



**Quarterly Financial Report  
Individual and Consolidated**

**March 31, 2019**

## Company information

Capital composition	1
---------------------	---

## Individual financial statements

Statement of financial position – Assets	2
Statement of financial position – Liabilities	3
Statement of income	4
Statement of comprehensive income	5
Statement of cash flow	6

## Statement of changes in equity

Statement of changes in equity – from 01/01/2019 to 03/31/2019	7
Statement of changes in equity – from 01/01/2018 to 03/31/2018	8

Statement of value added	9
--------------------------	---

## Consolidated financial statements

Statement of financial position – Assets	10
Statement of financial position – Liabilities	11
Statement of income	12
Statement of comprehensive income	13
Statement of cash flow	14

## Statement of changes in equity

Statement of changes in equity – from 01/01/2019 to 03/31/2019	15
Statement of changes in equity – from 01/01/2018 to 03/31/2018	16

Statement of value added	17
--------------------------	----

Performance comments	18
----------------------	----

Notes to the financial statements	25
-----------------------------------	----

## Opinions and Statements

Independent Auditors' Report	86
Directors' Statement on Quarterly Financial Reports	87
Statement of the Executive Officers on the Independent auditors' report	88

## Company information/Capital composition

Quantity of shares (Units)	Current quarter 03/31/2019
Paid-in capital	
Common	692,370,186
Preferred	0
Total	692,370,186
Treasury shares	
Common	24,509
Preferred	0
Total	24,509

**Individual financial statements / Balance sheet – Assets**  
(In thousands of Reais)

Code of account	Account description	Current quarter 03/31/2019	Prior year 12/31/2018
1	Total assets	4,226,171	4,673,671
1.01	Total current assets	2,371,079	2,830,216
1.01.01	Cash and cash equivalents	141,835	201,571
1.01.02	Financial investments	9,136	28,023
1.01.03	Accounts receivable	414,784	771,700
1.01.04	Inventory	1,635,148	1,588,298
1.01.06	Taxes recoverable	83,794	90,228
1.01.07	Prepaid expenses	14,831	10,274
1.01.08	Other current assets	71,551	140,122
1.01.08.03	Others	71,551	140,122
1.01.08.03.01	Derivative financial instruments	50,661	129,313
1.01.08.03.02	Other current assets	20,890	10,809
1.02	Total non-current assets	1,855,092	1,843,455
1.02.01	Long term assets	575,158	542,636
1.02.01.01	Financial investments	12,945	16,765
1.02.01.04	Accounts receivable	0	10
1.02.01.07	Taxes	299,526	287,185
1.02.01.07.01	Deferred income tax and social contribution	178,830	164,785
1.02.01.07.02	Taxes recoverable	120,696	122,400
1.02.01.08	Prepaid expenses	9,488	9,669
1.02.01.10	Other non-current assets	253,199	229,007
1.02.01.10.03	Assets held for sale	112,865	112,745
1.02.01.10.04	Legal deposits	25,054	32,309
1.02.01.10.05	Other non-current assets	84,366	83,953
1.02.01.10.06	Prepaid expenses	30,914	0
1.02.02	Investments	26,555	24,099
1.02.02.01	Equity interest	24,137	21,772
1.02.02.01.02	Investments	24,137	21,772
1.02.02.02	Investment Property	2,418	2,327
1.02.02.02.01	Other investments	2,418	2,327
1.02.03	Property, plant and equipment	1,242,782	1,266,555
1.02.03.01	Fixed assets in operation	1,196,572	1,235,971
1.02.03.03	Property, plant and equipment in progress	46,210	30,584
1.02.04	Intangible assets	10,597	10,165

**Individual financial statements / Balance sheet – Liabilities**  
(In thousands of Reais)

Code of account	Account description	Current quarter 03/31/2019	Prior year 12/31/2018
2	Total liabilities	4,226,171	4,673,671
2.01	Total current liabilities	1,593,783	1,877,184
2.01.01	Payroll and related charges	52,875	59,902
2.01.02	Suppliers	998,453	1,308,257
2.01.02.01	Domestic suppliers	195,755	132,752
2.01.02.02	Foreign suppliers	802,698	1,175,505
2.01.03	Taxes payable	25,366	9,691
2.01.03.01	Federal tax liabilities	13,573	4,872
2.01.03.01.02	Excise tax	1,948	1,861
2.01.03.01.03	Withholding income tax–IRRF	1,424	2,505
2.01.03.01.04	PIS and COFINS	9,519	0
2.01.03.01.05	Withholding social contribution tax	677	470
2.01.03.01.07	Others	5	36
2.01.03.02	State tax liabilities	9,939	4,198
2.01.03.02.01	Value-Added Tax on Sales and Services	9,939	4,198
2.01.03.03	Municipal tax liabilities	1,854	621
2.01.03.03.01	Service tax	1,854	621
2.01.04	Loans and financing	262,920	131,829
2.01.05	Other liabilities	254,169	367,505
2.01.05.02	Others	254,169	367,505
2.01.05.02.02	Dividends payable	26,842	26,274
2.01.05.02.04	Derivative financial instruments	75,678	26,449
2.01.05.02.05	Advances from clients	20,323	192,515
2.01.05.02.06	Other current liabilities	38,393	55,353
2.01.05.02.07	Forfeiting and letter of credit operations	79,775	66,914
2.01.05.02.08	Leasing	13,158	0
2.02	Total non-current liabilities	2,059,167	2,193,990
2.02.01	Loans and financing	1,847,287	2,017,084
2.02.04	Provisions	211,880	176,906
2.02.04.01	Legal deposits	193,604	174,160
2.02.04.01.01	Tax Provision	2,215	2,204
2.02.04.01.02	Social security and labor provisions	173,164	165,212
2.02.04.01.04	Civil provisions	18,225	6,744
2.02.04.02	Others provisions	18,276	2,746
2.02.04.02.04	Provision for negative net equity	0	2,746
2.02.04.02.05	Leasing	18,276	0
2.03	Shareholders' equity	573,221	602,497
2.03.01	Paid-in capital	2,089,978	2,089,978
2.03.01.01	Paid-in capital	1,990,708	1,990,708
2.03.01.02	Debentures convertible into shares	104,645	104,645
2.03.01.03	Capitalization costs	-5,375	-5,375
2.03.02	Capital Reserve	-741	-741
2.03.02.05	Treasury shares	-741	-741
2.03.05	Retained earnings	-762,308	-725,250
2.03.06	Equity valuation adjustments	-753,708	-761,490

**Individual financial statements / Statement of income**  
(In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
3.01	Net sales	1,418,335	998,307
3.02	Cost of goods sold	-1,354,689	-975,201
3.03	Gross income	63,646	23,106
3.04	Operating expenses	-90,082	-97,478
3.04.01	Sales expenses	-5,464	-6,547
3.04.02	General and administrative expenses	-20,374	-25,872
3.04.02.01	General and administrative	-19,050	-16,008
3.04.02.02	Management fees	-1,962	-1,687
3.04.02.03	General and administrative	638	-8,177
3.04.04	Other income	12,623	5,961
3.04.05	Other expenses	-78,850	-77,450
3.04.06	Equity income (loss)	1,983	6,430
3.05	(Loss) operating profit before financial results	-26,436	-74,372
3.06	Financial income (loss)	-26,550	14,175
3.06.01	Financial income	444,091	192,805
3.06.02	Financial expenses	-470,641	-178,630
3.07	(Loss) before income and social contribution taxes	-52,986	-60,197
3.08	Income and social contribution tax	14,045	11,039
3.08.02	Deferred income and social contribution taxes	14,045	11,039
3.09	Net income (loss) from continuing operations	-38,941	-49,158
3.11	Income (Loss) for the period	-38,941	-49,158
3.99	Earning per share - (Reais / Shares)	-	-
3.99.01	Basic earnings per share	-	-
3.99.01.01	ON	-0.05651	-0.07133
3.99.02	Diluted earning per share	-	-
3.99.02.01	ON	-0.05195	-0.06559

**Individual financial statements / Statement of comprehensive income**  
(In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
4.01	Income (Loss) for the period	-38,941	-49,158
4.02	Items to be subsequently reclassified to the result	9,665	7,469
4.02.01	Hedge cash flow – Export income ACC/PPE	-189	-104
4.02.02	Hedge cash flow – NDF sales income	12,304	7,475
4.02.06	Earnings from Exchange variation abroad	180	90
4.02.08	Hedge cash flow – Cost metal – Future stock exchange	-2,630	8
4.03	Comprehensive income for the year	-29,276	-41,689

**Individual financial statements / Statement of cash flow - Indirect method**  
(In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
6.01	Net cash provided by (used in) operating activities	21,971	-34,459
6.01.01	Cash generated from operations	64,220	17,895
6.01.01.01	(Loss) before income and social contribution taxes	-52,986	-60,197
6.01.01.02	Residual value of written-off fixed assets	0	5
6.01.01.03	Depreciation and amortization	40,310	37,004
6.01.01.04	Equity in net income	-1,983	-6,430
6.01.01.05	Provision for losses on lawsuits	34,010	17,128
6.01.01.06	Amortization of right use the assets	3,361	0
6.01.01.07	Provision of other estimated losses	-6,104	315
6.01.01.08	Financial charges	46,540	30,471
6.01.01.09	Present value adjustment - receivables and suppliers	1,695	-228
6.01.01.12	Provision (reversal) for recoverable value of estimated losses	-623	-173
6.01.02	Changes in assets and liabilities	-42,249	-52,354
6.01.02.02	Accounts receivable	361,947	79,204
6.01.02.04	Inventory	-46,422	89,333
6.01.02.05	Taxes recoverable	10,224	14,379
6.01.02.06	Prepaid expenses	-4,376	-7,487
6.01.02.07	Legal deposits	7,255	-1,151
6.01.02.08	Derivative financial instruments	87,824	18,934
6.01.02.09	Assets held for sale	-120	-557
6.01.02.10	Other current and non-current liabilities	-9,855	-1,647
6.01.02.11	Suppliers	-323,171	-60,993
6.01.02.12	Forfeiting and letter of credit operations	12,681	-10,071
6.01.02.14	Taxes payable	14,421	-596
6.01.02.15	Legal deposits	-13,312	-11,093
6.01.02.16	Payroll and related charges	-7,027	-3,788
6.01.02.18	Advances from clients	-168,007	-12,646
6.01.02.19	Derivative financial instruments	48,629	-143,969
6.01.02.20	Other current and non-current liabilities	-12,940	-206
6.02	Net cash used in investment activities	2,914	-51,975
6.02.04	Other investments	-91	0
6.02.06	Variation of controlled company capital	-2,947	0
6.02.07	Fixed assets and intangible additions	-16,755	-47,816
6.02.08	Financial investments	-732,534	-328,048
6.02.09	Redemption of financial investments	755,241	323,889
6.03	Net cash generated (consumed) in financing activities	-84,621	-8,357
6.03.01	Loans and financing	23,264	23,557
6.03.02	Amortization of loans and financing	-52,264	-24,508
6.03.04	Interest payments on loans	-51,873	-7,406
6.03.05	Leasing	-3,748	0
6.05	Reduction in cash and cash equivalents	-59,736	-94,791
6.05.01	Cash and cash equivalents at the beginning of the year	201,571	343,678
6.05.02	Cash and cash equivalents at the end of the year	141,835	248,887



