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#### Vale S.A.

(incorporated in Brazil as a Sociedade por Ações)

(Stock code: 6210 for Common Depositary Receipts)

(Stock code: 6230 for Class A Preferred Depositary Receipts)

# CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2015 PREPARED IN ACCORDANCE WITH BR GAAP

The following set out the consolidated financial statements of Vale S.A. for the year ended December 31, 2015 prepared in accordance with Brazilian Generally Accepted Accounting Principles (BR GAAP).

Chief Financial and Investor Relations Officer of Vale S.A.

Luciano Siani Pires

Hong Kong, February 25, 2016



# Financial Statements December 31, 2015 BRGAAP



Filed with the CVM, SEC and HKEx on February 25, 2016

# **DRAFT**



# Vale S.A. Financial Statements Contents

	Page
Report of independent registered public accounting firm	3
Balance Sheet	5
Income Statement	7
Statement of Comprehensive Income	8
Cash Flow Statement	9
Statement of Changes in Equity	10
Value Added Statement	11
Notes to the Financial Statements	12
Corporate information	
2. Basis for preparation of the financial statements	
3. Information by business segment and by geographic area	
4. Relevant event	
5. Assets held for sale	
6. Acquisitions and divestitures	
7. Cash and cash equivalents	
8. Accounts receivable	
9. Inventories	
10. Recoverable taxes	
11. Investments	
12. Noncontrolling interest	
13. Intangibles	
14. Property, plant and equipment	
15. Impairment and onerous contracts	
16. Loans and borrowings	
17. Asset retirement obligations	
18. Litigation	
19. Income taxes - Settlement program ("REFIS")	
20. Income taxes	
21. Employee benefits obligations	
22. Financial instruments classification	
23. Fair value estimate	
24. Derivative financial instruments	
25. Stockholders' equity	
26. Costs and expenses by nature	
27. Financial results	
28. Deferred revenue - Gold stream	
29. Commitments	
30. Related parties	
31. Summary of the main accounting policies	
32. Critical accounting estimates and judgments	
33. Risk management	
Members of the Board of Directors Fiscal Council Advisory Committees and Executive Officers	8.4

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# Independent auditor's report on the financial statements

(A free translation of the original report in Portuguese as published in Brazil containing financial statement prepared in accordance with accounting practices adopted in Brazil and rules of the International Financial Reporting Standards - IFRS)

To

The Board of Directors and Stockholders of Vale S.A.

Rio de Janeiro - RJ

1. We have examined the accompanying individual and consolidated financial statements of Vale S.A. ("the Company"), identified as Parent Company and Consolidated, respectively, which comprise the balance sheet as of December 31, 2015 and the respective statements of income, comprehensive income, changes in stockholders' equity and cash flows for the year then ended, as well as a summary of significant accounting policies and other notes to the financial statements.

# Management's responsibility for the financial statements

2. The Company's management is responsible for the preparation and fair presentation of the individual and consolidated financial statements in accordance with accounting practices adopted in Brazil and in accordance with International Financial Reporting Standards (IFRS), issued by the International Accounting Standards Board (IASB) as well as for the internal control as it considers necessary to enable the preparation of financial statements free of material misstatements, regardless of whether due to fraud or error.

#### Independent auditor's responsibility

3. Our responsibility is to express an opinion on these financial statements based on our audit, conducted in accordance with the Brazilian and International Standards on Auditing. These standards require compliance with ethical requirements by the auditor and that the audit is planned and performed for the purpose of obtaining reasonable assurance that the financial statements are free from material misstatement.



- 4. An audit involves performing selected procedures to obtain evidence with respect to the amounts and disclosures presented in the financial statements. The procedures selected depend on the auditor's judgment, and include the assessment of the risks of material misstatements of the financial statements, regardless of whether due to fraud or error. In the assessment of these risks, the auditor considers the relevant internal controls for the preparation and fair presentation of the Company's financial statements, in order to plan audit procedures that are appropriate in the circumstances, but not for purposes of expressing an opinion on the effectiveness of the Company's internal controls. An audit also includes evaluating the adequacy of the accounting practices used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements taken as a whole.
- **5.** We believe that the audit evidence obtained is sufficient and appropriate for expressing our opinion.

#### **Opinion on the financial statements**

6. In our opinion, the aforementioned individual and consolidated financial statements present fairly, in all material respects, the individual and consolidated financial position of Vale S.A. as of December 31, 2015, and of its individual and consolidated financial performance and its cash flows for the year then ended in accordance with accounting practices adopted in Brazil and in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB).

#### Statements of added value

7. We have also examined the individual and consolidated statements of added value for the year ended December 31, 2015, the presentation of which is required by Brazilian Corporation Law for public companies, which is the responsibility of the Company's management, considered as supplementary information by IFRS, which does not require the presentation of the statements of added value. These statements were submitted to the same audit procedures described previously and, in our opinion, are presented adequately, in all material respects, in relation to the financial statements, taken as a whole.

Rio de Janeiro, February 24, 2016

KPMG Auditores Independentes CRC SP-014428/O-6 F-RJ

Manuel Fernandes Rodrigues de Sousa Accountant CRC-RJ-052428/O-2

> KPMG Auditores Independentes, uma sociedade simples brasileira e firmamembro da rede KPMG de firmas-membro independentes e afiliadas à KPMG International Cooperative ("KPMG International"), uma entidade suíça.

KPMG Auditores Independentes, a Brazilian entity and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.



# **Balance Sheet**

# In millions of Brazilian Reais

			Consolidated		Parent Compan
	Notes	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 201
Assets	<del></del> .				
Current assets					
Cash and cash equivalents	7	14,022	10,555	518	685
Financial investments		109	392	18	392
Derivative financial instruments	24	474	441	196	370
Accounts receivable	8	5,763	8,700	36,026	30,599
Inventories	9	13,775	11,956	3,830	3,655
Prepaid income taxes		3,513	4,200	3,176	3,782
Recoverable taxes	10	5,482	4,515	3,352	2,687
Related parties	30	273	1,537	834	2,227
Others		1,215	1,780	581	1,169
		44,626	44,076	48,531	45,566
Assets held for sale	5	15.792	9,669	_	1,50
		60,418	53,745	48,531	47,06
Non-current assets					
Derivative financial instruments	24	363	231	293	29
Loans		732	609	106	104
Prepaid income taxes		1,840	1,271	-	
Recoverable taxes	10	1,956	1,064	1,457	566
Deferred income taxes	20	30,867	10,560	17,292	6,430
Judicial deposits	18(c)	3,445	3,370	2,707	2,721
Related parties	30	5	93	1,468	902
Others		2,392	1,873	765	349
		41,600	19,071	24,088	11,101
Investments	11	11,481	10,978	127,517	128,615
Intangibles	13	20,789	18,114	8,557	7,467
Property, plant and equipment	14	211,259	207,507	96,887	87,321
· · · ·		285,129	255,670	257,049	234,504
Total assets		345,547	309,415	305,580	281,571



# **Balance Sheet**

In millions of Brazilian Reais

(continued)

			Consolidated		Parent Company
	Notes	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Liabilities					
Current liabilities					
Suppliers and contractors		13,140	11,566	7,084	6,818
Payroll and related charges		1,464	3,089	806	2,017
Derivative financial instruments	24	8,107	3,760	3,559	948
Loans and borrowings	16	9,788	3,768	4,736	2,853
Related parties	30	1,856	813	6,774	5,622
Income taxes - Settlement program	19	1,348	1,213	1,320	1,189
Taxes payable		977	1,461	460	376
Provision for income taxes		943	937	-	-
Employee postretirement obligations	21(a)	266	177	72	66
Asset retirement obligations	17	346	361	83	89
Others		2,531	1,074	825	690
	_	40,766	28,219	25,719	20,668
Liabilities associated with assets held for sale	5	416	294	-	_
Edubilities associated With assets field for sale	<b>3</b>	41,182	28,513	25,719	20,668
Non-current liabilities	-				
Derivative financial instruments	24	5,581	4,276	4,745	3,866
Loans and borrowings	16	102,878	72,749	55,986	38,542
Related parties	30	830	288	63,837	43,606
Employee postretirement obligations	21(a)	6,831	5,941	483	466
Provisions for litigation	18(a)	3,210	3,405	2,190	2,448
Income taxes - Settlement program	19	15,953	15,572	15,626	15,254
Deferred income taxes	20	6,520	8,874	-	-
Asset retirement obligations	17	9,313	8,588	1,291	3,106
Participative stockholders' debentures	29(b)	1,336	4,584	1,336	4,584
Redeemable noncontrolling interest		-	645	-	-
Deferred revenue - Gold stream	28	6,830	3,516	-	-
Others	_	5,664	2,863	3,207	2,617
		164,946	131,301	148,701	114,489
Total liabilities		206,128	159,814	174,420	135,157
Stockholders' equity					
Equity attributable to Vale's stockholders	25	131,160	146,414	131,160	146,414
Equity attributable to noncontrolling interests	12	8,259	3,187	-	· -
Total stockholders' equity		139,419	149,601	131,160	146,414
Total liabilities and stockholders' equity		345,547	309,415	305,580	281,571



# **Income Statement**

In millions of Brazilian Reais, except as otherwise stated

					Year ended D	ecember 31
			C	onsolidated	Parer	nt Company
	Notes	2015	2014	2013	2015	2014
Continuing operations						
Net operating revenue	3(c)	85,499	88,275	101,490	42,560	54,346
Cost of goods sold and services rendered	26(a)	(68,658)	(59,087)	(52,511)	(27,522)	(26,093)
Gross profit	_	16,841	29,188	48,979	15,038	28,253
Operating (expenses) income						
Selling and administrative expenses	26(b)	(2,143)	(2,603)	(2,804)	(1,141)	(1,441)
Research and evaluation expenses		(1,603)	(1,738)	(1,745)	(767)	(1,017)
Pre operating and operational stoppage		(3,408)	(2,563)	(4,035)	(618)	(426)
Equity results from subsidiaries	11	-	-	-	(35,357)	(14,167)
Other operating income (expenses), net	26(c)	(586)	(2,560)	(2,157)	72	(1,996)
	_	(7,740)	(9,464)	(10,741)	(37,811)	(19,047)
Impairment of non-current assets and onerous contracts	15	(34,553)	(2,713)	(5,390)	270	4,295
Results on measurement or sale of non-current assets	5-6	52	(441)	(508)	546	-
Operating income (loss)	_	(25,400)	16,570	32,340	(21,957)	13,501
Financial income	27	26 167	0 667	E 70E	25 022	7 270
Financial expenses	27	26,167	8,667	5,795	25,822	7,379
Equity results in associates and joint ventures	11	(62,705) (1,507)	(23,420) 1,141	(24,237) 999	(56,950) (1,507)	(18,495) 1,141
Results on sale or disposal of investments in associates and joint ventures	5-6	296	(68)	999	(1,307)	(68)
Impairment of investments in associates and joint ventures	15	(1,727)	(71)	-	(510)	(71)
Net income (loss) before income taxes	13	(64,876)	2,819	14,995	(55,047)	• • •
Net income (1055) before income taxes		(04,670)	2,013	14,555	(55,047)	3,387
Income taxes	20					
Current tax		(1,347)	(2,352)	(17,368)	18	(1,344)
Deferred tax	_	20,226	(248)	2,119	10,816	(1,089)
	_	18,879	(2,600)	(15,249)	10,834	(2,433)
Net income (loss) from continuing operations	_	(45,997)	219	(254)	(44,213)	954
Loss attributable to noncontrolling interests	12	(1,784)	(735)	(373)	-	-
Net income (loss) from continuing operations attributable to Vale's stockholders	=	(44,213)	954	119	(44,213)	954
Discontinued operations						
Loss from discontinued operations		_	_	(4)	_	_
Loss from discontinued operations attributable to Vale's stockholders	_	-	-	(4)	-	-
	=	·	· ·			
Net income (loss)		(45,997)	219	(258)	(44,213)	954
Loss attributable to noncontrolling interests		(1,784)	(735)	(373)		
Net income (loss) attributable to Vale's stockholders	=	(44,213)	954	115		
Earnings per share attributable to Vale's stockholders:						
Basic and diluted earnings per share:	25(d)					
Preferred share (R\$)	_5(u)	(8.58)	0.19	0.02	(8.58)	0.19
Common share (R\$)		(8.58)	0.19	0.02	(8.58)	0.19
		,0.00,	0.25	0.0_	,0.00,	0.23



# Statement of Comprehensive Income In millions of Brazilian Reais

				Year end	ed December 31
			Consolidated		Parent Company
	2015	2014	2013	2015	2014
Net income (loss)	(45,997)	219	(258)	(44,213)	954
Other comprehensive income					
Items that will not be reclassified subsequently to net income					
Retirement benefit obligations					
Gross balance for the year	261	(661)	1,976	(136)	(261)
Effect of taxes	(4)	204	(614)	46	89
Equity results from entities, net taxes	-	4	-	350	(281)
	257	(453)	1,362	260	(453)
Total items that will not be reclassified subsequently to net income	257	(453)	1,362	260	(453)
Items that may be reclassified subsequently to net income					
Cumulative translation adjustments					
Gross balance for the year	32,444	8,771	6,283	34,409	8,480
Effect of taxes	3,500	-	-	-	-
Transfer of realized results to net income	-	-	939	-	_
	35,944	8,771	7,222	34,409	8,480
Available-for-sale financial instruments					
Gross balance for the year	2	(8)	368	-	-
Equity results from entities, net taxes	-	-	-	2	-
Transfer of realized results to net income, net of taxes	-	8	(370)	-	-
	2	-	(2)	2	-
Cash flow hedge					
Gross balance for the year	2,655	(731)	(25)	-	-
Effect of taxes	(23)	(6)	24	-	-
Equity results from entities, net taxes	(17)	(4)	-	1,458	(1,044)
Transfer of realized results to net income, net of taxes	(1,157)	(303)	(93)	_	
	1,458	(1,044)	(94)	1,458	(1,044)
Total of items that may be reclassified subsequently to net income	37,404	7,727	7,126	35,869	7,436
Total comprehensive income	(8,336)	7,493	8,230	(8,084)	7,937
Comprehensive income attributable to noncontrolling interests	(252)	(444)	229		
Comprehensive income attributable to Vale's stockholders	(8,084)	7,937	8,001		



# **Cash Flow Statement**

# In millions of Brazilian Reais

				Year ended December 31			
			Consolidated		ent Company		
Cook flow from continuing angusting activities	2015	2014	2013	2015	2014		
Cash flow from continuing operating activities:  Net income (loss) from continuing operations	(45,997)	219	(254)	(44,213)	954		
Adjustments for:	(43,337)	213	(234)	(44,213)	334		
Equity results from entities	1,507	(1,141)	(999)	36,864	13,026		
Results on measurement or sale of non-current assets	(52)	441	508	(546)	-		
Results on sale or disposal of investments in associates and joint ventures	(296)	68	(98)	(55)	68		
Results on disposal of property, plant and equipment and intangibles	(427)	232	(279)	165	198		
Impairment of non-current assets and onerous contracts	36,280	2,784	5,390	240	(4,224)		
Depreciation, amortization and depletion	13,489	10,108	8,953	4,578	3,649		
Deferred income taxes	(20,226)	248	(2,119)	(10,816)	1,089		
Foreign exchange and indexation, net	24,364	3,208	1,565	21,671	4,631		
Unrealized derivative loss (gain), net	5,796	2,903	1,616	3,708	1,169		
Dividends and interest on capital received from subsidiaries  Participative stockholders' debentures	(2.020)	665	800	(3,039)	560 665		
Others	(3,039) 732	554	305	(5,039)	2,031		
Changes in assets and liabilities:	732	334	303	341	2,031		
Accounts receivable	5,237	5,296	932	6,404	(12,816)		
Inventories	(1,018)	(1,661)	929	228	502		
Suppliers and contractors	2,429	2,301	(219)	1,550	3,167		
Payroll and related charges	(1,780)	(230)	261	(1,317)	(213)		
Income taxes (includes settlement program)	(278)	1,285	12,192	33	1,407		
Net other taxes assets and liabilities	(802)	(726)	531	(79)	(800)		
Deferred revenue - Gold stream (note 28)	1,670	-	2,899	-	-		
Net other assets and liabilities	(1,870)	1,238	(1,037)	(903)	(1,724)		
Net cash provided by continuing operating activities	15,719	27,792	31,876	15,878	13,339		
Net cash provided by discontinued operating activities	-	-	357		-		
Net cash provided by operating activities	15,719	27,792	32,233	15,878	13,339		
Cash flow from continuing investing activities:		· · · · · · · · · · · · · · · · · · ·					
Financial investments redeemed (invested)	932	(392)	498	373	(384)		
Loans and advances received (granted)	(34)	781	(44)	160	730		
Guarantees and deposits received (granted)	(238)	156	(324)	(197)	112		
Additions to investments	(186)	(570)	(784)	(5,330)	(2,618)		
Acquisition of subsidiary (note 6(f))	(237)	-	-	-	-		
Additions to property, plant and equipment and intangible (note 3(b))	(27,784)	(26,346)	(28,549)	(16,094)	(16,714)		
Dividends and interest on capital received from associates and joint ventures (note 11)	1,064	1,302	1,836	881	1,142		
Proceeds from disposal of assets and investments	5,211	2,709	4,699	4,366	2,709		
Proceeds from gold stream transaction (note 28)	1,156	(22.200)	1,161	- (45.041)	- (45.022)		
Net cash used in continuing investing activities  Net cash provided by discontinued investing activities	(20,116)	(22,360)	<b>(21,507)</b> (1,643)	(15,841)	(15,023)		
Net cash used in investing activities	(20,116)	(22,360)		(15,841)	(15,023)		
	(20,110)	(22,360)	(23,150)	(15,641)	(15,025)		
Cash flow from continuing financing activities:							
Loans and borrowings (i) Additions	16,603	5,947	7,267	19,571	16,523		
Repayments	(10,156)	(4,678)	(7,480)	(14,749)	(8,058)		
Transactions with stockholders:	(10,130)	(4,076)	(7,460)	(14,745)	(8,038)		
Dividends and interest on capital paid to Vale's stockholders (note 25(e))	(5,026)	(9,739)	(9,319)	(5,026)	(9,739)		
Dividends and interest on capital paid to noncontrolling interest	(46)	(164)	(46)	-	(3), 33)		
Transactions with noncontrolling stockholders (ii)	3,875	-	-	-			
Net cash provided (used) by continuing financing activities	5,250	(8,634)	(9,578)	(204)	(1,274)		
Net cash provided by discontinued financing activities	, -	-	182		-		
Net cash provided (used) in financing activities	5,250	(8,634)	(9,396)	(204)	(1,274)		
Increase (decrease) in cash and cash equivalents	853	(3,202)	(313)	(167)	(2,958)		
Cash and cash equivalents in the beginning of the year	10,555	12,465	11,918	685	3,635		
Effect of exchange rate changes on cash and cash equivalents	2,614	1,292	860	-	-		
Cash and cash equivalents from incorporated subsidiary	-	-	-	-	8		
Cash and cash equivalents at end of the year	14,022	10,555	12,465	518	685		
Cash paid for (iii):		**************************************					
Interest on loans and borrowings (i)	(4,827)	(3,561)	(3,290)	(4,756)	(3,163)		
Derivatives received (paid), net	(3,771)	(521)	(605)	(769)	(81)		
Income taxes	(1,738)	(1,199)	(5,183)	(58)	(60)		
Income taxes - Settlement program	(1,284)	(1,161)	(6,032)	(1,257)	(1,137)		
Non-cash transactions:	, , ,		,	, ,	. , ,		
Additions to property, plant and equipment - capitalized loans and borrowing costs	2,531	1,387	519	1,258	738		
Additions to property, plant and equipment - costs of assets retirement obligations	846	2,217	445	(936)	973		
Dividends received	-	-	-	227	349		

<sup>(</sup>i) In the Parent Company includes debt flow with Vale International S.A., its wholly owned. In 2015 was captured R\$4,080 (R\$11,388 – 2014); repayments of R\$5,229 (R\$5,769 – 2014); and interest paid of R\$2,318 (R\$1,276 – 2014), respectively.
(ii) Comprises reduction of participation in MBR (note 6(a)) and other transactions.

<sup>(</sup>iii) Amounts paid are classified as cash flows from operating activities.



# Statement of Changes in Equity In millions of Brazilian Reais

		Results on	Results from operation with			Unrealized fair	Cumulative		Equity attributable	Equity attributable to	Total
	Share		noncontrolling	Profit	Treasury	value gain	translation	Retained	to Vale's		stockholder's
	capital	shares	interest	reserves	stocks	(losses)	adjustments	earnings	stockholders	interests	equity
Balance at December 31, 2012	75,000	50	(840)	78,450	(7,838)	(4,176)	9,002	16	149,664	3,245	152,909
Net income (loss)			-	-	-	-	-	115	115	(373)	(258)
Other comprehensive income:										` .	, ,
Retirement benefit obligations	-	-	-	-	-	1,362	-	-	1,362	-	1,362
Cash flow hedge	-	-	-	-	-	(94)	-	-	(94)	-	(94)
Available-for-sale financial instruments	-	-	-	-	-	(2)	-	-	(2)	-	(2)
Translation adjustments	-	-	-	-	-	95	6,525	-	6,620	602	7,222
Transactions with stockholders:											
Dividends and interest on capital of Vale's stockholders	-	-	-	-	-	-	-	(9,319)	(9,319)	-	(9,319)
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	(214)	(214)
Redeemable noncontrolling interest	-	-	-	-	-	-	-	-	-	349	349
Capitalization of noncontrolling interest advances	-	-	-	-	-	-	-	-	-	166	166
Realization of reserves	-	-	-	(9,220)	-	-	-	9,220	-	-	-
Appropriation to undistributed retained earnings			-	32				(32)			
Balance at December 31, 2013	75,000	50	(840)	69,262	(7,838)	(2,815)	15,527	-	148,346	3,775	152,121
Net income (loss)	-	-	-	-	-	-	-	954	954	(735)	219
Other comprehensive income:											
Retirement benefit obligations	-	-	-	-	-	(453)	-	-	(453)	-	(453)
Cash flow hedge	-	-	-	-	-	(1,044)	-	-	(1,044)	-	(1,044)
Translation adjustments	-	-	-	-	-	(241)	8,721	-	8,480	291	8,771
Transactions with stockholders:											
Dividends and interest on capital of Vale's stockholders	-	-	-	-	-	-	-	(9,739)	(9,739)	-	(9,739)
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	(18)	(18)
Acquisitions and disposal of participation of noncontrolling interest	-	-	(130)	-	-	-	-	-	(130)	(428)	(558)
Capitalization of noncontrolling interest advances	-	-	-	-	-	-	-	-	-	302	302
Capitalization of reserves	2,300	-	-	(2,300)	-	-	-	-	-	-	-
Cancellation of treasury stock	-	-	-	(5,092)	5,092	-	-	-	-	-	-
Realization of reserves	-	-	-	(8,994)	-	-	-	8,994	-	-	-
Appropriation to undistributed retained earnings			-	209	-			(209)			-
Balance at December 31, 2014	77,300	50	(970)	53,085	(2,746)	(4,553)	24,248	<u> </u>	146,414	3,187	149,601
Loss	-	-	-	-	-	-	-	(44,213)	(44,213)	(1,784)	(45,997)
Other comprehensive income:											
Retirement benefit obligations	-	-	-	-	-	260	-	-	260	(3)	257
Cash flow hedge	-	-	-	-	-	1,458	-	-	1,458	-	1,458
Available-for-sale financial instruments	-	-	-	-	-	2	-	-	2	-	2
Translation adjustments	-	-	-	-	-	(1,040)	35,449	-	34,409	1,535	35,944
Transactions with stockholders:				(= 000)					(= 000)		(= 00.0)
Dividends and interest on capital of Vale's stockholders	-	-	-	(5,026)	-	-	-	-	(5,026)	- (100)	(5,026)
Dividends of noncontrolling interest	-	-	- (0.4.1)	-	-	-	- (4.000)	-	- (5.4.4.)	(123)	(123)
Acquisitions and disposal of participation of noncontrolling interest	-	-	(911)	-	-	-	(1,233)	-	(2,144)	5,317	3,173
Capitalization of noncontrolling interest advances	-	-	-	(44.242)	-	-	-	44.262	-	130	130
Appropriation to undistributed retained earnings			- (4.004)	(44,213)	-	(0.000)	-	44,213	-		420.442
Balance at December 31, 2015	77,300	50	(1,881)	3,846	(2,746)	(3,873)	58,464	-	131,160	8,259	139,419



# **Value Added Statement**

In millions of Brazilian Reais

				Year ended	December 31
			Consolidated	Par	ent Company
	2015	2014	2013	2015	2014
Generation of value added from continuing operations					
Gross revenue					
Revenue from products and services	86,907	89,911	103,026	43,296	55,198
Results on measurement or sale of non-current assets	348	(509)	(410)	601	(68
Revenue from the construction of own assets	30,329	27,733	20,792	17,948	17,453
Allowance for doubtful accounts	44	(34)	(22)	(9)	15
Other revenues	1,979	1,153	1,307	569	525
Less:					
Acquisition of products	(2,531)	(3,800)	(3,329)	(684)	(1,071
Material, service and maintenance	(46,396)	(42,133)	(35,050)	(25,850)	(26,684
Oil and gas	(4,406)	(4,022)	(3,954)	(2,629)	(2,520)
Energy	(1,920)	(1,430)	(1,546)	(941)	(689
Freight	(11,878)	(8,502)	(6,979)	-	-
Impairment of non-current assets and contracts onerous	(36,280)	(2,784)	(5,390)	(240)	4,224
Other costs and expenses	(8,680)	(10,010)	(9,481)	(1,087)	(2,297)
Gross value added	7,516	45,573	58,964	30,974	44,086
Depreciation, amortization and depletion	(13,489)	(10,108)	(8,953)	(4,578)	(3,649
Net value added	(5,973)	35,465	50,011	26,396	40,437
Received from third parties					
Equity results from entities	(1,507)	1,141	999	(36,864)	(13,026)
Financial income	4,791	2,396	1,465	3,377	1,780
Monetary and exchange variation of assets	12,087	3,301	1,802	12,828	4,018
Total value added from continuing operations to be distributed	9,398	42,303	54,277	5,737	33,209
Value added from discontinued operations to be distributed	5,550		611	5,757	33,203
Total value added to be distributed	9,398	42,303	54,888	5,737	33,209
Personnel	9,497	9,485	9,496	4,573	4,986
Taxes and contributions	8,511	8,379	6,242	6,383	6,925
Current income tax	1,347	2,352	17,368	(18)	1,344
Deferred income tax	(20,226)	248	(2,119)	(10,816)	1,089
Financial expense (includes capitalized interest)	16,951	11,488	14,397	11,050	7,941
Monetary and exchange variation of liabilities	37,598	8,746	8,286	36,282	8,130
Other remunerations of third party funds	1,717	1,386	861	2,496	1,840
Dividends and interest attributed to Vale's stockholders	-	745	83	-	745
Reinvested net income (absorbed loss)	(44,213)	209	36	(44,213)	209
Net income (loss) attributable to noncontrolling interest	(1,784)	(735)	(373)	-	-
Distributed value added from continuing operations	9,398	42,303	54,277	5,737	33,209
Distributed value added from discontinued operations	-	-	611	,	-
Distributed value added	9,398	42,303	54,888	5,737	33,209



#### **Notes to the Financial Statements**

Expressed in millions of Brazilian Reais, unless otherwise stated

#### 1. Corporate information

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

Vale and its direct and indirect subsidiaries ("Vale", "Group" or "Company") are producers of iron ore and iron ore pellets, key raw materials for steelmaking, and producers of nickel, which is used to produce stainless steel and metal alloys employed in the production of several products. The Group also produces copper, metallurgical and thermal coal, potash, phosphates and other fertilizer nutrients, manganese ore, ferroalloys, platinum group metals, gold, silver and cobalt. The information by segment is presented in notes 3 and 31(d).

#### 2. Basis for preparation of the financial statements

#### a) Statement of compliance

The consolidated and individual financial statements of the Company ("financial statements") have been prepared in accordance with the International Financial Reporting Standards ("IFRS") as implemented in Brazil by the Brazilian Accountant Pronouncements Committee ("CPC"), approved by the Brazilian Securities Exchange Commission ("CVM") and by the Brazilian Federal Accounting Council ("CFC"). All relevant information from its own financial statements, and only this information, are being presented and correspond to those used by the Company's Management. The consolidated financial statements present the accounts of the Group as described in note 31(b).

#### b) Basis of presentation

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

Subsequent events were evaluated through February 24, 2016, which is the date the financial statements were approved by the Board of Directors.

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

IFRS 9 Financial instruments - In July 2014 the IASB issued IFRS 9, which sets out the requirements for recognizing and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. This Standard replaces IAS 39 Financial Instruments: Recognition and Measurement. The adoption will be required from January 1, 2018 and the Company does not expect significant impact from the adoption of this standard.

IFRS 15 Revenue from contracts with customers - In May 2014 the IASB issued IFRS 15, which sets out the requirements for revenue recognition that apply to all contracts with customer to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services, and replaces IAS 18 - revenue, IAS 11 - Construction contracts and the related interpretations. The adoption will be required from January 1, 2018 and the Company is currently analyzing the potential impact regarding this pronouncement on the financial statements.

IFRS 16 Leases - In January 2016 the IASB issued IFRS 16, which sets out the principles for the recognition, measurement, presentation and disclosure of leases. IFRS 16 replaces IAS 17 – Leases and the related interpretation. The adoption will be required from January 1, 2019 and the Company is currently analyzing the potential impact regarding this pronouncement on the financial statements.

