of US\$41 (US\$27, net of taxes), was recognized in the "Cumulative translation adjustments" in stockholders' equity for the three month period ended March 31, 2018. This hedge was highly effective throughout the period ended March 31, 2018.

### Additional information about derivatives financial instruments

In millions of United States dollars, except as otherwise stated

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 statistical properties verified in the historical data. The value at risk estimate considers a 95% confidence level for a one-business day time horizon.

The following tables detail the derivatives positions for Vale and its controlled companies as of March 31, 2018, 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, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	2018	2019	2020+
<b>CDI vs. US\$ fixed rate swap</b>											
Receivable	R\$ 2,000	R\$ 3,540	CDI	99.47%	0	(33)	(22)	6	19	5	(24)
Payable	US\$ 612	US\$ 1,104	Fix	3.18%							
<b>TJLP vs. US\$ fixed rate swap</b>											
Receivable	R\$ 2,767	R\$ 2,982	TJLP +	1.23%	(336)	(380)	(26)	31	(51)	(234)	(51)
Payable	US\$ 1,243	US\$ 1,323	Fix	1.53%							
<b>TJLP vs. US\$ floating rate swap</b>											
Receivable	R\$ 214	R\$ 216	TJLP +	0.87%	(52)	(54)	(0)	3	(4)	(48)	-
Payable	US\$ 122	US\$ 123	Libor +	-1.23%							
<b>R\$ fixed rate vs. US\$ fixed rate swap</b>											
Receivable	R\$ 1,138	R\$ 1,158	Fix	7.96%	43	25	(1)	25	19	14	10
Payable	US\$ 377	US\$ 385	Fix	-0.61%							
<b>IPCA vs. US\$ fixed rate swap</b>											
Receivable	R\$ 1,000	R\$ 1,000	IPCA +	6.55%	(29)	(35)	7	7	-	(13)	(16)
Payable	US\$ 434	US\$ 434	Fix	3.98%							
<b>IPCA vs. CDI swap</b>											
Receivable	R\$ 1,350	R\$ 1,350	IPCA +	6.62%	97	85	-	0.3	3	5	89
Payable	R\$ 1,350	R\$ 1,350	CDI	98.58%							

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

In order to reduce the cash flow volatility, swap 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\$.

The swap 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, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	2018	2019	2020+
<b>EUR fixed rate vs. US\$ fixed rate swap</b>											
Receivable	€ 500	€ 500	Fix	3.75%	54	23	(4)	6	-	(9)	57
Payable	US\$ 613	US\$ 613	Fix	4.29%							

## 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 hedging transactions were implemented, through options contracts.

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 / Sold	Average strike (US\$/ton)	Fair value		Financial settlement	Value at Risk	Fair value by year
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	2018
Call options	1,405,000	-	B	408	6	-	9	3	6
Put options	1,405,000	-	S	280	(0)	-	-	0	(0)
<b>Total</b>					<b>6</b>	<b>-</b>	<b>9</b>	<b>3</b>	<b>6</b>

### (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.

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	Fair value by year	
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	2017	2018
<b>Fixed price sales protection</b>										
Nickel forwards	8,331	9,621	B	11,283	17	23	12	3	13	4
<b>Raw material purchase protection</b>										
Nickel forwards	176	292	S	12,977	(0.1)	(0.3)	(0.4)	0.1	(0.1)	-
Copper forwards	55	79	S	7,014	0.0	(0.0)	(0.0)	0.0	0.0	-
<b>Total</b>					<b>(0.0)</b>	<b>(0.4)</b>	<b>(0.4)</b>	<b>0.1</b>	<b>(0.0)</b>	<b>-</b>

### c) Freight derivative positions

In order to reduce the impact of maritime freight price volatility on the Company's cash flow, freight hedging transactions were implemented, through Forward Freight Agreements (FFAs). The protected item is part of Vale's costs linked to maritime freight spot prices. The financial settlement inflows/outflows of the FFAs are offset by the protected items' losses/gains due to freight prices changes.

The Forward Freight Agreements (FFAs) are contracts traded over the counter and can be cleared through a Clearing House, in this case subject to margin requirements deposited at Singapore Exchange as initial margin.

Flow	Notional (days)		Bought / Sold	Average strike (US\$/day)	Fair value		Financial Settlement	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	by year
Freight forwards	120	0	C	16,413	(0.3)	-	0	0.1	(0.3)

### d) Wheaton Precious Metals Corp. warrants

The Company owns warrants of Wheaton Precious Metals Corp. (WPM), a Canadian company and traded on the Toronto Stock Exchange and New York Stock Exchange. These warrants configure American call options and were received as part of the payment regarding the sale of part of the gold payable flows produced as a sub product from the Salobo copper mine and some nickel mines in Sudbury.