**Individual financial statements / Statement of changes in equity – 01/01/2019 - 03/31/2019**

(In thousands of Reais)

Code of account	Account description	Paid-up capital	Capital reserves, Options granted and Treasury shares	Profit reserves	Retained earnings (loss)	Other comprehensive income	Equity
5.01	Opening balances	1,990,708	98,529	0	-725,250	-761,490	602,497
5.03	Adjusted opening balances	1,990,708	98,529	0	-725,250	-761,490	602,497
5.05	Total comprehensive income	0	0	0	-38,941	9,665	-29,276
5.05.01	Net income for the period	0	0	0	-38,941	0	-38,941
5.05.02	Other comprehensive income	0	0	0	0	9,665	9,665
5.05.02.01	Financial instruments - adjustments	0	0	0	0	9,485	9,485
5.05.02.06	Earnings and losses from foreign exchange variations-Foreign investment	0	0	0	0	180	180
5.06	Internal changes in equity	0	0	0	1,883	-1,883	0
5.06.02	Realization of revaluation reserve	0	0	0	2,511	-2,511	0
5.06.03	Taxes on the realization of the revaluation reserve	0	0	0	-628	628	0
5.07	Closing balances	1,990,708	98,529	0	-762,308	-753,708	573,221

O cobre transforma o mundo. A Paranapanema transforma o cobre.

**Individual financial statements / Statement of changes in equity – 01/01/2018 - 03/31/2018**  
(In thousands of Reais)

Code of account	Account description	Paid-up capital	Capital reserves, Options granted and Treasury shares	Profit reserves	Retained earnings (loss)	Other comprehensive income	Equity
5.01	Opening balances	1,984,751	104,486	0	-414,356	-786,359	888,522
5.03	Adjusted opening balances	1,984,751	104,486	0	-414,356	-786,359	888,522
5.04	Capital transactions with partners	5,957	-5,957	0	0	0	0
5.04.01	Capital increase	5,957	-5,957	0	0	0	0
5.05	Total comprehensive income	0	0	0	-49,158	7,469	-41,689
5.05.01	Net income for the period	0	0	0	-49,158	0	-49,158
5.05.02	Other comprehensive income	0	0	0	0	7,469	7,469
5.05.02.01	Financial instruments - adjustments	0	0	0	0	7,379	7,379
5.05.02.03	Earnings and losses from foreign exchange variations-Foreign investment	0	0	0	0	90	90
5.06	Internal changes in equity	0	0	0	4,266	-4,266	0
5.06.02	Realization of revaluation reserve	0	0	0	5,593	-5,593	0
5.06.03	Taxes on the realization of the revaluation reserve	0	0	0	-1,327	1,327	0
5.07	Closing balances	1,990,708	98,529	0	-459,248	-783,156	846,833

**Individual financial statements or Statement of value added**  
(In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
7.01	Income	1,589,393	1,126,371
7.01.01	Sales of goods and services	1,576,236	1,120,460
7.01.02	Other income	12,534	5,911
7.01.04	Provision of credits for doubtful accounts	623	0
7.02	Inputs acquired from third parties	-1,464,031	-1,031,893
7.02.01	Cost of goods and services sold	-1,295,790	-897,232
7.02.02	Materials, energy, third party services and other	-168,241	-134,661
7.03	Gross added value	125,362	94,478
7.04	Retentions	-43,671	-37,004
7.04.01	Depreciation and amortization	-43,671	-37,004
7.05	Net added value	81,691	57,474
7.06	Added value received through transfers	446,074	199,235
7.06.01	Equity equivalence result	1,983	6,430
7.06.02	Financial income	444,091	192,805
7.07	Total net added value payable	527,765	256,709
7.08	Net added value payable	527,765	256,709
7.08.01	Personnel and charges	54,789	60,128
7.08.02	Taxes, duties and contributions	38,349	62,772
7.08.03	Third-party capital remuneration	473,568	182,967
7.08.04	Remuneration of own capital	-38,941	-49,158
7.08.04.03	Loss for the period	-38,941	-49,158

## Consolidated financial statements / Balance sheet – Assets (In thousands of Reais)

Code of account	Account description	Current quarter 03/31/2019	Prior year 12/31/2018
1	Total assets	4,206,840	4,623,494
1.01	Total current assets	2,362,541	2,787,160
1.01.01	Cash and cash equivalents	143,548	216,668
1.01.02	Financial investments	9,915	28,791
1.01.03	Accounts receivable	375,404	665,589
1.01.04	Inventory	1,658,030	1,626,575
1.01.06	Taxes recoverable	88,819	101,742
1.01.07	Prepaid expenses	15,230	10,789
1.01.08	Other current assets	71,595	137,006
1.01.08.03	Others	71,595	137,006
1.01.08.03.01	Derivative financial instruments	50,661	129,313
1.01.08.03.02	Other current assets	20,934	7,693
1.02	Total non-current assets	1,844,299	1,836,334
1.02.01	Long term assets	587,578	556,332
1.02.01.01	Financial investments	12,945	16,765
1.02.01.04	Accounts receivable	0	1,096
1.02.01.07	Taxes	311,553	299,795
1.02.01.07.01	Deferred income tax and social contribution	190,857	177,395
1.02.01.07.02	Taxes recoverable	120,696	122,400
1.02.01.08	Prepaid expenses	9,488	9,669
1.02.01.10	Other non-current assets	253,592	229,007
1.02.01.10.03	Assets held for sale	112,865	112,745
1.02.01.10.04	Legal deposits	25,054	32,309
1.02.01.10.05	Other non-current assets	84,366	83,953
1.02.01.10.06	Prepaid expenses	31,307	0
1.02.02	Investments	2,418	2,327
1.02.02.02	Investment Property	2,418	2,327
1.02.02.02.01	Other investments	2,418	2,327
1.02.03	Property, plant and equipment	1,243,706	1,267,510
1.02.03.01	Fixed assets in operation	1,197,496	1,236,926
1.02.03.03	Property, plant and equipment in progress	46,210	30,584
1.02.04	Intangible assets	10,597	10,165

## Consolidated financial statements / Balance sheet – Liabilities (In thousands of Reais)

Code of account	Account description	Current quarter 03/31/2019	Prior year 12/31/2018
2	Total liabilities	4,206,840	4,623,494
2.01	Total current liabilities	1,574,225	1,829,754
2.01.01	Payroll and related charges	53,010	60,061
2.01.02	Suppliers	976,683	1,257,987
2.01.02.01	Domestic suppliers	173,985	82,482
2.01.02.02	Foreign suppliers	802,698	1,175,505
2.01.03	Taxes payable	25,804	11,139
2.01.03.01	Federal tax liabilities	14,006	6,300
2.01.03.01.01	Income tax and social contribution	431	1,424
2.01.03.01.02	Excise tax	1,948	1,861
2.01.03.01.03	Withholding income tax-IRRF	1,426	2,509
2.01.03.01.04	PIS and COFINS	9,519	0
2.01.03.01.05	Withholding social contribution tax	677	470
2.01.03.01.07	Others	5	36
2.01.03.02	State tax liabilities	9,944	4,218
2.01.03.02.01	Value-Added Tax on Sales and Services	9,944	4,218
2.01.03.03	Municipal tax liabilities	1,854	621
2.01.03.03.01	Service tax	1,854	621
2.01.04	Loans and financing	262,920	131,829
2.01.05	Other liabilities	255,808	368,738
2.01.05.02	Others	255,808	368,738
2.01.05.02.02	Dividends payable	26,842	26,274
2.01.05.02.04	Derivative financial instruments	75,678	26,449
2.01.05.02.05	Advances from clients	21,543	193,122
2.01.05.02.06	Other current liabilities	38,641	55,979
2.01.05.02.07	Forfeiting and letter of credit operations	79,775	66,914
2.01.05.02.08	Leasing	13,329	0
2.02	Total non-current liabilities	2,059,394	2,191,243
2.02.01	Loans and financing	1,847,287	2,017,084
2.02.04	Provisions	212,107	174,159
2.02.04.01	Legal deposits	193,604	174,159
2.02.04.01.01	Tax Provision	2,215	2,204
2.02.04.01.02	Social security and labor provisions	173,164	165,211
2.02.04.01.04	Civil provisions	18,225	6,744
2.02.04.02	Others provisions	18,503	0
2.02.04.02.05	Leasing	18,503	0
2.03	Shareholders' equity	573,221	602,497
2.03.01	Paid-in capital	2,089,978	2,089,978
2.03.01.01	Paid-in capital	1,990,708	1,990,708
2.03.01.02	Debentures convertible into shares	104,645	104,645
2.03.01.03	Capitalization costs	-5,375	-5,375
2.03.02	Capital Reserve	-741	-741
2.03.02.05	Treasury shares	-741	-741
2.03.05	Retained earnings	-762,308	-725,250
2.03.06	Equity valuation adjustments	-753,708	-761,490

## Consolidated financial statements / Statement of income (In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
3.01	Net sales	1,336,389	1,019,965
3.02	Cost of goods sold	-1,267,002	-996,378
3.03	Gross income	69,387	23,587
3.04	Operating expenses	-92,966	-104,795
3.04.01	Sales expenses	-5,978	-7,098
3.04.02	General and administrative expenses	-20,769	-26,268
3.04.02.01	General and administrative	-19,424	-16,370
3.04.02.02	Management fees	-1,962	-1,687
3.04.02.03	General and administrative	617	-8,211
3.04.04	Other income	12,645	6,050
3.04.05	Other expenses	-78,864	-77,479
3.05	(Loss) operating profit before financial results	-23,579	-81,208
3.06	Financial income (loss)	-28,392	21,965
3.06.01	Financial income	303,497	205,697
3.06.02	Financial expenses	-331,889	-183,732
3.07	(Loss) before income and social contribution taxes	-51,971	-59,243
3.08	Income and social contribution tax	13,030	10,085
3.08.01	Income and social contribution tax for the current year	-432	-500
3.08.02	Deferred income and social contribution taxes	13,462	10,585
3.09	Net income (loss) from continuing operations	-38,941	-49,158
3.11	Income (Loss) for the period	-38,941	-49,158
3.11.01	Attributed to Parent Company Share Holders	-38,941	-49,158
3.99	Earning per share - (Reais / Shares)		
3.99.01	Basic earnings per share		
3.99.01.01	ON	-0.05651	-0.07133
3.99.02	Diluted earning per share		
3.99.02.01	ON	-0.05195	-0.06559