#### d) Summary of main accounting practices and critical accounting estimates and judgments

The summary of main accounting practices and the critical accounting estimates and judgments are disclosed in note 31 and 32, respectively.



# 3. Information by business segment and by geographic area

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

#### a) Operating income (loss) and adjusted EBITDA

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

												Consolidated
						• • • •		·		Ye	ar ended Decem	ber 31, 2015
	Net operating revenue	Costs	Expenses, net	Research and evaluation expenses	Pre operating and operational stoppage	Depreciation and others results	Operating income (loss)	Impairment of non-current assets and onerous contracts	Results on measurement or sale of non-current assets	Dividends received from associates and joint ventures	Adjusted by Depreciation, depletion and amortization	Adjusted EBITDA
Ferrous minerals												
Iron ore	41,427	(25,505)	(1,140)	(395)	(417)	(8,184)	5,786	3,538	494	87	4,152	14,057
Pellets	11,916	(7,008)	34	(13)	(81)	(1,309)	3,539	225	-	708	1,084	5,556
Ferroalloys and manganese	518	(583)	1	(1)	(61)	(79)	(205)	-	-	-	79	(126)
Others ferrous products and services	1,552	(1,115)	22	(9)	(6)	(327)	117	80		25	247	469
	55,413	(34,211)	(1,083)	(418)	(565)	(9,899)	9,237	3,843	494	820	5,562	19,956
Coal	1,739	(2,857)	(435)	(73)	(208)	(12,432)	(14,266)	11,762	-	109	670	(1,725)
Base metals												
Nickel and other products	15,534	(11,378)	(506)	(348)	(1,359)	(23,695)	(21,752)	18,180	-	-	5,515	1,943
Copper	4,957	(3,049)	(114)	(31)	(2)	(784)	977	138	-	-	646	1,761
Others base metals products	-	_	722	-	-	-	722	-	-	-	-	722
	20,491	(14,427)	102	(379)	(1,361)	(24,479)	(20,053)	18,318	-	-	6,161	4,426
Fertilizers												
Potash	443	(297)	9	(171)	(81)	(2,230)	(2,327)	2,123	-	-	107	(97)
Phosphates	5,806	(3,912)	(118)	(97)	(139)	653	2,193	(1,515)	-	-	862	1,540
Nitrogen	999	(687)	(15)	(9)	(12)	(70)	206	-	-	=	70	276
Others fertilizers products	194	-	-	-	-	-	194	-	-	-	-	194
	7,442	(4,896)	(124)	(277)	(232)	(1,647)	266	608	-	-	1,039	1,913
Others	414	(464)	(543)	(456)	(2)	467	(584)	22	(546)	135	57	(916)
Total	85,499	(56,855)	(2,083)	(1,603)	(2,368)	(47,990)	(25,400)	34,553	(52)	1,064	13,489	23,654



											Consolidated
									Y	ear ended Decem	nber 31, 2014
					Staten	nent of income	•			Adjusted by	
				Pre operating							
Net operating revenue	Costs	Expenses, net	Research and evaluation expenses	and operational stoppage	Depreciation and others results	Operating income (loss)	assets and onerous contracts	or sale of non-current assets	associates and	and	Adjusted EBITDA
45,341	(22,515)	(3,037)	(758)	(376)	(6,382)	12,273	2,794	-	108	3,588	18,763
12,397	(6,397)	(42)	(2)	(88)	(648)	5,220	-	-	1,097	648	6,965
933	(618)	(27)	(1)	(54)	(75)	158	-	-	-	75	233
1,724	(1,310)	7_	(21)	-	(239)	161		-	1	239	401
60,395	(30,840)	(3,099)	(782)	(518)	(7,344)	17,812	2,794	-	1,206	4,550	26,362
1,740	(2,514)	(764)	(43)	(89)	(1,075)	(2,745)	786	-	75	289	(1,595)
14,703	(8,756)	249	(330)	(1,209)	(586)	4,071	(3,667)	441	-	3,812	4,657
3,434	(2,079)	(35)	(10)	(38)	(414)	858	-	-	-	414	1,272
18,137	(10,835)	214	(340)	(1,247)	(1,000)	4,929	(3,667)	441	-	4,226	5,929
363	(312)	(40)	(45)	(51)	(60)	(145)	-	-	-	60	(85)
4,259	(3,534)	(163)	(109)	(133)	(3,607)	(3,287)	2,800	-	-	807	320
820	(560)	(23)	(16)	(16)	(113)	92	-	-	-	113	205
214	-		-	-	_	214	_				214
5,656	(4,406)	(226)	(170)	(200)	(3,780)	(3,126)	2,800	-	-	980	654
2,347	(1,408)	(759)	(403)	(14)	(63)	(300)	-	-	21	63	(216)
88,275	(50,003)	(4,634)	(1,738)	(2,068)	(13,262)	16,570	2,713	441	1,302	10 108	31,134
	14,703 3,434 18,137 363 4,259 820 214 5,656	operating revenue         Costs           45,341         (22,515)           12,397         (6,397)           933         (618)           1,724         (1,310)           60,395         (30,840)           1,740         (2,514)           14,703         (8,756)           3,434         (2,079)           18,137         (10,835)           363         (312)           4,259         (3,534)           820         (560)           214         -           5,656         (4,406)           2,347         (1,408)	operating revenue         Expenses, net           45,341         (22,515)         (3,037)           12,397         (6,397)         (42)           933         (618)         (27)           1,724         (1,310)         7           60,395         (30,840)         (3,099)           1,740         (2,514)         (764)           14,703         (8,756)         249           3,434         (2,079)         (35)           18,137         (10,835)         214           363         (312)         (40)           4,259         (3,534)         (163)           820         (560)         (23)           214         -         -           5,656         (4,406)         (226)           2,347         (1,408)         (759)	operating revenue         Costs         Expenses, net         evaluation expenses           45,341         (22,515)         (3,037)         (758)           12,397         (6,397)         (42)         (2)           933         (618)         (27)         (1)           1,724         (1,310)         7         (21)           60,395         (30,840)         (3,099)         (782)           1,740         (2,514)         (764)         (43)           14,703         (8,756)         249         (330)           3,434         (2,079)         (35)         (10)           18,137         (10,835)         214         (340)           363         (312)         (40)         (45)           4,259         (3,534)         (163)         (109)           820         (560)         (23)         (16)           214         -         -         -           5,656         (4,406)         (226)         (170)           2,347         (1,408)         (759)         (403)	Net operating revenue         Costs         Expenses, net         Research and evaluation expenses         operating and operational stoppage           45,341         (22,515)         (3,037)         (758)         (376)           12,397         (6,397)         (42)         (2)         (88)           933         (618)         (27)         (1)         (54)           1,724         (1,310)         7         (21)         -           60,395         (30,840)         (3,099)         (782)         (518)           1,740         (2,514)         (764)         (43)         (89)           14,703         (8,756)         249         (330)         (1,209)           3,434         (2,079)         (35)         (10)         (38)           18,137         (10,835)         214         (340)         (1,247)           363         (312)         (40)         (45)         (51)           4,259         (3,534)         (163)         (109)         (133)           820         (560)         (23)         (16)         (16)           214         -         -         -         -           5,656         (4,406)         (226)         (170)	Net operating revenue         Costs         Expenses, net         Research and expenses         evaluation operational stoppage         Depreciation and others results           45,341         (22,515)         (3,037)         (758)         (376)         (6,382)           12,397         (6,397)         (42)         (2)         (88)         (648)           933         (618)         (27)         (1)         (54)         (75)           1,724         (1,310)         7         (21)         -         (239)           60,395         (30,840)         (3,099)         (782)         (518)         (7,344)           1,740         (2,514)         (764)         (43)         (89)         (1,075)           14,703         (8,756)         249         (330)         (1,209)         (586)           3,434         (2,079)         (35)         (10)         (38)         (414)           18,137         (10,835)         214         (340)         (1,247)         (1,000)           363         (312)         (40)         (45)         (51)         (60)           4,259         (3,534)         (163)         (109)         (133)         (3,607)           820         (560)	Net operating revenue         Costs         Expenses, net         Research and evaluation operational stoppage         Depreciation and others results         Operating income (loss)           45,341         (22,515)         (3,037)         (758)         (376)         (6,382)         12,273           12,397         (6,397)         (42)         (2)         (88)         (648)         5,220           933         (618)         (27)         (1)         (54)         (75)         158           1,724         (1,310)         7         (21)         -         (239)         161           60,395         (30,840)         (3,099)         (782)         (518)         (7,344)         17,812           1,740         (2,514)         (764)         (43)         (89)         (1,075)         (2,745)           14,703         (8,756)         249         (330)         (1,209)         (586)         4,071           3,434         (2,079)         (35)         (10)         (38)         (414)         858           18,137         (10,835)         214         (340)         (1,247)         (1,000)         4,929           363         (312)         (40)         (45)         (51)         (60) <t< td=""><td>  Net</td><td>Net operating revenue         Costs         Expenses, net         Research and evaluation operating evaluation operating and operational stoppage         Depreciation and others results         Operating income (loss)         Impairment of non-current assets and one rous on one rous or sale of non-current assets           45,341         (22,515)         (3,037)         (758)         (376)         (6,382)         12,273         2,794         -           12,397         (6,397)         (42)         (2)         (88)         (648)         5,220         -         -         -           933         (618)         (27)         (1)         (54)         (75)         158         -         -         -           1,724         (1,310)         7         (21)         -         (239)         161         -         -         -           60,395         (30,840)         (3,099)         (782)         (518)         (7,344)         17,812         2,794         -           1,740         (2,514)         (764)         (43)         (89)         (1,075)         (2,745)         786         -           14,703         (8,756)         249         (330)         (1,209)         (586)         4,071         (3,667)         441           3,434</td><td>  Net operating revenue   Costs   Research and prevail   Research an</td><td>  Net operating revenue   Costs   Expenses,   Research and perceitation   Perceitation operating revenue   Costs   State   Perceitation   Perceitation operating revenue   Costs   State   Perceitation operation   Perceitation operation operation operation   Perceitation operation operation operation operation   Perceitation operation operation operation   Perceitation operation   Perceitation operation operation   Perceitation   Perceitation operation   Perceitation o</td></t<>	Net	Net operating revenue         Costs         Expenses, net         Research and evaluation operating evaluation operating and operational stoppage         Depreciation and others results         Operating income (loss)         Impairment of non-current assets and one rous on one rous or sale of non-current assets           45,341         (22,515)         (3,037)         (758)         (376)         (6,382)         12,273         2,794         -           12,397         (6,397)         (42)         (2)         (88)         (648)         5,220         -         -         -           933         (618)         (27)         (1)         (54)         (75)         158         -         -         -           1,724         (1,310)         7         (21)         -         (239)         161         -         -         -           60,395         (30,840)         (3,099)         (782)         (518)         (7,344)         17,812         2,794         -           1,740         (2,514)         (764)         (43)         (89)         (1,075)         (2,745)         786         -           14,703         (8,756)         249         (330)         (1,209)         (586)         4,071         (3,667)         441           3,434	Net operating revenue   Costs   Research and prevail   Research an	Net operating revenue   Costs   Expenses,   Research and perceitation   Perceitation operating revenue   Costs   State   Perceitation   Perceitation operating revenue   Costs   State   Perceitation operation   Perceitation operation operation operation   Perceitation operation operation operation operation   Perceitation operation operation operation   Perceitation operation   Perceitation operation operation   Perceitation   Perceitation operation   Perceitation o



											(	Consolidated
										Υe	ar ended Decem	ber 31, 2013
						Staten	nent of income				Adjusted by	
	Net operating revenue	Costs	Expenses, net	Research and evaluation expenses	Pre operating and operational stoppage	Depreciation and others results	Operating income (loss)	Impairment of non- current assets and onerous contracts	Results on measurement or sale of non-current assets	Dividends received from associates and joint ventures	Depreciation, depletion and amortization	Adjusted EBITDA
Ferrous minerals												
Iron ore	60,653	(19,736)	(2,714)	(690)	(524)	(3,023)	33,966	-	-	149	3,023	37,138
Pellets	12,972	(4,994)	(249)	(24)	(280)	(826)	6,599	427	-	1,441	399	8,866
Ferroalloys and manganese	1,140	(677)	(69)	(1)	(31)	(64)	298	-	-	-	64	362
Others ferrous products and services	903	(351)	11	-	<u> </u>	(301)	262		<u>-</u>	2	301	565
	75,668	(25,758)	(3,021)	(715)	(835)	(4,214)	41,125	427	-	1,592	3,787	46,931
Coal	2,188	(2,485)	(536)	(102)	(105)	(373)	(1,413)	-	-	90	373	(950)
Base metals												
Nickel and other products	12,566	(7,906)	(263)	(373)	(1,633)	(3,416)	(1,025)	-	-	-	3,416	2,391
Copper	3,180	(2,182)	(266)	(95)	(22)	(884)	(269)	-	508	-	376	615
Others base metals products	-	-	484	-	-	-	484	-	-	-	-	484
	15,746	(10,088)	(45)	(468)	(1,655)	(4,300)	(810)	-	508	-	3,792	3,490
Fertilizers												
Potash	434	(274)	(80)	(38)	(868)	(5,057)	(5,883)	4,963	-	-	94	(826)
Phosphates	4,443	(3,621)	(309)	(67)	(56)	(676)	(286)	-	-	-	676	390
Nitrogen	990	(804)	(46)	(12)	(11)	(158)	(41)	-	-	-	158	117
Others fertilizers products	171			(4)	-	-	167	-	-	-	-	167
	6,038	(4,699)	(435)	(121)	(935)	(5,891)	(6,043)	4,963		-	928	(152)
Others	1,850	(1,450)	(508)	(338)	-	(73)	(519)	-	-	154	73	(292)
Total of continued operations	101,490	(44,480)	(4,545)	(1,744)	(3,530)	(14,851)	32,340	5,390	508	1,836	8,953	49,027
		(5.554)	()	(22)		(222)	()					
Discontinued operations	2,762	(2,324)	(157)	(30)	-	(823)	(572)		484		339	251
Total	104,252	(46,804)	(4,702)	(1,774)	(3,530)	(15,674)	31,768	5,390	992	1,836	9,292	49,278



# b) Assets by segment

					Consolidated
				Year e	nded December 31, 2015
	Trade receivables	Product inventory	Investments	Property, plant and equipment and intangible assets	Additions to property, plant and equipment and intangible
Ferrous minerals					_
Iron ore	289	3,168	1,581	104,539	16,177
Pellets	2,792	620	1,156	4,213	129
Ferroalloys and manganese	203	249	-	547	43
Others ferrous products and services	303	7	3,038	824	50
	3,587	4,044	5,775	110,123	16,399
Coal	176	206	1,195	7,075	5,108
Base metals					
Nickel and other products	1,606	4,460	66	83,118	4,365
Copper	67	92		8,731	797
	1,673	4,552	66	91,849	5,162
Fertilizers					
Potash	-	52	-	570	-
Phosphates	393	1,063	-	14,526	853
Nitrogen	-	41	-	-	-
	393	1,156	-	15,096	853
Others	159	10	4,445	7,905	262
Total	5,988	9,968	11,481	232,048	27,784

					Consolidated
				Year en	ded December 31, 2014
				Property, plant and equipment and	Additions to property, plant and equipment
	Trade receivables	Product inventory	Investments	intangible assets	and intangible
Ferrous minerals					
Iron ore	4,035	2,949	1,450	93,747	16,597
Pellets	1,153	498	1,575	4,293	509
Ferroalloys and manganese	402	183	-	696	133
Others ferrous products and services	181	-	2,945	810	93
	5,771	3,630	5,970	99,546	17,332
Coal	324	411	943	11,765	4,850
Base metals					
Nickel and other products	1,747	3,811	56	78,664	1,828
Copper	317	70	515	9,733	1,333
	2,064	3,881	571	88,397	3,161
Fertilizers					
Potash	-	31	-	414	-
Phosphates	361	822	-	14,632	92
Nitrogen		62	<u>-</u> _		_
	361	915	=	15,046	92
Others	410	8	3,494	10,867	911
Total	8,930	8,845	10,978	225,621	26,346



# c) Results by segment and revenues by geographic area

						Consolidated
				Year	r ended Decem	ber 31, 2015
	Ferrous		_			
	minerals	Coal	Base metals	Fertilizers	Others	Total
Results						
Net operating revenue	55,413	1,739	20,491	7,442	414	85,499
Cost and expenses	(36,277)	(3,573)	(16,065)	(5,529)	(1,465)	(62,909)
Impairment of non-current assets and onerous contracts	(3,843)	(11,762)	(18,318)	(608)	(22)	(34,553)
Results on measurement or sale of non-current assets	(494)	-	-	-	546	52
Depreciation, depletion and amortization	(5,562)	(670)	(6,161)	(1,039)	(57)	(13,489)
Operating income (loss)	9,237	(14,266)	(20,053)	266	(584)	(25,400)
Financial result	(35,498)	481	(1,072)	(482)	33	(36,538)
Results on sale or disposal of investments in associates and joint ventures	-	-	-	-	296	296
Impairment of investment in associates and joint ventures	(511)	-	(1,216)	-	-	(1,727)
Equity results in associates and joint ventures	112	(13)	(495)	-	(1,111)	(1,507)
Income taxes	18,397	(3,241)	4,211	(460)	(28)	18,879
Loss	(8,263)	(17,039)	(18,625)	(676)	(1,394)	(45,997)
Income (loss) attributable to noncontrolling interests	270	(942)	(1,072)	31	(71)	(1,784)
Loss attributable to Vale's stockholders	(8,533)	(16,097)	(17,553)	(707)	(1,323)	(44,213)
Sales classified by geographic area:						
America, except United States and Brazil	1,185	64	3,697	217	_	5,163
United States of America	95	-	2,640	-	69	2,804
Europe	8,293	347	6,464	431	_	15,535
Middle East/Africa/Oceania	3,323	314	273	31	-	3,941
Japan	5,038	237	1,223	-	-	6,498
China	28,477	149	2,186	-	-	30,812
Asia, except Japan and China	3,545	553	3,325	243	-	7,666
Brazil	5,457	75	683	6,520	345	13,080
Net operating revenue	55,413	1,739	20,491	7,442	414	85,499

					C	onsolidated
				Year e	ended Decemb	er 31, 2014
	Ferrous			•	• •	
	minerals	Coal	Base metals	Fertilizers	Others	Total
Results						
Net operating revenue	60,395	1,740	18,137	5,656	2,347	88,275
Cost and expenses	(35,239)	(3,410)	(12,208)	(5,002)	(2,584)	(58,443)
Impairment of non-current assets and onerous contracts	(2,794)	(786)	3,667	(2,800)	-	(2,713)
Results on measurement or sales of non-current assets	=	-	(441)	-	=	(441)
Depreciation, depletion and amortization	(4,550)	(289)	(4,226)	(980)	(63)	(10,108)
Operating income (loss)	17,812	(2,745)	4,929	(3,126)	(300)	16,570
Financial result	(14,611)	443	(425)	(125)	(35)	(14,753)
Results on sale or disposal of investments in associates and joint ventures	-	-	-	-	(68)	(68)
Impairment of investment in associates and joint ventures	-	-	-	-	(71)	(71)
Equity results in associates and joint ventures	1,527	76	(80)	-	(382)	1,141
Income taxes	(3,355)	243	(333)	1,059	(214)	(2,600)
Net income (loss)	1,373	(1,983)	4,091	(2,192)	(1,070)	219
Income (loss) attributable to noncontrolling interests	150	(117)	(702)	14	(80)	(735)
Income (loss) attributable to Vale's stockholders	1,223	(1,866)	4,793	(2,206)	(990)	954
Sales classified by geographic area:						
America, except United States and Brazil	1,529	7	3,230	89	45	4,900
United States of America	55	-	2,590	-	565	3,210
Europe	9,115	275	6,105	207	30	15,732
Middle East/Africa/Oceania	3,794	259	350	7	-	4,410
Japan	6,031	453	2,030	-	16	8,530
China	28,077	178	1,507	-	-	29,762
Asia, except Japan and China	5,170	550	1,934	130	1	7,785
Brazil	6,624	18	391	5,223	1,690	13,946
Net operating revenue	60,395	1,740	18,137	5,656	2,347	88,275



					C	onsolidated
				Year	ended Decemb	ber 31, 2013
	Ferrous					
	minerals	Coal	Base metals	Fertilizers	Others	Total
Results						
Net operating revenue	75,668	2,188	15,746	6,038	1,850	101,490
Cost and expenses	(30,329)	(3,228)	(12,256)	(6,190)	(2,296)	(54,299)
Impairment of non-current assets and onerous contracts	(427)	-	-	(4,963)	-	(5,390)
Results on measurement or sale of non-current assets	-	-	(508)	-	-	(508)
Depreciation, depletion and amortization	(3,787)	(373)	(3,792)	(928)	(73)	(8,953)
Operating income (loss)	41,125	(1,413)	(810)	(6,043)	(519)	32,340
Financial result	(18,917)	96	(177)	(195)	751	(18,442)
Results on sale or disposal of investments in associates and joint ventures	-	-	-	65	33	98
Equity results in associates and joint ventures	1,322	91	(53)	-	(361)	999
Income taxes	(16,025)	616	144	115	(99)	(15,249)
Net income (loss)	7,505	(610)	(896)	(6,058)	(195)	(254)
Income (loss) attributable to noncontrolling interests	(83)	(82)	(115)	30	(123)	(373)
Income (loss) attributable to Vale's stockholders	7,588	(528)	(781)	(6,088)	(72)	119
Sales classified by geographic area:						
America, except United States and Brazil	1,575	1	2,247	132	21	3,976
United States of America	68	-	2,297	-	458	2,823
Europe	12,780	177	5,734	255	-	18,946
Middle East/Africa/Oceania	4,002	297	204	36	-	4,539
Japan	6,859	649	1,340	-	-	8,848
China	39,074	351	1,839	-	-	41,264
Asia, except Japan and China	5,074	673	1,914	137	1	7,799
Brazil	6,236	40	171	5,478	1,370	13,295
Net operating revenue	75,668	2,188	15,746	6,038	1,850	101,490

# d) Investment, intangible and property, plant and equipment by geographic area

								Consolidated
	December 31, 2015					Dece	mber 31, 2014	
	Investments	Intangible	Property, plant and equipment	Total	Investments	Intangible	Property, plant and equipment	Total
Brazil	9,403	12,825	125,697	147,925	9,059	11,633	108,826	129,518
Canada	8	7,964	41,346	49,318	11	6,248	46,424	52,683
America, except Brazil and Canada	613	-	1,781	2,394	489	-	1,730	2,219
Europe	-	-	2,375	2,375	-	_	1,674	1,674
Asia	1,433	=	20,378	21,811	903	-	18,707	19,610
Australia	-	-	290	290	-	233	2,061	2,294
New Caledonia	-	=	13,749	13,749	-	-	10,996	10,996
Mozambique	-	-	1,727	1,727	-	_	14,280	14,280
Oman	-	-	3,916	3,916	-	-	2,808	2,808
Other regions	24	-	-	24	516	-	1	517
Total	11,481	20,789	211,259	243,529	10,978	18,114	207,507	236,599



#### 4. Relevant event – Dam failure at Samarco Mineração S.A. ("Samarco")

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

Following the dam failure, the state government of Minas Gerais ordered the suspension of Samarco's operations. Samarco has been working together with the authorities in order to meet the legal and social requirements to mitigate the environmental and social impacts of the event.

#### a) Accounting effects at the investment due to the dam failure

Samarco is a Brazilian entity jointly controlled by Vale and BHP Billiton Brasil Ltda. ("BHP"), in which each shareholder has a 50% ownership interest.

As a consequence of the dam failure, Samarco incurred expenses, wrote off assets and recognized provisions for remediation, which affected its balance sheet and income statement. Because Samarco is a joint venture, the effects of the dam failure are accounted for under equity method by Vale, in which the balance sheet and income statement impact is limited to Vale's interest in Samarco's capital as per the Brazilian Corporation Law. The dam failure had no effect on Vale's cash flow for the year ended December 31, 2015.

The accounting impact of the investment in Samarco in Vale's financial statements, including the effects of the dam failure, are as follows:

				Consolidated
	Investments	Accounts receivable	Related parties	Total
Balance on December 31, 2014	533	63	822	1,418
Equity results on income statement	(533)	-	-	(533)
Dividends received	-	-	(459)	(459)
Royalties declared	-	120	-	120
Royalties received	-	(36)	=	(36)
Transfers	510	(147)	(363)	-
Impairment (note 15)	(510)	-	-	(510)
Balance on December 31, 2015	-	-		-

Under Brazilian legislation and the terms of the joint venture agreement, Vale does not have an obligation to provide funding to Samarco. Additionally, Vale has not received any requests for financial assistance from Samarco. As a result, Vale's investment in Samarco was reduced to zero and no liability was recognized in Vale's financial statements. The accounting impact of any future request for funding will be determined when it occurs.

- b) Social and environmental remediation In 2015, Samarco recognized provisions for social and environmental remediation based on current available information. There is a high degree of uncertainty in these provisions since the impact of environmental and social economic assessment is at an early stage. Eventual unrecognized obligations, considered as contingent liabilities, and future possible exposures, including timing of payments cannot be reliably measured. The key assumptions used in the provision will be reviewed periodically considering the assessment of damage progress, which could results in a material change to the amount of Samarco's provision in future reporting periods. In addition, the remediation activities have been submitted to the regulators and other government authorities and are still subject to their approval.
- c) Contingencies In December 2015, the Federal Government, the States of Minas Gerais and Espirito Santo and other entities jointly brought a public civil action against Samarco and its shareholders, Vale and BHP. The plaintiffs seek approximately R\$20.2 billion in damages and a number of measures to remediate alleged damages caused by the Fundão dam failure. Due to the preliminary stage of the proceedings, it is not possible to provide a range of possible outcomes or a reliable estimate of potential future exposure for Vale in relation to this claim. In addition, Samarco and its shareholders are named as a defendant in several other lawsuits brought by individuals, corporations and governmental entities seeking damages for personal injury, wrongful death, commercial or economic injury, breach of contract and violations of statutes. Because these pending lawsuits are at the very early stages, it is not possible to determine a range of outcomes or reliable estimates of the potential exposure at this time. Therefore, no provision has been recognized and no contingent liability has been quantified.



Vale S.A. and certain of its officers have been named as defendants in civil class action suits in federal court in New York brought by holders of Vale's securities under U.S. federal securities laws. The lawsuits allege that Vale made false and misleading statements or omitted to make disclosures concerning the risks and dangers of the operations of Samarco's Fundão dam and assert other causes of action against the defendants for the ownership in and supervision of the Fundão dam. The plaintiffs have not specified an amount of alleged damages in these actions. Vale has notified its insurers of the dam failure event and related civil complaints. Vale intends to defend these actions and mount a full defense against the allegations. The litigation is at a very early stage. Service has not been completed on all defendants, no lead plaintiff or lead plaintiffs' attorney has been named, and no schedule has been established for the filing of any responses, motions or answers. As a consequence of the preliminary nature of these suits, it is not possible to determine a range of outcomes or reliable estimates of the potential exposure at this time, and no provision has been recognized.

d) Insurance - Samarco is negotiating with insurers under its operational risk, general liability and engineering risk policies, but these negotiations are still at a preliminary stage. Any payment of insurance proceeds will depend on the coverage definitions under these policies and assessment of the amount of loss. In light of the uncertainties, no indemnification was recognized in Samarco's financial statements.

#### 5. Assets held for sale

				Consolidated
	December 31, 2015			December 31, 2014
	Nacala	Energy	Nacala	Total
Assets held for sale				
Accounts receivable	13	-	21	21
Other current assets	522	-	417	417
Investments		233	-	233
Intangible assets, net	83	-	-	-
Property, plant and equipment, net	15,174	1,268	7,730	8,998
Total assets	15,792	1,501	8,168	9,669
Liabilities associated with assets held for sale				
Suppliers and contractors	365	-	143	143
Other current liabilities	51	-	151	151
Total liabilities	416	-	294	294
Net assets held for sale	15,376	1,501	7,874	9,375

- a) Coal Nacala logistic corridor ("Nacala") In December 2014, the Company signed an agreement with Mitsui & Co., Ltd. ("Mitsui") to sell 50% of its stake of 70% in the Nacala corridor. Nacala is a combination of railroad and port concessions under construction located in Mozambique and Malawi. After completion of the transaction, Vale will share control of Nacala with Mitsui and therefore will not consolidate the assets, liabilities and results of those entities. The assets and liabilities were classified as assets held for sale with no impact in the income statement. As at December 2015, completion of the transaction remains dependent upon certain conditions. The Company remains committed to its plan to sell its 50% interest.
- **b)** Other Energy generation assets In December 2013, the Company signed agreements with CEMIG Geração e Transmissão S.A. ("CEMIG GT"), as follows:
- (i) A new entity Aliança Norte Participações S.A., was incorporated and Vale contributed its 9% investment in Norte Energia S.A. ("Norte Energia"), which is the company in charge of construction and operation of the Belo Monte Hydroelectric facility. Vale committed to sell 49% and share control of the new entity to CEMIG GT. In the first quarter of 2015, after receiving all regulatory approvals and other customary precedent conditions the Company concluded the transaction and received cash proceeds of R\$306, recognizing a gain of R\$55 as result on sale or disposal of investment in associates and joint ventures (note 6).
- (ii) A new entity Aliança Geração de Energia S.A. ("Aliança Geração") was incorporated and Vale committed to contribute its shares over several power generation assets which use to supply energy for the Company's operations. In exchange, CEMIG GT committed to contribute its stakes in some of its power generation assets. In the first quarter of 2015, after receiving all regulatory approvals and other customary precedent conditions, the exchange of assets was completed and Vale holds 55% and shares control of the new entity with CEMIG GT. A long term contract was signed between Vale and Aliança Geração for the energy supply. Due to the completion of this transaction, the Company (i) derecognized the assets held for sale related to this transaction; (ii) recognized as investment its share in the joint venture Aliança Geração; and (iii) recognized a gain of R\$546 as results on measurement or sales of non-current assets (note 6) based on the fair value of the assets transferred by CEMIG GT. This transaction has no cash proceeds or disbursements.