Flow	Notional (quantity)		Bought / Sold	Average strike (US\$/share)	Fair value		Financial settlement	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	by year
Call options	10,000,000	10,000,000	B	44	26	38	-	3	26

### e) Debentures convertible into shares of Valor da Logística Integrada ("VLI")

The Company has debentures in which lenders have the option to convert the outstanding debt into a specified quantity of shares of VLI owned by the Company.

Flow	Notional (quantity)		Bought / Sold	Average strike (R\$/share)	Fair value		Financial settlement	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			March 31, 2018	December 31, 2017	March 31, 2018	March 31, 2018	2027
Conversion options	140,239	140,239	S	8,545	(53)	(57)	-	3	(53)

#### f) Options related to Minerações Brasileiras Reunidas S.A. ("MBR") shares

The Company entered into a stock sale and purchase agreement that has options related to MBR shares. The Company has the right to buy back this non-controlling interest in the subsidiary. Moreover, under certain restricted and contingent conditions, which are beyond the buyer's control, such as illegality due to changes in the law. 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.

Flow	Notional (quantity, in millions)		Bought / Sold	Average strike (R\$/share)	Fair value		Financial settlement	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			Inflows (Outflows)		by year		
	March 31, 2018	December 31, 2017			March 31, 2018	March 31, 2018	2018+		
Options	2,139	2,139	B/S	1.6	239	251	-	14	239

#### g) Embedded derivatives in 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	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			Inflows (Outflows)		by year		
	March 31, 2018	December 31, 2017			March 31, 2018	March 31, 2018	2018		
Nickel forwards	4,047	2,627	S	13,360	(0)	1		2	(0)
Copper forwards	2,471	2,718	S	6,986	0	0		0	0
<b>Total</b>					<b>0</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>0</b>

The Company has a natural gas purchase agreement in containing 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	Value at Risk	Fair value by year	
	March 31, 2018	December 31, 2017			Inflows (Outflows)		2018	2019+		
	March 31, 2018	December 31, 2017			March 31, 2018	March 31, 2018	2018	2019+		
Call options	746,667	746,667	S	233	(3)	(2)	-	2	(0)	(3)

In August 2014 the Company sold part of its stake in Valor da Logística Integrada ("VLI") to an investment fund managed by Brookfield Asset Management ("Brookfield"). The sales contract includes a clause that establishes, under certain conditions, a minimum return guarantee on Brookfield's investment. This clause is considered an embedded derivative, with payoff equivalent to that of a put option.

Flow	Notional (quantity)		Bought / Sold	Average strike (R\$/share)	Fair value		Financial settlement	Value at Risk	Fair value
	March 31, 2018	December 31, 2017			Inflows (Outflows)		by year		
	March 31, 2018	December 31, 2017			March 31, 2018	March 31, 2018	2027		
Put option	1,105,070,863	1,105,070,863	S	3.86	(128)	(133)	-	10	(128)

For sensitivity analysis of derivative financial instruments, Financial counterparties' ratings and market curves please see note 26.



## 21. Provisions

	Current liabilities		Non-current liabilities	
	March 31, 2018	December 31, 2017	March 31, 2018	December 31, 2017
Payroll, related charges and other remunerations (i)	563	1,101	-	-
Onerous contracts	91	102	351	364
Environment Restoration	27	30	83	79
Asset retirement obligations	83	87	3,097	3,081
Provisions for litigation (note 22)	-	-	1,522	1,473
Employee postretirement obligations (note 23)	104	74	1,931	2,030
<b>Provisions</b>	<b>868</b>	<b>1,394</b>	<b>6,984</b>	<b>7,027</b>

(i) Change mainly due to payment of profit sharing program.

## 22. 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, 2017</b>	<b>750</b>	<b>131</b>	<b>582</b>	<b>10</b>	<b>1,473</b>
Additions/Reversals	-	3	42	-	45
Payments	-	-	(18)	-	(18)
Additions - discontinued operations	29	1	13	-	43
Indexation and interest	6	1	(21)	1	(13)
Translation adjustment	(4)	(2)	(2)	-	(8)
<b>Balance at March 31, 2018</b>	<b>781</b>	<b>134</b>	<b>596</b>	<b>11</b>	<b>1,522</b>

	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
<b>Balance at December 31, 2016</b>	<b>214</b>	<b>84</b>	<b>534</b>	<b>7</b>	<b>839</b>
Additions/Reversals	-	(7)	18	1	12
Payments	1	(6)	(19)	-	(24)
Indexation and interest	8	7	11	(2)	24
Translation adjustment	2	3	16	-	21
<b>Balance at March 31, 2017</b>	<b>225</b>	<b>81</b>	<b>560</b>	<b>6</b>	<b>872</b>