**Consolidated financial statements / Statement of comprehensive income**  
**(In thousands of Reais)**

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
4.01	Income (Loss) for the period	-38,941	-49,158
4.02	Items to be subsequently reclassified to the result	9,665	7,469
4.02.01	Hedge cash flow – Export income ACC/PPE	-189	-104
4.02.02	Hedge cash flow – NDF sales income	12,304	7,475
4.02.06	Earnings from Exchange variation abroad	180	90
4.02.08	Hedge cash flow – Cost metal – Future stock exchange	-2,630	8
4.03	Comprehensive income for the year	-29,276	-41,689
4.03.01	Attributed to Parent Company Share Holders	-29,276	-41,689

## Consolidated financial statements / Statement of cash flow - Indirect method (In thousands of Reais)

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
6.01	Net cash provided by (used in) operating activities	5,698	-27,628
6.01.01	Cash generated from operations	66,453	24,957
6.01.01.01	(Loss) before income and social contribution taxes	-51,971	-59,243
6.01.01.02	Residual value of written-off fixed assets	0	5
6.01.01.03	Depreciation and amortization	40,340	37,031
6.01.01.05	Provision for losses on lawsuits	34,010	17,128
6.01.01.06	Amortization of right use the assets	3,403	0
6.01.01.07	Provision of other estimated losses	-6,104	315
6.01.01.08	Financial charges	46,721	30,560
6.01.01.09	Present value adjustment - receivables and suppliers	669	-619
6.01.01.12	Provision (reversal) for recoverable value of estimated loss	-615	-220
6.01.02	Changes in assets and liabilities	-60,741	-52,085
6.01.02.02	Accounts receivable	297,377	106,360
6.01.02.04	Inventory	-31,027	107,522
6.01.02.05	Taxes recoverable	15,303	18,653
6.01.02.06	Prepaid expenses	-4,260	-7,400
6.01.02.07	Legal deposits	-664	-1,151
6.01.02.08	Derivative financial instruments	87,824	18,971
6.01.02.09	Assets held for sale	-120	-557
6.01.02.10	Other current and non-current liabilities	-13,015	-1,857
6.01.02.11	Suppliers	-294,717	-107,134
6.01.02.12	Forfeiting and letter of credit operations	12,681	-10,071
6.01.02.14	Taxes payable	14,404	-600
6.01.02.15	Legal deposits	-5,392	-11,093
6.01.02.16	Payroll and related charges	-7,051	-3,819
6.01.02.18	Advances from clients	-167,394	-15,707
6.01.02.19	Derivative financial instruments	48,629	-143,959
6.01.02.20	Other current and non-current liabilities	-13,319	-243
6.01.03	Other	-14	-500
6.01.03.01	Income and social contribution taxes paid	-14	-500
6.02	Net cash used in investment activities	5,851	-51,986
6.02.04	Other investments	-91	0
6.02.07	Fixed assets and intangible additions	-16,754	-47,816
6.02.08	Financial investments	-732,545	-328,059
6.02.09	Redemption of financial investments	755,241	323,889
6.03	Net cash generated (consumed) in financing activities	-84,669	-8,356
6.03.01	Loans and financing	23,264	23,557
6.03.02	Amortization of loans and financing	-52,264	-24,507
6.03.04	Interest payments on loans	-51,873	-7,406
6.03.05	Leasing	-3,796	0
6.05	Reduction in cash and cash equivalents	-73,120	-87,970
6.05.01	Cash and cash equivalents at the beginning of the year	216,668	345,551
6.05.02	Cash and cash equivalents at the end of the year	143,548	257,581



O cobre transforma o mundo. A Paranapanema transforma o cobre.

**Consolidated financial statements / Statement of changes in equity – 01/01/2019 - 03/31/2019**  
(In thousands of Reais)

Code of account	Account description	Paid-up capital	Capital reserves, Options granted and Treasury shares	Profit reserves	Retained earnings (loss)	Other comprehensive income	Equity	Consolidated Equity
5.01	Opening balances	1,990,708	98,529	0	-725,250	-761,490	602,497	602,497
5.03	Adjusted opening balances	1,990,708	98,529	0	-725,250	-761,490	602,497	602,497
5.05	Total comprehensive income	0	0	0	-38,941	9,665	-29,276	-29,276
5.05.01	Net income for the period	0	0	0	-38,941	0	-38,941	-38,941
5.05.02	Other comprehensive income	0	0	0	0	9,665	9,665	9,665
5.05.02.01	Financial instruments - adjustments	0	0	0	0	9,485	9,485	9,485
5.05.02.06	Earnings and losses from foreign exchange variations-Foreign investment	0	0	0	0	180	180	180
5.06	Internal changes in equity	0	0	0	1,883	-1,883	0	0
5.06.02	Realization of revaluation reserve	0	0	0	2,511	-2,511	0	0
5.06.03	Taxes on the realization of the revaluation reserve	0	0	0	-628	628	0	0
5.07	Closing balances	1,990,708	98,529	0	-762,308	-753,708	573,221	573,221

O cobre transforma o mundo. A Paranapanema transforma o cobre.

**Consolidated financial statements / Statement of changes in equity – 01/01/2018 - 03/31/2018**  
(In thousands of Reais)

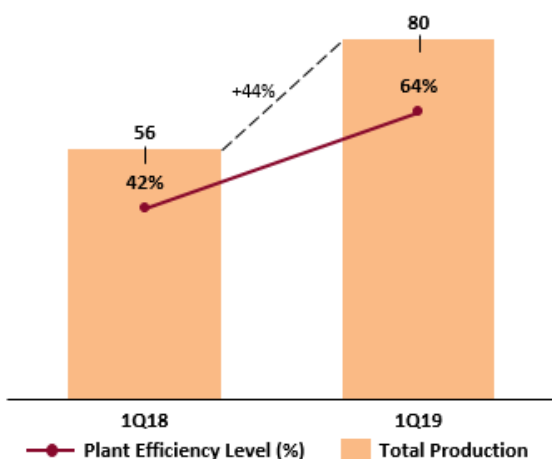
Code of account	Account description	Paid-up capital	Capital reserves, Options granted and Treasury shares	Profit reserves	Retained earnings (loss)	Other comprehensive income	Equity	Consolidated Equity
5.01	Opening balances	1,984,751	104,486	0	-414,356	-786,359	888,522	888,522
5.03	Adjusted opening balances	1,984,751	104,486	0	-414,356	-786,359	888,522	888,522
5.04	Capital transactions with partners	5,957	-5,957	0	0	0	0	0
5.04.01	Capital increase	5,957	-5,957	0	0	0	0	0
5.05	Total comprehensive income	0	0	0	-49,158	7,469	-41,689	-41,689
5.05.01	Net income for the period	0	0	0	-49,158	0	-49,158	-49,158
5.05.02	Other comprehensive income	0	0	0	0	7,469	7,469	7,469
5.05.02.01	Financial instruments - adjustments	0	0	0	0	7,379	7,379	7,379
5.05.02.03	Earnings and losses from foreign exchange variations-Foreign investment	0	0	0	0	90	90	90
5.06	Internal changes in equity	0	0	0	4,266	-4,266	0	0
5.06.02	Realization of revaluation reserve	0	0	0	5,593	-5,593	0	0
5.06.03	Taxes on the realization of the revaluation reserve	0	0	0	-1,327	1,327	0	0
5.07	Closing balances	1,990,708	98,529	0	-459,248	-783,156	846,833	846,833

**Consolidated financial statements or Statement of value added  
(In thousands of Reais)**

Code of account	Account description	1 st Quarter 2019	1 st Quarter 2018
7.01	Income	1,486,673	1,130,867
7.01.01	Sales of goods and services	1,473,502	1,124,870
7.01.02	Other income	12,556	5,997
7.01.04	Provision of credits for doubtful accounts	615	0
7.02	Inputs acquired from third parties	-1,380,185	-1,144,428
7.02.01	Cost of goods and services sold	-1,207,511	-997,241
7.02.02	Materials, energy, third party services and other	-172,674	-147,187
7.03	Gross added value	106,488	-13,561
7.04	Retentions	-43,743	-37,031
7.04.01	Depreciation and amortization	-43,743	-37,031
7.05	Net added value	62,745	-50,592
7.06	Added value received through transfers	303,497	205,697
7.06.02	Financial income	303,497	205,697
7.07	Total net added value payable	366,242	155,105
7.08	Net added value payable	366,242	155,105
7.08.01	Personnel and charges	55,259	60,610
7.08.02	Taxes, duties and contributions	14,929	-44,654
7.08.03	Third-party capital remuneration	334,995	188,307
7.08.04	Remuneration of own capital	-38,941	-49,158
7.08.04.03	Loss for the period	-38,941	-49,158

## OPERATING PERFORMANCE

Total Production (thousand tons) x Plant Efficiency Level (%)



### Total Production Volume

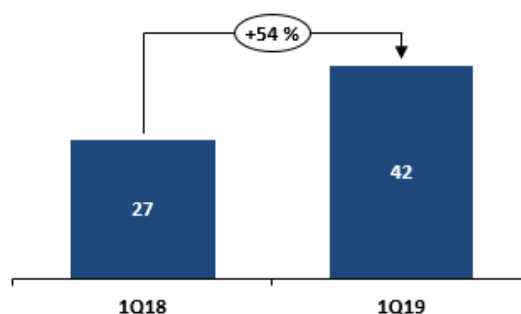
It is easy to notice that in general the productive capacity increases to the extent the asset recovery plan is implemented. Despite the Company operated on and off in the first quarter due to external events and some equipment defects, which resulted in approximately 15 days of production off.

With the better operational performance, there was a substantial increase of 44% in production in the 1Q19. The average OEE of the Dias d'Ávila unit was approximately 64%, well above the average posted in the 1Q18, which confirms the improvement in the plant performance.