#### 6. Acquisitions and divestitures

The effects of divestitures in the income statement are presented as follow:

				Year end	ed December 31
			Consolidated	d Parent Compa	
	2015	2014	2013	2015	2014
Results on measurement or sale of non-current assets					
Shipping assets	(494)	-	-	-	-
Energy generation assets (note 5)	546	-	-	546	-
Mineral rights - CoW Indonesia (note 29(a))	-	(441)	-	-	-
Sociedad Contractual Minera Tres Valles	-	-	(508)	-	-
	52	(441)	(508)	546	_
Results on sale or disposal of investments in associates and joint ventures					
Shandong Yankuang International Coking Co., Ltd.	241	-	-	-	-
Energy generation assets (note 5)	55	-	-	55	-
Vale Florestar Fundo de Investimento em Participações	-	(68)	-	-	(68)
Log-in Logística Intermodal S.A.	-	-	33	-	-
Fosbrasil S.A.	-	-	65	-	-
	296	(68)	98	55	(68)
Financial income					
Norsk Hydro ASA	-	-	491	-	-
	-	-	491	-	-

#### 2015

- a) Divestiture of participation in Minerações Brasileiras Reunidas S.A. ("MBR") The Company and Fundo de Investimento em Participações Multisetorial Plus II, whose shares are held by Banco Bradesco BBI S.A. (related party), completed the sale of class A preferred shares of MBR, representing 36.4% of its share capital. The Company received cash proceeds of R\$4 billion and will keep a stake of 62.5% of the total capital of MBR, maintaining its stake in ordinary capital at 98.3%. The participation and rights of the new shareholder were recognized as noncontrolling interest in stockholders' equity.
- b) Divestiture of shipping assets The Company completed the sale of 12 very large ore carriers with capacity of 400,000 tons each. The Company received cash proceeds of R\$4,770 and recognized a loss of R\$494 as results on measurement or sale of non-current assets.
- c) Integra and Isaac Plains mining complexes The Company signed agreements to sell its participation in the Integra and Isaac Plains mining complexes which were put into care and maintenance in 2014 (note 15). The transaction had no impact in cash flow.
- d) Divestiture of Shandong Yankuang International Coking Co., Ltd. ("Yankuang") The Company completed the sale of its participation in Yankuang, a producer of coking coal, methanol and other products. In this transaction, Vale recognized a gain of R\$241 as results on sale or disposal of investments in associates and joint ventures.
- e) Divestiture of VBG-Vale BSGR Limited ("VBG") VBG is the holding company which held the Simandou mining rights located in Guinea. In April 2014, the Government of Guinea revoked VBG mining rights, without any finding of wrongdoing by Vale. During 2014, as a result of the loss of the mining rights, Vale recognized full impairment of the assets related to VBG (note 15). During the first quarter of 2015, the Company sold its stake in VBG to its partner in the project and kept the right to any recoverable amount it may derive from the Simandou project. The transaction had no impact on cash or in the income statement.
- f) Acquisition of Facon Construção e Mineração S.A. ("Facon") The Company acquired all shares of Facon, a wholly owned subsidiary of Fagundes Construção e Mineração S.A. ("FCM"). FCM is a logistic service provider for Vale Fertilizantes S.A. The Facon business was carved out from FCM with assets and liabilities directly related to the fertilizer business being transferred to Vale Fertilizantes S.A. The purchase price allocation based on the fair value of acquired assets and liabilities was calculated based on studies performed by the Company. Subsequently, Facon was merged into Vale Fertilizantes S.A.

Purchase price	237
Book value of property, plant and equipment	203
Book value of other assets acquired and liabilities assumed, net	(182)
Adjustment to fair value of property, plant and equipment and mining rights	114
Goodwill	102



#### 2014

g) Divestiture of Vale Florestar Fundo de Investimento em Participações ("Vale Florestar") - The Company signed an agreement with a subsidiary of Suzano Papel e Celulose S.A. for the sale of its entire stake in Vale Florestar. A loss on this transaction of R\$68 was recorded as a result on sale or disposal of investments in associates and joint ventures in 2014.

#### 2013

- h) Divestitures of Sociedad Contractual Minera Tres Valles ("Tres Valles") The Company sold its total participation in Tres Valles for US\$58. On this transaction, Vale recognized a loss of R\$508 presented in the income statement as results on measurement or sale of non-current assets of the year ended as at December 31, 2013. The total loss includes an amount of R\$13 transferred from cumulative translation adjustments.
- i) Divestitures of Log-In Logística Intermodal S.A. ("Log-in") Vale conducted an auction to sell its common shares of Log-in. All the shares were sold for R\$233 and a gain of R\$33 on this transaction was recorded in the income statement as result on sale or disposal of investments in associates and joint ventures for the year ended as at December 31, 2013.
- j) Divestitures of Fosbrasil S.A. ("Fosbrasil") The Company entered into an agreement to sale its minority participation in the associate Fosbrasil, producer of purified phosphoric acid, for R\$105. On this transaction, Vale recognized a gain of R\$65 presented in the income statement as result on sale or disposal of investments in associates and joint ventures for the year ended as at December 31, 2013.
- k) Divestitures of Norsk Hydro ASA ("Hydro") The Company sold its Hydro common shares for R\$4,218. As result of this operation, the Company recognized a gain of R\$491 in the income statement as financial income for the year ended as at December 31, 2013, as below:

4,309
(952)
370
3,727
4,218
491

# 7. Cash and cash equivalents

		Consolidated		Parent Company
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Cash and bank deposits	7,881	5,601	77	41
Short-term investments	6,141	4,954	441	644
	14,022	10,555	518	685

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.

# 8. Accounts receivable

		Consolidated		<b>Parent Company</b>
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Trade receivables	5,988	8,930	36,107	30,675
Provision for doubtful debts	(225)	(230)	(81)	(76)
	5,763	8,700	36,026	30,599
Trade receivables related to the steel sector - %	75.32%	77.79%	88.83%	93.98%
Reversal (provision) for doubtful debts recorded in the income statement	44	(34)	(9)	(4)
Trade receivables write-offs recorded in the income statement	(18)	(14)	(5)	(1)

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



#### 9. Inventories

		Consolidated		Parent Company	
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014	
Product inventory	9,968	8,845	2,655	2,436	
Consumable inventory	3,807	3,111	1,175	1,219	
Total	13,775	11,956	3,830	3,655	

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

As at December 31, 2015 product inventory is stated net of provisions for nickel, coal, phosphate, manganese and iron ore in the amount of R\$275 (R\$50 as at December 31, 2014), R\$1,652 (R\$757 as at December 31, 2014), R\$8 (R\$0 as at December 31, 2014), R\$16 (R\$0 as at December 31, 2014) and R\$72 (R\$0 as at December 31, 2014), respectively.

#### 10. Recoverable taxes

Recoverable taxes are presented net of provisions for losses on tax credits.

		Consolidated		Parent Company	
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014	
Value-added tax	2,949	2,806	1,291	1,189	
Brazilian federal contributions	4,392	2,682	3,480	2,006	
Others	97	91	38	58	
Total	7,438	5,579	4,809	3,253	
Current	5,482	4,515	3,352	2,687	
Non-current	1,956	1,064	1,457	566	
Total	7,438	5,579	4,809	3,253	

#### 11. Investments

Changes in investments are as follows:

				Year en	ded December 31	
			Consolidated	Parent Company		
	2015	2014	2013	2015	2014	
Balance at beginning of the year	10,978	8,397	13,044	128,615	123,370	
Acquisitions (i)	1,836	-	-	1,818	-	
Additions	90	509	784	5,265	2,565	
Capitalizations	965	-	-	=	-	
Disposals (ii)	241	-	(229)	(4,000)	-	
Translation adjustment	642	189	(50)	34,229	8,302	
Equity results on income statement	(1,507)	1,141	999	(36,864)	(13,026)	
Equity results on statement of comprehensive income and others	(21)	(5)	(406)	(460)	(1,537)	
Dividends declared	(271)	(1,959)	(1,649)	(835)	(3,095)	
Impairment (note 15)	(1,727)	(71)	-	(510)	(71)	
Transfer to held for sale - Others (iii)	-	2,596	(4,096)	(30)	2,596	
Goodwill from intangible assets (Note 11)	-	-	-	-	9,987	
Other	255	181	-	289	(476)	
Balance at end of the year	11,481	10,978	8,397	127,517	128,615	

<sup>(</sup>i) Includes Aliança Geração transaction, see note 5.

<sup>(</sup>ii) In consolidated refers to Yankuang, see note 6, for the year ended December 31, 2015.

<sup>(</sup>iii) Refers to Vale Florestar and VLI or the year ended as at December 31, 2014 and Hydro for the year ended as at December 31, 2013.



# **Investments** (continued)

				Investments		Equity re	sults in net income		Divi	Dividends received (v)			
				As at December 31		Year e	ended December 31		Year ei	nded December 31			
	% ownership	% voting capital	2015	2014	2015	2014	2013	2015	2014	2013			
Subsidiaries													
Aços Laminados do Pará S.A.	100.00	100.00	339	332	-	-	(5)	-	-	-			
Biopalma da Amazônia S.A.	93.90	93.90	436	646	(593)	(267)	(219)	-	-	-			
Companhia Portuária da Baía de Sepetiba	100.00	100.00	531	385	456	349	259	188	341	263			
Compañia Minera Miski Mayo S.A.C.	40.00	51.00	679	563	20	10	20	83	-	81			
Mineração Corumbaense Reunida S.A.	100.00	100.00	46	1,150	(1,184)	394	351	147	456	279			
Minerações Brasileiras Reunidas S.A.	58.93	98.32	6,549	5,201	557	225	(211)	324	-	341			
Minerações Brasileiras Reunidas S.A Goodwill	-	-	4,060	4,060	-	-	-	-	-	-			
Potássio Rio Colorado S.A.	100.00	100.00	42	1,474	5	(78)	(5,883)	-	-	-			
Salobo Metais S.A.	100.00	100.00	8,166	7,591	696	142	(68)	-	-	-			
Vale International Holdings GmbH	100.00	100.00	13,359	7,283	2,069	(4,238)	(126)	-	-	-			
Vale Canada Holdings Inc.	100.00	100.00	6,206	5,127	(21)	(20)	(16)	-	-	-			
Vale Canada Limited	100.00	100.00	16,794	21,769	(18,189)	(566)	(1,798)	-	-	-			
Vale Fertilizantes S.A.	100.00	100.00	14,842	13,342	(780)	(2,042)	(189)	-	-	-			
Vale International S.A.	100.00	100.00	25,182	21,212	(3,056)	(8,248)	3,921	-	-	-			
Vale Malaysia Minerals Sdn. Bhd.	100.00	100.00	4,201	3,251	(467)	(100)	70	-	-	-			
Vale Manganês S.A.	100.00	100.00	676	721	(45)	57	(22)	-	-	-			
Vale Mina do Azul S.A.	100.00	100.00	-	-	-	88	163	-	19	-			
Vale Moçambique S.A.	100.00	100.00	2,108	14,480	(13,942)	(378)	(73)	-	-	-			
Vale Shipping Holding Pte. Ltd.	100.00	100.00	10,945	7,432	(99)	528	379	_	_	_			
Others			875	1,618	(784)	(23)	529	538	93	72			
		-	116,036	117,637	(35,357)	(14,167)	(2,918)	1,280	909	1,036			
Joint ventures			110,030	117,037	(33,337)	(14,107)	(2,510)	1,200	303	1,030			
Aliança Geração de Energia S.A. (i)	55.00	55.00	1,876	_	173	-	_	115	-	-			
Aliança Norte Energia Participações S.A. (i)	51.00	51.00	316	_	2	_	_	-	_	_			
California Steel Industries, Inc.	50.00	50.00	613	489	(90)	27	44	_	_	-			
Companhia Coreano-Brasileira de Pelotização	50.00	50.00	242	228	85	72	42	67	39	47			
Companhia Hispano-Brasileira de Pelotização (i)	50.89	51.00	222	213	50	60	3	44	25	20			
Companhia Ítalo-Brasileira de Pelotização (i)	50.90	51.00	194	162	69	60	15	36	13	-			
Companhia Nipo-Brasileira de Pelotização (i)	51.00	51.11	406	378	152	152	40	102	114	51			
Companhia Siderúrgica do Pecém (ii)	50.00	50.00	879	1,925	(1,047)	(101)	(24)	102	-	J1 -			
Minas da Serra Geral S.A. (vi)	50.00	50.00	50	53	(1,047)	2	(24)	_	_	-			
MRS Logística S.A.	48.16	46.75	1,436	1,355	143	179	222	87	108	149			
Norte Energia S.A. (ii) (iii)	40.10	40.73	1,430	241	143	(28)	(4)	67	108	143			
Samarco Mineração S.A. (iv)	50.00	50.00	_	533	(533)	884	1,069	459	906	1,323			
Others	30.00	30.00	92	43	(4)	11	(23)	2	1	1,525			
Others		_								1,592			
Associates			6,326	5,620	(1,007)	1,318	1,384	912	1,206	1,592			
	25.00	25.00	1 104	0.42	(12)	7.0	01	100	75	00			
Henan Longyu Energy Resources Co., Ltd.	25.00	25.00 40.00	1,194 364	943 243	(13) 144	76 17	91 21	109 12	75 21	90 39			
Mineração Rio Grande do Norte S.A.	40.00		304					12	21				
Teal Minerals Inc.	50.00	50.00		514	(482)	(81)	(53)	-		-			
Thyssenkrupp Companhia Siderúrgica do Atlântico Ltd.	26.87	26.87	2.020	545	(274)	(142)	(351)	-	-				
VLI S.A.	37.60	37.60	3,038	2,945	156	114	-	25	-	-			
Zhuhai YPM Pellet Co.	25.00	25.00	92	64	1 (22)	1 (4.62)	1	-	-	-			
Others		_	467	104	(32)	(162)	(94)	6	·	115			
		_	5,155	5,358	(500)	(177)	(385)	152	96	244			
Total of joint ventures and associates			11,481	10,978	(1,507)	1,141	999	1,064	1,302	1,836			
Total			127,517	128.615	(36,864)	(13,026)	(1,919)	2.344	2.211	2,872			



- (i) Although the Company held majority of the voting capital, the entities are accounted under equity method due to shareholders agreements.
- (ii) Pre-operational stage.
- (iii) The Company's interest in Norte Energia S.A. is indirectly owned by Aliança Norte Energia Participações S.A. (note 5).
- (iv) Note 4.
- (v) Dividends received by the Parent Company during the years ended at December 31, 2015 and 2014 were R\$1,972 and R\$2,052, respectively.
- (vi) The Company offered R\$51 to acquire the additional 50% interest. The transaction is expected to be completed in 2016.

The information (100% basis) about relevant subsidiaries with noncontrolling interest (in which other investors have participation in the Group's activities), associates and joint-ventures are as follows:

_		
December	31,	2015

		Assets		Liabilities			
				Non-	Stockholders'	Dividends	
	Current	Non-current	Current	current	equity	paid	Net income (loss)
Subsidiaries that have noncontrolling interest							
Minerações Brasileiras Reunidas S.A.	2,901	11,372	733	608	12,932	324	911
Associates and joint ventures							
Aliança Geração de Energia S.A.	255	3,572	138	277	3,412	209	314
Companhia Siderúrgica do Pecém	1,036	11,937	2,060	9,156	1,757	-	(2,094)
Henan Longyu Energy Resources Co., Ltd.	3,447	2,065	421	311	4,780	436	(51)
MRS Logística S.A.	1,263	6,674	1,529	3,426	2,982	144	297
VLI S.A.	1,963	11,597	1,994	3,486	8,080	72	414

							December 31, 2014
		Assets		Liabilities			
				Non-	Stockholders'	Dividends	
	Current	Non-current	Current	current	equity	paid	Net income (loss)
Subsidiaries that have noncontrolling interest							
Minerações Brasileiras Reunidas S.A.	1,150	6,758	649	1,073	6,186	-	350
Associates and joint ventures							
Aliança Geração de Energia S.A.	-	-	-	1	(1)	-	(1)
Henan Longyu Energy Resources Co., Ltd.	3,053	1,285	173	392	3,773	300	305
MRS Logística S.A.	811	6,367	1,103	3,227	2,848	223	376
VLI S.A.	1,947	8,985	1,708	1,389	7,835	-	303

# 12. Noncontrolling interest

		Stockholder's equity	Gain (loss	ss) attributable to noncontrolling interest			
		Balance on		Year e	r ended December 31		
	December 31, 2015	December 31, 2014	2015	2014	2013		
Biopalma da Amazônia S.A.	24	91	(73)	(81)	(94)		
Compañia Mineradora Miski Mayo S.A.C.	1,018	753	31	14	30		
Minerações Brasileiras Reunidas S.A.	5,311	104	255	6	(1)		
PT Vale Indonesia Tbk	2,894	1,955	19	156	39		
Vale Nouvelle Caledonie S.A.S.	214	467	(1,054)	(845)	(147)		
Vale Oman Pelletizing LLC	262	179	22	17	25		
Outros	(1,464)	(362)	(984)	(2)	(225)		
	8,259	3,187	(1,784)	(735)	(373)		



# 13. Intangibles

Changes in intangibles are as follows:

					Consolidated
	Indefinite useful life			Finite useful life	
	Goodwill (i)	Concessions	Right of use (ii)	Software	Total
Balance on December 31, 2013	9,698	4,466	594	1,338	16,096
Additions	-	2,005	259	579	2,843
Disposals	-	(17)	-	-	(17)
Amortization	-	(578)	(89)	(455)	(1,122)
Impairment (note 15)	(1,223)	-	-	-	(1,223)
Translation adjustment	208	-	25	-	233
Others	1,304	-	-		1,304
Total	9,987	5,876	789	1,462	18,114
Cost	9,987	9,086	1,375	3,603	24,051
Accumulated amortization		(3,210)	(586)	(2,141)	(5,937)
Balance on December 31, 2014	9,987	5,876	789	1,462	18,114
Additions	-	1,770	-	397	2,167
Disposals	-	(64)		(1)	(65)
Amortization	-	(498)	(141)	(508)	(1,147)
Impairment (note 15)	(314)	-	-	-	(314)
Translation adjustment	1,769	-	163	-	1,932
Acquisition of subsidiary (note 6(f))	102	-		-	102
Total	11,544	7,084	811	1,350	20,789
Cost	11,544	10,109	1,814	3,997	27,464
Accumulated amortization		(3,025)	(1,003)	(2,647)	(6,675)
Balance on December 31, 2015	11,544	7,084	811	1,350	20,789

<sup>(</sup>i) Goodwill is allocated mainly in iron ore and nickel segments in the amount of R\$4,060 e R\$7,276, respectively.

<sup>(</sup>ii) Refers to the usufruct contract between the Company and noncontrolling stockholders to use the shares of Empreendimentos Brasileiros de Mineração S.A. (owner of Minerações Brasileiras Reunidas S.A. shares) and intangible assets identified in the business combination of Vale Canada Limited ("Vale Canada"). The amortization of the right of use will expire in 2037 and Vale Canada's intangible assets will end in September of 2046. The concessions refer to the agreements with the Brazilian government for the exploration and the development of ports and railways.

					Parent Company
	Indefinite useful life			Finite useful life	
	Goodwill	Concessions	Right of use	Software	Total
Balance on December 31, 2013	9,698	4,466	134	1,338	15,636
Additions	-	2,005	-	579	2,584
Disposals	-	(17)	-	-	(17)
Amortization	-	(578)	(5)	(455)	(1,038)
Impairment (note 15)	(1,223)	-	-	-	(1,223)
Translation adjustment	208	-	-	-	208
Reclassification to investments (i)	(9,987)	-	-	-	(9,987)
Others	1,304	-			1,304
Total	-	5,876	129	1,462	7,467
Cost	-	9,086	223	3,603	12,912
Accumulated amortization	-	(3,210)	(94)	(2,141)	(5,445)
Balance on December 31, 2014	-	5,876	129	1,462	7,467
Additions	-	1,770	-	397	2,167
Disposals	-	(64)	-	(1)	(65)
Amortization	-	(498)	(6)	(508)	(1,012)
Total	- 1	7,084	123	1,350	8,557
Cost	-	10,109	224	3,997	14,330
Accumulated amortization	-	(3,025)	(101)	(2,647)	(5,773)
Balance on December 31, 2015	-	7,084	123	1,350	8,557

<sup>(</sup>i) The Parent Company reclassified the total amount of the goodwill from intangible assets to investments for a better presentation of its financial statements, according to the account practices implemented in Brazil. This reclassification in the non-current assets did not impact the stockholders' equity and the net income of the Parent Company as at December 31, 2014.



# 14. Property, plant and equipment

The net book value of consolidated property, plant and equipment pledged to secure judicial claims on December 31, 2015 and 2014 were R\$174 and R\$179, respectively. For the parent company at December 31, 2015 and 2014 corresponds to R\$173 and R\$179, respectively.

Changes in property, plant and equipment are as follows:

							Co	onsolidated
		• •	· .		Mineral		Constructions	
	Land	Building	Facilities	Equipment	properties	Others	in progress	Total
Balance on December 31, 2013	2,215	18,236	25,622	19,689	38,129	24,642	62,775	191,308
Additions (i)	-	-	-	-	-	-	27,107	27,107
Disposals (ii)	(8)	(113)	(24)	(18)	(665)	(70)	(567)	(1,465)
Depreciation and amortization	-	(1,053)	(1,945)	(2,413)	(2,576)	(1,994)	-	(9,981)
Transfer to non-current assets held for sale	-	-	(27)	(129)	(225)	(6)	(7,344)	(7,731)
Impairment (note 15)	-	1,407	(124)	296	(2,978)	(43)	(48)	(1,490)
Translation adjustment	153	(413)	(536)	2,208	5,595	(972)	3,724	9,759
Transfers	479	12,891	5,755	5,036	2,374	7,538	(34,073)	-
Total	2,839	30,955	28,721	24,669	39,654	29,095	51,574	207,507
Cost	2,839	37,569	41,831	38,200	55,687	39,543	51,574	267,243
Accumulated depreciation	-	(6,614)	(13,110)	(13,531)	(16,033)	(10,448)	-	(59,736)
Balance on December 31, 2014	2,839	30,955	28,721	24,669	39,654	29,095	51,574	207,507
Additions (i)	-	-	-	-	-	-	32,370	32,370
Disposals	(11)	(27)	(141)	(290)	(438)	(5,395)	(83)	(6,385)
Disposal of asset retirament obligation	-	-	-	-	(1,294)	-	-	(1,294)
Depreciation and amortization	-	(1,823)	(2,349)	(3,519)	(2,869)	(2,557)	-	(13,117)
Transfer to non-current assets held for sale	-	-	-	-	(504)	-	-	(504)
Impairment (note 15)	(49)	(7,028)	(3,221)	(4,228)	(3,775)	(7,872)	(6,684)	(32,857)
Translation adjustment	222	3,258	1,947	5,207	8,492	4,711	1,385	25,222
Transfers	(12)	10,203	7,421	6,692	968	9,837	(35,109)	-
Acquisition of subsidiary (note 6(f))	-	-	-	1	-	316	-	317
Total	2,989	35,538	32,378	28,532	40,234	28,135	43,453	211,259
Cost	2,989	53,522	51,357	47,757	66,592	41,459	43,453	307,129
Accumulated depreciation		(17,984)	(18,979)	(19,225)	(26,358)	(13,324)		(95,870)
Balance on December 31, 2015	2,989	35,538	32,378	28,532	40,234	28,135	43,453	211,259

<sup>(</sup>i) Includes capitalized borrowing costs and asset retirement obligations, see cash flow.

<sup>(</sup>ii) Includes the disposal of CoW Indonesia (note 29(a)).

							Paren	t Company
					Mineral		Constructions	
	Land	Building	Facilities	Equipment	properties	Others	in progress	Total
Balance on December 31, 2013	1,322	9,449	14,350	5,641	2,366	8,680	28,897	70,705
Additions (i)	-	-	-	-	-	-	15,841	15,841
Additions through internal development	-	52	5	69	70	32	72	300
Disposals	-	(23)	(2)	(21)	-	(10)	(297)	(353)
Depreciation and amortization	-	(350)	(904)	(785)	(322)	(1,106)	-	(3,467)
Impairment (note 15)	-	1,515	84	307	2,362	27	-	4,295
Transfers	130	2,721	3,804	1,886	(80)	2,197	(10,658)	-
Total	1,452	13,364	17,337	7,097	4,396	9,820	33,855	87,321
Cost	1,452	15,631	22,367	11,368	5,278	16,016	33,855	105,967
Accumulated depreciation	-	(2,267)	(5,030)	(4,271)	(882)	(6,196)	-	(18,646)
Balance on December 31, 2014	1,452	13,364	17,337	7,097	4,396	9,820	33,855	87,321
Additions (i)	-	-	-	-	-	-	14,328	14,328
Disposals	(11)	(10)	(19)	(138)	(4)	(5)	-	(187)
Disposal of asset retirament obligation	-	-	-	-	(937)	-	-	(937)
Depreciation and amortization	-	(511)	(924)	(972)	(341)	(1,160)	-	(3,908)
Impairment (note 15)	-	480	23	90	370	(30)	(663)	270
Transfers	231	6,223	2,962	2,294	731	5,578	(18,019)	-
Total	1,672	19,546	19,379	8,371	4,215	14,203	29,501	96,887
Cost	1,672	22,405	25,195	13,401	5,462	21,235	29,501	118,871
Accumulated depreciation	-	(2,859)	(5,816)	(5,030)	(1,247)	(7,032)	-	(21,984)
Balance on December 31, 2015	1,672	19,546	19,379	8,371	4,215	14,203	29,501	96,887

<sup>(</sup>i) Includes capitalized borrowing costs and Asset retirement obligations, see cash flow.



#### 15. Impairment and onerous contracts

According to the accounting policy described in note 31(I), the Company identified evidence of impairment in relation to certain investments in associates and joint ventures, intangible and property, plant and equipment. The following impairment charges and reversals were recorded:

				Impairment	t (reversals)
Segments by class of assets	Assets or cash-generating unit	Recoverable amount	2015	2014	2013
Property, plant and equipment					
Iron ore	Midwest system	-	2,023	-	-
Iron ore	Simandou project	-	-	2,794	-
Iron ore	Others	-	133	-	-
Pellets	North system (stopped operations)	-	213	-	-
Pellets	Pelletizing asset	-	-	-	427
Pellets	Others	-	12	-	-
Other ferrous products and services	Others	-	80	_	-
Coal	Mozambique	6,751	9,302	-	-
Coal	Australia	286	2,146	787	-
Nickel	Newfoundland (VNL)	9,188	13,394	-	-
Nickel	New Caledonia (VNC)	14,545	5,660	628	-
Nickel	Onça Puma	9,102	(976)	(4,295)	-
Nickel	Others	-	102	_	-
Copper	Others	-	138	-	-
Potash	Potássio Rio Colorado	78	2,123	-	4,963
Phosphates	Phosphate	15,002	(1,515)	1,576	-
Others	Others	-	22	-	-
			32,857	1,490	5,390
Intangible					
Coal	Australia	-	314	-	-
Phosphates	Phosphate	-	-	1,223	-
Impairment of non-current assets		_	33,171	2,713	5,390
Onerous contracts					
Iron ore	Midwest system		1,382	-	_
Impairment of non-current assets and o	•	_	34,553	2,713	5,390
impairment of non-current assets and c	merous contracts	_	34,333	2,713	3,330
Investments in associates and joint ven					
Pellets	Samarco Mineração S.A.	-	510	-	-
Copper	Teal Minerals Inc.	-	1,217	-	-
Others	Vale Soluções em Energia S.A.	<u>-</u>		71	-
Impairment of investments in associate	s and joint ventures		1,727	71	-

#### a) Impairment of non-current assets

In accordance with the Company's accounting policy, each CGU is evaluated at each reporting period to determine whether there are any indicators of impairment. If any such indicators of impairment exist, an estimate of the recoverable amount is performed.

In assessing whether an impairment is required, the carrying value of the asset or CGU is compared with its recoverable amount. The recoverable amount is the higher of the CGU's fair value less costs to sell ("FVLCS") and value in use ("ViU"). If an impairment was recognized in previous years and actual circumstances indicate that the impairment is no longer be applicable, an impairment reversal is recognized.

The FVLCS is calculated in each CGU and is estimated based on discounted future estimated cash flows, considering market based commodity price, the CGU five-year plans and life of mine plans, mineral reserves and mineral resources, costs and investments based on the best estimate of past performance and sale prices consistent with the projections used in reports published by industry considering the market price when available and appropriate.

The determination of FVLCS for each CGU are considered to be Level 3 fair value measurements, as they are derived from valuation techniques that include inputs that are not based on observable market data. The most sensitive assumptions were the discount rate and prices. All assets were tested using FVLCS model, except for North system.