### b) Contingent liabilities

Contingent liabilities of administrative and judicial claims, with expectation of loss classified as possible, and for which the recognition of a provision is not considered necessary by the Company, based on legal advice are as follows:

	March 31, 2018	December 31, 2017
Tax litigation	9,869	8,840
Civil litigation	1,665	1,623
Labor litigation	1,938	1,952
Environmental litigation	2,232	2,190
<b>Total</b>	<b>15,704</b>	<b>14,605</b>

**i - Tax litigation** - Our most significant tax-related contingent liabilities result from disputes related to (i) the deductibility of our payments of social security contributions on the net income ("CSLL") from our taxable income, (ii) challenges of certain tax credits we deducted from our PIS and COFINS payments, (iii) assessments of CFEM ("royalties"), and (iv) charges of value-added tax on services and circulation of goods ("ICMS"), especially relating to certain tax credits we claimed from the sale and transmission of energy, ICMS charges to anticipate the payment in the entrance of goods to Pará State and ICMS/penalty charges on our own transportation. The changes reported in the period resulted, mainly, from new proceedings related to PIS, COFINS, ICMS, CFEM, ISS and the application interest and inflation adjustments to the disputed amounts.

**ii - Civil litigation** - Most of those claims 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 related to contractual disputes regarding inflation index.

**iii - Labor litigation** - Represents individual claims by employees and service providers, primarily involving demands for additional compensation for overtime work, time spent commuting or health and safety conditions; and 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, 2018	December 31, 2017
Tax litigation	1,195	1,201
Civil litigation	58	60
Labor litigation	726	712
Environmental litigation	14	13
<b>Total</b>	<b>1,993</b>	<b>1,986</b>

### d) Contingencies related to Samarco accident

#### (i) Public civil claim filed by the Federal Government and others

The federal government, the two Brazilian states affected by the failure (Espírito Santo and Minas Gerais) and other governmental authorities have initiated a public civil lawsuit against Samarco and its shareholders, Vale S.A. and BHPB, with an estimated value indicated by the plaintiffs of US\$6.1 billion (R\$20.2 billion).

The Framework Agreement signed in March 2016, was ratified by the Federal Regional Court (“TRF”) in May 2016. This ratification was suspended by the Superior Court of Justice (“STJ”) in June 2016 and resulted in the restoration of the public civil claim, and maintained other measures, such as: (a) the prohibition of the defendants from transferring or conveying any of their interest in its Brazilian iron ore concessions, without, however, limiting their production and commercial activities and; (b) the order of the deposit with the court of US\$361 (R\$1.2 billion) by January 2017, which was provisionally replaced by the guarantees provided for under the agreements with Federal Prosecution Office (“MPF”), as detailed in the item (ii) below. This public civil action is currently suspended by the abovementioned agreement with the MPF.

#### (ii) Public civil action filed by Federal Prosecution Office

On May 3, 2016, the Federal Prosecution Office (MPF) filed a public civil lawsuit against Samarco and its shareholders and presented several demands, including: (i) the adoption of measures for mitigating the social, economic and environmental impacts resulting from the dam failure and other emergency measures; (ii) the payment of compensation to the community; and (iii) payments for the collective moral damage. The action value indicated by the MPF is US\$47 billion (R\$155 billion).

In January 2017 Samarco, Vale S.A. and BHPB (together the “Companies”) entered into two preliminary agreements with the MPF.

The first agreement (“First Agreement”) aims to outline the process and timeline for negotiations of a Final Agreement (“Final Agreement”), initially expected to occur by June 30, 2017, which was, nevertheless, extended by the parties to late June 2018. This First Agreement establishes a timeline and actions to set the ground for conciliation of two public civil lawsuits in the amounts of US\$6.1 billion (R\$20.2 billion) and US\$47 billion (R\$155 billion), mentioned above, which are currently suspended.

In addition, the First Agreement provides for: (a) the appointment of experts to give support to the Federal Prosecutors and paid for by the companies to conduct a diagnosis and monitor the progress of the programs under the Framework Agreement, and (b) holding at public hearings and the engagement of technical assistance to the affected people, in order to allow the communities to take part in the definition of the content of the Final Agreement.

Samarco, Vale S.A. and BHPB has agreed to provide a guarantee for fulfillment of the obligations regarding the financing and payment of the socio-environmental and socio-economic remediation programs resulting from the Fundão dam failure, pursuant to the two public civil actions, until the signing of the Final Agreement, amounting to US\$662 (R\$2.2 billion), of which (i) US\$30 (R\$100 million) in financial investments; (ii) US\$391 (R\$1.3 billion) in insurance bonds; and (iii) US\$241 (R\$800 million) in assets of Samarco. If, by the deadline negotiated by the parties, the negotiations have not been completed, the Federal Prosecutor's Office may require that the Court re-institute the order for the deposit of US\$361 (R\$1.2 billion) in relation to the US\$6.1 billion (R\$20.2 billion) public civil action and US\$2.3 billion (R\$7.7 billion) related US\$47 billion (R\$155 billion), mentioned above, which are currently suspended.