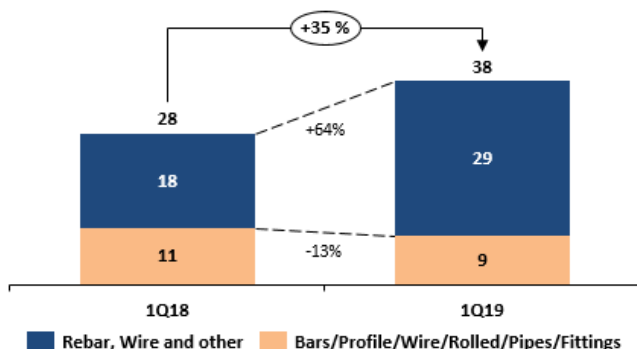
### Production of Primary Copper (Cathode)

The 54% growth in the 1Q19 in primary copper production results from the better performance of the Smelter, a factor that enables the use of the asset, leading to the increase in the operational performance

Production of Primary Copper (thousand tons)



Production of Copper Products (thousand tons)



### Copper Products

Driven by Company's business strategy of prioritizing the sales of products with a higher added value, the total volume of copper products in 1Q19 increased by 35% mainly due to the higher sales volume of Rods, Wire and Other. The Company has increased its Market Share in the Brazilian market, and continued to expand its businesses in new markets, particularly in the Middle East and Asia.

### Byproducts

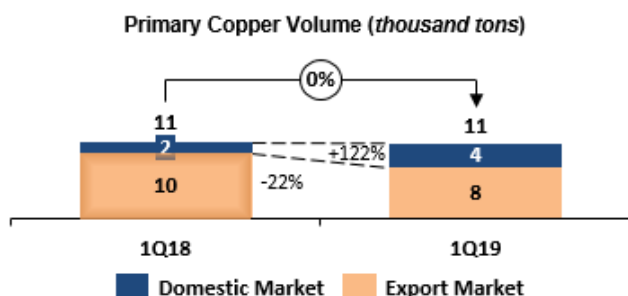
The production volume in the 1Q19 was 149.7 thousand tons, up by 15% compared to the 1Q18, mainly due to the increase in the volume of Sulphuric Acid and Anodic Slime production, reflecting the better operational performance of the Smelter in the period.

## COMMERCIAL PERFORMANCE

### Sales Volume

Total Sales Volume in 1Q19 was 47.8 thousand tons, an 22% increase compared to 1Q18 with 39.2 thousand tons. The Company maintained the strategy of optimizing available resources, allocating raw materials for the products that can lead to better sales margins. Thus, the Company reduced primary copper sales and increased sales of copper products, as detailed below:

### Primary Copper



In the 1Q19, primary copper sales remained stable due to the already mentioned on and off periods, and the focus on the sales of products with higher added value, particularly, Wire and Rod sales.

In the first quarter of 2019, of total primary copper sales, 32% were sold to the Brazilian market and 68% to the foreign market.

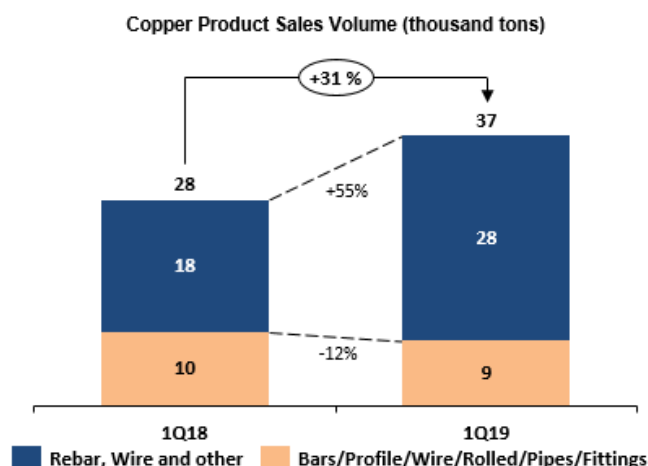
### Copper Product

#### Rods, Wire and Other

The sales volume of copper products recorded a good growth between quarters, due to the expansion of sales in the market of wire and rods which recorded an increase of 55%. Wire and Rod sales have increase in both Brazilian and foreign markets, a result of business strategies.

#### Bars/Profiles/Wires/Laminates/Pipes/Connections

With the implementation of price repositioning of several products focused on the Company's profitability the sales to the domestic market remained stable. In the foreign market, sales fell in response to the Argentinean crisis, which is the most relevant market for the products of the Eluma brand.



### Byproducts

Byproducts result from process of transformation of concentrate copper into Cathodes. The main are Sulphuric Acid and Anodic Slime (material rich in precious metals such as gold and silver). Sulphuric Acid has its price based on the FMB quote (Fertilizer Market Bulletin) plus premiums or discounts as local market and freight, while Anodic Slime has its price set as a result of the precious metals it contains. Byproduct prices are indexed to dollar. Sales Volume in 1Q19 was 145.4 thousand tons, a 10% increase

compared to the 1Q18. The quarterly revenue variation in the Byproducts is due to the increase in the sales volume of Sulphuric Acid and Anodic Slime and price increase in the period.

## ECONOMIC PERFORMANCE

### Net Revenue

<i>In R\$ thd, except otherwise stated</i>	<b>1Q18</b>	<b>1Q19</b>	<b>Δ %</b>
<b>Primary Copper</b>	<b>370,200</b>	<b>279,937</b>	<b>-24%</b>
% of Revenue	36.3%	20.9%	-15.3 p.p.
<b>Copper Products</b>	<b>566,528</b>	<b>830,907</b>	<b>47%</b>
% of Revenue	55.5%	62.2%	6.6 p.p.
<b>Rods, Wires and Others</b>	<b>372,118</b>	<b>657,696</b>	<b>77%</b>
<b>Bars/Profiles/Rolled/Tubes/Fittings</b>	<b>194,410</b>	<b>173,211</b>	<b>-11%</b>
<b>Byproducts</b>	<b>83,237</b>	<b>225,545</b>	<b>171%</b>
% of Revenue	8.2%	16.9%	8.7 p.p.
<b>Total Net Revenue</b>	<b>1,019,965</b>	<b>1,336,389</b>	<b>31%</b>
Domestic Market [%]	39.1%	43.1%	10.4%
Export Market [%]	59.6%	56.0%	-6.0%
Toll [%]	1.4%	0.9%	-34.3%

The Company experienced some setbacks in the Dias d'Ávila plant, such as heavy rains during March, which disrupted energy and gas supply, causing our plant and all other companies of the Petrochemical Complex to shut down for a couple of days, and there were failures in one of the sulphuric acid towers, which adversely affected the performance of the Dias d'Ávila site in January.

Such on and off periods, as already mentioned, resulted in the loss of production of approximately 15 days, but they have already been readily addressed, allowing the improved operational performance in the period. The sulphuric acid tower is planned to be substituted during the scheduled maintenance in August 2019.

Net Revenue from Primary Copper decreased 24% in 1Q19 compared to the 1Q18, mainly due to the focus on sales of higher semi-finished products and higher added value. In the 1Q19, net revenue from Copper Products had an increase of 47% compared to the 1Q18 mainly due to a higher sales volume of Rods, Wire and Other and due to the Company's commercial strategy of prioritizing sales of products offering greater profitability.

The Net Revenue from Byproducts had an increase of 171% increase, due to the higher product availability, and a considerable increase in sulphuric acid price, which is based on the benchmark price in international markets.

Lastly, it is worth remembering that the Company's Net Revenue is negatively impacted by Other Comprehensive Income (OCI), which is a non-monetary effect of deferred 2015 foreign exchange-rate fluctuations due to adjustments in hedge accounting.

## Gross Profit

<i>In R\$ thd, except otherwise stated</i>	1Q18	1Q19	Δ %
<b>Net Revenue</b>	<b>1,019,965</b>	<b>1,336,389</b>	<b>31%</b>
<b>Total COGS</b>	<b>(996,378)</b>	<b>(1,267,002)</b>	<b>-27%</b>
( - ) Metal Cost	(877,730)	(1,122,902)	-28%
( - ) Transformation Cost	(118,648)	(144,100)	-21%
COGS Total/tonnes sold	25.4	26.5	4%
Metal Cost/tonnes sold	22.4	23.5	5%
Transformation Cost/tonnes sold	3.0	3.0	0%
<b>Gross Profit</b>	<b>23,587</b>	<b>69,387</b>	<b>194%</b>
% of Revenue	2.3%	5.2%	2.9 p.p.
TC/RC (reduces metal cost)	38,762	62,696	62%
Premiums	142,235	213,487	50%
Premium/Net Revenue [%]	13.9%	16.0%	2.0 p.p.
Premium/tonnes sold	3.63	4.46	23%

Gross Profit recorded a significant increase of 194% in 1Q19 when compared to 1Q18. Thus, the gross margin increased by 2.9 p.p., mainly due to the increase in the share of copper products in total sales volume (mix improvement), increase in premiums for Byproducts and in addition to the appreciation of the US dollar for the period.

The Premium obtained in sales of products recorded a 50% increase in the comparison between the quarters. The improvement was a result of a better sales mix, higher sales volumes (gains of scale) and also the price re-alignment performed in the period in some product lines.

## Operating Expenses

<i>In R\$ thd, except otherwise stated</i>	1Q18	1Q19	Δ %
<b>Total Operating Expenses</b>	<b>(104,795)</b>	<b>(92,966)</b>	<b>11%</b>
Sales Expenses	(7,098)	(5,978)	16%
G&A Expenses and Management Compensation	(18,057)	(21,386)	-18%
Other Operating, net	(79,640)	(65,602)	18%
Total Expenses/Net Revenue [%]	10.3%	7.0%	-3.3 p.p.
Recurring Expenses*/Gross Profit [%]	128.5%	26.1%	-102.4 p.p.
Recurring Expenses*/tonnes sold	0.77	0.38	-51%
<b>Main items - Other Operating, Net:</b>			
Provisions for labor and tax contingencies	(17,128)	(32,756)	-91%
Other provisions	(93)	(530)	-470%
Idle capacity	(57,273)	(41,582)	27%

The 11% reduction in total expenses in the 1Q19 is mainly explained by the decrease in idle capacity expenses in the period in the line item of Other Operating Expenses, reflecting the better operational performance of the Smelter, which led to a greater production volume. It is also worth noting that the SG&A expenses accounted for 2.04% of Net Revenue for the 1Q19 as compared to 2.47% in the same period of 2018.