These cash flows were discounted using a post-tax discount rate ranging from 6% to 10%. The discount rate was based on the weighted average cost of capital ("WACC") that reflected current market assessments of the time value of money and the risks specific to the CGU.



The price assumptions for calculating the FVLCS were a range of (in US\$ per ton) 48 to 65 for iron ore, 85 to 140 for coal, 13,000 to 20,000 for nickel and 105 to 125 for phosphate.

Iron ore and pellets - The Midwest system is comprised of the Corumbá mines and Paraná and Paraguay Waterway Systems. In 2015, there was a significant restructuring of operations, which includes the reduction of production and the revision of the freight strategy. With this restructuring, the Midwest system is evaluated as an independent CGU from other iron ore operations. Until 2014, this CGU was part of the iron ore CGU. The reduction of iron ore prices and the logistics cost lead to an impairment of R\$2,023. The impairment in the amount of R\$213 relates to pelletizing plants that were stopped in North system.

For the Simandou project, Vale recognized an impairment of R\$2,794 in 2014 related to the revocation of Vale's former 51%-owned subsidiary VBG-Vale BSGR Limited ("VBG") mining concessions in Guinea. During the first quarter of 2015, the investment was sold (note 6(e)).

For onerous contracts, provision is made for the present value of certain long term contracts where the unavoidable cost of meeting the Company's obligations is expected to exceed the benefits to be received. In 2015, the Company recognized provision for losses related to fluvial freight in the amount of R\$1,382 in other liabilities in the balance sheet.

Coal - The reduction in estimated future coal prices combined with the increase of logistics costs decreased the estimated net recoverable amount of Mozambique assets, causing an impairment of R\$9,302. The Coal assets in Australia were also impacted by the prices and the revision to the future mining plans in 2015, recording an impairment of R\$2,460. The impairment of R\$787 registered in 2014 relates to Integra and Isaac Plans which were sold during the fourth quarter of 2015.

**Nickel** - During the impairment test for 2015, the Company identified that the indicators which caused an impairment to be recognized in previous years for Onça Puma were no longer applicable. This was mainly due to the recovery of Onça Puma's production returning to normal operations for more than two years. Part of the impairment in the amount of R\$4,295 registered in 2012 was reversed in 2014. The amount of R\$976 was reversed in 2015.

In 2015, VNL was identified as a separate CGU (previously part of the Canada Nickel CGU) as there was a change in location of processed ore (feed of nickel concentrate) from the VNL mine, that is now expected to be processed in Long harbor instead of Ontario's Sudbury operations.

A reduction of long term nickel price projections, that significantly reduced the recoverable values of the VNC and VNL CGUs, combined with carrying values that reflect significant capital investments in new processing facilities in recent years, resulted in an impairment loss in the amount of US\$19,054 for these CGU.

Of the total goodwill (note 13), R\$7,276 is allocated to the Nickel CGUs which was tested based on FVLCS determined using cash flows based on approved budgets and market assumptions, considering mineral reserves and resources and additional value calculated by experts, costs and investments based on the best estimate of past performance and sales nickel prices using a range from 13,000 to 20,000 (US\$ per ton). Cash flows used are designed based on the life of each CGU and considering a discount rates range from 6% to 8%.

**Fertilizers** - The scenario of depreciation of the R\$ against the US\$ had a favorable impact on the phosphate business in Brazil in 2015, reverting the total amount of the impairment that was previously recognized during 2014 in the amount of R\$1,515.

The majority of the remaining balance of the assets in PRC were impaired in 2015 as the management does not expect to be able to recover the amounts invested in the project. An impairment charge of R\$2,123 and R\$4,963 was recognized in 2015 and 2013, respectively.

#### b) Impairment of investments in associates and joint ventures

In 2015, the Company recognized an impairment of R\$510 in its investment in Samarco (note 4) and R\$1,217 in Teal Minerals Inc. ("Teal"). Teal recognized an impairment of property, plant and equipment due to the revision of future mining plans and the decrease of the price of copper.



# 16. Loans and borrowings

# a) Total debt

				Consolidated
		Current liabilities		Non-current liabilities
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Debt contracts in the international markets				
Floating rates in:				
US\$	943	950	20,203	13,531
Others currencies	-	-	-	7
Fixed rates in:				
US\$	4,651	183	50,463	35,166
EUR	-	-	6,376	4,841
Others currencies	56	-	659	-
Accrued charges	1,274	887	-	-
	6,924	2,020	77,701	53,545
Debt contracts in Brazil				
Floating rates in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	827	785	18,388	14,617
Basket of currencies and US\$ indexed to LIBOR	1,133	561	5,239	3,623
Fixed rates in:				
R\$	246	128	1,047	964
Accrued charges	658	274	503	-
	2,864	1,748	25,177	19,204
	9,788	3,768	102,878	72,749

				Parent Company
		Current liabilities		Non-current liabilities
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Debt contracts in the international markets				
Floating rates in:				
US\$	567	670	16,829	11,721
Fixed rates in:				
US\$	937	159	9,020	3,984
EUR	-	-	6,376	4,841
Accrued charges	479	338	<u> </u>	
	1,983	1,167	32,225	20,546
Debt contracts in Brazil				
Floating rates in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	780	734	17,658	13,511
Basket of currencies and US\$ indexed to LIBOR	1,125	554	5,227	3,609
Fixed rates in:				
R\$	190	123	876	876
Accrued charges	658	275		-
	2,753	1,686	23,761	17,996
	4,736	2,853	55,986	38,542

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

					Consolidated	Parent Company
					Estimated	
		Capital market	Development		future payments	Debt principal
	Bank loans (i)	(i)	agencies (i)	Debt principal (i)	of interest(ii)	(i)
2016	1,023	3,713	3,119	7,855	5,765	3,599
2017	3,869	4,733	3,583	12,185	5,903	6,158
2018	6,710	3,188	4,133	14,031	6,063	13,326
2019	2,258	3,905	4,839	11,002	5,647	6,444
2020	6,063	5,005	3,153	14,221	4,773	8,692
2021	1,129	300	3,209	4,638	4,251	3,822
Between 2022 and 2025	3,800	12,790	3,561	20,151	10,936	11,066
2026 onwards	345	25,315	488	26,148	24,577	6,478
	25,197	58,949	26,085	110,231	67,915	59,585

<sup>(</sup>i) Does not include accrued charges.

<sup>(</sup>ii) Consists of estimated future payments of interest, calculated based on interest rate curves and foreign exchange rates applicable as at December 31, 2015 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 December 31, 2015, the average annual interest rates by currency are as follows:

		Consolidated		<b>Parent Company</b>
Loans and borrowings in	Average interest rate (i)	Total debt	Average interest rate (i)	Total debt
US\$	4.63%	83,682	3.03%	33,961
R\$ (ii)	10.78%	21,638	10.85%	20,129
EUR (iii)	4.06%	6,632	4.06%	6,632
Others currencies	5.94%	714	0.00%	_
		112,666		60,722

- (i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the last renegotiated rate at December 31, 2015.
- (ii) R\$ denominated debt that bears interest at IPCA, CDI, TR or TJLP, plus spread. For a total of R\$14,730, 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 2.07% 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 4.41% per year in US\$.

#### b) Credit and financing lines

					Available amount
Time	Contractual		Period of the		December 31,
Туре	currency	Date of agreement	agreement	Total amount	2015
Credit lines					
Revolving credit facility	US\$	May 2015	5 years	11,714	11,714
Revolving credit facility	US\$	July 2013	5 years	7,810	7,810
Financing lines					
BNDES (i)	R\$	April 2008	10 years	7,300	1,426
BNDES - CLN 150	R\$	September 2012	10 years	3,883	20
BNDES - S11D e S11D Logística	R\$	May 2014	10 years	6,163	1,500

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

In January 2016 (subsequent event), the Company drew down on US\$3,000 of its revolving credit facilities. The amount of US\$1,800 was drew down on by Vale International S.A. and US\$1,200 (R\$4,686) by the Parent Company.

#### c) Funding

In 2015, Vale issued infrastructure debentures in the amount of R\$1,350 and export credit notes in the amount of R\$1,500.

#### d) Guarantees

As at December 31, 2015 and 2014, loans and borrowings are secured by property, plant and equipment and receivables in the amount of R\$1,937 and R\$3,485, respectively.

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

#### e) Covenants

Some of the Company's debt agreements with lenders contain financial covenants. The main covenants in those agreements require maintaining certain ratios, such as debt to EBITDA (Earnings before Interest Taxes, Depreciation and Amortization) and interest coverage. The Company has not identified any instances of noncompliance as at December 31, 2015 and 2014.



# 17. Asset retirement obligations

The Company applies judgment and assumptions when measuring its asset retirement obligation. The accrued amounts of these obligations are not deducted from the potential costs covered by insurance or indemnities.

The long term interest rates (per annum, used to discount these obligations to present value and to update the provisions) and the changes in the provision of asset retirement obligations are as follows:

		Consolidated		Parent Company
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Balance at beginning of the year	8,949	6,194	3,195	1,946
Interest expense	214	465	135	201
Settlements	(298)	(100)	(12)	(23)
Revisions on cash flows estimates (i)	(524)	2,217	(1,944)	973
Translation adjustment	1,318	173	-	-
Incorporation of subsidiary	-	-	=	98
Balance at end of the year	9,659	8,949	1,374	3,195
Current	346	361	83	89
Non-current	9,313	8,588	1,291	3,106
	9,659	8,949	1,374	3,195
Brazil	7.28%	5.51%	7.28%	5.51%
Canada	0.59%	2.05%		
Other regions	1.12% - 5.91%	1.61% - 8.81%		

<sup>(</sup>i) Includes only the impacts in operating expenses and property, plant and equipments.

#### 18. 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:

					Consolidated
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
Balance on December 31, 2013	771	498	1,653	67	2,989
Additions	237	98	558	77	970
Reversals	44	(247)	(318)	(32)	(553)
Payments	(94)	(46)	(111)	=	(251)
Indexation and interest	97	1	98	12	208
Translation adjustment	33	7	(4)	6	42
Balance on December 31, 2014	1,088	311	1,876	130	3,405
Additions	527	276	567	2	1,372
Reversals	(593)	(190)	(463)	(15)	(1,261)
Payments	(151)	(129)	(225)	(215)	(720)
Indexation and interest	54	40	16	126	236
Translation adjustment	127	1	-	50	178
Balance on December 31, 2015	1,052	309	1,771	78	3,210



					Parent Company
				Environmental	Total of litigation
	Tax litigation	Civil litigation	<b>Labor litigation</b>	litigation	provision
Balance on December 31, 2013	280	221	1,472	35	2,008
Additions	217	183	578	72	1,050
Reversals	(23)	(207)	(304)	(32)	(566)
Payments	(79)	(42)	(100)	7	(214)
Indexation and interest	41	31	86	12	170
Balance on December 31, 2014	436	186	1,732	94	2,448
Additions	370	173	508	2	1,053
Reversals	(535)	(139)	(418)	(14)	(1,106)
Payments	(156)	(7)	(211)	(34)	(408)
Indexation and interest	217	28	(49)	7	203
Balance on December 31, 2015	332	241	1,562	55	2,190

- i. Provisions for labor litigation Consist of lawsuits filed by employees and service suppliers, related to employment relationships. The most recurring claims are related to payment of overtime, hours in itinerary, and health and safety. The social security ("INSS") contingencies are related to legal and administrative disputes between INSS and Vale due to applicability of compulsory social security charges.
- **b) Contingent liabilities** Contingent liabilities consist of administrative and judicial claims, which expectation of loss is classified as possible, and for which the recognition of a provision is not considered necessary by the Company, based on legal support.

		Consolidated		Parent Company
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Tax litigation	20,796	16,187	15,839	13,084
Civil litigation	5,214	3,734	4,351	2,962
Labor litigation	7,288	5,194	6,383	4,491
Environmental litigation	5,393	2,981	5,224	2,881
Total	38,691	28,096	31,797	23,418

- i. Tax litigation The most significant claims relate to pending challenges by the Brazilian federal tax authority concerning the deductibility of Brazilian social contribution payments for income tax purposes and demands by Brazilian state tax authorities for additional payments of the value-added tax on services and circulation of goods ("ICMS") in relation to the use of ICMS credits from sales and energy transmission.
- **ii.** Civil litigation Most of these claim have been filed by suppliers for indemnification under construction contracts, primarily relating to certain alleged damages, payments and contractual penalties. A number of other claims involve disputed contractual terms for inflation indexation.
- iii. Labor litigation These claims represent a very large number of individual claims by (i) employees and service providers, primarily involving demands for additional compensation for overtime work, time spent commuting or health and safety conditions; and (ii) the Brazilian federal social security administration ("INSS") regarding contributions on compensation programs based on profits.
- **iv. Environmental litigation** The most significant claims concern alleged procedural deficiencies in licensing processes, non-compliance with existing environmental licenses or damage to the environment.
- c) Judicial deposits In addition to the provisions and contingent liabilities, the Company is required by law to make judicial deposits to secure a potential adverse outcome of certain lawsuits. These court-ordered deposits are monetarily adjusted and reported as non-current assets until a judicial decision to draw the deposit occurs.

		Consolidated		Parent Company
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Tax litigation	822	940	531	664
Civil litigation	399	333	135	115
Labor litigation	2,163	2,096	1,984	1,942
Environmental litigation	61	1	57	-
Total	3,445	3,370	2,707	2,721



#### d) Others

In the third quarter of 2015, the Company filed an enforceable action in the amount of R\$524 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.

On April 30, 2014, Rio Tinto plc ("Rio Tinto") filed a lawsuit against Vale, BSGR, and other defendants in the United States District Court for the Southern District of New York ("Court"), alleging violations of the U.S. Racketeer Influenced and Corrupt Organizations Act (RICO) in relation to Rio Tinto's loss of certain Simandou mining rights, the Government of Guinea's assignment of those rights to BSGR, and Vale's subsequent investment in VBG. In November, 2015 Vale received the decision of the Court, which was for the dismissal of the lawsuit.

#### 19. Income taxes - Settlement program ("REFIS")

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

In December 31, 2015, the balance of R\$17,301 (R\$1,348 in current and R\$15,953 as non-current) is due in 154 remaining monthly installments, bearing interest at the SELIC rate.

#### 20. Income taxes

#### a) Deferred income tax

		Consolidated		Parent Company
	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2014
Taxes losses carryfoward	25,181	4,348	12,294	375
Temporary differences:				
Pension plan	2,114	1,783	365	311
Provision for litigation	892	970	745	832
Provision for losses of assets	2,807	2,489	1,479	1,513
Fair value of financial instruments	3,215	3,563	3,215	3,059
Allocated goodwill	(10,067)	(12,831)	-	-
Others	205	1,364	(806)	340
	(834)	(2,662)	4,998	6,055
Total	24,347	1,686	17,292	6,430
Assets	30,867	10,560	17,292	6,430
Liabilities	(6,520)	(8,874)	-	-
	24,347	1,686	17,292	6,430

#### Changes in deferred tax are as follows:

			Consolidated	Parent Company
	Assets	Liabilities	Total	Assets
Balance on December 31, 2013	10,596	7,562	3,034	7,418
Effect in income statement	(52)	196	(248)	(1,089)
Transfers (including between assets and liabilities)	(220)	930	(1,150)	-
Translation adjustment	147	295	(148)	-
Subsidiary incorporation	=	=	=	12
Other comprehensive income	89	(109)	198	89
Balance on December 31, 2014	10,560	8,874	1,686	6,430
Effect in income statement (i)	15,226	(5,000)	20,226	10,816
Transfers (including between assets and liabilities)	548	548	-	-
Translation adjustment	1,042	2,049	(1,007)	-
Subsidiary acquisition	(31)	=	(31)	=
Other comprehensive income	3,522	49	3,473	46
Balance on December 31, 2015	30,867	6,520	24,347	17,292

<sup>(</sup>i) From the total effect in income statement, R\$16,830 refers to tax losses carryforward.



Brazilian corporate tax law was amended at the end of 2014 by the Law 12,973 and became effective for the fiscal year 2015. The change was to provide that profits from foreign subsidiaries will be taxed in Brazil, on an accrual basis, applying the differential between the nominal local tax rate and the Brazilian tax rates (34%). Accordingly, from January 1<sup>st</sup>, 2015 the results from foreign subsidiaries are recognized in this systematic.

In accordance with paragraph 77 of the referred law, the accumulated losses of those subsidiaries, as at December 31, 2014, will be available to offset their future profits. On September 30, 2015, the Company filed the tax return and completed the review of the income tax loss carry-forwards available in each foreign subsidiary as at December 31, 2014. Accordingly, a deferred tax asset related to accumulated losses in certain of those foreign subsidiaries of R\$11,729 was recognized as deferred income tax in the income statement.

#### b) Income tax reconciliation

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

		Consolidated		Parent Company	
	Year ended December 3:				cember 31
	2015	2014	2013	2015	2014
Net income (loss) before income taxes	(64,876)	2,819	14,995	(55,047)	3,387
Income taxes at statutory rates - 34%	22,058	(958)	(5,098)	18,716	(1,152)
Adjustments that affect the basis of taxes:					
Income tax benefit from interest on stockholders' equity	1,054	2,634	2,688	1,033	2,634
Tax incentives	204	209	-	-	206
Results of overseas companies taxed by different rates which differs from the parent company rate	-	(2,867)	408	-	-
Equity results in income statement	(512)	388	373	(12,713)	(4,429)
Income taxes statement program - REFIS	-	-	(11,345)	-	-
Additions (reversals) of tax loss carry forward	5,911	(410)	387	4,651	-
Unrecognized tax losses of the year	(3,116)	-	_	-	-
Nondeductible effect of impairment	(7,190)	(1,119)	(1,687)	-	-
Others	470	(477)	(975)	(853)	308
Income taxes	18,879	(2,600)	(15,249)	10,834	(2,433)

#### c) Tax incentives

In Brazil, Vale has a tax incentive for the partial reduction of income tax due, in the amount equivalent to the portion allocated by tax law to transactions in the North and Northeast regions with iron ore, manganese, copper, and nickel. The incentive is calculated based on the tax profit of the activity (called operating income) and takes into consideration the allocation of operating net income by incentive production levels during the periods specified for each product, generally 10 years, and in the case of the Company, they are expected to expire in 2024. An amount equal to that obtained with the tax saving must be appropriated in a retained earnings reserve account in Stockholders' equity, and may not be distributed as dividends to stockholders.

In addition to those incentives, 30% of the income tax due based on the regional profit needs to be reinvested on the purchase of machinery and equipment, subject to subsequent approval by the regulatory agency responsible, Superintendência do Desenvolvimento da Amazonia (SUDAM) and the Superintendência do Desenvolvimento do Nordeste (SUDENE). When the reinvestment is approved, it is retained in an earnings reserve account, which restricts the distribution as dividends to stockholders.

Vale also has tax incentives related to the production of nickel and cobalt from Vale Nouvelle Caledonie SAS ("VNC"). These incentives include the exemption of income tax during the construction phase of the project, and also for a period of 15 years beginning in the first year of commercial production, as defined by applicable law, followed by a 5-year 50% exemption of income tax. VNC is subject to a branch profit tax on its profits (after deducting available tax losses) starting in the first year that commercial production is reached. To date, there has been no net taxable income realized in VNC.

In Mozambique, the tax incentives applicable to Vale Moçambique S.A. for the Moatize Coal Mine Project include a 25% reduction of rate for five years counting from the first year the company has taxable profits. Vale also received tax incentives for projects in Oman, Malaysia, Malawi and a logistic project in Mozambique.

Vale is subject to the revision of income tax by local tax authorities for up to five years in companies operating in Brazil, ten years for operations in Indonesia and up to seven years for companies with operations in Canada.



#### 21. Employee benefits obligations

# a) Employee postretirements obligations

In Brazil, the management of the pension plans of the Company is the responsibility of Fundação Vale do Rio Doce de Seguridade Social ("Valia") a nonprofit entity with administrative and financial autonomy. The Brazilian plans are as follows:

Benefit plan Vale Mais ("Vale Mais") and benefit plan Valiaprev ("Valiaprev") - Certain of the Company's employees are participants in a plan (Vale Mais e Valiaprev) with components of defined benefit (specific coverage for death, pensions and disability allowances) and components of defined contributions (for programmable benefits). The defined benefits plan is subject to actuarial evaluations. The defined contribution plan represents a fixed amount held on behalf of the participants. Both Vale Mais and Valiaprev were overfunded as at December 31, 2015 and 2014.

**Defined benefit plan ("Plano BD")** - The Plano BD has been closed to new entrants since the year 2000, when the Vale Mais plan was implemented. It is a plan that has defined benefit characteristics, covering almost exclusively retirees and their beneficiaries. It was overfunded as at December 31, 2015 and 2014 and the contributions made by the Company are not relevant.

Abono complementação benefit plan - The Company sponsors a specific group of former employees entitled to receive additional benefits from Valia normal payments plus post-retirement benefit that covers medical, dental and pharmaceutical assistance. The contributions made by the Company finished in 2014. The abono complementação benefit was overfunded as at December 31, 2015 and 2014.

Other benefits - The Company sponsors medical plans for employees that meet specific criteria and for employees who use the abono complementação benefit. Although those benefits are not specific retirement plans, actuarial calculations are used to calculate future commitments. As those benefits are related to health care plans they have the nature of underfunded benefits, and are presented as underfunded plans as at December 31, 2015 and 2014.

The Foreign plans are managed in accordance with their region. They are divided between plans in Canada, United States of America, United Kingdom, Indonesia, New Caledonia, Japan and Taiwan. Pension plans in Canada are composed of a defined benefit and defined contribution component. Currently the defined benefit plans do not allow new entrants. The foreign defined benefit plans underfunded as at December 31, 2015 and 2014.

Employers' disclosure about pensions and other post-retirement benefits on the status of the defined benefit elements of all plans is provided as follows.

# i. Change in benefit obligation

			Consolidated		<b>Parent Company</b>
	Overfunded	Underfunded		Overfunded	
	pension plans	pension plans	Others benefits	pension plans	Others benefits
Benefit obligation as at December 31, 2013	9,557	10,320	3,966	9,557	516
Service costs	68	225	55	68	-
Interest costs	1,116	549	194	1,116	59
Benefits paid	(769)	(755)	(174)	(769)	(59)
Participant contributions	3	1	-	3	-
Effects of change in financial assumptions	(73)	1,070	(189)	(73)	16
Translation adjustment	-	599	129	-	-
Benefit obligation as at December 31, 2014	9,902	12,009	3,981	9,902	532
Service costs	65	308	92	62	-
Interest costs	1,181	591	219	1,177	63
Benefits paid	(814)	(874)	(216)	(814)	(70)
Participant contributions	4	1	-	4	-
Transfers	31	(31)	-	-	-
Effect of changes in the actuarial assumptions	(710)	(267)	(119)	(691)	30
Translation adjustment		2,670	815		-
Benefit obligation as at December 31, 2015	9,659	14,407	4,772	9,640	555



Plans in Brazil

# ii. Evolution of assets fair value

			Consolidated		Parent Company
	Overfunded	Underfunded		Overfunded	
	pension plans	pension plans	Others benefits	pension plans	Others benefits
Fair value of plan assets as at December 31, 2013	12,347	8,911		12,347	<u> </u>
Interest income	1,471	474	-	1,471	-
Employer contributions	310	387	174	310	59
Participant contributions	3	1	-	3	-
Benefits paid	(769)	(755)	(174)	(769)	(59)
Return on plan assets (excluding interest income)	(5)	398	=	(5)	=
Translation adjustment	-	456	-	-	-
Fair value of plan assets as at December 31, 2014	13,357	9,872		13,357	-
Interest income	1,616	498	_	1,615	_
Employer contributions	208	446	216	201	70
Participant contributions	4	1	-	4	=
Benefits paid	(814)	(874)	(216)	(814)	(70)
Actual return on plan assets	(977)	(36)	-	(980)	=
Transfers	19	(19)	-	-	-
Translation adjustment	-	2,195	-	-	-
Fair value of plan assets as at December 31, 2015	13,413	12,083		13,383	-

# iii. Reconciliation of assets and liabilities recognized in the balance sheet

						Tidiis iii Bidzii
						Consolidated
			cember 31, 2015			ember 31, 2014
	Overfunded	Underfunded	Others	Overfunded	Underfunded	Others
	pension plans	pension plans	benefits	pension plans	pension plans	benefits
Balance at beginning of the year	3,455			2,790		
Interest income	427	-	-	335	-	-
Changes on asset ceiling and onerous liability	(128)			330	-	
Balance at end of the year	3,754	-	-	3,455	-	-
Amount recognized in the balance sheet						
Present value of actuarial liabilities	(9,659)	(970)	(624)	(9,902)	(1,028)	(654)
Fair value of assets	13,413	837	-	13,357	928	-
Effect of the asset ceiling	(3,754)	_		(3,455)		
Liabilities provisioned	<u>-</u> _	(133)	(624)		(100)	(654)
Current liabilities	-	-	(72)	-	-	(66)
Non-current liabilities	<u>-</u>	(133)	(552)		(100)	(588)
Liabilities provisioned	<u> </u>	(133)	(624)		(100)	(654)
						Foreign plan
						Consolidated
		De	cember 31, 2015		Dec	ember 31, 2014
	Overfunded	Underfunded	Others	Overfunded	Underfunded	Others
	pension plans	pension plans	benefits	pension plans	pension plans	benefits
Amount recognized in the balance sheet						
Present value of actuarial liabilities	-	(13,437)	(4,149)	-	(10,981)	(3,327)
Fair value of assets		11,246			8,944	
Liabilities provisioned		(2,191)	(4,149)		(2,037)	(3,327)
Current liabilities	-	(67)	(127)	-	(42)	(69)
Non-current liabilities	-	(2,124)	(4,022)		(1,995)	(3,258)
Liabilities provisioned	-	(2,191)	(4,149)		(2,037)	(3,327)



						Total
						Consolidated
		De	cember 31, 2015	•	De	cember 31, 2014
	Overfunded	Underfunded	Others	Overfunded	Underfunded	
	pension plans	pension plans	benefits	pension plans	pension plans	Others benefits
Balance at beginning of the year	3,455	=	=	2,790	=	-
Interest income	427	-	-	335	-	-
Changes on asset ceiling and onerous liability	(128)			330	-	-
Balance at end of the year	3,754	-	-	3,455	-	-
Amount recognized in the balance sheet						
Present value of actuarial liabilities	(9,659)	(14,407)	(4,773)	(9,902)	(12,009)	(3,981)
Fair value of assets	13,413	12,083	-	13,357	9,872	-
Effect of the asset ceiling	(3,754)		-	(3,455)		
Liabilities provisioned	-	(2,324)	(4,773)	-	(2,137)	(3,981)
Current liabilities	-	(67)	(199)	-	(42)	(135)
Non-current liabilities	-	(2,257)	(4,574)	-	(2,095)	(3,846)
Liabilities provisioned	-	(2,324)	(4,773)	-	(2,137)	(3,981)

						Plans in Brazil	
						Parent Company	
	December 31, 2015				December 31, 2014		
	Overfunded	Underfunded	Others	Overfunded	Underfunded	Others	
	pension plans	pension plans	benefits	pension plans	pension plans	benefits	
Balance at beginning of the year	3,455	-	-	2,790	-	-	
Interest income	427	-	-	335	-	-	
Changes on asset ceiling and onerous liability	(139)	-	-	330	-	-	
Balance at end of the year	3,743	-		3,455		-	
Amount recognized in the balance sheet							
Present value of actuarial liabilities	(9,640)	-	(555)	(9,902)	-	(532)	
Fair value of assets	13,383	-	-	13,357	-	-	
Effect of the asset ceiling	(3,743)	-	-	(3,455)	-	-	
Liabilities provisioned	-	-	(555)	-	-	(532)	
Current liabilities	-	-	(72)	-	-	(66)	
Non-current liabilities	-	-	(483)	-	-	(466)	
Liabilities provisioned	-	-	(555)	-	-	(532)	

# iv. Costs recognized in the income statements

									Consolidated	
								Year ended	December 31	
			2015			2014		2013		
			Others			Others			Others	
	Overfunded	Underfunded	underfunded	Overfunded	Underfunded	underfunded	Overfunded	Underfunded	underfunded	
	pension	pension	pension	pension	pension	pension	pension	pension	pension	
	plans	plans	plans	plans	plans	plans	plans	plans	plans	
Current service cost	65	308	92	68	225	55	106	210	91	
Interest on expense on liabilities	1,181	591	219	1,116	549	194	995	475	282	
Interest income on plan assets	(1,616)	(498)	-	(1,471)	(474)	-	(1,131)	(363)	-	
Interest expense on effect of										
(asset ceiling)/ onerous liability	437			335			154		-	
Total of cost, net	67	401	311	48	300	249	124	322	373	

						Parent Company		
					Year	ended December 31		
			2015		20:			
			Others			Others		
	Overfunded	Underfunded	underfunded	Overfunded	Underfunded	underfunded		
	pension plans							
Current service cost	62	-	-	68	-	-		
Interest on expense on liabilities	1,177	-	63	1,116	-	59		
Interest income on plan assets	(1,615)	-	-	(1,471)	-	-		
Interest expense on effect of								
(asset ceiling)/ onerous liability	428	-	-	335	-	-		
Total of cost, net	52	-	63	48	-	59		



#### v. Costs recognized in the statement of comprehensive income

								Con	solidated
				_				Year ended Dec	ember 31
			2015			2014			2013
	Overfunded	Underfunded		Overfunded	Underfunded		Overfunded	Underfunded	
	pension	pension	Others	pension	pension	Others	pension	pension	Others
	plans	plans	benefits	plans	plans	benefits	plans	plans	benefits
Balance at beginning of the year	(380)	(1,515)	(350)	(219)	(926)	(460)	(7)	(1,970)	(778)
Effect of changes actuarial assumptions	710	267	119	73	(1,070)	189	2,290	574	537
Return on plan assets (excluding interest income)	(977)	(36)	-	(5)	398	-	(1,245)	731	-
Change of asset ceiling / costly liabilities									
(excluding interest income)	170	-	-	(312)	-	-	(911)	-	-
Others	-	8	-	-	66	-	-	-	-
	(97)	239	119	(244)	(606)	189	134	1,305	537
Deferred income tax	33	(4)	(33)	83	159	(38)	(42)	(410)	(162)
Others comprehensive income	(64)	235	86	(161)	(447)	151	92	895	375
Translation adjustments	-	(650)	(105)	-	(174)	(13)	-	(163)	(55)
Transfers/ disposal	4	(4)	-	-	32	(28)	(304)	312	(2)
Accumulated other comprehensive income	(440)	(1,934)	(369)	(380)	(1,515)	(350)	(219)	(926)	(460)

					Par	ent Company
					Year ended	December 31
			2015	•		2014
	Overfunded	Underfunded	Others	Overfunded	Underfunded	Others
Deleves at haringing of the year	pension plans	pension plans	benefits	pension plans	pension plans	benefits
Balance at beginning of the year	(381)		(120)	(219)		(110)
Effect of changes actuarial assumptions	691	-	(30)	73	-	(16)
Return on plan assets (excluding interest income)	(980)	-	-	(5)	-	-
Change of asset ceiling / costly liabilities (excluding interest income)	182	-	-	(313)	-	-
	(107)	-	(30)	(245)	-	(16)
Deferred income tax	37	-	10	83	-	6
Others comprehensive income	(70)	-	(20)	(162)	-	(10)
Transfers/ disposal	7	(7)			-	
Accumulated other comprehensive income	(444)	-	(140)	(381)	7	(120)

# vi. Risks related to plans

The Administrators of the plans have committed to strategic planning to strengthen internal controls and risk management. This commitment is archive by conducting audits of internal controls, which aim to mitigate operational risks in routine management of market risk and credit activities. Risks are presented as follow:

Legal - lawsuits: issuing periodic reports to internal audit and directors contemplating the analysis of lawyers about the possibility of loss (remote, probable or possible), aiming to support the administrative decision regarding provisioning. Contracts, tax and decision-making process: previous legal analysis through technical advice. Analysis and ongoing monitoring of developments in the legal scenario and its dissemination within the institution in order to subsidize the administrative plans, considered the impact of regulatory changes.