On March 16, 2017, the 12th Judicial Federal Court of Belo Horizonte partially ratified the First Agreement, which decision includes: (i) ratification of the engagement of experts to perform a socio-environmental impact assessment and assessment of programs under the Framework Agreement and a period for the companies to engage an expert to perform the socio-economic impact assessment; (ii) the consolidation and suspension of related claims aiming to avoid contradictory or conflicting decisions and to establish a unified judicial procedure in order for the parties to be able to reach a final agreement; (iii) accepted the guarantees proposed by Samarco and its shareholders under the Preliminary Agreement on a temporary basis.

In addition, the Second Agreement ("Second Agreement") was signed on January 19, 2017, which establishes a timetable to make funds available to remediate the social, economic and environmental damages caused by the Fundão dam failure in the municipalities of Barra Longa, Rio Doce, Santa Cruz do Escalvado and Ponte Nova, amounting to US\$60 (R\$200 million). The 12th Judicial Federal Court of Belo Horizonte ratified this Second Agreement.

Parties are still negotiating an agreement regarding the choice of the expert to perform the socio-economic impact assessment. In this regard, on November 16, 2017, they signed an addendum to the First Agreement, in which the parties defined matters related to the socio-economic impact assessment, its institutional structure and the respective experts, which, in the period of 90 days from the signing of the addendum, shall present their technical and commercial proposals. As the deadline already expired the proposals are being negotiated for service agreements.

Alongside, the parties, together with the plaintiffs of the US\$6.1 billion (R\$20.2 billion) public civil lawsuit, the State Prosecutors and the Public Defenders, are conducting the discussions regarding the Final Agreement.

*(iii) U.S. Securities class action suits*

#### Related to the Vale's American Depositary Receipts

Vale S.A. and certain of its officers were named as defendants in securities class action suits in the Federal Court in New York brought by holders of Vale's American Depositary Receipts under U.S. federal securities laws. The lawsuits allege that Vale S.A. made false and misleading statements or did not make disclosures concerning the risks and dangers of the operations of Samarco's Fundão dam and the adequacy of related programs and procedures. The plaintiffs have not specified an amount of alleged damages or indemnities in these actions.

On March 23, 2017 the judge issued a decision rejecting a significant portion of the claims against Vale S.A. and the individual defendants, and determining the prosecution of the action with respect to more limited claims. The portion of plaintiffs' case that remains is related to certain statements about procedures, policies and risk mitigation plans contained in Vale S.A.'s sustainability reports in 2013 and 2014, and certain statements regarding to the responsibility of Vale S.A. for the Fundão dam failure made in a conference call in November 2015.

This lawsuit is currently ongoing under discovery with the gathering of documents to be provided to the plaintiffs. In addition, depositions of some custodians indicated by the parties should take place in the next few months.

Vale S.A. continues to contest the outstanding points related to this lawsuit.

#### Related to the Samarco bonds

In March 2017, holders of bonds issued by Samarco filed a class action suit in the Federal Court in New York against Samarco, Vale S.A. and BHPB under U.S. federal securities laws demanding for indemnification for alleged violation of U.S. federal securities laws. The plaintiffs allege that false and misleading statements were made or disclosures omitted concerning the risks and dangers of the operations of Samarco's Fundão dam and the adequacy of related programs and procedures. It is alleged that with the Fundão dam collapse, the securities have dramatically decreased, in order that the investors who have purchased such securities in a misleading way should be compensated, without, however, specifying an amount for the alleged damages or indemnities in this action.

In June 2017 the defendants presented a joint motion to dismiss the claims requested by the plaintiffs. In March 2018, the Judge issued an order dismissing defendant's motion to dismiss without prejudice and ordering leading plaintiff to submit a final amended complaint. A new schedule was proposed by the parties to the Judge. A decision regarding such new proposed schedule is expected by the parties.

Vale S.A. continues to contest this lawsuit.

*(iv) Criminal lawsuit*

On October 20, 2016, the MPF brought a criminal lawsuit in the Brazilian Federal Justice Court against Vale S.A., BHPB, Samarco, VogBr Recursos Hídricos e Geotecnia Ltda. and 22 individuals for alleged crimes against the environment, urban planning and cultural heritage, flooding, landslide, as well as for alleged crimes against the victims of the Fundão dam failure.

In November 2016 it was published a decision by means of the Federal Lower Court of Ponte Nova established the resume of the criminal lawsuit and determined the beginning of the Discovery phase. Nevertheless, there has not been any decisions scheduling any hearings since then.