## EBITDA

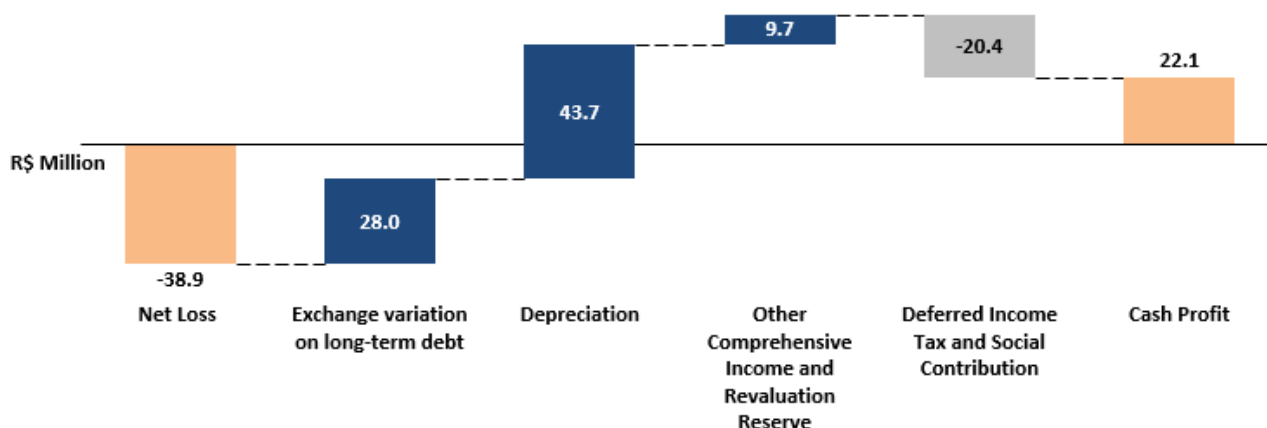
<i>In R\$ thd, except otherwise stated</i>	1Q18	1Q19	Δ %
<b>Net Profit</b>	<b>(49,158)</b>	<b>(38,941)</b>	21%
( + ) Taxes	(10,085)	(13,030)	-29%
( + ) Net Financial Result	(21,965)	28,392	229%
<b>EBIT</b>	<b>(81,208)</b>	<b>(23,579)</b>	-
( + ) Depreciation and Amortization	37,031	43,743	18%
<b>EBITDA</b>	<b>(44,177)</b>	<b>20,164</b>	-
% of Revenue	-4.3%	1.5%	5.8 p.p.

In the 1Q19, we reversed the operating loss of R\$44.2 million in the 1Q18 to an EBITDA of R\$20.2 million, explained by the better operational performance, the increase in sales volume, particularly of Rods, Wires and other, and price appreciation in the period. In 12 month accumulated, EBITDA LTM 1Q19 reached R\$147 million, a change of approximately R\$64.3 million as compared to the amount for the 4Q18.

## Net Income (Loss)

In the 1Q19, the Company recorded Net Loss of R\$38.9 million. The non-monetary impacts of the exchange-rate change on long-term debts totaled R\$28.0 million<sup>1</sup>, besides this non-monetary impact, depreciation amounted to R\$43.7 million, Other Comprehensive Income (OCI) (Equity Valuation Adjustment) and Revaluation Reserve of R\$9.7 million. Thus, if we eliminate the main non-monetary effects on Net Income (Loss), we would have a Net Income of R\$22.1 million.

### Cash Profit - 1Q19



<sup>1</sup> About 94% of our debt is denominated in US dollars, while 88% of this debt have a long-term maturity. It is important to point out that the effects of the exchange-rate change on long-term debts should not be taken as an actual exposure of the Company, since the cash related to these payments will be generated in future periods, when revenues will also capture such appreciation. Thus, from the perspective of the Company's cash flow, there is a natural hedge between future revenues and future debt payments.



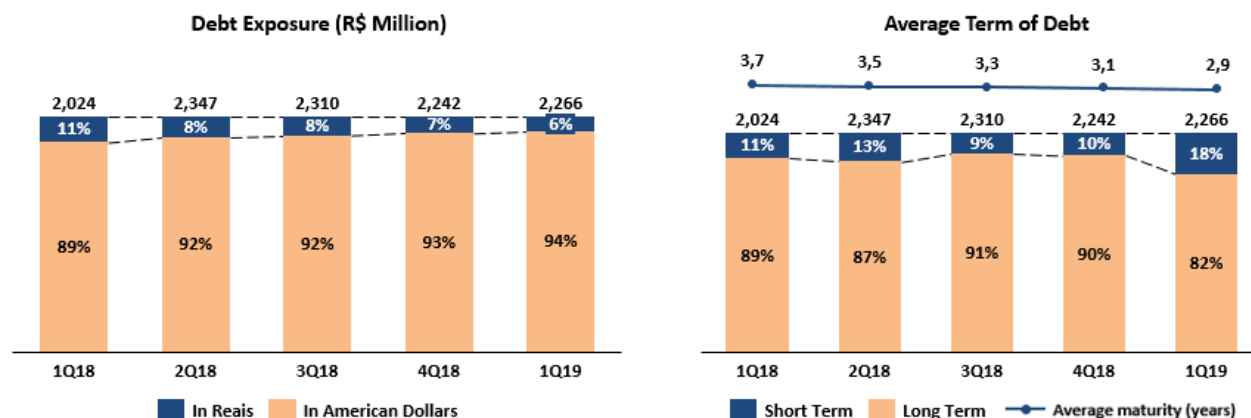
## Operating Cash Generation

We continue adopting a conservative approach to cash management, combined with greater use of operating assets and the streamlining of costs and expenses. In the quarter we obtained a Operating Cash Generation of R\$5.7 million, mainly arising from reduction in average term for receipt which was reduced by 11 days, improving the cash liquidity and allowing the growth of operations.

## Indebtedness

In R\$ thd, except otherwise stated	1Q18	2Q18	3Q18	4Q18	1Q19
Loans and Financing Short Term	162,060	192,234	133,642	131,829	262,920
Loans and Financing Long Term	1,792,883	2,047,007	2,100,691	2,017,084	1,847,287
Forfaiting and letter of credit operations	31,880	36,982	38,403	66,914	79,775
Derivatives financial instruments	37,098	71,060	37,189	26,449	75,678
<b>Gross Debt</b>	<b>2,023,921</b>	<b>2,347,283</b>	<b>2,309,925</b>	<b>2,242,276</b>	<b>2,265,660</b>
Cash and Cash Equivalents	257,581	166,883	344,201	216,668	143,548
Derivatives	72,906	41,512	160,051	129,313	50,661
Financial Investments	57,255	68,481	66,820	45,556	22,860
<b>Net Debt</b>	<b>1,636,179</b>	<b>2,070,407</b>	<b>1,738,853</b>	<b>1,850,739</b>	<b>2,048,591</b>
LTM EBITDA*	(253,553)	(279,387)	22,754	82,708	147,049
Net Debt /LTM EBITDA	-	-	76.42x	22.38x	13.93x

It is worth noting that the improvement in operational performance the Net debt /EBITDA ratio significantly decreases and in line with our projections. The Company continues to make progresses in its operational



recovery plan, increasing sales and operating results, while it gains efficiency in its processes and shorten the cash conversion cycle, thus reducing its financial leverage.

In the quarter, we amortized the second installment of interests, meeting the schedule negotiated in the 2017 reprofiling in the amount of US\$12.0 million. There was no new funding in the period, and the increase in short term reflects the transition from part of long-term to short-term debt, arising from the first amortization installment of the principal, which will occur in March 2020.

Considering the current debt profile, the average indebtedness term decreased from 3.1 to 2.9 years. The average debt cost at the end of March 2018 was 9.77% p.a., as compared to 9.41% p.a at the end of March 2019.

\*\*\*\*\*

*The Company is subject to the New Market Arbitration Chamber rules, as specified in its Bylaws.*

*Management makes statements on future events that are subject to risks and uncertainties. These statements are based on Management's estimates and assumptions and on information currently available to the Company. Statements on future events include information on its current intentions, estimates or expectations, as well as those of the Company's Directors. Exceptions to forward-looking statements and information also include information on possible or assumed operating results, as well as statements that are preceded, followed of that include the words "believes", "may", "will", "continues", "waits", "provides", "intends", "plans", "estimates" or similar expressions. Forward-looking statements and information are not guarantees of performance. They involve risks, uncertainties and assumptions, since they refer to future events, thus depending on circumstances that may or may not occur. Future results and the creation of value for shareholders may significantly differ from those expressed or estimated by forward-looking statements. Many of the factors that will determine these results and values are beyond Company's control or foresight capacity.*

## Balance sheets

March 31, 2019 and December 31, 2018

(In thousands of Reais)

ASSETS	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Cash and cash equivalents	05	141,835	201,571	143,548	216,668
Financial investments	05	9,136	28,023	9,915	28,791
Accounts receivable	06	414,784	771,700	375,404	665,589
Inventory	07	1,635,148	1,588,298	1,658,030	1,626,575
Taxes recoverable	08	83,794	90,228	88,819	101,742
Other current assets	09	20,890	10,809	20,934	7,693
Derivative financial instruments	28	50,661	129,313	50,661	129,313
Prepaid expenses		14,831	10,274	15,230	10,789
<b>Total current assets</b>		<b>2,371,079</b>	<b>2,830,216</b>	<b>2,362,541</b>	<b>2,787,160</b>
Financial investments	05	12,945	16,765	12,945	16,765
Accounts receivable	06	-	10	-	1,096
Taxes recoverable	08	120,696	122,400	120,696	122,400
Assets held for sale	10	112,865	112,745	112,865	112,745
Deferred income tax and social contribution	26	178,830	164,785	190,857	177,395
Legal deposits	09.2	25,054	32,309	25,054	32,309
Other non-current assets	09.1	84,366	83,953	84,366	83,953
Prepaid expenses		9,488	9,669	9,488	9,669
Prepaid expenses	15	30,914	-	31,307	-
		<b>575,158</b>	<b>542,636</b>	<b>587,578</b>	<b>556,332</b>
Investments	11	24,137	21,772	-	-
Other investments		2,418	2,327	2,418	2,327
Property, plant and equipment	12	1,242,782	1,266,555	1,243,706	1,267,510
Intangible assets	12	10,597	10,165	10,597	10,165
		<b>1,279,934</b>	<b>1,300,819</b>	<b>1,256,721</b>	<b>1,280,002</b>
<b>Total non-current assets</b>		<b>1,855,092</b>	<b>1,843,455</b>	<b>1,844,299</b>	<b>1,836,334</b>
<b>Total assets</b>		<b>4,226,171</b>	<b>4,673,671</b>	<b>4,206,840</b>	<b>4,623,494</b>

See the accompanying notes to the financial statements.