**Actuarial** - the annual actuarial valuation of the benefit plans comprises the assessment of costs, revenues and adequacy of plan funding. It also considered the monitoring of biometric, economic and financial assumptions (asset volatility, changes in interest rates, inflation, life expectancy, salaries and other).

Market - profitability projections are performed for the various plans and profiles of investments for 10 years in the management study of assets and liabilities. These projections include the risks of investments in various market segments. Furthermore, the risks for short-term market of the plans are monitored monthly through metrics of VaR (Value at Risk) and stress testing. For exclusive investment funds of Valia, the market risk is measured daily by the custodian asset bank.

**Credit** - assessment of the credit quality of issuers by hiring expert consultants to evaluate financial institutions and internal assessment of payment ability of non-financial companies. For assets of non-financial companies is conducted a monitoring of the company until the maturity of the security.



## vii. Actuarial and economic assumptions and sensitivity analysis

All calculations involve future actuarial projections about some parameters, such as: salaries, interest, inflation, the behavior of INSS benefits, mortality and disability.

The economic actuarial assumptions adopted have been formulated considering the long-term period for maturity and should therefore be examined accordingly. In the short term they may not necessarily be realized.

In the evaluations were adopted the following assumptions:

						Brazil	
		Dec	ember 31, 2015	December 31, 201			
	Overfunded	Underfunded	Others	Overfunded	Underfunded	Others	
	pension plans	pension plans	benefits	pension plans	pension plans	benefits	
Discount rate to determine benefit obligation	13.63%	13.71%	13.63%	12.70%	12.54%	12.39%	
Nominal average rate to determine expense/ (income)	12.36%	13.71%	N/A	12.37%	12.46%	N/A	
Nominal average rate of salary increase	8.12%	8.12%	N/A	6.94%	8.12%	N/A	
Nominal average rate of benefit increase	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
Immediate health care cost trend rate	N/A	N/A	9.18%	N/A	N/A	9.18%	
Ultimate health care cost trend rate	N/A	N/A	9.18%	N/A	N/A	9.18%	
Nominal average rate of price inflation	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	

				Foreign
		December 31, 2015		December 31, 2014
	Underfunded pension plans	Others benefits	Underfunded pension plans	Others benefits
Discount rate to determine benefit obligation	4.00%	3.90%	3.89%	4.10%
Nominal average rate to determine expense/ (income)	4.80%	N/A	4.80%	N/A
Nominal average rate of salary increase	3.90%	N/A	3.90%	N/A
Nominal average rate of benefit increase	3.90%	3.00%	3.90%	3.00%
Immediate health care cost trend rate	N/A	6.30%	N/A	7.22%
Ultimate health care cost trend rate	N/A	4.50%	N/A	4.49%
Nominal average rate of price inflation	2.00%	2.00%	2.00%	2.00%

For the sensitivity analysis, the Company considers the effect of 1% in nominal discount rate to determine the actuarial liability. The effects of this change in actuarial liabilities in premise and adopted the average duration of the plan are as follows:

			Consolidated	Parent Company			
		Dec	ember 31, 2015	December 31, 2015			
	Overfunded	Underfunded	Others benefits	Overfunded	Underfunded	Others benefits	
No. of the Property of the Advisoration	pension plans	pension plans	Denents	pension plans	pension plans	penents	
Nominal discount rate - 1% increase							
Actuarial liability balance	8,836	11,807	4,160	8,836	-	520	
Assumptions made	8.33%	5.01%	5.35%	8.33%	0.00%	6.36%	
Average duration of the obligation - (years)	8.70	11.76	15.29	8.70	-	6.57	
Nominal discount rate - 1% reduction							
Assumptions made	10,602	15,264	4,071	10,602	-	596	
Average duration of the obligation - (years)	10.01%	3.01%	3.90%	10.01%	0.00%	7.34%	
Average duration of the obligation - (years)	9.53	11.76	15.22	9.53	-	7.08	



## viii. Assets of pension plans

Brazilian plan assets as at December 31, 2015 and 2014 includes respectively (i) investments in a portfolio of Vale's stock in the amount of R\$15 and R\$250; (ii) equity investments from related parties in the amount of R\$0 and R\$3; and (iii) Brazilian Federal Government securities in the amount of R\$11,622 and R\$9,512.

Foreign plan assets as at December 31, 2015 and 2014 includes Canadian Government securities in the amount of R\$2,636 and R\$2,263, respectively.

# ix. Overfunded pension plans

Assets by category are as follows:

							C	onsolidated
			Decemb	er 31, 2015			Decemb	er 31, 2014
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	2	1	- '	3	-	-	-	-
Accounts Receivable	1	-	-	1	14	-	-	14
Equity securities	1	-	-	1	1,261	-	-	1,261
Debt securities - Corporate bonds	-	367	-	367	-	418	-	418
Debt securities - Government bonds	6,478	-	-	6,478	5,595	-	-	5,595
Investments funds - Fixed Income	7,023	-	-	7,023	6,035	-	-	6,035
Investments funds - Equity	170	-	-	170	885	-	-	885
International investments	112	-	-	112	-	-	-	-
Structured investments - Private Equity funds	540	-	532	1,072	-	-	671	671
Structured investments - Real estate funds	-	_	25	25	-	-	19	19
Real estate	-	-	1,246	1,246	-	-	1,322	1,322
Loans to participants	-	-	968	968	-	-	1,070	1,070
Total	14,327	368	2,771	17,466	13,790	418	3,082	17,290
Funds not related to risk plans				(4,053)				(3,933)
Fair value of plan assets at end of year				13,413				13,357

							Pare	nt Company
			Decemb	per 31, 2015			Decemb	per 31, 2014
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	2	1	=	3	-	-	-	-
Accounts Receivable	1	-	-	1	14	-	-	14
Equity securities	-	-	-	-	1,261	-	-	1,261
Debt securities - Corporate bonds	-	367	-	367	-	418	-	418
Debt securities - Government bonds	6,478	-	-	6,478	5,595	-	-	5,595
Investments funds - Fixed Income	7,018	-	-	7,018	6,035	-	-	6,035
Investments funds - Equity	170	-	-	170	885	-	-	885
International investments	112	-	-	112	-	-	-	-
Structured investments - Private Equity funds	540	-	511	1,051	-	-	671	671
Structured investments - Real estate funds	-	-	25	25	-	-	19	19
Real estate	-	-	1,245	1,245	-	-	1,322	1,322
Loans to participants	-	-	966	966	-	-	1,070	1,070
Total	14,321	368	2,747	17,436	13,790	418	3,082	17,290
Funds not related to risk plans				(4,053)				(3,933)
Fair value of plan assets at end of year				13,383				13,357

Measurement of overfunded plan assets at fair value with no observable market variables (level 3) are as follows:

					Consolidated
	Private equity funds	Real state funds	Real state	Loans to participants	Total
Balance as at December 31, 2013	532	19	1,282	1,009	2,842
Return on plan assets	(28)	-	131	122	225
Assets purchases, sales and settlements	208	-	8	437	653
Assets sold during the year	(41)	-	(99)	(498)	(638)
Balance as at December 31, 2014	671	19	1,322	1,070	3,082
Return on plan assets	(281)	3	15	157	(106)
Assets purchases, sales and settlements	162	3	4	133	302
Assets sold during the year	(25)	-	(95)	(393)	(513)
Transfers in and/out of Level 3	5	-	-	1	6
Balance as at December 31, 2015	532	25	1,246	968	2,771



					Parent Company
				Loans to	
	Private equity funds	Real state funds	Real state	participants	Total
Balance as at December 31, 2013	532	19	1,282	1,009	2,842
Return on plan assets	(28)	-	131	122	225
Assets purchases, sales and settlements	208	-	8	437	653
Assets sold during the year	(41)	-	(99)	(498)	(638)
Translation adjustment	=	-	-	-	-
Transfers in and/out of Level 3	-	-	-	-	-
Balance as at December 31, 2014	671	19	1,322	1,070	3,082
Return on plan assets	(281)	3	14	156	(108)
Assets purchases, sales and settlements	146	3	4	133	286
Assets sold during the year	(25)	-	(95)	(393)	(513)
Balance as at December 31, 2015	511	25	1,245	966	2,747

# x. Underfunded pension plans

Assets by category are as follows:

							c	onsolidated
			Decemb	er 31, 2015			Decemb	er 31, 2014
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	-	191	-	191	3	78	-	81
Equity securities	4,320	-	-	4,320	4,292	25	-	4,317
Debt securities - Corporate bonds	-	47	-	47	-	1,069	-	1,069
Debt securities - Government bonds	219	2,671	-	2,890	205	2,263	-	2,468
Investments funds - Fixed Income	584	1,097	-	1,681	502	-	-	502
Investments funds - Equity	335	1,394	-	1,729	251	1,055	-	1,306
International investments	8	117	-	125	-	-	-	-
Structured investments - Private Equity funds	-	-	384	384	-	-	48	48
Structured investments - Real estate funds	-	-	1	1	-	-	1	1
Real estate	-	-	77	77	-	-	65	65
Loans to participants	-	-	17	17	-	-	15	15
Others	-	-	621	621	-	-	-	-
Total	5,466	5,517	1,100	12,083	5,253	4,490	129	9,872
Funds not related to risk plans				-				-
Fair value of plan assets at end of year				12,083				9,872

Measurement of underfunded plan assets at fair value with no observable market variables (level 3) are as follows:

	Private equity funds	Real state funds	Real state	Loans to participants	Others	Total
Balance as at December 31, 2013	-	-	56	-	-	56
Return on plan assets	-	-	9	-	-	9
Assets purchases, sales and settlements	48	1		15		64
Balance as at December 31, 2014	48	1	65	15	-	129
Return on plan assets	-	-	16	3		19
Assets purchases, sales and settlements	340	(1)	-	-	621	960
Assets sold during the year	(3)	-	-	-	-	(3)
Transfers in and/out of Level 3	(1)	1	(4)	(1)	-	(5)
Balance as at December 31, 2015	384	1	77	17	621	1,100



#### xi. Disbursement of future cash flow

Vale expects to disburse R\$716 in 2016 in relation to pension plans and other benefits.

## xii. Expected benefit payments

The expected benefit payments, which reflect future services, are as follows:

			December 31, 2015
	Overfunded pension plans	Underfunded pension plans	Others benefits
2016	890	800	224
2017	941	789	234
2018	994	781	243
2019	1,050	773	253
2020	1,106	765	263
2021 and thereafter	6,343	4,319	1,269

# b) Profit sharing program ("PLR")

The Company recorded as cost of goods sold and services rendered and other operating expenses related to the PLR R\$194 and R\$1.164 for the year ended on December 31, 2015 and 2014, respectively. For the Parent Company, R\$107 and RS\$937 for the year ended on December 31, 2015 and 2014, respectively.

#### c) Long-term compensation plan

Vale has long-term incentive programs such as Matching and Virtual Shares Programs ("PAV") for some executives of the Company, covering 3 to 4 year cycles, respectively.

For the Matching program, the participants may acquire preferred share of Vale to participate on the plan, through a prescribed financial institution under market conditions and without any benefit being provided by Vale. Since 2014, the participation on the program has been mandatory for the executive officers.

Except for the executive officers, the shares purchased by executive have no restrictions and can be sold at any time. If the shares are held for a period of three years, and the participants maintains it employment relationship with Vale during this period, the participant is entitled to receive from Vale a payment in cash equivalent to the market value of their stock holdings under this program.

For PAV program, certain eligible executives have the right to receive, during a four year cycle, a monetary value equivalent to market value of a determined number of stocks based on an the Company's performance measured as an indicator of total return to the Stockholders.

Liabilities of the plans are measured at fair value on the date of each issuance of the report, based on market rates. Compensation costs incurred are recognized by the defined vesting period of three years. At December 31, 2015, 2014 and 2013 the Company recognized in the income statement the amounts of R\$113, R\$163 and R\$198, respectively, related to long term compensation plan.



# 22. Financial instruments classification

							С	onsolidated
			Decem	ber 31, 2015			Decemb	per 31, 2014
Financial assets	Loans and receivables or amortized cost	At fair value through net income	Derivatives designated as hedge accounting	Total	Loans and receivables or amortized cost	At fair value through net income	Derivatives designated as hedge accounting	Total
Current								
Cash and cash equivalents	14,022	-	-	14,022	10,555	-	-	10,555
Financial investments	109	-	-	109	392	-	-	392
Derivative financial instruments	-	474	_	474	-	441	-	441
Accounts receivable	5,763	-	-	5,763	8,700	-	-	8,700
Related parties	273	-	-	273	1,537	-	-	1,537
	20,167	474	-	20,641	21,184	441	-	21,625
Non-current								
Derivative financial instruments	-	363	-	363	-	231	-	231
Loans	732	-	-	732	609	-	-	609
Related parties	5	-	-	5	93	-	-	93
	737	363	_	1,100	702	231	-	933
Total of financial assets	20,904	837	-	21,741	21,886	672	-	22,558
Financial liabilities								
Current								
Suppliers and contractors	13,140	-	-	13,140	11,566	-	-	11,566
Derivative financial instruments	_	7,909	198	8,107	-	2,539	1,221	3,760
Loans and borrowings	9,788	-	-	9,788	3,768	-	-	3,768
Related parties	1,856	-	-	1,856	813	-	-	813
	24,784	7,909	198	32,891	16,147	2,539	1,221	19,907
Non-current								
Derivative financial instruments	-	5,581	-	5,581	-	4,273	3	4,276
Loans and borrowings	102,878	-	-	102,878	72,749	-	-	72,749
Related parties	830	-	-	830	288	=	=	288
Participative stockholders' debentures	-	1,336	-	1,336	-	4,584	-	4,584
Others (i)		551		551		303	-	303
	103,708	7,468	-	111,176	73,037	9,160	3	82,200
Total of financial liabilities	128,492	15,377	198	144,067	89,184	11,699	1,224	102,107

<sup>(</sup>i) See note 23(a).



**Parent Company** December 31, 2015 December 31, 2014 Loans and At fair value Loans and At fair value Financial assets receivables or through net receivables or through net amortized cost income Total amortized cost income Total Current Cash and cash equivalents 518 685 685 518 392 Financial investments 18 392 18 Derivative financial instruments 196 196 370 370 30,599 36,026 Accounts receivable 36,026 30,599 Related parties 834 2,227 834 2,227 37,396 196 37,592 33,903 370 34,273 Non-current Derivative financial instruments 293 29 293 29 106 104 106 104 Loans Related parties 1,468 1,468 902 902 1,574 293 1,867 1,006 29 1,035 489 39,459 Total of financial assets 38,970 34,909 399 35,308 **Financial liabilities** Current Suppliers and contractors 7,084 7,084 6,818 6,818 Derivative financial instruments 3,559 3,559 948 948 Loans and borrowings 4,736 4,736 2,853 2,853 Related parties 6,774 6,774 5,622 5,622 22,153 18,594 3,559 15,293 948 16,241 Non-current Derivative financial instruments 4,745 4,745 3,866 3,866 Loans and borrowings 55,986 55,986 38,542 38,542 63,837 Related parties 63,837 43,606 43,606 Participative stockholders' debentures 1,336 1,336 4,584 4,584 303 Others (i) 551 551 303 119,823 126,455 82,148 90,901 6,632 8,753 **Total of financial liabilities** 138,417 10,191 148,608 97,441 9,701 107,142

<sup>(</sup>i) See note 23(a).



The classification of financial assets and liabilities by currencies are as follows:

							Consolidated
						Dece	mber 31, 2015
						Others	
Financial assets	R\$	US\$	CAD	AUD	EUR	currencies	Total
Current							
Cash and cash equivalents	3,186	9,871	47	211	43	664	14,022
Financial investments	-	109	-	-	-	-	109
Derivative financial instruments	196	278	-	-	-	-	474
Accounts receivable	980	4,232	488	39	16	8	5,763
Related parties	273	-	-	-	-	-	273
	4,635	14,490	535	250	59	672	20,641
Non-current							
Derivative financial instruments	293	70	-	-	-	-	363
Loans	105	401	226	-	-	-	732
Related parties	5	-	-	-	-	-	5
	403	471	226	_		_	1,100
Total of assets	5,038	14,961	761	250	59	672	21,741
Financial liabilities							
Current							
Suppliers and contractors	5,853	5,424	1,308	35	449	71	13,140
Derivative financial instruments	3,557	4,550	-	-	-	-	8,107
Loans and borrowings	1,696	7,779	55	-	258	-	9,788
Related parties	997	-	859	-	-	-	1,856
	12,103	17,753	2,222	35	707	71	32,891
Non-current							
Derivative financial instruments	4,745	836	-	-	-	-	5,581
Loans and borrowings	19,942	75,903	644	15	6,374	-	102,878
Related parties	284	19	-	-	-	-	303
Participative stockholders' debentures	1,336	-	-	-	-	-	1,336
Others	551	-	-	-	-	-	551
	26,858	76,758	644	15	6,374	_	110,649
Total of liabilities	38,961	94,511	2,866	50	7,081	71	143,540

							Consolidated
						Dece	mber 31, 2014
						Others	
Financial assets	R\$	US\$	CAD	AUD	EUR	currencies	Total
Current							
Cash and cash equivalents	2,595	7,379	58	101	162	260	10,555
Financial investments	392	-	-	-	-	-	392
Derivative financial instruments	369	72	-	-	-	-	441
Accounts receivable	1,966	6,678	32	=	21	3	8,700
Related parties	1,054	483	-	-	-	-	1,537
	6,376	14,612	90	101	183	263	21,625
Non-current							
Related parties	11	82	-	-	-	-	93
Loans	104	505	-	-	-	-	609
Derivative financial instruments	29	202	-	-	-	-	231
	144	789	-	-	-		933
Total of assets	6,520	15,401	90	101	183	263	22,558
Financial liabilities							
Current							
Suppliers and contractors	5,798	5,690	3	3	72	-	11,566
Derivative financial instruments	948	2,812	-	-	-	-	3,760
Loans and borrowings	1,169	2,355	50	-	194	-	3,768
Related parties	810	3	-	-	-	-	813
	8,725	10,860	53	3	266		19,907
Non-current							
Derivative financial instruments	3,867	409	-	-	-	-	4,276
Loans and borrowings	15,582	51,764	558	5	4,840	-	72,749
Related parties	288	-	-	-	-	-	288
Participative stockholders' debentures	4,584	-	-	-	-	-	4,584
Others	303	-	-	-	-	-	303
	24,624	52,173	558	5	4,840	-	82,200
Total of liabilities	33,349	63,033	611	8	5,106		102,107



						Pa	rent Company
						Dece	mber 31, 2015
						Others	
Financial assets	R\$	US\$	CAD	AUD	EUR	currencies	Total
Current							
Cash and cash equivalents	493	25	-	-	-	-	518
Financial investments	18	-	-	-	-	-	18
Derivative financial instruments	196	-	-	-	-	-	196
Accounts receivable	(609)	36,628	-	-	7	-	36,026
Related parties	606	228	-	-	-	-	834
	704	36,881	-	-	7	-	37,592
Non-current							
Derivative financial instruments	293	-	-	-	-	-	293
Loans	106	-	-	-	-	-	106
Related parties	337	1,131	-	-	-	-	1,468
	736	1,131	-	-		-	1,867
Total of assets	1,440	38,012	-	-	7	-	39,459
Financial liabilities							
Current							
Suppliers and contractors	6,148	806	_	6	124	_	7,084
Derivative financial instruments	3,559	800	-	Ü	124	-	3,559
Loans and borrowings	1,595	3,141	-	-	-	-	4,736
Related parties	1,168	5,601	-	4	1	-	6,774
helateu parties				10	125		
	12,470	9,548		10	125		22,153
Non-current	4 745						4 7 4 5
Derivative financial instruments	4,745	-	-	-	-	-	4,745
Loans and borrowings	18,534	30,820	-	-	6,632	-	55,986
Related parties	3,912	59,925	-	-	-	-	63,837
Participative stockholders' debentures	1,336	-	-	-	-	-	1,336
Others	551	<u> </u>	-	-			551
	29,078	90,745		<u>-</u>	6,632		126,455
Total of liabilities	41,548	100,293	-	10	6,757		148,608

						P	arent Company
						Dece	ember 31, 2014
						Others	
Financial assets	R\$	US\$	CAD	AUD	EUR	currencies	Total
Current							
Cash and cash equivalents	667	18	-	-	-	-	685
Financial investments	392	-	-	-	-	-	392
Derivative financial instruments	370	-	-	-	-	-	370
Accounts receivable	4,795	25,787	-	-	17	-	30,599
Related parties	1,951	276	-	-	-	-	2,227
	8,175	26,081		-	17	-	34,273
Non-current							
Derivative financial instruments	29	-	-	-	-	-	29
Loans	90	14	_	-	_	-	104
Related parties	902	-	-	-	-	-	902
·	1,021	14	-	-	-	-	1,035
Total of assets	9,196	26,095	-	-	17	-	35,308
Financial liabilities							
Current							
Suppliers and contractors	5,764	985	2	1	65	1	6,818
Derivative financial instruments	948	-	-	-	-	-	948
Loans and borrowings	1,111	1,548	-	-	194	-	2,853
Related parties	261	4,679	3	12	586	81	5,622
	8,084	7,212	5	13	845	82	16,241
Non-current							
Derivative financial instruments	3,866	-	-	-	-	-	3,866
Loans and borrowings	14,387	19,314	-	-	4,841	-	38,542
Related parties	434	43,172	-	-	_	-	43,606
Participative stockholders' debentures	4,584	-	-	-	-	-	4,584
Others	303	-	-	-	-	-	303
	23,574	62,486	_	-	4,841	-	90,901
Total of liabilities	31,658	69,698	5	13	5,686	82	107,142
	,,,,,				-,,,		



## 23. Fair value estimate

Due to the short-term cycle, it is assumed that the fair value of cash and cash equivalents balances, financial investments, accounts receivable and accounts payable approximate their book values. For the measurement and determination of fair value, the Company uses various methods including market, income or cost approaches, in order to estimate the value that market participants would use when pricing the asset or liability. The financial assets and liabilities recorded at fair value classified and disclosed in accordance with the following levels:

**Level 1** – unadjusted quoted prices on an active, liquid and visible market for identical assets or liabilities that are accessible at the measurement date;

Level 2 - quoted prices (adjusted or unadjusted) for identical or similar assets or liabilities on active markets; and

Level 3 - assets and liabilities, for which quoted prices, do not exist, or where prices or valuation techniques are supported by little or no market activity, unobservable or illiquid.

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

#### Consolidated

		Dec	ember 31, 2015	December 31, 2014			
	Level 2	Level 3	Total	Level 2	Level 3	Total	
Financial assets							
Derivative financial instruments	837	-	837	672	-	672	
Total	837	-	837	672	-	672	
Financial liabilities							
Derivative financial instruments	13,688	-	13,688	8,036	-	8,036	
Participative stockholders' debentures	1,336	-	1,336	4,584	-	4,584	
Others (minimum return instrument)	-	551	551	-	303	303	
Total	15,024	551	15,575	12,620	303	12,923	

					P	arent Company	
		Dec	ember 31, 2015		Decembe		
	Level 2	Level 3	Total	Level 2	Level 3	Total	
Financial assets							
Derivative financial instruments	489	-	489	399	-	399	
Total	489	<u>-</u> [	489	399	-	399	
Financial liabilities							
Derivative financial instruments	8,304	-	8,304	4,814	-	4,814	
Participative stockholders' debentures	1,336	-	1,336	4,584	-	4,584	
Others (minimum return instrument)	-	551	551		303	303	
Total	9,640	551	10,191	9,398	303	9,701	



#### Methods and techniques of evaluation

## i) 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 to 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.

- ii) Participative stockholders' debentures Consist of the debentures issued during the privatization process (note 29(b)), whose fair values are measured based on the market approach. Reference prices are available on the secondary market.
- **iii) Minimum return instrument** Refers to a minimum return instrument held by Brookfield which under certain conditions can generate a disbursement obligation to Vale at the end of the sixth year of the completion of the acquisition of interest in VLI (note 6(i)). The Company used internal assumptions in a probability model to calculate the fair value of this instrument.

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

The fair value estimate for level 1 is based on market approach considering the secondary market contracts. For loans allocated to level 2, the income approach is adopted and the fair value for both fixed-indexed rate debt and floating rate debt is determined on a discounted cash flows basis using LIBOR future values and Vale's bonds curve.

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

			C	onsolidated			Parer	nt Company
Financial liabilities	Balance	Fair value	Level 1	Level 2	Balance	Fair value	Level 1	Level 2
December 31, 2015								
Debt principal	110,231	102,434	48,017	54,417	59,585	58,227	11,783	46,444
December 31, 2014								
Debt principal	75,356	78,302	42,077	36,225	40,782	46,886	9,953	36,933



# 24. Derivative financial instruments

# a) Derivatives effects on balance sheet

				Consolidated
				Assets
		December 31, 2015		December 31, 2014
	Current	Non-current	Current	Non-current
Derivatives designated as economic hedge				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	269	-	364	29
IPCA swap	7	64	18	-
Eurobonds swap	-	-	-	109
Pre dollar swap	-		5	-
	276	64	387	138
Commodities price risk				
Nickel	198	41	54	7
	198	41	54	7
Others	-	258	-	86
	=	258	-	86
Total	474	363	441	231

				Consolidated
				Liabilities
		December 31, 2015		December 31, 2014
	Current	Non-current	Current	Non-current
Derivatives designated as economic hedge				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	3,119	4,419	1,173	3,599
IPCA swap	82	393	-	167
Eurobonds swap	572	111	24	238
Pre dollar swap	364	280	81	262
	4,137	5,203	1,278	4,266
Commodities price risk				
Nickel	153	42	60	7
Bunker oil (i)	3,609	-	1,201	_
	3,762	42	1,261	7
Others	-	336	-	-
	-	336	-	
Derivatives designated as cash flow hedge accounting				
Bunker oil (i)	198	-	1,152	-
Foreign exchange	10	-	69	3
	208	-	1,221	3
Total	8,107	5,581	3,760	4,276

<sup>(</sup>i) As at December 31, 2015 and 2014, includes R\$397 and R\$402, respectively, of transactions in which the financial settlement occurs subsequently of the closing month.