*(v) Other lawsuits*

In addition, Samarco and its shareholders were named as a defendant in several other lawsuits brought by individuals, corporations, governmental entities or public prosecutor seeking personal and property damages.

Given the status of these lawsuits, it is not possible at this time to provide a range of possible outcomes or a reliable estimates of potential exposures for Vale S.A. Consequently, no contingent liability has been quantified and no provision was recognized for lawsuits related to Samarco's dam failure.

**e) Other**

In 2015, the Company filed an enforceable action in the amount of US\$158 (R\$524 million) 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.

**23. Employee postretirement obligations**

**Reconciliation of net liabilities recognized in the statement of financial position**

	March 31, 2018			December 31, 2017		
	Overfunded pension plans	Underfunded pension plans	Other benefits	Overfunded pension plans	Underfunded pension plans	Other benefits
<b>Amount recognized in the statement of financial position</b>						
Present value of actuarial liabilities	(3,358)	(4,328)	(1,370)	(3,397)	(4,470)	(1,410)
Fair value of assets	4,942	3,663	-	4,828	3,776	-
Effect of the asset ceiling	(1,584)	-	-	(1,431)	-	-
<b>Liabilities</b>	<b>-</b>	<b>(665)</b>	<b>(1,370)</b>	<b>-</b>	<b>(694)</b>	<b>(1,410)</b>
Current liabilities	-	(46)	(58)	-	(16)	(58)
Non-current liabilities	-	(619)	(1,312)	-	(678)	(1,352)
<b>Liabilities</b>	<b>-</b>	<b>(665)</b>	<b>(1,370)</b>	<b>-</b>	<b>(694)</b>	<b>(1,410)</b>

## 24. Stockholders' equity

### a) Share capital

As at March 31, 2018, the share capital was US\$61,614 corresponding to 5,284,474,782 shares issued and fully paid without par value.

Stockholders	March 31, 2018		
	ON	PNE	Total
Litel Participações S.A. and Litela Participações S.A.	1,108,483,410	-	1,108,483,410
BNDES Participações S.A.	401,457,757	-	401,457,757
Bradespar S.A.	332,965,266	-	332,965,266
Mitsui & Co., Ltd	286,347,055	-	286,347,055
Brazilian Government (Golden Share)	-	12	12
Foreign investors - ADRs	1,256,064,074	-	1,256,064,074
Foreign institutional investors in local market	1,161,021,106	-	1,161,021,106
FMP - FGTS	60,235,237	-	60,235,237
PIBB - Fund	2,764,928	-	2,764,928
Institutional investors	276,918,019	-	276,918,019
Retail investors in Brazil	311,175,229	-	311,175,229
<b>Shares outstanding</b>	<b>5,197,432,081</b>	<b>12</b>	<b>5,197,432,093</b>
Shares in treasury	87,042,689	-	87,042,689
<b>Total issued shares</b>	<b>5,284,474,770</b>	<b>12</b>	<b>5,284,474,782</b>
<b>Share capital per class of shares (in millions)</b>	<b>61,614</b>	<b>-</b>	<b>61,614</b>
<b>Total authorized shares</b>	<b>7,000,000,000</b>	<b>-</b>	<b>7,000,000,000</b>

### b) Remuneration to the Company's stockholders

On March 15, 2018, the Company paid to stockholders the minimum mandatory remuneration for the year ended December 31, 2017 based on the interest on capital in the gross amount of US\$1,437 (R\$4,721 million).

## 25. Related parties

The Company's related parties are predominantly subsidiaries, joint ventures, associates, shareholders and its related entities and key management personnel of the Company. Transactions between the parent company and its subsidiaries are eliminated on consolidation and are not disclosed in this note.

Related party transactions were made by the Company on terms equivalent to those that prevail in arm's-length transactions, with respect to price and market conditions that are no less favorable to the Company than those arranged with third parties.

Purchases, accounts receivable and other assets, and accounts payable and other liabilities relates largely to amounts charged by joint ventures and associates related to the pelletizing plants lease and railway transportation services.

Information about related party transactions and effects on the interim financial statements is set out below:

### a) Transactions with related parties

	Three-month period ended March 31,							
	2018				2017			
	Joint Ventures	Associates	Major stockholders	Total	Joint Ventures	Associates	Major stockholders	Total
Net operating revenue	104	78	48	230	130	82	30	242
Cost and operating expenses	(504)	(21)	-	(525)	(330)	(9)	(5)	(344)
Financial result	40	-	(53)	(13)	(12)	(9)	(85)	(106)

Net operating revenue relates to sale of iron ore to the steelmakers and right to use capacity on railroads. Cost and operating expenses mostly relates to the operational leases of the pelletizing plants.