## Balance sheets

March 31, 2019 and December 31, 2018

(In thousands of Reais)

LIABILITIES	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Suppliers	13	998,453	1,308,257	976,683	1,257,987
Forfeiting and letter of credit operations	14	79,775	66,914	79,775	66,914
Leasing	15	13,158	-	13,329	-
Loans and financing	16	262,920	131,829	262,920	131,829
Derivative financial instruments	28	75,678	26,449	75,678	26,449
Payroll and related charges	17	52,875	59,902	53,010	60,061
Taxes payable	18	25,366	9,691	25,804	11,139
Dividends payable	20	26,842	26,274	26,842	26,274
Advances from clients	20	20,323	192,515	21,543	193,122
Other current liabilities	20	38,393	55,353	38,641	55,979
<b>Total current liabilities</b>		<b>1,593,783</b>	<b>1,877,184</b>	<b>1,574,225</b>	<b>1,829,754</b>
Leasing	15	18,276	-	18,503	-
Loans and financing	16	1,847,287	2,017,084	1,847,287	2,017,084
Legal deposits	19	193,604	174,160	193,604	174,159
Provision for negative net equity	11	-	2,746	-	-
<b>Total non-current liabilities</b>		<b>2,059,167</b>	<b>2,193,990</b>	<b>2,059,394</b>	<b>2,191,243</b>
<b>Total liabilities</b>		<b>3,652,950</b>	<b>4,071,174</b>	<b>3,633,619</b>	<b>4,020,997</b>
Paid-in capital	21.a	1,990,708	1,990,708	1,990,708	1,990,708
Debentures convertible into shares	21.b	104,645	104,645	104,645	104,645
Capitalization costs		(5,375)	(5,375)	(5,375)	(5,375)
Equity valuation adjustments	21.h	(753,708)	(761,490)	(753,708)	(761,490)
Treasury shares		(741)	(741)	(741)	(741)
Retained earnings		(762,308)	(725,250)	(762,308)	(725,250)
<b>Shareholders' equity</b>	21	<b>573,221</b>	<b>602,497</b>	<b>573,221</b>	<b>602,497</b>
<b>Total shareholders' equity</b>		<b>573,221</b>	<b>602,497</b>	<b>573,221</b>	<b>602,497</b>
<b>Total liabilities and equity</b>		<b>4,226,171</b>	<b>4,673,671</b>	<b>4,206,840</b>	<b>4,623,494</b>
<b>Net equity per share – in Brazilian Reais (R\$)</b>		<b>0.83</b>	<b>0.87</b>		

See the accompanying notes to the financial statements.

## Income statements

Three-month period ended March 31

(In thousands of Reais, except earnings per share)

	Notes	Parent company		Consolidated	
		1 st Quarter 2019	1 st Quarter 2018	1 st Quarter 2019	1 st Quarter 2018
<b>Net sales</b>	22	1,418,335	998,307	1,336,389	1,019,965
<b>Cost of goods sold</b>	23	(1,354,689)	(975,201)	(1,267,002)	(996,378)
<b>Gross income</b>		63,646	23,106	69,387	23,587
Commercial	23	(5,464)	(6,547)	(5,978)	(7,098)
General and administrative	23	(19,050)	(16,008)	(19,424)	(16,370)
Management fees	11.4	(1,962)	(1,687)	(1,962)	(1,687)
Equity	11.1	1,983	6,430	-	-
General and administrative		638	(8,177)	617	(8,211)
Other expenses	24	(78,850)	(77,450)	(78,864)	(77,479)
Other income	24	12,623	5,961	12,645	6,050
<b>Operating expenses</b>		(90,082)	(97,478)	(92,966)	(104,795)
<b>(Loss) operating profit before financial results</b>		(26,436)	(74,372)	(23,579)	(81,208)
Financial expenses	25	(470,641)	(178,630)	(331,889)	(183,732)
Financial income	25	444,091	192,805	303,497	205,697
<b>(Loss) before income and social contribution taxes</b>		(52,986)	(60,197)	(51,971)	(59,243)
Income and social contribution tax for the current year	26.2	-	-	(432)	(500)
Deferred income and social contribution taxes	26.2	14,045	11,039	13,462	10,585
<b>Income and social contribution tax</b>		14,045	11,039	13,030	10,085
<b>Income (Loss) for the period</b>		(38,941)	(49,158)	(38,941)	(49,158)
<b>Loss per common share</b>		(0.05651)	(0.07133)	(0.05651)	(0.07133)
<b>Loss per diluted common share</b>		(0.05195)	(0.06559)	(0.05195)	(0.06559)

See the accompanying notes to the financial statements.

## Statements of comprehensive income (loss)

Three-month period ended March 31

(In thousands of Reais)

	Parent company		Parent company	
	1 st Quarter 2019	1 st Quarter 2018	1 st Quarter 2019	1 st Quarter 2018
<b>Income (Loss) for the period</b>	<b>(38,941)</b>	<b>(49,158)</b>	<b>(38,941)</b>	<b>(49,158)</b>
<b>Other comprehensive income</b>				
<b>Items to be subsequently reclassified to the result</b>	<b>9,665</b>	<b>7,469</b>	<b>9,665</b>	<b>7,469</b>
Hedge cash flow – Export income ACC/PPE	(189)	(104)	(189)	(104)
Hedge cash flow – NDF sales income	12,304	7,475	12,304	7,475
Hedge cash flow – Cost metal – Future stock exchange	(2,630)	8	(2,630)	8
Earnings from Exchange variation abroad	180	90	180	90
<b>Comprehensive income for the year</b>	<b>(29,276)</b>	<b>(41,689)</b>	<b>(29,276)</b>	<b>(41,689)</b>
<b>Allocated to:</b>				
Controlling shareholders	(29,276)	(41,689)	(29,276)	(41,689)

See the accompanying notes to the financial statements.

## Statement of changes in equity

### Three-month period ended March 31

(In thousands of Reais)

	Notes	Paid-in capital	Debentures	Capitalization costs	Treasury shares	Accumulated loss	Equity valuation adjustment	Consolidated shareholders' equity
<b>Balance as at December 31, 2017</b>		<b>1,984,751</b>	<b>110,602</b>	<b>(5,375)</b>	<b>(741)</b>	<b>(414,356)</b>	<b>(786,359)</b>	<b>888,522</b>
Capital increase		5,957	(5,957)	-	-	-	-	-
<b>Capital transactions with partners</b>		<b>5,957</b>	<b>(5,957)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Financial instruments, net of taxes	21.h	-	-	-	-	-	7,379	7,379
Earnings and losses from foreign exchange variations-Foreign investment	21.h	-	-	-	-	-	90	90
Equity evaluation adjustment	21.h	-	-	-	-	5,593	(5,593)	-
Tax on realization of equity evaluation adjustment	21.h	-	-	-	-	(1,327)	1,327	-
<b>Other comprehensive income</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4,266</b>	<b>3,203</b>	<b>7,469</b>
<b>Loss for the period</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(49,158)</b>	<b>-</b>	<b>(49,158)</b>
<b>Balance as at March 31, 2018</b>		<b>1,990,708</b>	<b>104,645</b>	<b>(5,375)</b>	<b>(741)</b>	<b>(459,248)</b>	<b>(783,156)</b>	<b>846,833</b>
<b>Balance as at December 31, 2018</b>		<b>1,990,708</b>	<b>104,645</b>	<b>(5,375)</b>	<b>(741)</b>	<b>(725,250)</b>	<b>(761,490)</b>	<b>602,497</b>
Financial instruments, net of taxes	21.h	-	-	-	-	-	9,485	9,485
Earnings and losses from foreign exchange variations-Foreign investment	21.h	-	-	-	-	-	180	180
Equity evaluation adjustment	21.h	-	-	-	-	2,511	(2,511)	-
Tax on realization of equity evaluation adjustment	21.h	-	-	-	-	(628)	628	-
<b>Other comprehensive income</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,883</b>	<b>7,782</b>	<b>9,665</b>
<b>Loss for the period</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(38,941)</b>	<b>-</b>	<b>(38,941)</b>
<b>Balance as at March 31, 2019</b>		<b>1,990,708</b>	<b>104,645</b>	<b>(5,375)</b>	<b>(741)</b>	<b>(762,308)</b>	<b>(753,708)</b>	<b>573,221</b>

See the accompanying notes to the financial statements.

## Statements of cash flow - Indirect method

Three-month period ended March 31

(In thousands of Reais)

	Parent company		Consolidated	
	1 st Quarter 2019	1 st Quarter 2018	1 st Quarter 2019	1 st Quarter 2018
<b>(Loss) before income and social contribution taxes</b>	<b>(52,986)</b>	<b>(60,197)</b>	<b>(51,971)</b>	<b>(59,243)</b>
<b>Adjustments to reconcile net (loss) with resources provided by (used in) operating activities</b>				
Residual value of written-off fixed assets	-	5	-	5
Depreciation and amortization	40,310	37,004	40,340	37,031
Amortization of right use the assets	3,361	-	3,403	-
Equity in net income	(1,983)	(6,430)	-	-
Provision (reversal) for recoverable value of estimated losses	(623)	(173)	(615)	(220)
Provision of other estimated losses	(6,104)	315	(6,104)	315
Provision for losses on lawsuits	34,010	17,128	34,010	17,128
Present value adjustment - receivables and suppliers	1,695	(228)	669	(619)
Financial charges	46,540	30,471	46,721	30,560
	<b>64,220</b>	<b>17,895</b>	<b>66,453</b>	<b>24,957</b>
<b>(Increase) decrease in assets</b>				
Accounts receivable	361,947	79,204	297,377	106,360
Inventory	(46,422)	89,333	(31,027)	107,522
Taxes recoverable	10,224	14,379	15,303	18,653
Prepaid expenses	(4,376)	(7,487)	(4,260)	(7,400)
Legal deposits	7,255	(1,151)	(664)	(1,151)
Derivative financial instruments	87,824	18,934	87,824	18,971
Assets held for sale	(120)	(557)	(120)	(557)
Other current and non-current liabilities	(9,855)	(1,647)	(13,015)	(1,857)
<b>Increase (decrease) in liabilities</b>				
Suppliers	(323,171)	(60,993)	(294,717)	(107,134)
Forfeiting and letter of credit operations	12,681	(10,071)	12,681	(10,071)
Taxes payable	14,421	(596)	14,404	(600)
Legal deposits	(13,312)	(11,093)	(5,392)	(11,093)
Payroll and related charges	(7,027)	(3,788)	(7,051)	(3,819)
Derivative financial instruments	48,629	(143,969)	48,629	(143,959)
Advances from clients	(168,007)	(12,646)	(167,394)	(15,707)
Other current and non-current liabilities	(12,940)	(206)	(13,319)	(243)
<b>Cash flow generated from operations</b>	<b>21,971</b>	<b>(34,459)</b>	<b>5,712</b>	<b>(27,128)</b>
Income and social contribution taxes paid	-	-	(14)	(500)
<b>Net cash provided by (used in) operating activities</b>	<b>21,971</b>	<b>(34,459)</b>	<b>5,698</b>	<b>(27,628)</b>
<b>Investing activities</b>				
Financial investments	(732,534)	(328,048)	(732,545)	(328,059)
Redemption of financial investments	755,241	323,889	755,241	323,889
Variation of controlled company capital	(2,947)	-	-	-
Fixed assets and intangible additions	(16,755)	(47,816)	(16,754)	(47,816)
<b>Net cash used in investing activities</b>	<b>2,914</b>	<b>(51,975)</b>	<b>5,851</b>	<b>(51,986)</b>
<b>Financing activities</b>				
Loans and financing	23,264	23,557	23,264	23,557
Amortization of loans and financing	(52,264)	(24,508)	(52,264)	(24,507)
Interest payments on loans	(51,873)	(7,406)	(51,873)	(7,406)
Leasing	(3,748)	-	(3,796)	-
<b>Net cash used in financing activities</b>	<b>(84,621)</b>	<b>(8,357)</b>	<b>(84,669)</b>	<b>(8,356)</b>
<b>Reduction in cash and cash equivalents</b>	<b>(59,736)</b>	<b>(94,791)</b>	<b>(73,120)</b>	<b>(87,970)</b>
Cash and cash equivalents at the beginning of the year	201,571	343,678	216,668	345,551
Cash and cash equivalents at the end of the year	141,835	248,887	143,548	257,581
<b>Reduction in cash and cash equivalents</b>	<b>(59,736)</b>	<b>(94,791)</b>	<b>(73,120)</b>	<b>(87,970)</b>

See the accompanying notes to the financial statements.