				Parent Company			
			A				
		December 31, 2015	December 31, 20				
	Current	Non-current	Current	Non-current			
Derivatives designated as economic hedge							
Foreign exchange and interest rate risk							
CDI & TJLP vs. US\$ fixed and floating rate swap	193	-	354	29			
IPCA swap	3	64	11	=			
Pre dollar swap	-	-	5	-			
	196	64	370	29			
Others	-	229	-	=			
Total	196	293	370	29			

				Parent Company
				Liabilities
		December 31, 2015		December 31, 2014
	Current	Non-current	Current	Non-current
Derivatives designated as economic hedge				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	3,112	3,943	867	3,535
IPCA swap	82	186	-	70
Pre dollar swap	365	280	81	261
	3,559	4,409	948	3,866
Others		336		
Total	3,559	4,745	948	3,866

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

								Con	solidated
							Yea	r ended Dece	ember 31
	Gain (I	oss) recogni	zed in the		Financial so	ettlement	Gain(los	s) recognized	l in other
		income	statement		inflows(	outflows)	comprehensive income		
	2015	2014	2013	2015	2014	2013	2015	2014	2013
Derivatives designated as economic hedge									
Foreign exchange and interest rate risk									
CDI & TJLP vs. US\$ fixed and floating rate swap	(3,644)	(1,160)	(1,961)	(867)	(51)	(385)	-	-	-
IPCA swap	(167)	(142)	-	20	-	-	-	-	-
Eurobonds swap	(353)	(385)	209	(39)	24	(10)	-	-	-
Pre dollar swap	(462)	(73)	(120)	(158)	16	33		-	-
	(4,626)	(1,760)	(1,872)	(1,044)	(11)	(362)	-	-	-
Commodities price risk									
Nickel	(166)	21	(4)	(212)	29	(9)	-	-	-
Bunker oil	(2,662)	(1,372)	(129)	(866)	(236)	(141)		-	-
	(2,828)	(1,351)	(133)	(1,078)	(207)	(150)	-	-	-
Others	(494)	(10)	(123)	-		1	-	-	-
	(494)	(10)	(123)	-	-	1	-	- 1	-
Derivatives designated as cash flow hedge accounting									
Bunker oil	(1,483)	(203)	(92)	(1,513)	(203)	(92)	1,409	(1,067)	(14)
Nickel	-	-	27	-	-	26	-	-	(26)
Foreign exchange	(136)	(100)	(28)	(136)	(100)	(28)	66	27	(54)
	(1,619)	(303)	(93)	(1,649)	(303)	(94)	1,475	(1,040)	(94)
Total	(9,567)	(3,424)	(2,221)	(3,771)	(521)	(605)	1,475	(1,040)	(94)

Related to the effects of derivatives in the income statement, the Company recognized as cost of goods sold and services rendered and financial expense the amounts of R\$1,483 and R\$8,084, respectively, for the year ended December 2015.



						Parent company	
					Year	ended December 31	
	Gain (loss) reco	gnized in the	Finan	cial settlement	Gain(loss) recognized in other		
	incor	ne statement	inf	lows(outflows)	cor	nprehensive income	
	2015	2014	2015	2014	2015	2014	
Derivatives designated as economic hedge							
Foreign exchange and interest rate risk							
CDI & TJLP vs. US\$ fixed and floating rate swap	(3,467)	(1,119)	(622)	(96)	-	-	
IPCA swap	(132)	(59)	11	-	-	-	
Pre dollar swap	(465)	(72)	(158)	15			
	(4,064)	(1,250)	(769)	(81)	-	-	
Others	(413)					-	
	(413)	-	-	-	-	-	
Cash flow hedge accounting from entities							
Bunker oil	-	-	-	-	1,409	(1,067)	
Foreign exchange		-			66	27	
	-	-		-	1,475	(1,040)	
Total	(4,477)	(1,250)	(769)	(81)	1,475	(1,040)	

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

	Maturity dates
Currencies and interest rates	July 2023
Bunker oil	December 2016
Nickel	February 2018
Others	December 2027

#### Additional information about derivatives financial instruments

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

There was no cash amount deposited as margin call regarding derivative positions on December 31, 2015. The derivative positions described in this document did not have initial costs associated.

The following tables detail the derivatives positions for Vale and its controlled companies as of December 31, 2015, 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.



						Financial settlement					
Noti	onal			Fairv	alue	Inflows (Outflows)	Value at Risk		Fair value b	y year	
December 31, 2015	December 31, 2014	Index	Average rate	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016	2017	2018	2019+
				(3.059)	(1.453)	(374)	158	(1.920)	(199)	(940)	-
RŚ 5.239	R\$ 4.511	CDI	108.33%	(-,,	(,,,	(- ,		,,,,,,	, ,		
US\$ 2,288	US\$ 2,284	Fix	3.39%								
				_	(220)	(203)	_	_	_		
_	R\$ 428	CDI	0.00%		(220)	(200)					
-	US\$ 250	Libor+	0.00%								
				(3 965)	(2 531)	(339)	263	(913)	(1 112)	(552)	(1,388)
R\$ 5 484	R\$ 6 247	TII P +	1 32%	(5)505)	(2)552)	(555)	200	(323)	(-))	(332)	(2)500)
US\$ 2,611	US\$ 3,051	Fix	1.69%								
				(245)	(175)	(4)	16	(17)	(22)	(26)	(179)
D¢ 267	DÇ 20E	TUD	0.039/	(243)	(1/5)	(4)	10	(17)	(23)	(20)	(179)
US\$ 156	US\$ 173	Libor +	-1.21%								
				()	()	()		f= = -1	<b>()</b>		f== -1
•				(644)	(337)	(155)	73	(364)	(36)	10	(254)
US\$ 528	US\$ 395	FIX	-0.74%								
				(411)	(150)	19	41	6	4	1	(422)
R\$ 1,000	R\$ 1,000	IPCA+	6.55%								
US\$ 434	US\$ 434	Fix	3.98%								
				6	-	-	1	(81)	(82)	(60)	230
R\$ 1,350	R\$ 0	IPCA+	6.62%					(==)	(/	,,	
R\$ 1,350	US\$ 0	CDI	98.58%								
	R\$ 5,484 US\$ 2,611  R\$ 267 US\$ 156  R\$ 247 US\$ 156  WAP  R\$ 1,356 US\$ 434  R\$ 1,350	US\$ 2,288  - R\$ 428 - US\$ 250  R\$ 5,484 R\$ 6,247 US\$ 2,611 US\$ 3,051  R\$ 267 R\$ 295 US\$ 156 US\$ 173  WAP  R\$ 1,356 R\$ 735 US\$ 528 US\$ 395  R\$ 1,000 R\$ 1,000 US\$ 434 US\$ 434	R\$ 5,239	December 31, 2015         December 31, 2014         Index         Average rate           R\$ 5,239         R\$ 4,511         CDI         108.33%           US\$ 2,288         US\$ 2,284         Fix         3.39%           -         R\$ 428         CDI         0.00%           -         US\$ 250         Libor +         0.00%           -         US\$ 2,611         US\$ 3,051         Fix         1.69%           -         R\$ 267         R\$ 295         TJLP +         1.32%           US\$ 156         US\$ 173         Libor +         -1.21%           Owap         R\$ 1,356         R\$ 735         Fix         6.82%           US\$ 528         US\$ 395         Fix         -0.74%           R\$ 1,000         R\$ 1,000         IPCA +         6.55%           US\$ 434         US\$ 434         Fix         3.98%	December 31, 2015   December 31, 2014   Index	December 31, 2015   December 31, 2014   Index	Pair   Pair	Part   Part	Pair   Pair	Pair   Pair	Potentify   Pot

## (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.

		Financial settlement										
Notional					Fair	<i>r</i> alue	Inflows (Outflows)	Value at Risk	1	Fair value b	y year	
Flow	December 31, 2015	December 31, 2014	Index	Average rate	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016	2017	2018	2019+
									•	·		
EUR fixed rate vs. US\$ fixed rat	e swap				(683)	(154)	(38)	56	(572)	(20)	(17)	(74)
Receivable	€1,000	€1,000	Fix	4.06%								
Payable	US\$ 1,302	US\$ 1,302	Fix	4.51%								

## (iii) Foreign exchange hedging program for disbursements in CAD

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

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

							Financial settlement		Fair value
	Noti	onal			Fair	<i>r</i> alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average rate					
Flow	December 31, 2015	December 31, 2014	Sold	(CAD / USD)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016
Forward	CAD 10	CAD 230	В	1.028	(10)	(73)	-	0.3	(10)

#### b) Commodities derivative positions

# (i) Bunker Oil purchase cash flows protection program

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

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



							Financial Settlement		Fair value
	Notiona	al (ton)			Fair v	alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average strike					
Flow	December 31, 2015	December 31, 2014	Sold	(US\$/ton)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016
<b>Bunker Oil protection</b>									
Forwards	1,867,500	2,205,000	В	508	(2,252)	(964)	(586)	42	(2,252)
Call options	2,041,500	-	В	385	0.1		-	0.03	0.1
Put options	2,041,500	-	S	314	(1,158)	-	(228)	40	(1,158)
Total					(3,410)	(964)			(3,410)
Bunker Oil hedge									
Forwards	0	1,950,000	В	0	-	(987)	(1,491)	-	-

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

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

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

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

							Financial Settlement				
	Notional (ton)					Fair value		Value at Risk	Fair	alue by yea	er
			Bought /	Average strike			·				
Flow	December 31, 2015	December 31, 2014	Sold	(US\$/ton)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016	2017	2018
Fixed prices sales protection											
Nickel forwards	16,917	11,264	В	11,821	(180)	(65)	(215)	19	(144)	(37)	0
Raw materials purchase prote	ection										
Nickel forwards	118	140	S	9,603	0.4	0.4	2.9	0.1	0.4	-	-
Copper forwards	385	360	S	4,938	0.4	0.3	2.2	0.1	0.4	-	-
Total					0.7	0.7			0.7	-	-

## c) Silver Wheaton Corp. warrants

The company owns warrants of Silver Wheaton Corp. (SLW), a Canadian company with stocks negotiated in Toronto Stock Exchange and New York Stock Exchange. Such warrants configure American call options and were received as part of the payment regarding the sale of 25% of gold payable flows produced as a sub product from Salobo copper mine during its life and 70% of gold payable flows produced as a sub product from some nickel mines in Sudbury during 20 years.

							Financial Settlement		Fair value
	Notional (	quantity)			Fair v	alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average strike					
Flow	December 31, 2015	December 31, 2014	Sold	(US\$/share)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2023
Call options	10,000,000	10,000,000	В	65	28	86	_	2	28



## d) Call options from debentures

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

							Financial Settlement		Fair value
	Notional (	quantity)			Fair v	alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average strike					
Flow	December 31, 2015	December 31, 2014	Sold	(R\$/share)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2027
Call options	140,239	-	S	8,570	(152)	-	-	9	(152)

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

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

							Financial Settlement		Fair value
	Notional (quant	ity, in millions)			Fair v	alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average strike					
Flow	December 31, 2015	December 31, 2014	Sold	(R\$/ação)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016+
Options	2,139	-	B/S	1.8	57	_	-	23	57

#### f) Embedded derivatives in commercial contracts

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

							Financial Settlement		Fair value
	Notiona	al (ton)			Fair v	alue	Inflows (Outflows)	Value at Risk	by year
			Bought /	Average strike					
Flow	December 31, 2015	December 31, 2014	Sold	(US\$/ton)	December 31, 2015	December 31, 2014	December 31, 2015	December 31, 2015	2016
Nickel Forward	3,877	4,491	S	9,468	11.7	(1.5)			9.0
Copper Forward	5,939	6,310	S	4,961	7.7	3.0			1.2
Total					19.4	1.5	-	6.5	10.2

The Company has also a natural gas purchase agreement in which there's a clause that defines that a premium can be charged if the Company's pellet sales prices trade above a pre-defined level. This clause is considered an embedded derivative and both his fair value and value at risk were not material as of December 31, 2015.

## g) Sensitivity analysis of derivative financial instruments

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

- Scenario I: fair value calculation considering market prices as of December 31, 2015
- Scenario II: fair value estimated considering a 25% deterioration in the associated risk variables
- Scenario III: fair value estimated considering a 50% deterioration in the associated risk variables



Instrument	Instrument's main risk events	Scenario I	Scenario II	Scenario III
	-4.1	<b>()</b>	(= )	(=)
CDI vs. US\$ fixed rate swap	R\$ depreciation	(3,059)	(5,345)	(7,632)
	US\$ interest rate inside Brazil decrease	(3,059)	(3,116)	(3,174)
	Brazilian interest rate increase	(3,059)	(3,075)	(3,091)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
THE Date LIST Street water street	PĆ domuosiotion	(2.065)	(C 421)	(8,898)
TJLP vs. US\$ fixed rate swap	R\$ depreciation	(3,965)	(6,431)	
	US\$ interest rate inside Brazil decrease	(3,965)	(4,125)	(4,296)
	Brazilian interest rate increase	(3,965)	(4,273)	(4,543)
Dueto de ditama DÓ de manaine de de la	TJLP interest rate decrease	(3,965)	(4,126)	(4,298)
Protected item: R\$ denominated debt		n.a.	-	-
TJLP vs. US\$ floating rate swap	R\$ depreciation	(245)	(383)	(521)
	USS interest rate inside Brazil decrease	(245)	(259)	(275)
	Brazilian interest rate increase	(245)	(264)	(281)
	TJLP interest rate decrease	(245)	(255)	(266)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	(233)	(200)
Trocested items by demonstrated desc	depresident			
R\$ fixed rate vs. US\$ fixed rate swap	R\$ depreciation	(644)	(1,165)	(1,686)
	US\$ interest rate inside Brazil decrease	(644)	(702)	(766)
	Brazilian interest rate increase	(644)	(760)	(855)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IDCA LICÉ Sue di mate access	DĆ doprociation	(411)	(071)	/1 221\
IPCA vs. US\$ fixed rate swap	R\$ depreciation  US\$ interest rate inside Brazil decrease	(411)	(871)	(1,331)
	Brazilian interest rate increase	(411)	(448)	(489)
		(411)	(519)	(613)
Duration and the new PC days are tracked district.	IPCA index decrease	(411)	(469)	(525)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IPCA vs. CDI swap	Brazilian interest rate increase	6	(152)	(286)
·	IPCA index decrease	6	(78)	(158)
Protected item: R\$ denominated debt linked to IPCA	IPCA index decrease	n.a.	78	158
EUR fixed rate vs. US\$ fixed rate swap	EUR depreciation	(683)	(1,908)	(3,134)
	Euribor increase	(683)	(839)	(730)
	US\$ Libor decrease	(683)	(765)	(853)
Protected item: EUR denominated debt	EUR depreciation	n.a.	1,908	3,134
CAD Forward	CAD depreciation	(10)	(20)	(29)
Protected item: Disbursement in CAD	CAD depreciation	n.a.	20	29
Frotected item. Disbursement in CAD	CAD depreciation	II.d.	20	29

Instrument	Instrument's main risk events	Scenario I	Scenario II	Scenario III
			•	
Bunker Oil protection				
Forwards and options	Bunker Oil price decrease	(3,410)	(4,052)	(4,695)
Protected item: Part of costs linked to bunker oil prices	Bunker Oil price decrease	n.a.	4,052	4,695
Bunker Oil hedge				
Forwards	Bunker Oil price decrease	-	-	-
Protected item: Part of costs linked to bunker oil prices	Bunker Oil price decrease	n.a.	-	-
Nickel calcoffined union protection				
Nickel sales fixed price protection	Nichal agina de sons e	(4.00)	(226)	(474)
Forwards	Nickel price decrease	(180)	(326)	(471)
Protected item: Part of nickel revenues with fixed prices	Nickel price fluctuation	n.a.	326	471
Purchase protection program				
Nickel forwards	Nickel price increase	0.4	(0.6)	(1.7)
Protected item: Part of costs linked to nickel prices	Nickel price increase	n.a.	0.6	1.7
Copper forwards	Copper price increase	0.4	(1.4)	(3.2)
Protected item: Part of costs linked to copper prices	Copper price increase	n.a.	1.4	3.2
SLW warrants	SLW stock price decrease	28	12	1
VLI call options	VLI stock value increase	(152)	(244)	(335)
Options regarding non-controlling interest in subsidiary	Subsidiary stock value increase	57	(110)	(229)



Instrument	Main risks	Scenario I	Scenario II	Scenario III
Embedded derivatives - Raw material purchase (nickel)	Nickel price increase	12	(21)	(54)
Embedded derivatives - Raw material purchase (copper)	Copper price increase	8	(19)	(46)

# h) Financial counterparties' ratings

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

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 December 31, 2015.

Long term ratings by counterparty	Moody's	S&P
ANZ Australia and New Zealand Banking	Aa2	AA-
Banco Bradesco	Baa3	BB+
Banco de Credito del Peru	Baa1	BBB
Banco do Brasil	Baa3	BB+
Banco do Nordeste	Ba1	BB+
Banco Safra	Baa3	BB+
Banco Santander	Baa3	BB+
Banco Votorantim	Ba1	BB+
Bank of America	Baa1	BBB+
Bank of Nova Scotia	Aa2	A+
Bank of Tokyo Mitsubishi UFJ	A2	Α
Banpara	Ba3	BB
Barclays	Baa3	BBB
BBVA	A3	BBB+
BNP Paribas	A1	A+
BTG Pactual	Ba2	BB-

Long term ratings by counterparty	Moody's	S&P
Caixa Economica Federal	Baa3	BB+
Citigroup	Baa1	BBB+
Credit Agricole	A2	Α
Deutsche Bank	A3	BBB+
Goldman Sachs	A3	BBB+
HSBC	A1	Α
Intesa Sanpaolo Spa	Baa1	BBB-
Itau Unibanco	Ba1	BB+
JP Morgan Chase & Co	A3	A-
Macquarie Group Ltd	A3	BBB
Morgan Stanley	A3	BBB+
National Australia Bank NAB	Aa2	AA-
Royal Bank of Canada	Aa3	AA-
Societe Generale	A2	Α
Standard Bank Group	Baa3	-
Standard Chartered	Aa3	A-



# i) Market curves

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

# (i) Products

Nickel					
Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	8,665	JUN16	8,857	DEC16	8,907
JAN16	8,793	JUL16	8,868	DEC17	9,007
FEB16	8,807	AUG16	8,878	DEC18	9,106
MAR16	8,820	SEP16	8,885	DEC19	9,166
APR16	8,831	OCT16	8,892		
MAY16	8,846	NOV16	8,900		

Copper					
Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)
SPOT	2.14	JUN16	2.13	DEC16	2.13
JAN16	2.14	JUL16	2.13	DEC17	2.14
FEB16	2.14	AUG16	2.13	DEC18	2.15
MAR16	2.14	SEP16	2.13	DEC19	2.16
APR16	2.13	OCT16	2.13		
MAY16	2.13	NOV16	2.13		

Bunker Oil					
Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	160	JUN16	181	DEC16	209
JAN16	162	JUL16	186	DEC17	249
FEB16	164	AUG16	191	DEC18	301
MAR16	167	SEP16	196	DEC19	374
APR16	171	OCT16	201		
MAY16	176	NOV16	205		



# (ii) Foreign exchange and interest rates

# US\$-Brazil Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
02/01/16	2.03	12/01/16	4.07	10/01/18	4.27
03/01/16	2.28	01/02/17	4.15	01/02/19	4.28
04/01/16	2.63	02/01/17	4.13	04/01/19	4.19
05/02/16	2.79	03/01/17	4.16	07/01/19	4.18
06/01/16	3.00	04/03/17	4.26	10/01/19	4.23
07/01/16	3.24	07/03/17	4.26	01/02/20	4.31
08/01/16	3.55	10/02/17	4.22	04/01/20	4.26
09/01/16	3.80	01/02/18	4.35	07/01/20	4.25
10/03/16	3.96	04/02/18	4.18	10/01/20	4.17
11/01/16	4.05	07/02/18	4.36	01/04/21	4.43

# US\$ Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	0.43	6M	0.78	11M	0.86
2M	0.51	7M	0.80	12M	0.86
3M	0.61	8M	0.82	2Y	1.19
4M	0.69	9M	0.84	3Y	1.45
5M	0.75	10M	0.85	4Y	1.64

# TJLP

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
02/01/16	7.00	12/01/16	7.00	10/01/18	7.00
03/01/16	7.00	01/02/17	7.00	01/02/19	7.00
04/01/16	7.00	02/01/17	7.00	04/01/19	7.00
05/02/16	7.00	03/01/17	7.00	07/01/19	7.00
06/01/16	7.00	04/03/17	7.00	10/01/19	7.00
07/01/16	7.00	07/03/17	7.00	01/02/20	7.00
08/01/16	7.00	10/02/17	7.00	04/01/20	7.00
09/01/16	7.00	01/02/18	7.00	07/01/20	7.00
10/03/16	7.00	04/02/18	7.00	10/01/20	7.00
11/01/16	7.00	07/02/18	7.00	01/04/21	7.00



# **BRL Interest Rate**

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
02/01/16	14.34	12/01/16	15.82	10/01/18	16.70
03/01/16	14.48	01/02/17	15.88	01/02/19	16.71
04/01/16	14.75	02/01/17	15.98	04/01/19	16.71
05/02/16	15.01	03/01/17	16.05	07/01/19	16.71
06/01/16	15.14	04/03/17	16.14	10/01/19	16.70
07/01/16	15.19	07/03/17	16.33	01/02/20	16.68
08/01/16	15.39	10/02/17	16.48	04/01/20	16.67
09/01/16	15.55	01/02/18	16.53	07/01/20	16.65
10/03/16	15.67	04/02/18	16.63	10/01/20	16.64
11/01/16	15.75	07/02/18	16.69	01/04/21	16.62

# Implicit Inflation (IPCA)

	/				
Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
02/01/16	7.70	12/01/16	9.08	10/01/18	9.06
03/01/16	7.83	01/02/17	9.14	01/02/19	9.01
04/01/16	8.08	02/01/17	9.15	04/01/19	8.96
05/02/16	8.32	03/01/17	9.16	07/01/19	8.92
06/01/16	8.45	04/03/17	9.17	10/01/19	8.87
07/01/16	8.50	07/03/17	9.20	01/02/20	8.83
08/01/16	8.69	10/02/17	9.19	04/01/20	8.78
09/01/16	8.84	01/02/18	9.14	07/01/20	8.75
10/03/16	8.95	04/02/18	9.14	10/01/20	8.71
11/01/16	9.02	07/02/18	9.12	01/04/21	8.68

# **EUR Interest Rate**

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	-0.21	6M	-0.08	11M	-0.06
2M	-0.16	7M	-0.07	12M	-0.06
3M	-0.13	8M	-0.07	2Y	0.03
4M	-0.11	9M	-0.06	3Y	0.06
5M	-0.09	10M	-0.06	4Y	0.19

# **CAD Interest Rate**

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	0.88	6M	0.96	11M	0.81
2M	0.87	7M	0.92	12M	0.79
3M	0.87	8M	0.88	2Y	0.83
4M	0.92	9M	0.85	3Y	0.95
5M	0.95	10M	0.83	4Y	1.08

# Currencies - Ending rates CAD/US\$ 0.7212 US\$/BRL 3.9048 EUR/US\$ 1.0934



# 25. Stockholders' equity

# a) Share capital

Stockholders' equity is represented by common shares ("ON") and preferred non-redeemable shares ("PNA") without par value. Preferred shares have the same rights as common shares, with the exception of voting rights to elect members of the Board of Directors. The Board of Directors may, regardless of changes to bylaws, issue new shares (authorized capital), including the capitalization of profits and reserves to the extent authorized.

At December 31, 2015 and 2014, the share capital was R\$77,300 corresponding to 5,244,316,120 shares issued and fully paid without par value.

			December 31, 2015
Stockholders	ON	PNA	Total
Valepar S.A.	1,716,435,045	20,340,000	1,736,775,045
Brazilian Government (Golden Share)	-	12	12
Foreign investors - ADRs	814,888,084	664,356,644	1,479,244,728
FMP - FGTS	80,275,389	-	80,275,389
PIBB - BNDES	1,391,867	1,546,759	2,938,626
BNDESPar	206,378,882	66,185,272	272,564,154
Foreign institutional investors in local market	250,366,203	659,351,871	909,718,074
Institutional investors	77,393,251	146,982,509	224,375,760
Retail investors in Brazil	38,524,279	408,958,859	447,483,138
Shares outstanding	3,185,653,000	1,967,721,926	5,153,374,926
Shares in treasury	31,535,402	59,405,792	90,941,194
Total issued shares	3,217,188,402	2,027,127,718	5,244,316,120
Amounts per class of shares (in millions)	47,421	29,879	77,300
			40.000.000
Total authorized shares	7,200,000,000	3,600,000,000	10,800,000,000

#### b) Profit reserves

The amount of profit reserves are distributed as follow:

	Investments reserve	Legal reserve	Tax incentive reserve	Total of profit reserves
Balance on December 31, 2013	58,725	8,084	2,453	69,262
Capitalization of reserves	(28)	-	(2,272)	(2,300)
Cancellation of treasury stock	(5,092)	-	-	(5,092)
Realization of reserves	(8,994)	-	-	(8,994)
Allocation of income	-	47	162	209
Balance on December 31, 2014	44,611	8,131	343	53,085
Dividends and interest on capital of Vale's stockholders	(5,026)	-	-	(5,026)
Allocation of loss	(39,585)	(4,285)	(343)	(44,213)
Balance on December 31, 2015		3,846		3,846

**Investment reserve** - aims to ensure the maintenance and development of activities that comprise the Company's operations in an amount not exceeding 50% of distributable annual net income, limited to the total capital.

**Legal reserve** - is a requirement for all Brazilian public companies and represents the appropriation of 5% of annual net income based on Brazilian law, up to 20% of the capital.

**Tax incentive reserve** - results from the option to designate a portion of the income tax for investments in projects approved by the Brazilian Government as well as tax incentives (note 20).



# c) Unrealized fair value gain (losses)

	Retirement benefit obligations	Cash flow hedge	Available-for-sale financial instruments	Conversion shares	Total gain (losses)
Balance December 31, 2013	(1,605)	(108)	(4)	(1,098)	(2,815)
Other comprehensive income	(453)	(1,044)	-	-	(1,497)
Translation adjustment	(187)	(52)	-	(2)	(241)
Balance December 31, 2014	(2,245)	(1,204)	(4)	(1,100)	(4,553)
Other comprehensive income	260	1,458	2	-	1,720
Translation adjustment	(758)	(279)	(2)	(1)	(1,040)
Balance December 31, 2015	(2,743)	(25)	(4)	(1,101)	(3,873)

# d) Basic and diluted earnings per share

Basic and diluted earnings per share are as follows:

		nded December 31	
	2015	2014	2013
Net income (loss) attributable to Vale's stockholders	(44,213)	954	115
Basic and diluted earnings per share:			
Income (loss) available to preferred stockholders	(16,882)	364	43
Income (loss) available to common stockholders	(27,331)	590	72
Total	(44,213)	954	115
Weighted average number of shares outstanding (thousands of shares) - preferred shares	1,967,722	1,967,722	1,967,722
Weighted average number of shares outstanding (thousands of shares) - common shares	3,185,653	3,185,653	3,185,653
Total	5,153,375	5,153,375	5,153,375
Basic and diluted earnings per share			
Preferred share	(8.58)	0.19	0.02
Common share	(8.58)	0.19	0.02

# e) Remuneration to the Company's stockholders

Vale's by-laws determine the minimum remuneration to stockholders of 25% of net income, after adjustments from Brazil's legal requirements. The minimum remuneration includes the rights of stockholders Class "A" of preferred shares which provides priority to receive of 3% of the equity or 6% on the portion of capital formed by these classes of shares, whichever higher.

The proposal of stockholders' remuneration was calculated as follows:

	2015
Loss	(44,213)
Realization of reserves	5,026
Allocation of loss	44,213
	5,026
Remuneration:	
Mandatory minimum (includes the rights of the preferred shares)	-
Additional remuneration	5,026
	5,026
Remuneration by nature:	
Interest on capital	3,101
Dividends	1,925
	5,026
Total remuneration per share	0.975370524



The amounts paid to stockholders, by nature of remuneration, are as follows:

	Dividends	Interest on capital	Total	Amount per share
Amounts paid in 2013				
First installment - April	792	3,661	4,453	0.864045420
Second installment - October	621	4,245	4,866	0.944337462
Total	1,413	7,906	9,319	
Amounts paid in 2014				
First installment - April	-	4,632	4,632	0.898904129
Second installment - October	1,752	3,355	5,107	0.990876867
Total	1,752	7,987	9,739	
Amounts paid in 2015				
First installment - April	-	3,101	3,101	0.601760991
Second installment - October	1,925	-	1,925	0.373609533
Total	1,925	3,101	5,026	

In January, 2016 (subsequent event), Vale announced that, in compliance with its dividend policy and due to price volatility in mineral commodities, the Executive Board has approved and will submit to the Board of Directors a proposal for a minimum dividend equal to zero for 2016. As the scenario is clearly defined and there is sufficient cash flow, the Board of Directors may decide on the distribution of remuneration to shareholders.