## b) Outstanding balances with related parties

	March 31, 2018					December 31, 2017				
	Joint Ventures	Associates	Major stockholders	Others	Total	Joint Ventures	Associates	Major stockholders	Others	Total
<b>Assets</b>										
Cash and cash equivalents	-	-	646	-	646	-	-	817	-	817
Accounts receivable	92	162	3	17	274	73	38	3	17	131
Dividends receivable	127	14	-	-	141	112	14	-	-	126
Loans	1,875	-	-	-	1,875	4,526	-	-	-	4,526
Derivatives financial instruments	-	-	269	-	269	-	-	284	-	284
Other assets	17	-	-	-	17	17	-	-	-	17
<b>Liabilities</b>										
Supplier and contractors	252	39	86	16	393	192	20	201	15	428
Loans	562	1,262	4,256	-	6,080	612	1,245	4,508	-	6,365
Derivatives financial instruments	-	-	89	-	89	-	-	109	-	109
Other liabilities	-	103	-	-	103	-	-	16	-	16

### Major stockholders

Refers to regular financial instruments with large financial institutions of which the stockholders are part of the controlling “shareholders’ agreement”.

### Coal segment transactions

In March 2018, Nacala BV, a joint venture between Vale and Mitsui on the Nacala’s logistic corridor, closed the project financing and repaid a portion of the shareholders loans from Vale, in the amount of US\$2,572. The outstanding receivable of US\$1,875 carries interest at 7.44% p.a. The Company has issued a financial guarantee in connection with the Project Finance of Nacala, in the proportion equivalent to its share in the Concessionaires (50%), and the fair value of this instrument is US\$40 as at March 31, 2018.

The loan from related parties mainly relates to the loan from Pangea Emirates Ltd, part of the group of shareholders which owns 15% interest on Vale Moçambique, in the amount of US\$1,182 (US\$1,166 as at December 31, 2017), which carries interest at 6.54% p.a.

## 26. Additional information about derivatives financial instruments

### a) 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:

- Probable: the probable scenario was based on the estimated risk variables that were used on pricing the derivative instruments as at March 31, 2018
- Scenario I: fair value estimated considering a 25% deterioration in the associated risk variables
- Scenario II: fair value estimated considering a 50% deterioration in the associated risk variables

The curves used on the pricing of derivatives instruments were developed based on data from B3, Central Bank of Brazil, London Metals Exchange and Bloomberg.

Instrument	Instrument's main risk events	Probable	Scenario I	Scenario II
<b>CDI vs. US\$ fixed rate swap</b>	R\$ depreciation	0	(113)	(226)
	US\$ interest rate inside Brazil decrease	0	(5)	(10)
	Brazilian interest rate increase	0	1	1
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
<b>TJLP vs. US\$ fixed rate swap</b>	R\$ depreciation	(338)	(637)	(935)
	US\$ interest rate inside Brazil decrease	(338)	(351)	(365)
	Brazilian interest rate increase	(338)	(356)	(373)
	TJLP interest rate decrease	(338)	(356)	(374)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
<b>TJLP vs. US\$ floating rate swap</b>	R\$ depreciation	(52)	(81)	(111)
	US\$ interest rate inside Brazil decrease	(52)	(53)	(55)
	Brazilian interest rate increase	(52)	(53)	(55)
	TJLP interest rate decrease	(52)	(53)	(55)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
<b>R\$ fixed rate vs. US\$ fixed rate swap</b>	R\$ depreciation	43	(35)	(114)
	US\$ interest rate inside Brazil decrease	43	31	18
	Brazilian interest rate increase	43	19	(3)
	Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-
<b>IPCA vs. US\$ fixed rate swap</b>	R\$ depreciation	(30)	(141)	(252)
	US\$ interest rate inside Brazil decrease	(30)	(35)	(40)
	Brazilian interest rate increase	(30)	(42)	(54)
	IPCA index decrease	(30)	(37)	(45)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
<b>IPCA vs. CDI swap</b>	Brazilian interest rate increase	97	70	45
	IPCA index decrease	97	82	66
Protected item: R\$ denominated debt linked to IPCA	IPCA index decrease	n.a.	(82)	(66)
<b>EUR fixed rate vs. US\$ fixed rate swap</b>	EUR depreciation	55	(125)	(305)
	Euribor increase	55	47	39
	US\$ Libor decrease	55	36	15
	Protected item: EUR denominated debt	EUR depreciation	n.a.	125