## Statements of value added

Three-month period ended March 31

(In thousands of Reais)

	Parent company		Consolidated	
	1 st Quarter 2019	1 st Quarter 2018	1 st Quarter 2019	1 st Quarter 2018
<b>Income</b>				
Sales of goods and services	1,576,236	1,120,460	1,473,502	1,124,870
Provision of credits for doubtful accounts	623	-	615	-
Other income	12,534	5,911	12,556	5,997
<b>Inputs acquired from third parties (Including taxes)</b>				
Cost of goods and services sold	(1,295,790)	(897,232)	(1,207,511)	(997,241)
Materials, energy, third party services and other	(168,241)	(134,661)	(172,674)	(147,187)
<b>Gross added value</b>	<b>125,362</b>	<b>94,478</b>	<b>106,488</b>	<b>(13,561)</b>
<b>Retentions</b>				
Depreciation and amortization	(43,671)	(37,004)	(43,743)	(37,031)
<b>Net added value</b>	<b>81,691</b>	<b>57,474</b>	<b>62,745</b>	<b>(50,592)</b>
<b>Received from third parties</b>				
Equity equivalence result	1,983	6,430	-	-
Financial income	444,091	192,805	303,497	205,697
<b>Total net added value payable</b>	<b>527,765</b>	<b>256,709</b>	<b>366,242</b>	<b>155,105</b>
<b>Net added value payable</b>	<b>527,765</b>	<b>256,709</b>	<b>366,242</b>	<b>155,105</b>
Personnel and charges	54,789	60,128	55,259	60,610
Taxes and contributions	38,349	62,772	14,929	(44,654)
Interest and rent	473,568	182,967	334,995	188,307
Loss for the period	(38,941)	(49,158)	(38,941)	(49,158)

See the accompanying notes to the financial statements.

## 01. Operations

Paranapanema S.A. (Paranapanema, the Parent or the Company) is a publicly-traded corporation headquartered in the city of Dias D'Ávila, in the State of Bahia, at Via do Cobre, nº 3,700, West Industrial Area, Complexo Petroquímico de Camaçari.

Paranapanema's shares have been listed and traded on B3 S.A. (Brasil, Bolsa, Balcão), the highest level of corporate governance since 1971, and in the "New Market" segment since 2012 under the ticker code PMAM3.

The Company and its subsidiaries are engaged in industrial activities related to the transformation and processing of ores and their byproducts, and metallurgical activities related to ferrous and non-ferrous products such as laminates, bars and profiles, tubes, rods, casts, manufactured and semi-manufactured industrial parts and components intended for the domestic and export markets.

The Company's individual and consolidated quarterly information for the period ended March 31, 2019 was prepared based on the assumption of operational continuity in line with the business plan, which includes a projected cash flow. These projections reflect various financial and business assumptions, as well as the optimization of installed capacity diluting fixed costs and optimizing cash generation, an increase in the sales volume mainly due to exports, management's focus on reducing the cash conversion cycle through customs actions, and a reduction in the terms of receivables to help meet working capital needs.

In 2017, the Company completed the strengthening of the capital structure and the re-profiling of debt. The actions taken included a public offering of shares with restricted primary distribution efforts, fully capitalized and paid-up, and a public offering of debentures with restricted placement efforts.

Of the total of 360,003,818 debentures, 255,358,476 have already been converted into shares (249,402,021 on October 10, 2017 and 5,956,455 on March 6, 2018), with the remaining balance of 104,645,342 not yet converted.

	Debentures				Shares			
	Total Debentures	Converted in 10/04/2017	Converted in 03/06/2018	Pending Conversion	Equivalent in shares	Converted in 10/04/2017	Converted in 03/06/2018	Pending Conversion
Merrill Lynch International	39,450,975	39,450,975		-	22,760,182	22,760,182		-
Sumitomo Mitsui Banking Corp, Ny Branch	38,884,228	20,522,232		18,361,996	22,433,212	11,839,751		10,593,461
Banco Latinoamericano De Com Ext S.A	30,305,442	15,994,539		14,310,903	17,483,912	9,227,620		8,256,292
Cargill Financial Services Internat, Inc	152,404,143	80,435,520		71,968,623	87,925,483	46,405,116		41,520,367
China Construc Bank Bra Bco Multiplo Sa	12,613,670	6,657,215	5,956,455	-	7,277,118	3,840,701	3,436,417	-
Fundo De Recuperacao De Ativos - Fidc Np	82,401,612	82,401,612		-	47,539,400	47,539,400		-
The Bank Of Nova Scotia	3,939,928	3,939,928		-	2,273,035	2,273,035		-
Other Investors	3,820	-		3,820	2,204	-		2,204
Treasury	-	-		-	4	4		-
	<b>360,003,818</b>	<b>249,402,021</b>	<b>5,956,455</b>	<b>104,645,342</b>	<b>207,694,550</b>	<b>143,885,809</b>	<b>3,436,417</b>	<b>60,372,324</b>

## Group entities – “Subsidiaries”

The Company held the following equity in its direct subsidiaries as at the respective dates:

Subsidiaries	03/31/2019	12/31/2018
<b>CDPC-Centro de Distrib. de Produtos de Cobre Ltda</b> Company with its headquarters in the city of Santo Andre, in the State of São Paulo, Brazil. Its key business purpose is the marketing and distribution of copper, goods and other ores, alloys and their resulting products and byproducts.	99.99%	99.99%
<b>Caraíba Incorporated Ltd. (*)</b> Company with its headquarters in the Cayman Islands, established on July 8, 2005.	100.00%	100.00%
<b>Paraibuna Agropecuária Ltda. (*)</b> Company with its headquarters in the city of Santo Andre, in the State of São Paulo, Brazil. The business purpose is to carry out agricultural and pastoral activities.	99.98%	99.98%
<b>Paranapanema Netherlands B.V. (*)</b> Company with its headquarters in the city of Amsterdam, the Netherlands, established on April 9, 2014.	100.00%	100.00%
<b>Rio Negro Mineração e Com Ltda (*)</b> Company with its headquarters in the city of Santo Andre, state of São Paulo, Brazil,	99.99%	99.99%

(\*) The Company is currently inactive.

## 02. Preparation basis

### A) Declaration of compliance

The individual and consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB), IAS 34 - Interim Financial Reporting, CPC 21 (R1) - Interim Statements and include all information relevant to the quarterly information, and only such information, which is consistent with that used by management in the course of its duties.

The presentation of the individual and consolidated Statement of Value Added (DVA) is required by Brazilian corporate law and by the accounting practices adopted in Brazil applicable to publicly-held companies. IFRS does not require the presentation of this statement. Thus, for IFRS purposes, this statement is presented as supplementary information, and not as part of the required set of quarterly information.

The issuance of the individual and consolidated quarterly information was authorized by the Company's Board of Directors at a meeting held on April 26, 2019.

### Measurement basis

The individual and consolidated quarterly information was prepared on a historical cost basis, except for the following material items recognized in the balance sheets:

- Derivative financial instruments measured at fair value;
- Non-derivative financial instruments designated and measured at fair value through profit or loss;
- Hedged metals inventory measured at fair value in Brazilian Reais (R\$) through profit or loss;
- Land, buildings and machines were adjusted to their deemed costs as at the date of transition to IFRS/CPC.

**B) Functional and presentation currency**

This individual and consolidated quarterly information is being presented in R\$, the functional currency of the Company. All financial information presented in Brazilian Reais has been rounded to the nearest thousand, except where otherwise indicated.

**C) Use of estimates and judgments**

The preparation of individual and consolidated quarterly information, according to IFRS and CPC standards, requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported values of assets, liabilities, income and expenses. The actual results may differ from these estimates.

Estimates and assumptions are reviewed continuously. Reviews of estimates are recognized on a prospective basis.

**D) Uncertainty regarding accounting and critical assumptions and estimates**

Information on uncertainties arising from the use of assumptions and accounting estimates that carry a significant risk of material adjustments to the critical accounts for the year ended March 31, 2019 are included in the following notes:

- Note 12 - Property, plant and equipment: key assumptions regarding the recoverable values of assets and a substantive analysis of their useful lives;
- Note 08 – Recoverable taxes: actions taken by the Company to realize ICMS credits;
- Note 19 - Provision for judicial claims: main assumptions regarding the probability and amount of cash disbursements;
- Note 26 - Deferred income tax and social contribution: availability of future taxable profits to compensate accumulated losses;
- Note 28 – Derivative financial instruments: fair values of derivatives.

### **03. Measuring the fair value**

A number of the Company's accounting policies and disclosures requires the determination of the fair value, for both financial and non-financial assets and liabilities. Fair values have been determined for measurement and/or disclosure purposes based on the methods outlined below. Where applicable, additional information regarding the assumptions made to determine the fair value is disclosed in the notes specific to that asset or liability.

Financial assets and liabilities recorded at fair value are classified and disclosed according to the fair value hierarchy (Note 28.4).

**A) Forward exchange rate agreements and interest rate swaps**

The fair values of exchange-rate forward contracts and interest-rate swap contracts are based on brokerage prices. These quotations are tested for reasonableness by estimating the discounted future cash flow based on the contract conditions and maturities, using the market interest rates of similar instruments as at the measurement date. The fair values reflect the instrument credit risk and include adjustments to reflect the credit risk of Paranapanema, its subsidiaries and

counterparties when appropriate.

**B) Metal inventory**

The fair value of the metal inventory is marked-to-market using the US\$ future price curve of the London Metal Exchange (LME) and the London Bullion Market Association (LBMA) converted into R\$ using the month-end exchange rate. Changes in future prices are reflected at each stage of production considering the estimated time required to sell this inventory.