# 26. Costs and expenses by nature

# a) Cost of goods sold and services rendered

				Year e	ended December 31	
		Consolidated				
	2015	2014	2013	2015	2014	
Personnel	7,770	7,273	7,060	3,597	3,228	
Material and service	12,834	12,775	13,236	5,619	5,951	
Fuel oil and gas	4,339	3,842	3,889	2,590	2,481	
Maintenance	8,754	5,652	4,098	5,397	4,579	
Energy	1,892	1,416	1,430	926	674	
Acquisition of products	2,531	3,800	3,056	684	1,071	
Depreciation and depletion	11,803	9,086	8,031	4,147	3,291	
Freight	11,877	8,514	6,979	=	-	
Others	6,858	6,729	4,732	4,562	4,818	
Total	68,658	59,087	52,511	27,522	26,093	
Cost of goods sold	66,933	56,863	48,450	26,467	24,693	
Cost of services rendered	1,725	2,224	4,061	1,055	1,400	
Total	68,658	59,087	52,511	27,522	26,093	

# b) Selling and administrative expenses

				Year e	nded December 31	
			Consolidated	Parent Company		
	2015	2014	2013	2015	2014	
Personnel	870	1,030	1,062	509	597	
Services (consulting, infrastructure and others)	378	465	722	194	292	
Advertising and publicity	39	97	97	30	85	
Depreciation and amortization	445	522	413	321	330	
Travel expenses	37	56	40	19	31	
Taxes and rents	52	66	54	22	18	
Others	322	367	416	46	88	
Total	2,143	2,603	2,804	1,141	1,441	



# c) Others operational expenses (incomes), net

				Year ende	ed December 31	
			Consolidated	Parent Company		
	2015	2014	2013	2015	2014	
Provision for litigation	111	417	(225)	(53)	484	
Provision for loss with VAT credits (ICMS)	728	338	383	767	593	
Provision for profit sharing program	64	299	471	41	227	
Provision for disposal of materials and inventories (i)	505	476	348	74	37	
Gold stream transaction	(722)	-	(492)	-	-	
VAT – settlement program	-	-	389	-	-	
Results on sale or disposal of property, plant and equipment and intangible	295	232	213	165	198	
Fundação Vale S.A.	40	33	57	41	34	
Others (ii)	(435)	765	1,013	(1,107)	423	
Total	586	2,560	2,157	(72)	1,996	

<sup>(</sup>i) Includes depreciation in the amount of R\$200 for the year ended December 31, 2015.

# 27. Financial result

_					
			Consolidated		Parent Company
Financial expenses	2015	2014	2013	2015	2014
Loans and borrowings gross interest	(5,518)	(4,080)	(3,398)	(5,295)	(3,449)
Capitalized loans and borrowing costs	2,531	1,387	519	1,258	738
Labor, tax and civil lawsuits	(193)	(218)	(242)	(127)	(206)
Derivative financial instruments	(11,969)	(4,885)	(3,031)	(7,471)	(2,496)
Indexation and exchange rate variation (a)	(46,887)	(11,716)	(10,056)	(45,899)	(9,711)
Participative stockholders' debentures	3,039	(665)	(800)	3,039	(665)
Expenses of REFIS	(1,795)	(1,603)	(6,039)	(1,758)	(1,570)
Others	(1,913)	(1,640)	(1,190)	(697)	(1,136)
	(62,705)	(23,420)	(24,237)	(56,950)	(18,495)
Financial income					
Short-term investments	552	449	224	276	322
Derivative financial instruments	3,885	1,461	810	2,994	1,246
Indexation and exchange rate variation (b)	21,376	6,271	3,572	22,445	5,599
Others	354	486	1,189	107	212
	26,167	8,667	5,795	25,822	7,379
Financial results, net	(36,538)	(14,753)	(18,442)	(31,128)	(11,116)
Summary of indexation and exchange rate variation					
Loans and borrowings	(34,630)	(8,131)	(7,314)	(12,954)	(2,517)
Related parties	(3)	1	23	(20,756)	(2,743)
Others	9,122	2,685	807	10,256	1,148
Net (a) + (b)	(25,511)	(5,445)	(6,484)	(23,454)	(4,112)

<sup>(</sup>ii) The Company reviewed its mining plans, extending the life of some of its assets and the scope of work, and the excess of R\$1,281 between the difference of the liability reduction and the related asset retirement obligation in property, plant and equipment was recognized as other expenses.



#### 28. Deferred revenue - Gold stream

In 2013, the Company entered into a gold stream transaction ("original transaction") with Silver Wheaton Corp. ("SLW") to sell 25% of the gold extracted during the life of the mine as a by-product of Salobo copper mine ("Salobo transaction") and 70% of the gold extracted during the next 20 years as a by-product of the Sudbury nickel mines ("Sudbury transaction"). The Company received upfront cash proceeds of US\$1,900 (R\$4,060).

The original transaction was amended in March, 2015 to include an additional 25% of gold extracted during the life of the mine as a by-product of Salobo copper mine ("amended transaction"). The Company received up-front cash proceeds of US\$900 (R\$2,826). The Company may also receive an additional cash payment contingent on its decision to expand the capacity to process Salobo copper ores until 2036. The additional amount could range from US\$88 to US\$720 depending on timing and size of the expansion.

As the gold is delivered to SLW, Vale receives a payment equal to the lesser of: (i) US\$400 per ounce of refined gold delivered (which payment will be subject to an annual increase of 1% per year commencing on January 1, 2017 for the original and amended transactions and each January 1 thereafter) and (ii) the reference market price on the date of delivery.

This transaction was bifurcated into two identifiable components: (i) the sale of the mineral rights and, (ii) the services for gold extraction on the portion in which Vale operates as an agent for SLW gold extraction.

The result of the sale of the mineral rights of R\$722 was recognized in the income statement under other operating expenses, net. The portion related to the provision of future services for gold extraction was recorded as deferred revenue (liability) in the amount of R\$1,670 and will be recognized in the income statement as the service is rendered and the gold extracted. During the year ended December 31, 2015 and 2014, the Company recognized in income statement R\$\$361 and R\$\$151, respectively, related to rendered services of the original and amended transactions.

The deferred revenue is recognized based on the units of gold extracted compared to the total of proven and probable gold reserves negotiated with SLW. Defining the gain on sale of mineral interest and the deferred revenue portion of the transaction requires the use of critical accounting estimates as follow:

- Discount rates used to measure the present value of future inflows and outflows;
- Allocation of costs between copper and gold based on relative prices;
- Expected margin for the independent elements (sale of mineral rights and service for gold extraction) based on Company's best estimate.

## 29. Commitments

## a) Base metals operations

## i) Nickel Operations - New Caledonia

In regards to the construction and installation of the nickel plant in New Caledonia, Vale Canada Limited ("Vale Canada") provided guarantees in respect of a special financing arrangement, structured under French tax law, to BNP Paribas (agent for the benefit of certain French institutional tax investors). The guarantees relate to lease finance payments due from Vale Nouvelle-Calédonie S.A.S. ("VNC") to a special purpose company held by the French tax investors in respect of certain assets of the plant. Consistent with VNC's commitments under the financing structure, these assets were substantially complete as at December 31, 2012. Vale Canada has committed that these assets will operate for a five year period following substantial completion. Vale Canada believes the likelihood of the guarantees being called upon is remote.

In October 2012, Vale Canada entered into an agreement with Sumic Nickel Netherland B.V. ("Sumic"), a shareholder in VNC, to amend the shareholders' agreement to reflect Sumic's agreement to the dilution of their interest in VNC from 21% to 14.5%. Sumic originally held a put option to sell to Vale Canada the shares they own in VNC if the defined cost of the initial project exceeded a certain limit and an agreement could not be reached on how to proceed with the project. In October 2012, the trigger for the put option changed from a cost threshold to a production test and later the put option date was extended to December 31, 2015. VNC did not achieve the production test by December 31, 2015 and Sumic's put option was automatically triggered. Consequently, Sumic will sell its shares in VNC to Vale Canada in 2016. As the put option was automatically triggered in December 2015, Vale recognized in its equity the amount related to 14.5% of VNC and the liabilities for Sumic as related parties (note 30).



#### ii) Nickel Operations - Indonesia

In October 2014, Vale subsidiary PT Vale Indonesia Tbk ("PTVI"), a public company in Indonesia, renegotiated its agreement with the Government to operate (known as the Contract of Work ("CoW")). The renegotiation included an undertaking by PTVI to further divest 20% of its shares to Indonesian participants (approximately 20% of PTVI's shares already being registered on the Indonesian stock exchange) within five years. This undertaking will be fulfilled by PTVI's existing major shareholders, being Vale Canada and Sumitomo Metal Mining, Co., Ltd., on a pro rata basis. The renegotiated CoW impacted 2014 income statement, recorded as a loss of R\$441 as results on measurement or sales of non-current assets.

### iii) Nickel Operations - Canada

The subsidiaries Vale Canada, Vale Newfoundland & Labrador Limited ("VNLL") and the Province of Newfoundland and Labrador (the "Province") signed a Development Agreement under rights and obligations with respect to the development and operation of the Voisey's Bay mine along with certain other obligations with respect to processing in the Province and the export of nickel and copper concentrate. On December 19, 2014, the Sixth Amendment to the Development Agreement was executed. The Sixth Amendment includes operational and other key commitments in the Development Agreement. As such, under the Development Agreement, as amended, VNLL has a potential obligation secured by letters of credit and other security, which may become due and payable in the event that certain commitments in relation to the construction of the underground mine are delayed or not met.

In the course of the operations the Company has provided other letters of credit and guarantees in the amount of R\$3,9 billion that are associated with items such as environment reclamation, asset retirement obligation commitments, insurance, electricity commitments, post-retirement benefits, community service commitments and import and export duties.

# b) Participative stockholders' debentures

At the time of its privatization in 1997, Vale issued debentures to then-existing stockholders, including the Brazilian Government. The debentures' terms were set to ensure that pre-privatization stockholders would participate in potential future benefits that might be obtained from exploiting mineral resources.

A total of 388,559,056 debentures were issued with a par value of R\$0.01 (one cent of Brazilian Real), whose value will be inflation-indexed the General Market Price Index ("IGP-M"), as set out in the Issue Deed. The Company paid as semiannual remuneration the amount of R\$207 and R\$285, respectively, for the year ended December 31, 2015 and 2014.

### c) Operating lease obligations

The future payment commitments for operating lease are as follows:

2016	187
2017	196
2018	206
2019	177
2020 and thereafter	186
Total minimum payments required	952

### d) Guarantees provided

At December 31, 2015, corporate guarantees provided by Vale (within the limit of its direct or indirect interest) for the companies Norte Energia S.A. and Compania Siderúrgica do Pecém S.A. totaled R\$1,070 and R\$4,576, respectively. Due to the conclusion of the energy generation assets transaction (note 5), the guarantee of Norte Energia S.A. is shared with Cemig GT.



# 30. Related parties

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

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

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

								Assets
								Consolidated
			Dece	mber 31, 2015	•		Decem	nber 31, 2014
	Cash and	Derivative			Cash and	Derivative		
	cash	financial	Accounts	Related	cash	financial	Accounts	Related
	equivalents	instruments	receivable	parties	equivalents	instruments	receivable	parties
Banco Bradesco S.A.	144	258	-	-	159	64	-	-
Banco do Brasil S.A.	1,544	62	-	-	1,134	93	-	-
Baovale Mineração S.A.	-	-	-	4	-	-	10	24
Companhia Coreano-Brasileira de Pelotização	-	-	-	22	-	-	-	-
Companhia Hispano-Brasileira de Pelotização	-	-	3	14	-	-	-	-
Companhia Ítalo-Brasileira de Pelotização	-	-	-	33	-	-	-	-
Companhia Nipo-Brasileira de Pelotização	-	-	-	35	-	-	-	-
Consórcio de Rebocadores Baia de São Marcos	-	-	60	-	-	-	-	-
Ferrovia Norte Sul S.A.	-	-	12	-	-	-	24	-
Mitsui & Co., Ltd.	-	-	5	-	-	-	25	-
MRS Logística S.A.	-	-	-	65	-	-	9	64
Samarco Mineração S.A.	-	-	-	-	-	-	63	822
Teal Minerals Inc.	-	-	-	-	-	-	-	573
VLI Multimodal S.A.	-	-	36	-	-	-	67	-
VLI Operações Portuárias S.A.	-	-	99	-	-	-	69	-
VLI S.A.	-	-	-	39	-	-	25	-
Others	-		91	66			278	147
Total	1,688	320	306	278	1,293	157	570	1,630

								Liabilities
					•		(	Consolidated
	December 31, 2015					December 31, 2014		
	Suppliers	Derivative		-	Suppliers	Derivative		
	and	financial	Related	Loans and	and	financial	Related	Loans and
	contractors	instruments	parties	borrowings	contractors	instruments	parties	borrowings
Aliança Geração de Energia S.A.	43	-	-	-	-	-	-	-
Banco Bradesco S.A.	-	800	-	1,445	-	409	-	27
Banco do Brasil S.A.	-	976	-	10,250	-	356	-	6,694
Banco Nacional de Desenvolvimento Econômico e Social ("BNDES")	-	152	-	15,877	-	-	-	12,527
Baovale Mineração S.A.	29	-	-	-	10	-	-	-
BNDES Participações S.A.	-	-	-	1,449	-	-	-	1,565
Companhia Coreano-Brasileira de Pelotização	15	-	273	-	3	-	227	-
Companhia Hispano-Brasileira de Pelotização	143	-	26	-	85	-	-	-
Companhia Ítalo-Brasileira de Pelotização	12	-	252	-	2	-	125	-
Companhia Nipo-Brasileira de Pelotização	34	-	436	-	5	-	389	-
Consórcio Rebocadores Baia de São Marcos	30	-	-	-	-	-	-	-
Ferrovia Centro Atlântica S.A.	-	-	266	-	-	-	261	-
Mitsui & Co., Ltd.	41	-	-		25	-	-	-
MRS Logística S.A.	91	-	-	-	67	-	-	-
Sumic Nickel Netherland B.V.	-	-	1,374	-	-	-	-	-
Others	93	-	59	-	89	-	99	-
Total	531	1,928	2,686	29,021	286	765	1,101	20,813



A		-
As:	sei	LS

							Paren	t Company
			Decemb	per 31, 2015	.5 December 31,			
	Cash and		Derivative		Cash and	<del></del>	Derivative	
	cash	Accounts	financial	Related	cash	Accounts	financial	Related
	equivalents	receivable	instruments	parties	equivalents	receivable	instruments	parties
Aliança Geração de Energia S.A.	-	-	-	-	-	10	-	24
Banco Bradesco S.A.	44	-	258	-	45	-	64	-
Banco do Brasil S.A.	217	-	62	-	433	-	93	-
Biopalma da Amazônia S.A.	-	-	-	1,360	-	-	-	992
Companhia Coreano-Brasileira de Pelotização	-	-	-	22	-	-	-	-
Companhia Hispano-Brasileira de Pelotização	-	-	-	14	-	-	-	-
Companhia Ítalo-Brasileira de Pelotização	-	-	-	33	-	-	-	-
Companhia Nipo-Brasileira de Pelotização	-	-	-	35	-	-	-	-
Companhia Portuária Baía de Sepetiba				119				
Mineração Brasileiras Reunidas S.A.	-	-	-	161	-	-	-	352
Mineração Corumbaense Reunidas S.A.	-	51	-	-	-	37	-	226
MRS Logística S.A.	-	-	-	27	-	9	-	28
Salobo Metais S.A.		22		155				
Samarco Mineração S.A.	-	-	-	-	-	63	-	822
Vale International S.A.	-	36,518		331	-	30,019	-	276
VLI Multimodal S.A.	-	36	-	-	-	67	-	-
VLI Operações Portuárias S.A.	-	99	-	-	-	69	-	-
VLI S.A.	-	-	-	39	-	25	-	-
Others		230		6		267	-	409
Total	261	36,956	320	2,302	478	30,566	157	3,129

								Liabilities
							Pare	ent Company
			Decem	ber 31, 2015	December 31,			
	Suppliers and contractors	Derivative financial instruments	Related parties	Loans and borrowings	Suppliers and contractors	Derivative financial instruments	Related parties	Loans and borrowings
Aliança Geração de Energia S.A.	43	-	-	-	-	-	-	-
Banco Bradesco S.A.	-	800	-	1,445	-	409	-	27
Banco do Brasil S.A.	-	976	-	10,250	-	356	-	6,694
Banco Nacional de Desenvolvimento Econômico e Social ("BNDES")	-	152	-	14,405	-	-	-	11,639
Baovale Mineração S.A.	29	-	-	-	10	-	-	-
BNDES Participações S.A.	-	-	-	1,449	-	-	-	1,565
Companhia Coreano-Brasileira de Pelotização	15	-	-	-	3	-	-	-
Companhia Hispano-Brasileira de Pelotização	143	-	-	-	85	-	-	-
Companhia Ítalo-Brasileira de Pelotização	12	-	-	-	2	-	-	-
Companhia Nipo-Brasileira de Pelotização	34	-	-	-	5	-	-	-
Companhia Portuária Baía de Sepetiba	484	-	-	-	148	-	-	-
Ferrovia Centro Atlântica S.A.	-	-	266	-	-	-	-	-
Mineração Brasileiras Reunidas S.A.	510	-	3,172	-	-	-	261	-
Mitsui & Co., Ltd.	-	-	-	-	28	-	-	-
MRS Logística S.A.	91	-	-	-	67	-	-	-
Vale International S.A.	5	-	66,814	-	314	-	48,532	-
Others	257	-	359	-	93	-	435	-
Total	1,623	1,928	70,611	26,472	755	765	49,228	14,928



								Cons	olidated	
							Year e	nded Dece	mber 31	
	Net	operating	revenue		Costs and expenses			Financial resul		
	2015	2014	2013	2015	2014	2013	2015	2014	2013	
Aliança Geração de Energia S.A.	44	-	-	-	-	-	-	-	-	
Banco Bradesco S.A.	-	-	-	-	-	-	(218)	(55)	(7)	
Banco do Brasil S.A.	-	-	-	-	-	-	(1,390)	(155)	-	
Banco Nacional de Desenvolvimento Econômico e Social ("BNDES")	-	-	-	-	-	-	(1,331)	(470)	(388)	
Baovale Mineração S.A.	-	-	-	78	47	49	-	-	-	
BNDES Participações S.A.	-	-	-	-	-	-	(178)	(95)	(100)	
California Steel Industries, Inc.	-	420	458	-	-	-	-	-	-	
Companhia Coreano-Brasileira de Pelotização	-	-	-	270	230	134	-	-	-	
Companhia Hispano-Brasileira de Pelotização	-	-	-	168	108	53	-	-	-	
Companhia Ítalo-Brasileira de Pelotização	-	-	-	224	115	58	-	-	-	
Companhia Nipo-Brasileira de Pelotização	-	-	-	365	369	112	-	-	-	
Companhia Siderúrgica do Atlântico	-	-	-	-	495	489	-	-	-	
Ferrovia Centro Atlântico S.A.	156	140	-	128	-	-	(5)	-	-	
Mitsui & Co., Ltd.	612	260	261	-	93	8	-	-	-	
MRS Logística S.A.	-	-	-	1,620	1,407	1,324	-	-	-	
Samarco Mineração S.A.	407	491	936	-	-	-	-	-	-	
Teal Minerals Inc.	-	-	-	-	-	-	39	-	-	
VLI Operações Portuárias S.A.	205	474	-	-	-	-	-	-	-	
VLI S.A.	630	351	-	-	-	-	-	18	-	
Others	183	246	181	149	209	48	(9)	46	49	
Total	2,237	2,382	1,836	3,002	3,073	2,275	(3,092)	(711)	(446)	

					Parent	t Company
					Year ended De	cember 31
	Net operation	ng revenue	Costs and	dexpenses	Finar	ncial result
	2015	2014	2015	2014	2015	2014
Banco Bradesco S.A.	-	-	-	-	(219)	(56)
Banco do Brasil S.A.	=	-	-	-	(1,390)	(286)
Banco Nacional de Desenvolvimento Econômico e Social ("BNDES")	-	-	_	-	(1,295)	(464)
Baovale Mineração S.A.	-	-	78	47	-	-
Biopalma da Amazônia S.A.	-	-	_	-	517	158
BNDES Participações S.A.	-	-	-	-	(178)	(95)
Companhia Coreano-Brasileira de Pelotização	-	-	270	230	-	-
Companhia Hispano-Brasileira de Pelotização	-	-	168	108	-	-
Companhia Ítalo-Brasileira de Pelotização	-	-	234	115	-	-
Companhia Nipo-Brasileira de Pelotização	-	-	-	369	-	-
Companhia Portuária Baía de Sepetiba	-	-	892	625	-	-
Companhia Siderúrgica do Atlântico	-	-	365	-	-	-
Ferrovia Centro Atlântica S.A.	156	140	128	144	-	-
Mineração Brasileiras Reunidas S.A.	-	-	1,133	724	(172)	-
MRS Logística S.A.	-	-	1,620	1,407	-	-
Samarco Mineração S.A.	408	491	-	-	-	-
Vale Energia S.A.	-	-	242	137	-	-
Vale International S.A.	37,251	48,050	_	-	(15,021)	(4,288)
VLI Operações Portuárias S.A.	205	474	-	-	-	-
VLI S.A.	754	351	_	-	-	-
Others	146	232	21	52	(14)	136
Total	38,920	49.738	5.151	3,958	(17,772)	(4,895)

The key management personnel remuneration is as follows:

			Year ended December 31
	2015	2014	2013
Short-term benefits			
Wages or pro-labor	25	25	23
Direct and indirect benefits	19	17	14
Bonus	24	28_	19
	68	70	56
Long-term benefits			
Shares based	2	2	2
Termination of position	19		1
	89	72	59



## 31. Summary of the main accounting policies

# a) Functional currency and presentation currency

The financial statements of the Group 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 ("BRL" or "R\$"). For presentation purposes, these financial statements are presented in R\$.

Operations in other currencies are translated into the functional currency using the actual exchange rates in force on the respective transactions dates. The foreign exchange gains and losses resulting from the translation at the exchange rates in force at the end of the year are recognized in the income statement as financial expense or income.

The income statement and balance sheet of the Group's entities which functional currency is different from the presentation currency are translated into the presentation currency as follows: (i) assets, liabilities and stockholders' equity (except components described in item (iii)) are translated at the closing rate at the balance sheet date; (ii) income and expenses are translated at the average exchange rates, except for specific transactions that, considering their significance, are translated at the rate at the transaction date and; (iii) capital, capital reserves and treasury stock are translated at the rate at the date of each transaction. All resulting exchange differences are recognized in the comprehensive income as cumulative translation adjustment, and transferred to the income statement when the operations are realized.

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

Exchange rates used for conversions into I								
			Closing rate	Average rate for the year end				
	2015	2014	2013	2015	2014	2013		
US dollar ("US\$")	3.9048	2.6562	2.3426	3.3387	2.3547	2.1605		
Canadian dollar ("CAD")	2.8171	2.2920	2.2031	2.6020	2.1308	2.0954		
Australian dollar ("AUD")	2.8532	2.1765	2.0941	2.4979	2.1205	2.0821		
Euro ("EUR" or "€")	4.2504	3.2270	3.2265	3.6999	3.1205	2.8716		

# b) Consolidation and investments in associates and joint ventures

The financial statements reflect the assets, liabilities and transactions of the Parent Company and its direct and indirect controlled entities ("subsidiaries"). Intercompany balances and transactions, which include unrealized profits, are eliminated. Subsidiaries over which control is achieved through other means, such as stockholders agreement, are also consolidated even if the Company does not own a majority of the voting capital.

For entities over which the Company has joint control ("joint ventures") or significant influence, but not control ("associates"), the investments are accounted for using the equity method. In the individual financial statements, investments in subsidiaries are also measured using the equity method. For interests in joint arrangements operations ("joint operations"), the Company recognizes its share of assets, liabilities and net income.

Unrealized gains on downstream or upstream transactions between the Company and its associates and joint ventures are eliminated fully or proportionately to the extent of the Company.



The composition of the Group (relevant entities based on its operations for the Group) and its non-consolidated entities are as follows:

	Location	Principal activity	% ownership	% Voting capital	% Noncontrolling interest or other investors
virect and indirect subsidiaries	Location		75 OWNERSHIP	70 Voting capital	
Companhia Portuária da Baía de Sepetiba	Brazil	Iron ore	100.0%	100.0%	0.0%
Compañia Minera Miski Mayo S.A.C.	Peru	Fertilizers	40.0%	51.0%	60.0%
Mineração Corumbaense Reunida S.A.	Brazil	Iron ore and manganese	100.0%	100.0%	0.0%
Minerações Brasileiras Reunidas S.A.	Brazil	Iron ore	62.5%	98.3%	37.5%
Salobo Metais S.A.	Brazil	Copper	100.0%	100.0%	0.0%
/ale International Holdings GmbH	Austria	Holding and research	100.0%	100.0%	0.0%
/ale Canada Holdings Inc.	Canada	Holding	100.0%	100.0%	0.0%
/ale Canada Limited	Canada	Nickel	100.0%	100.0%	0.0%
/ale Fertilizantes S.A.	Brazil	Fertilizers	100.0%	100.0%	0.0%
/ale International S.A.	Switzerland	Trading and holding	100.0%	100.0%	0.0%
/ale Malaysia Minerals Sdn. Bhd.	Malaysia	Iron ore	100.0%	100.0%	0.0%
/ale Manganês S.A.	Brazil	Manganese and ferroalloys	100.0%	100.0%	0.0%
/ale Moçambique S.A.	Mozambique	Coal	95.0%	95.0%	5.0%
/ale Nouvelle Caledonie S.A.S.	New Caledonia	Nickel	80.5%	80.5%	19.5%
/ale Shipping Holding Pte. Ltd.	Singapore	Iron ore	100.0%	100.0%	0.0%
pirect and indirect associates and joint ventures					
Aliança Geração de Energia S.A.	Brazil	Energy	55.0%	55.0%	45.0%
Companhia Coreano-Brasileira de Pelotização	Brazil	Pellets	50.0%	50.0%	50.0%
Companhia Hispano-Brasileira de Pelotização	Brazil	Pellets	50.9%	51.0%	49.1%
Companhia Ítalo-Brasileira de Pelotização	Brazil	Pellets	50.9%	51.0%	49.1%
Companhia Nipo-Brasileira de Pelotização	Brazil	Pellets	51.0%	51.1%	49.0%
Companhia Siderúrgica do Pecém	Brazil	Steel	50.0%	50.0%	50.0%
Henan Longyu Energy Resources Co., Ltd.	China	Coal	25.0%	25.0%	75.0%
MRS Logística S.A.	Brazil	Iron ore	40.0%	40.0%	60.0%
Samarco Mineração S.A.	Brazil	Pellets	50.0%	50.0%	50.0%
/LI S.A.	Brazil	Logistics	37.6%	37.6%	62.4%

The accounting practices of subsidiaries, associates and joint ventures are consistent with the policies adopted by the Parent Company.

# c) Noncontrolling interests

Investments held by investors in Vale's subsidiaries are classified as noncontrolling interests. The Company treats transactions with noncontrolling interests as transactions with equity owners of the Group.

For purchases of noncontrolling interests, the difference between any amount paid and the portion acquired of the carrying value of net assets of the subsidiary is recorded in stockholders' equity. Gains or losses on disposals of noncontrolling interest are also recorded in stockholders' equity.

## d) Segment information

The Company discloses in note 3, segment information in accordance with the principles and concepts used by the chief operating decision makers in evaluating performance and allocating resources. The information is analyzed by operating segment as follows:

## i. Ferrous minerals

Ferrous minerals comprises the production and extraction of ferrous minerals, as iron ore, pellets and its logistic services (railroads, ports and terminals), manganese and ferroalloys, and others ferrous products and services.

#### ii. Coal

Coal comprises the extraction of coal and its logistic services (railroads, ports and terminals).

## iii. Base metals

Base metals include the production and extraction of non-ferrous minerals, and are presented as nickel and its by-products (ferronickel, copper, precious metals and others) and copper (copper concentrated).



#### iv. Fertilizers

Fertilizers include the production of the three major groups of nutrients (potash, phosphate and nitrogen) and other fertilizers products.

#### v. Others

The segments of others comprise sales and expenses of other products, services and investments in joint ventures and associate in other businesses.

# e) Accounts receivables

Account receivables are financial instruments classified in the category loan and receivables and represent the total amount due from sale of products and services rendered by the Company. The receivables are initially recognized at fair value and subsequently measured at amortized cost, net of impairment losses, when applicable.

#### f) Inventories

Inventories are stated at the lower of cost or the net realizable value. The inventory production cost is determined on the basis of variable and fixed costs, direct and indirect costs of production, using the average cost method. An allowance for losses on obsolete or slow-moving inventory is recognized.

## g) Assets and liabilities held for sale

When the Company is committed to sale assets which (i) are available for immediate disposal; (ii) the sale is highly probable; and (iii) the carrying amount of these assets will be recovered through the sale rather than the continuing use, these assets and related liabilities are classified as assets and liabilities held for sale. The assets and related liabilities which are classified as held for sale are described in note 5.

The non-current assets and related liabilities held for sale are recognized as current assets and are measured at the lower of carrying amount or fair value less costs to sell.

# h) Stripping Costs

The cost associated with the removal of overburden and other waste materials ("stripping costs") incurred during the development of mines, before production takes place, are capitalized as part of the depreciable cost of developing the mining property. These costs are subsequently amortized over the useful life of the mine.

Post-production stripping costs are included in the cost of inventory, except when a new project is developed to permit access to a significant body of ore. In such cases, the cost is capitalized as a non-current asset and is amortized during the extraction of the body of ore, over the useful life of the body of ore.

Stripping costs are measured at fixed and variable costs directly and indirectly attributable to its removal and, when applicable, net of any impairment losses measured in same basis adopted for the cash generating unit of which it is part.



## i) Intangibles

Intangibles are carried at the acquisition cost, net of amortization and impairment.

Intangibles with finite useful lives are amortized over their effective use and are tested for impairment whenever there is an indication that the asset may be impaired. Assets with indefinite useful lives are not amortized and are tested for impairment at least annually.

The Company holds railway concessions which are valid over a certain period of time. Those assets are classified as intangible assets and amortized over the shorter of their useful lives and the concession term at the end of which they will be returned to the government.

Intangibles acquired in a business combination are recognized separately from goodwill.