Instrument	Instrument's main risk events	Probable	Scenario I	Scenario II
<b>Bunker Oil protection</b>				
Forwards and options	Bunker Oil price decrease	6	(20)	(135)
Protected item: Part of costs linked to bunker oil prices	Bunker Oil price decrease	n.a.	20	135
<b>Maritime Freight protection</b>				
Forwards	Freight price decrease	(0.3)	(0.8)	(1.2)
Protected item: Part of costs linked to maritime freight prices	Freight price decrease	n.a.	0.8	1.2
<b>Nickel sales fixed price protection</b>				
Forwards	Nickel price decrease	17	(11)	(38)
Protected item: Part of nickel revenues with fixed prices	Nickel price fluctuation	n.a.	11	38
<b>Purchase protection program</b>				
Nickel forwards	Nickel price increase	(0)	(1)	(1)
Protected item: Part of costs linked to nickel prices	Nickel price increase	n.a.	1	1
Copper forwards	Copper price increase	0.0	(0.1)	(0.2)
Protected item: Part of costs linked to copper prices	Copper price increase	n.a.	0.1	0.2
<b>WPM warrants</b>	WPM stock price decrease	26	12	3
<b>Conversion options - VLI</b>	VLI stock value increase	(53)	(85)	(129)
<b>Options - MBR</b>	MBR stock value decrease	239	154	90
<b>Equity securities The Mosaic Company</b>	The Mosaic Company stock value decrease	830	622	415

Instrument	Main risks	Probable	Scenario I	Scenario II
Embedded derivatives - Raw material purchase (nickel)	Nickel price increase	(0)	(14)	(27)
Embedded derivatives - Raw material purchase (copper)	Copper price increase	0	(4)	(8)
Embedded derivatives - Gas purchase	Pellet price increase	(3)	(6)	(11)
Embedded derivatives - Guaranteed minimum return (VLI)	VLI stock value decrease	(128)	(262)	(482)

## b) 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.

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, 2018.

Long term ratings by counterparty	Moody's	S&P	Long term ratings by counterparty	Moody's	S&P
ANZ Australia and New Zealand Banking	Aa3	AA-	Citigroup	Baa1	BBB+
Banco ABC	Ba2	BB-	Credit Agricole	A1	A
Banco Bradesco	Ba2	BB-	Credit Suisse	Baa2	BBB+
Banco do Brasil	Ba2	BB-	Deutsche Bank	Baa2	A-
Banco de Credito del Peru	Baa1	BBB+	Goldman Sachs	A3	BBB+
Banco do Nordeste	Ba2	BB-	HSBC	A2	A
Banco Safra	Ba2	BB-	Intesa Sanpaolo Spa	Baa1	BBB
Banco Santander	A3	A-	Itaú Unibanco	Ba3	BB-
Banco Votorantim	Ba2	BB-	JP Morgan Chase & Co	A3	A-
Bank of America	A3	A-	Macquarie Group Ltd	A3	BBB
Bank of China	A1	A	Mega Int. Commercial Bank	A1	A
Bank of Mandiri	Baa3	BB+	Mizuho Financial	A1	A-
Bank of Nova Scotia	A1	A+	Morgan Stanley	A3	BBB+
Bank Rakyat	Baa3	BB+	National Australia Bank NAB	Aa3	AA-
Bank of Tokyo Mitsubishi UFJ	A1	A-	National Bank of Oman	Baa3	-
Banpará	-	BB-	Rabobank	Aa3	A+
Barclays	Baa2	BBB	Royal Bank of Canada	A1	AA-
BBVA	Baa1	BBB+	Societe Generale	A2	A
BNP Paribas	Aa3	A	Standard Bank Group	Ba1	-
BTG Pactual	Ba2	BB-	Standard Chartered	A2	BBB+
Caixa Economica Federal	Ba2	BB-	Sumitomo Mitsui Financial	A1	A-
Canadian Imperial Bank	A1	A+	UBS	A1	A-
China Construction Bank	A1	A	Unicredit	Baa1	BBB
CIMB Bank	A3	A-			

## c) Market curves

### (i) Products

#### Nickel

Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	13,245	SEP18	13,355	MAR19	13,456
APR18	13,266	OCT18	13,374	MAR20	13,622
MAY18	13,283	NOV18	13,390	MAR21	13,768
JUN18	13,303	DEC18	13,406	MAR22	13,906
JUL18	13,321	JAN19	13,424		
AUG18	13,339	FEB19	13,440		

#### Copper

Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)
SPOT	3.03	SEP18	3.06	MAR19	3.09
APR18	3.04	OCT18	3.07	MAR20	3.11
MAY18	3.04	NOV18	3.07	MAR21	3.12
JUN18	3.05	DEC18	3.08	MAR22	3.12
JUL18	3.05	JAN19	3.08		
AUG18	3.06	FEB19	3.08		

#### Bunker Oil

Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	366	SEP18	364	MAR19	350
APR18	367	OCT18	362	MAR20	260
MAY18	368	NOV18	361	MAR21	245
JUN18	368	DEC18	359	MAR22	215
JUL18	367	JAN19	356		
AUG18	365	FEB19	353		