The estimated useful lives are as follows:

	Useful life
Concessions	3 to 12 years
Right of use	22 to 31 years
Software	3 to 5 years

## j) Property, plant and equipment

Property, plant and equipment are evaluated at the cost of acquisition or construction, net of amortization and impairment.

Mining assets developed internally are determined by (i) direct and indirect costs attributed to build the mine site and plant, (ii) financial charges incurred during the construction period, (iii) depreciation of other fixed assets used into building, (iv) estimated decommissioning and site restoration expenses, and (iv) other capitalized expenditures occurred during the development phase (phase when the project demonstrates its economic benefit to the Company, and the Company has ability and intention to complete the project).

The depletion of mining assets is determined based on the ratio between production and total proven and probable mineral reserves. Property, plant and equipment are depreciated using the straight-line method based on the estimated useful lives, from the date on which the assets become available for their intended use, except for land which is not depreciated.

The estimated useful lives are as follows:

	Useful life
Buildings	15 to 50 years
Facilities	8 to 50 years
Equipment	3 to 33 years
Mining assets	Production
Others:	
Locomotives	12.5 to 25 years
Wagon	33 to 44 years
Railway equipment	5 to 50 years
Ships	5 to 20 years
Others	2 to 50 years

The residual values and useful lives of assets are reviewed at the end of each fiscal year and adjusted if necessary.

Significant industrial maintenance costs, including spare parts, assembly services, and others, are recorded in property, plant and equipment and depreciated through the next programmed maintenance overhaul.



#### k) Research and evaluation

# i. Exploration and evaluation expenditures

Expenditures on mining research are accounted for as operating expenses until the effective proof of economic feasibility and commercial viability of a given field can be demonstrated. From then on, the expenditures incurred are capitalized as mine development costs.

## ii. Expenditures on feasibility studies, new technologies and others research

The Company also conducts feasibility studies for many businesses which it operates including researching new technologies to optimize the mining process. After these costs are proven to generate future benefits to the Company, the expenditures incurred are capitalized.

# I) Impairment of assets

The Company assesses, at each reporting date, whether there is evidence that the carrying amount of financial assets measured through amortized cost and long-live non-financial asset should be impaired.

For financial assets measured through amortized cost, Vale compares the carrying amount with the expected cash flows of the asset, and when appropriate, the carrying value is adjusted to reflect the present value of future cash flows.

For long-lived non-financial assets (such as intangible or property plant and equipment), when impairment indication are identified, a test is conducted by comparing the recoverable value of these assets grouped at the lowest levels for which there are separately identifiable cash flows of the cash-generating unit ("CGU") to which the asset belongs to their carrying amount. If the Company identifies the need for impairment, it is applied to each asset's cash-generating unit. The recoverable amount is the higher of value in use and fair value less costs to sell.

The Company determines its cash flows based on approved budgets, considering mineral reserves and mineral resources calculated by internal experts, costs and investments based on the best estimate of past performance and approved budgets, sale prices consistent with the projections used in reports published by industry considering the market price when available and appropriate. Cash flows used are based on the life of each cash-generating unit (consumption of reserve units in the case of minerals) and considering discount rates that reflect specific risks relating to the relevant assets in each cash-generating unit, depending on their composition and location.

Regardless the indication of impairment of its carrying value, goodwill balances arising from business combinations, intangible assets with indefinite useful lives and land are tested for impairment at least once a year.

Non-current assets (excluding goodwill) which the Company recognized impairment are reviewed whenever events or changes in circumstances indicate that the impairment may no longer be applicable. In such cases, an impairment reversal will be recognized.

# m) Suppliers and contractors

Accounts payable to suppliers and contractors are obligations to pay for goods and services that were acquired in the ordinary course of business. They are initially recognized at fair value and subsequently measured at amortized cost using the effective interest rate method.

The Company has transactions with payment terms up to 360 days. Under these circumstances, some suppliers discounts their receivables with financial institutions to a range of Libor+0.4% p.a. to Libor+1.3% p.a. These operations amount to R\$1,056 and R\$749 at December 31, 2015 and 2014, respectively, and are adjusted to present value, which the accrued interest is recognized as interest expense in the income statement.



# n) Loans and borrowings

Loans and borrowings are initially measured at fair value, net of transaction costs incurred and are subsequently carried at amortized cost and updated using the effective interest rate method. Any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the Income statement over the period of the loan, using the effective interest rate method. The fees paid in obtaining the loan are recognized as transaction costs.

Loans and borrowing costs are capitalized as part of property, plants and equipment if those costs are directly related to a qualified asset. The capitalization occurs until the qualified asset is ready for its intended use. The average capitalization rate is 46%. Borrowing costs that are not capitalized are recognized in the income statement in the period in which they are incurred.

## o) Leases

The Company classifies its contracts as a finance leases or operating leases based on the substance of the contract as to whether it is linked to the transfer of substantially all risks and benefits of the assets ownership to the Company during their useful life.

For finance leases, the lower of the fair value of the leased asset and the present value of minimum lease payments is recorded in tangible fixed assets and the corresponding obligation recorded in liabilities. For operating leases, payments are recognized on a straight line basis during the term of the contract as a cost or expense in the income statement.

## p) Provisions

Provisions are recognized only when there is a present obligation (legal or constructive) resulting from a past event, and it is probable that the settlement of this obligation will result in an outflow of resources, and the amount of the obligation can be reasonably estimated. Provisions are reviewed and adjusted to reflect the current best estimate at the end of each reporting period. Provisions are measured at the present value of the expenditure expected to be required to settle an obligation using a pre-tax rate, which reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the obligation due to the passage of time is recognized as interest expense.

## i. Provision for asset retirement obligations

The provision made by the Company refers to costs related to mine closure and reclamation, with the completion of mining activities and decommissioning of assets related to mine. When the provision is recognized, the corresponding cost is capitalized as part of property plant and equipment and is depreciated on the same basis over the related asset and recorded in the income statement.

The long-term liability is subsequently measured using a long-term risk free discount rate applicable to the liability and recorded in the income statement as financial expenses until the Company makes payments related to mine closure and decommissioning of assets mining.

# ii. Provision for litigation

The provision refers to litigation and fines incurred by the Company. A provision is recognized when the obligation is considered probable and can be measured. The accounting counterpart for the obligation is an expense in income statement. This obligation is updated according to the evolution of the judicial process or interest incurred and can be reversed if the estimate of loss is not considered probable or settled when the obligation is paid.



# q) Employee benefits

# i. Current benefits – wages, vacations and related taxes

Payments of benefits such as wages or accrued vacation, as well the related social security taxes over those benefits are recognized monthly in income, on an accruals basis.

## ii. Current benefits - profit sharing program

The Company has a profit sharing program based on the performance goals achievement of the Company and its employees. The Company recognizes the provision based on the recurring measurement of the compliance with goals and results, using the accrual basis and recognition of present obligation arising from past events in the estimated outflow of resources in the future. The provision is recorded as cost of goods sold and services rendered or operating expenses in accordance with the activity of each employee.

## iii. Non-current benefits - long-term incentive programs

The Company has established a procedure for awarding certain eligible executives (Matching and Virtual Shares Programs) with the goal of encouraging employee retention and optimum performance. Plan liabilities are measured at each reporting date, at their fair values, based on market prices. Obligations are measured at each reporting date, at fair values based on market prices. The compensation costs incurred are recognized in income during the vesting period as defined.

## iv. Non-current benefits - pension costs and other post-retirement benefits

The Company has several retirement plans for its employees.

For defined contribution plans, the Company's obligations are limited to a monthly contribution linked to a pre-defined percentage of the remuneration of employees enrolled in to these plans.

For defined benefit plans, actuarial calculations are periodically obtained for liabilities determined in accordance with the Projected Unit Credit Method in order to estimate the Company's obligation. The liability recognized in the balance sheet represents the present value of the defined benefit obligation as at that date, less the fair value of plan assets. The Company recognized in the income statement the costs of services, the interest expense of the obligations and the interest income of the plan assets. The remeasurement of gains and losses, return on plan assets (excluding the amount of interest on return of assets, which is recognized in income for the year) and changes in the effect of the ceiling of the active and onerous liabilities are recognized in comprehensive income for the year.

For overfunded plans, the Company does not recognize any assets or benefits in the balance sheet or income statement until such time as the use of the surplus is clearly defined. For underfunded plans, the Company recognizes actuarial liabilities and results arising from the actuarial valuation.

# r) Derivative financial instruments and hedge operations

Derivatives transactions in which are not qualified as hedge accounting are classified and presented as economic hedge, as the Company uses derivative instruments to manage its financial risks as a way of hedging against these risks. Derivative financial instruments are recognized as assets or liabilities in the balance sheet and are measured at their fair values. Changes in the fair values of derivatives are recorded in income statement or in stockholders' equity when the transaction is eligible to be characterized as effective hedge accounting.

On the beginning of the hedge accounting operations, the Company documents the relationship between hedging instruments and hedged items with the objective of risk management and strategy for carrying out hedging operations. The Company also documents, both initially and on a continuously basis, that its assessment of whether the derivatives used in hedging transactions are highly effective.

The effective components of changes in the fair values of derivative financial instruments designated as cash flow hedges are recorded as unrealized fair value gain or losses and recognized in stockholders' equity; and their non-effective components recorded in income statement. The amounts recorded in the statement of comprehensive income, will only be transferred to income statement (costs, operating expenses or financial expenses) when the hedged item is actually realized.



#### s) Financial instruments classification

The Company classifies its financial instruments in accordance with the purpose for which they were acquired, and determines the classification and initial recognition according to the following categories:

#### i. Financial assets

**Measured at fair value through net income** – Financial assets held for trading acquired for the purpose of selling in the short-term. These instruments are measured at fair value, except for derivative financial instruments not classified as hedge accounting, considering the inclusion of the credit risk of counterparties on the calculation of the instruments.

**Loans and receivables** – Non-derivative financial instruments with fixed or defined payments, which are not quoted in an active market, are initially measured at fair value and subsequently at amortized cost using the effective interest method.

**Held to maturity** – Non-derivative financial assets with fixed or determinable payments and fixed maturities for which the Company has the intent and ability to hold them to maturity, are initially measured at fair value and subsequently at amortized cost.

**Available for sale** – Non-derivative financial assets not classified in another category of financial instrument. Financial instruments in this category are measured at fair value, with changes in fair value until the moment of realization then recorded in the stockholders' equity. On realization of the financial asset, its fair value is reclassified to income statement.

#### ii. Financial liabilities

Measured at fair value through net income – Financial liabilities with the purpose of trading (repurchase) or which are initially measured at fair value by the Company, being irreversibly this method of classification.

**Measured at amortized cost** – Non-derivative financial liabilities with fixed and determinable payments and fixed maturities, which were not classified as measured at fair value through the income statement.

## t) Share capital

The Company repurchases its shares to hold in treasury for future sale or cancellation. These shares are recorded in a specific account as a reduction of stockholders' equity at their acquisition value and carried at cost. These programs are approved by the Board of Directors with a determined terms and numbers of type of shares.

Incremental costs directly attributable to the issue of new shares or options are recognized in stockholders' equity as a deduction from the amount raised, net of taxes.

# u) Government grants and support

Government grants and support are accounted for when Company has reasonably complied with conditions set by the government in relation to the grants. The Company recognizes the grants in the income statement as a reduction in tax expense according to the nature of the item, and classified through retained earnings in stockholders' equity during allocation of net income.

# v) Revenue recognition

Revenue is recognized when Vale transfers to its customers all of the significant risks and rewards of ownership of the product sold or when services are rendered. Net revenue excludes any applicable sales taxes and is recognized at the fair value of the consideration received or receivable to the extent that it is probable that economic benefits will flow to Vale and the revenues and costs can be reliably measured.

Depending on the contract, sales can be recognized when the product is available at the loading port, loaded on the ship or delivered to the destination. Service revenues are recognized in the amount by which the services are rendered and accepted by the customer.

In some cases, the sale price is determined on a provisional basis at the date of sale and the final selling price is subject to escalation clauses through date of final pricing. Revenue from the sale of provisionally priced products is recognized when the risks and rewards of ownership are transferred to the customer and the revenue can be measured reliably. At this date, the amount of revenue to be recognized is estimated based on the forward price of the product sold and later adjusted to reflect the final price.



Amounts billed to customers for shipping related to products sold by the Company are recognized as revenue when the Company is responsible for shipping. Shipping costs are recognized as operating costs.

# w) Current and deferred income taxes

Income taxes are recognized in the income statement, except for items recognized directly in stockholders' equity.

The provision for income tax is calculated individually for each entity in the Group based on Brazilian tax rates, on an accrual basis, by applying the differential between the nominal local tax rates (based on rules in force in the location of the entity) and the Brazilian rate. The recognition of deferred taxes are based on temporary differences between carrying value and the tax basis of assets and liabilities as well as taxes losses carry forwards. The deferred income taxes assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against fiscal current liabilities and when the deferred income taxes assets and liabilities are related to income taxes recorded by the same taxation authority on the same taxable entity.

Deferred tax assets arising from tax losses, negative social contribution basis and temporary differences are registered taking into consideration the analysis of future performance, based on economic and financial projections, prepared based on internal assumptions and macroeconomic, trade and tax scenarios that may be subject to changes in future.

# x) Basic and diluted earnings per share

Basic earnings per share are calculated by dividing the income attributable to the stockholders of the Company, after accounting for the remuneration to the holders of equity securities, by the weighted average number of shares outstanding (total shares less treasury shares).

Diluted earnings per share are calculated by adjusting the weighted average number of shares outstanding for the conversion of all dilutive potential shares. The Company does not have mandatory convertible securities that could result in the dilution of the earning per share.

## y) Stockholder's remuneration

The stockholder's remuneration is paid on dividends and interest on capital. This remuneration is recognized as a liability in the financial statements of the Company based on bylaws. Any amount above the minimum compulsory remuneration approved by the bylaws shall only be recognized in current liabilities on the date that is approved by stockholders.

The Company is permitted to distribute interest attributable to stockholders' equity. The calculation is based on the stockholders' equity amounts as stated in the statutory accounting records and the interest rate applied may not exceed the Brazilian Government Long-term Interest Rate ("TJLP") determined by the Central Bank of Brazil. Also, such interest may not exceed 50% of the net income for the year or 50% of retained earnings plus profit reserves as determined by Brazilian corporate law.

The benefit to the Company, as opposed to making a dividend payment, is a reduction in the income tax burden because this interest charge is tax deductible in Brazil. Income tax of 15% is withheld on behalf of the stockholders relative to the interest distribution. Under Brazilian law, interest attributed to stockholders' equity is considered as part of the annual minimum mandatory dividend (note 25 (e)). This notional interest distribution is treated for accounting purposes as a deduction from stockholders' equity in a manner similar to a dividend and the tax credit recorded in income.

# z) Value added statements

The Company prepares its consolidated and parent company value added statement in accordance with the accounting practices adopted in Brazil, applicable to public companies, which are submitted as part of the financial statements in accordance with Brazilian accounting practices. For IFRS purposes, this statement is presented as additional information, without prejudice to the set of financial statements.



# 32. Critical accounting estimates and judgments

The preparation of financial statements requires the use of certain critical accounting estimates and judgments by the management of the Company. These estimates are based on the best knowledge and information existing at the balance sheet date. Changes in facts and circumstances may lead to the revision of these estimates. Actual future results may differ from the estimates.

The significant estimates and assumptions used by Company in these financial statements are as follow:

## a) Mineral reserves and mine useful life

The estimates of proven and probable reserves are regularly evaluated and updated. These reserves are determined using generally accepted geological estimates. The calculation of reserves requires the Company to take positions on expected future conditions that are uncertain, including future ore prices, exchange rates, inflation rates, mining technology, availability of permits and production costs. Changes in some of these assumptions could have a significant impact on the proven and probable reserves of the Company.

The estimated volume of mineral reserves is used as basis for the calculation of depletion of the mines, and also for the estimated useful life which is a major factor to quantify the provision for asset retirement obligation and environmental recovery of mines. Any changes to the estimates of the volume of mine reserves and the useful lives of assets may have a significant impact on the depreciation, depletion and amortization charges included in cost of goods sold and calculation of impairment test. Changes in the estimated useful life of the mine have a significant impact on the estimates of environmental provision and impairment analysis.

#### b) Asset retirement obligation

The Company recognizes an obligation under the fair value for asset retirement obligations in the period in which they occur. The Company considers the accounting estimates related to closure costs of a mine as a critical accounting policy because they involve significant values for the provision and are estimated using several assumptions, such as interest rate, useful life of the asset considering the current state of closure and the projected date of depletion of each mine. The estimates are reviewed annually.

# c) Impairment

The Company tests impairment of tangible (whether there is evidence of impairment) and intangible (annually) assets segregated by cash-generating units using discounted cash flow models that depends on several estimates, which are influenced by market conditions prevailing at the time the impairment test is performed.

# d) Litigation losses

Provisions are recorded when the possibility of loss relating to legal proceedings or contingent liabilities is considered probable by the Company's legal department and its legal advisors.

The provisions are recorded when the amount of loss can be reasonably estimated. By their nature, litigations will be resolved when one or more future event occurs or fails to occur. Typically, the occurrence or not of such events is outside the Company's control. Legal uncertainties involve the exercise of significant estimates and judgments of management regarding the results of future events.

# e) Post-retirement benefits for employees

The amount recognized and disclosed depend on a number of factors that are determined based on actuarial calculations using various assumptions in order to determine costs and liabilities. One of these assumptions is selection and use of the discount rate. Any changes to these assumptions will affect the amount recognized.

At the end of each year the Company and external actuaries review the assumptions that will be used for the following year. These assumptions are used in determining the fair values of assets and liabilities, costs and expenses and the future values of estimated cash outflows, which are recorded in the plan obligations.



#### f) Fair values of derivatives and others financial instruments

The fair values of financial instruments that are not traded in active markets are determined using valuation techniques. Vale uses its own judgment to choose between the various methods. Assumptions are based on the market conditions, at the end of the year.

An analysis of the impact if actual results are different from management's estimates is present on note 24 (sensibility analysis).

#### g) Deferred income taxes

The Company recognizes the effects of deferred taxes arising from tax losses and temporary differences and derecognizes when believes that tax credits recoverable are not probable. Deferred tax liabilities are fully recognized.

The determination of the recognition of income tax or deferred income tax, assets and liabilities, and any derecognition of tax credits requires the use of estimates. For each tax asset, the Company assesses the probability that some or all of the tax assets may not be recoverable. The impairment recorded in relation to the accumulated tax losses depends on the assessment of the probability of the generation of future taxable profits based on production and sales planning, commodity prices, operational costs, restructuring plans, reclamation costs and planned capital costs.

# 33. Risk management

Vale considers that an effective risk management is a key objective to support its growth plan, strategic planning and financial flexibility. Therefore, Vale has developed its risk management strategy in order to provide an integrated approach of the risks the company is exposed to. To do that, Vale evaluates not only the impact in the results of the business caused by variables traded in financial markets (market risk) and those arising from liquidity risk, but also the risk from counterparties obligations (credit risk), those relating to inadequate or failed internal processes, people, systems or external events (operational risk), among others.

## a) Risk management policy

The Board of Directors established a risk management policy in order to support the Company's growth plan, strategic planning and Company's business continuity, besides to improve its capital structure and management of the Group, ensure adequate degree of flexibility in financial management while maintaining the level of robustness required for investment grade and to strengthen its corporate governance practices.

The corporate risk management policy determines that Vale should measure and monitor regularly its corporate risk on a consolidated approach in order to guarantee that the overall risk level of the Company remains aligned with the guidelines defined by the Board of Directors and the Executive Board.

The Executive Risk Management Committee, created by the Board of Directors, is responsible for supporting the Executive Board in the risk assessments and for issuing opinion regarding the Company's risk management. It's also responsible for the supervision and revision of the principles and instruments of corporate risks management.

The Executive Board is responsible for the approval of the policy deployment into norms, rules and responsibilities and for reporting to the Board of Directors about such procedures.

The risk management norms and instructions complement the corporate risk management policy and define practices, processes, controls, roles and responsibilities in the Company risk management function.

The Company may, when necessary, allocate specific risk limits to management activities, including but not limited to, market risk limit, corporate and sovereign credit limit, in accordance with the acceptable corporate risk limit.



# b) Liquidity risk management

The liquidity risk arises from the possibility that Vale might not perform on its obligations at the due dates, as well as face difficulties to meet its cash requirements due to market liquidity constraints.

To mitigate such risk, Vale has a revolving credit facility to assist the short term liquidity management and to enable more efficiency in cash management, being consistent with the strategic focus on cost of capital reduction. The revolving credit facilities available today were acquired from a syndicate of several global commercial banks.

# c) Credit risk management

Vale's exposure to credit risk arises from trade receivables, derivative transactions, guarantees, payment to suppliers and cash investments. Vale's credit risk management process provides a framework for assessing and managing counterparties' credit risk and for maintaining Vale's risk at an acceptable level.

## (i) Commercial credit risk management

For the commercial credit exposure, which arises from sales to final customers, the risk management area, in accordance with the current delegation level, approves or request the approval of credit risk limits for each counterparty.

Vale attributes an internal credit risk rating for each counterparty using its own quantitative methodology for credit risk analysis, which is based on market prices, external credit ratings and financial information of the counterparty, as well as qualitative information regarding the counterparties' strategic position and history of commercial relations.

As at 31 December 2015, 56% of accounts receivable due to Vale commercial sales had insignificant or low risk, 35% had moderate risk and 9% high risk.

Based on the counterparty's credit risk or based on Vale's consolidated credit risk profile, risk mitigation strategies may be used to manage the Company's credit risk. The main credit risk mitigation strategies include non-recourse discount of receivables, insurance instruments, letters of credit, corporate and bank guarantees, mortgages, among others.

Vale has a diversified accounts receivable portfolio from a geographical standpoint, with China, Europe, Brazil and Japan the regions with more significant exposures. According to each region, different guarantees can be used to enhance the credit quality of the receivables.

Vale controls its account receivables portfolio through Credit and Cash Collection committees, in which representatives from risk management, cash collection and commercial departments monitor periodically each counterparty's exposure. Finally, Vale has an automatic control that blocks additional sales to customers in default with Vale.

# (ii) Treasury credit risk management

To manage the credit exposure arising from cash investments and derivative instruments, Vale's Board of Executive Officers approves, on an annual basis, credit limits by counterparty. Furthermore, Vale controls the portfolio diversification, the overall credit risk of the treasury portfolio and the each counterparty risk by monitoring market credit risk information.

# d) Market risk management

Vale is exposed to the behavior of several market risk factors that can impact its cash flow. The assessment of this potential impact arising from the volatility of risk factors and their correlations is performed periodically to support the decision making process and the growth strategy of the Company, ensure its financial flexibility and monitor the volatility of future cash flows.

When necessary, market risk mitigation strategies are evaluated and implemented in line with these objectives. Some strategies may incorporate financial instruments, including derivatives. The portfolios of the financial instruments are monitored on a monthly basis, enabling financial results surveillance and its impact on cash flow.

Considering the nature of Vale's business and operations, the main market risk factors which the Company is exposed to are:

- Foreign exchange and Interest rates;
- Product prices and input costs.



# e) Foreign exchange and interest rate risk

Vale's cash flow is subjected to volatility of several currencies, once its product prices are predominantly indexed to US dollar, while most of the costs, disbursements and investments are indexed to other currencies, mainly Brazilian real and Canadian dollar.

In order to reduce the potential impact that arises from this currency mismatch, derivatives instruments may be used as a risk mitigation strategy.

Vale implemented hedge transactions to protect its cash flow against the market risks that arises from its debt obligations – mainly currency volatility. The hedges cover most of the debts in Brazilian reais and Euros. Vale uses swap transactions to convert debt linked to Brazilian real and Euros into US dollar that have similar - or sometimes shorter - settlement dates than the final maturity of the debt instruments. Their notional amounts are similar to the principal and interest payments, subject to liquidity market conditions.

Swaps with shorter settlement dates are renegotiated through time so that their final maturity matches - or becomes closer - to the debts` final maturity. At each settlement date, the results of the swap transactions partially offset the impact of the foreign exchange rate in Vale's obligations, contributing to stabilize the cash disbursements in US dollar.

In the case of debt instruments denominated in Brazilian real, in the event of an appreciation (or depreciation) of the Brazilian Real against the US Dollar, the negative (or positive) impact on Vale's debt service (interest and/or principal payment) measured in US dollars will be partially offset by the positive (or negative) effect from the swaps, regardless of the US\$/R\$ exchange rate on the payment date. The same rationale is applicable to debts denominated in other currencies and their respective swaps.

Vale has also exposure to interest rates risks over loans and borrowings. The US Dollar floating rate debt in the portfolio consists mainly of loans including export pre-payments, commercial banks and multilateral organizations loans. In general, such debt instruments are indexed to the LIBOR (London Interbank Offer Rate in US dollar). Vale has part of its debt in Brazilian reais floating rates, but use swap transactions to convert most of it to US Dollar fixed rates. After considering the interest rate swaps, the great majority of its debt is fixed rate.

## f) Risk of product and input prices

Vale is also exposed to market risks including commodities price and input price volatilities. In accordance with risk management policy, risk mitigation strategies involving commodities can be used to adjust the cash flow risk profile and reduce Vale's cash flow volatility. For this kind of risk mitigation strategy, Vale uses predominantly forwards, futures or zero-cost collars.

# g) Operational risk management

The operational risk management is the structured approach that Vale uses to manage uncertainty related to possible inadequate or failure in internal processes, people, systems and external events, in accordance with the principles and guidelines of ISO 31000.

The main operational risks are periodically monitored, ensuring the effectiveness of preventive and mitigating key controls in place and the execution of the risk treatment strategy (implementation of new or improved controls, changes in the risk environment, risk sharing by contracting insurance, provisioning of resources, etc.).

Therefore, the Company seeks to have a clear view of its major risks, the best cost-benefit mitigation plans and the effectiveness of the controls in place, monitoring the potential impact of operational risk and allocating capital efficiently.



## h) Capital management

Vale's policy aims at establishing a capital structure that will ensure the continuity of your business in the long term. Within this perspective, the Company has been able to deliver value to stockholders through dividend payments and capital gain, and at the same time maintain a debt profile suitable for its activities, with an amortization well distributed over the years, thus avoiding a concentration in one specific period.

## i) Insurance

Vale issues several types of insurance policies, such as operational risk policy, engineering risks insurance (projects), civil responsibility, life insurance policy for their employees, among others. The coverage of these policies is similar to the ones used in general by the mining industry and is issued in line with the objectives defined by the Company, with the corporate risk management policy and the limitation imposed by the insurance and reinsurance global market. In general, the company's assets directly related with its operations are included in the coverage of insurance policies.

Insurance management is performed with the support of existing insurance committees in the various operational areas of the Company. Among the management instruments, Vale uses captive reinsurance to balance the price on reinsurance contracts with market, as well as enable access to key international markets of insurance and reinsurance.



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

#### **Board of Directors**

Dan Antonio Marinho Conrado Chairman

Sérgio Alexandre Figueiredo Clemente

Vice-President

Marcel Juviniano Barros Gueitiro Matsuo Genso Tarcísio José Massote de Godoy Fernando Jorge Buso Gomes Hiroyuki Kato Oscar Augusto de Camargo Filho Luciano Galvão Coutinho Lucio Azevedo Alberto Guth

#### **Alternate**

Arthur Prado Silva Moacir Nachbar Junior Francisco Ferreira Alexandre Gilberto Antonio Vieira Robson Rocha Luiz Mauricio Leuzinger Yoshitomo Nishimitsu Eduardo de Oliveira Rodrigues Filho Victor Guilherme Tito Carlos Roberto de Assis Ferreira

#### **Advisory Committees of the Board of Directors**

#### **Controlling Committee**

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# **Executive Development Committee**

Oscar Augusto de Camargo Filho Marcel Juviniano Barros Fernando Jorge Buso Gomes Tatiana Boavista Barros Heil

#### **Strategic Committee**

Murilo Pinto de Oliveira Ferreira Dan Antonio Marinho Conrado Gueitiro Matsuo Genso Luiz Carlos Trabuco Cappi Oscar Augusto de Camargo Filho Luciano Galvão Coutinho

#### **Finance Committee**

Gilmar Dalilo Cezar Wanderlev Fernando Jorge Buso Gomes Eduardo de Oliveira Rodrigues Filho Tatiana Boavista Barros Heil

#### **Governance and Sustainability Committee**

Fernando Jorge Buso Gomes Arthur Prado Silva Eduardo de Oliveira Rodrigues Filho Ricardo Rodrigues Morgado Ricardo Simonsen

#### **Fiscal Council**

Marcelo Amaral Moraes

Chairman

Marcelo Barbosa Saintive Cláudio José Zucco Aníbal Moreira dos Santos Raphael Manhães Martins

#### **Alternate**

Paulo Fontoura Valle Marcos Tadeu Siqueira Oswaldo Mário Pego de Amorim Azevedo Pedro Paulo de Souza

#### **Executive Officers**

Murilo Pinto de Oliveira Ferreira Chief Executive Officer

Vânia Lucia Chaves Somavilla

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

Luciano Siani Pires

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

Roger Allan Downey

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

Gerd Peter Poppinga **Executive Officer (Ferrous)** 

Galib Abrahão Chaim

**Executive Officer (Capital Projects Implementation)** 

Humberto Ramos de Freitas

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

Jennifer Anne Maki

**Executive Officer (Base Metals)** 

Marcelo Botelho Rodrigues **Global Controller Director** 

Murilo Muller **Controllership Director** 

Dioni Brasil

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