#### Maritime Freight (Capesize 5TC)

Maturity	Price (US\$/day)	Maturity	Price (US\$/day)	Maturity	Price (US\$/day)
SPOT	8,339	SEP18	18,050	MAR19	13,970
APR18	10,920	OCT18	21,150	Cal 2019	16,850
MAY18	14,020	NOV18	21,150	Cal 2020	16,270
JUN18	15,640	DEC18	21,150	Cal 2021	15,260
JUL18	16,350	JAN19	13,970	Cal 2022	15,240
AUG18	17,020	FEB19	13,970		



## (ii) Foreign exchange and interest rates

### US\$-Brazil Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
05/02/18	3.27	03/01/19	3.18	07/01/21	3.85
06/01/18	3.10	04/01/19	3.19	10/01/21	3.90
07/02/18	2.95	07/01/19	3.30	01/03/22	3.95
08/01/18	2.95	10/01/19	3.40	04/01/22	4.00
09/03/18	2.91	01/02/20	3.52	07/01/22	4.03
10/01/18	2.97	04/01/20	3.61	10/03/22	4.04
11/01/18	3.04	07/01/20	3.69	01/02/23	4.09
12/03/18	3.03	10/01/20	3.77	07/03/23	4.18
01/02/19	3.11	01/04/21	3.81	01/02/24	4.28
02/01/19	3.16	04/01/21	3.81	07/01/24	4.33

### US\$ Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	1.88	6M	2.39	11M	2.43
2M	2.03	7M	2.41	12M	2.43
3M	2.31	8M	2.41	2Y	2.63
4M	2.35	9M	2.42	3Y	2.76
5M	2.38	10M	2.43	4Y	2.82

### TJLP

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
05/02/18	6.75	03/01/19	6.75	07/01/21	6.75
06/01/18	6.75	04/01/19	6.75	10/01/21	6.75
07/02/18	6.75	07/01/19	6.75	01/03/22	6.75
08/01/18	6.75	10/01/19	6.75	04/01/22	6.75
09/03/18	6.75	01/02/20	6.75	07/01/22	6.75
10/01/18	6.75	04/01/20	6.75	10/03/22	6.75
11/01/18	6.75	07/01/20	6.75	01/02/23	6.75
12/03/18	6.75	10/01/20	6.75	07/03/23	6.75
01/02/19	6.75	01/04/21	6.75	01/02/24	6.75
02/01/19	6.75	04/01/21	6.75	07/01/24	6.75

### BRL Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
05/02/18	6.39	03/01/19	6.27	07/01/21	8.29
06/01/18	6.35	04/01/19	6.30	10/01/21	8.46
07/02/18	6.30	07/01/19	6.48	01/03/22	8.58
08/01/18	6.25	10/01/19	6.75	04/01/22	8.70
09/03/18	6.22	01/02/20	7.03	07/01/22	8.80
10/01/18	6.22	04/01/20	7.29	10/03/22	8.90
11/01/18	6.21	07/01/20	7.53	01/02/23	8.96
12/03/18	6.21	10/01/20	7.78	07/03/23	9.12
01/02/19	6.22	01/04/21	7.96	01/02/24	9.25
02/01/19	6.24	04/01/21	8.14	07/01/24	9.36

### Implicit Inflation (IPCA)

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
05/02/18	4.26	03/01/19	4.13	07/01/21	4.43
06/01/18	4.21	04/01/19	4.16	10/01/21	4.48
07/02/18	4.16	07/01/19	4.10	01/03/22	4.50
08/01/18	4.12	10/01/19	4.19	04/01/22	4.52
09/03/18	4.09	01/02/20	4.20	07/01/22	4.55
10/01/18	4.09	04/01/20	4.26	10/03/22	4.57
11/01/18	4.07	07/01/20	4.29	01/02/23	4.56
12/03/18	4.07	10/01/20	4.35	07/03/23	4.60
01/02/19	4.09	01/04/21	4.36	01/02/24	4.63
02/01/19	4.11	04/01/21	4.41	07/01/24	4.65

### EUR Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	-0.41	6M	-0.30	11M	-0.27
2M	-0.38	7M	-0.29	12M	-0.26
3M	-0.37	8M	-0.28	2Y	-0.16
4M	-0.33	9M	-0.27	3Y	0.02
5M	-0.31	10M	-0.27	4Y	0.21

### CAD Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	1.63	6M	1.89	11M	1.07
2M	1.68	7M	1.64	12M	0.98
3M	1.73	8M	1.44	2Y	2.19
4M	1.81	9M	1.28	3Y	2.35
5M	1.86	10M	1.16	4Y	2.45

### Currencies - Ending rates

CAD/US\$	0.7752	US\$/BRL	3.3238	EUR/US\$	1.2291
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