**C) Other non-derivative financial liabilities**

Other non-derivative financial liabilities are measured at fair value upon initial recognition and at each annual reporting date for disclosure purposes. The fair value is calculated based on the present value of the principal and future cash flow, discounted using the market interest rate as at the measurement date. For convertible debt securities, the market interest rate is determined with reference to similar liabilities that do not have a conversion option. For financial leases, the interest rate is calculated with reference to similar lease agreements.

## **04. Significant accounting policies**

The interim financial information was prepared following the accounting principles, methods and policies, except where indicated, regarding those presented in the last fiscal year as at December 31, 2018.

**A) Changes in accounting practices and disclosures**

- a) IFRS 16 (CPC 06R2) – “Lease transactions” - IFRS 16 establishes that, in all leases, with limited exceptions, the lessee must recognize a lease liability in the balance sheet at the present value of the payments, plus directly allocable costs, and at the same time recognize rights of use corresponding to the underlying asset. Over the term of the lease, the lease liability is adjusted to reflect the financial costs and payments made, and the usage rights are amortized, similarly to the financial lease rules in accordance with IAS 17.

The Company adopted the standard as of January 01, 2019, in the simplified transition and did not restate the comparative values for the year prior to the first adoption. The Company opted to use the exemptions proposed by the standard for leases whose terms end within 12 months of the date of initial adoption, and for lease agreements up to US\$ 5,000.00, measuring the right to use an asset of equal value to the lease liability adjusted to present value, and using the weighted average cost

of domestic capital, disclosed separately in the balance sheet. In the statement of cash flow, leases previously classified as operating activities will start to be considered as financing activities.

Based on a review of agreements, the amounts affected by the initial adoption are presented in the table below:

Contract Balances as at January 1, 2019	Rights to use Assets	Lease liability	Adjustment to Present Value of Liability	Duration Until
Scaffolding + Assembly and Dismantling	1,763	1,887	124	feb-20
Rental Truck Munck	502	535	33	jan-20
Commercial Room Rental	1,177	1,480	303	mar-23
Forklift Rental-BA	2,965	3,421	456	jul-21
Forklift Rental-ES	118	151	33	aug-23
Forklift Rental-RJ	435	502	67	jul-21
Rental of Forklifts-SP	131	146	16	dec-20
Rental of Forklifts-SP	4,211	5,384	1,172	jul-23
Rental of Cranes-BA	910	978	68	mar-20
Rental of communication radios-BA	251	262	10	aug-23
Rental of Board Vehicles	585	680	96	sep-21
Rental of Lifting Platforms-BA	715	772	57	apr-20
Equipment Rental for Internal Handling	20,947	24,591	3,644	nov-21
	<b>34,710</b>	<b>40,789</b>	<b>6,079</b>	

- b) IFRIC 23 – “Uncertainty Related to Income Tax Treatment”: This clarifies the accounting treatment of tax positions that have not yet been accepted by the tax authorities. Both IAS 12/CPC 32 – “Income Taxes” and the new IFRIC 23 interpretation are only applicable to Income Tax and Social Contribution. IFRIC 23 does not introduce new disclosures, but stresses the need to comply with the existing disclosure requirements on: (i) judgments made; (ii) assumptions or other estimates used; and (iii) the potential impact of uncertainties that are not reflected in the financial statements.

**B) New standards and interpretations not yet adopted**

There are no other IFRS or IFRIC interpretations affecting the quarterly information of the Company as at March 31, 2019.

Management adopts the accounting policy of presenting interest paid as financing activities in the cash flow statements.

## 05. Cash and cash equivalents and interest-earning bank deposits

	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Cash and banks		<b>83,635</b>	136,663	<b>85,348</b>	151,760
Foreign exchange received		<b>1,860</b>	2,812	<b>1,860</b>	2,812
Interest-earning bank deposits	(a)	<b>56,340</b>	62,096	<b>56,340</b>	62,096
<b>Cash and cash equivalents</b>		<b>141,835</b>	201,571	<b>143,548</b>	216,668
Interest-earning bank deposits	(b)	<b>22,081</b>	44,788	<b>22,860</b>	45,556
<b>Interest-earning bank deposits</b>		<b>22,081</b>	44,788	<b>22,860</b>	45,556
<b>Current assets</b>		<b>9,136</b>	28,023	<b>9,915</b>	28,791
<b>Non-current assets</b>		<b>12,945</b>	16,765	<b>12,945</b>	16,765

The Company, in line with its investment policies, keeps its investments in government bonds and cash surplus in low-risk savings accounts held by first-line financial institutions (based on ratings from the main credit agencies).

a) Interest-earning bank deposits classified as cash and cash equivalents

Refer to bank deposit certificates reflecting normal market conditions as at the balance sheet dates. They are highly liquid and have low interest-rate fluctuation risk.

b) Interest-earning bank deposits

Refer to bank deposit certificates and buy-back debentures reflecting normal market conditions as at the financial statement closing dates. The consolidated balance as at March 31, 2019, of R\$ 22,860 (R\$ 45,556 as at December 31, 2018), was collateral for the purchase of energy in the free market, purchases of US dollar futures and bank guarantees.

As at March 31, 2019, the investments yielded an average of 69.9% of the Interbank Deposit Certificate (CDI 83.7% as at December 31, 2018), measured at fair value through P&L.

## 06. Trade accounts receivable

		Parent company		Consolidated	
	Notes	03/31/2019	12/31/2018	03/31/2019	12/31/2018
<b>Domestic clients:</b>					
Third parties		149,517	143,898	223,980	204,060
Adjustment to present value - Third parties		(307)	(301)	(3,627)	(4,231)
Related parties	11.2	110,652	160,918	-	-
Adjustment to present value - Related parties	11.2	(1,538)	(1,063)	-	-
Estimated loss on recoverable value		(55,295)	(55,327)	(56,705)	(56,729)
		203,029	248,125	163,648	143,100
<b>Foreign clients:</b>					
Third parties		178,281	513,112	178,281	513,112
Price adjustment		36,913	14,390	36,914	14,390
Adjustment to present value		(833)	(720)	(833)	(720)
Estimated loss on recoverable value		(2,606)	(3,197)	(2,606)	(3,197)
		211,755	523,585	211,756	523,585
		414,784	771,710	375,404	666,685
<b>Current assets</b>		414,784	771,700	375,404	665,589
<b>Non-current assets</b>		-	10	-	1,096



The aging of accounts receivable, net of any impairment losses, is as follows:

	Parent company		Consolidated	
	03/31/2019	12/31/2018	03/31/2019	12/31/2018
Due in more than 120 days	998	1,195	9,583	17,278
Due in 91 to 120 days	230	2,267	2,083	3,758
Due in 61 to 90 days	71,387	6,680	13,509	6,680
Due in 31 to 60 days	84,445	193,266	62,065	69,280
Due in 30 days	192,364	340,993	222,855	337,539
<b>Total Due</b>	<b>349,424</b>	<b>544,401</b>	<b>310,095</b>	<b>434,535</b>
Overdue up to 30 days	23,609	103,728	24,290	111,165
Overdue from 31 to 60 days	3,921	52,328	3,921	52,328
Overdue from 61 to 90 days	90	50,217	90	50,217
Overdue from 91 to 120 days	2,247	-	2,247	-
Overdue for more than 120 days	1,208	8,730	2,257	9,001
<b>Total due</b>	<b>31,075</b>	<b>215,003</b>	<b>32,805</b>	<b>222,711</b>
	<b>380,499</b>	<b>759,404</b>	<b>342,900</b>	<b>657,246</b>
Adjustment to present value	(2,678)	(2,084)	(4,460)	(4,951)
Other	36,963	14,390	36,964	14,390
	<b>414,784</b>	<b>771,710</b>	<b>375,404</b>	<b>666,685</b>

The Company is exposed to credit risk due to defaults on sales of products (accounts receivable). The Company mitigates this risk by applying policies and standards for credit monitoring and the collection of trade notes.

In accordance with IFRS 9, the expected losses on financial assets form the basis for determining the losses to be recognized in profit or loss as a result of the impairment of financial assets.

The recording of the PECLD balance as at March 31, 2019 considers the sum of the expected loss, and applied a loss percentage according to the customer's score (punctuality x restrictions), plus all notes overdue for more than 90 days.

The amount of R\$ 4,504 in the consolidated statement as at March 31, 2019 (R\$ 9,001 as at December 31, 2018), referred to securities overdue for more than 90 days that were not subject to provision because there were credits on behalf of the debtor. The formation or reversal of the estimated impairment is recorded in the statements of income, under the caption "Sales deductions".

Changes in the provision for estimated doubtful accounts are shown below:

	Parent company	Consolidated
Balance as at December 31, 2017	(77,333)	(82,803)
Reversals for the year	173	173
Definitive drop	-	47
Balance as at March 31, 2018	(77,160)	(82,583)
Balance as at December 31, 2018	(58,524)	(59,926)
Reversals for the year	623	623
Provision for the year	-	(8)
Balance as at March 31, 2019	(57,901)	(59,311)

Accounts receivable pledged as guarantees

The Company and Banco do Brasil entered into a private instrument for the assignment of credit receivables, from accounts receivable, aimed at ensuring the payment of all the obligations



assumed and to be assumed by the bank. The value of the global limit of the instrument was US\$16,150,000 (sixteen million, one hundred and fifty thousand US Dollars), translated at the selling exchange rate of R\$3.8967 as at March 31, 2019, equivalent to R\$62,932.

In 2014 and 2015, the Company entered into private instruments for the assignment of credit receivables, from the accounts receivable, with Banco Safra, to ensure the payment of BNDES Automático's operations. As at March 31, 2019, the amount of R\$1,143 (R\$1,570 as at December 31, 2018) pledged as collateral, represented 70% of the updated debt balance.

## 07. Inventory

	Parent company		Consolidated	
	03/31/2019	12/31/2018	03/31/2019	12/31/2018
Raw materials	484,342	533,423	484,342	533,423
Work in progress	404,184	368,869	404,184	368,869
Finished products	263,410	283,611	263,410	283,611
Imports in transit	391,208	277,510	391,208	277,510
Advances to suppliers for purchases of raw materials	11,602	50,413	11,602	50,413
Maintenance materials and others	76,268	76,325	76,268	76,325
Resale materials	6,912	1,345	29,794	39,622
Raw materials in transit	861	441	861	441
Estimated loss on recoverable value	(3,639)	(3,639)	(3,639)	(3,639)
<b>Current assets</b>	<b>1,635,148</b>	<b>1,588,298</b>	<b>1,658,030</b>	<b>1,626,575</b>

The inventory is initially measured at historical cost, and subsequently under the inventory hedge accounting program (see Note 28.6.3); the portion related to the cost of metals (copper, gold, silver, lead, zinc and tin) is adjusted to the average market price in US\$ based on the future market price curve. The translation of each metals price from US\$ to R\$ is made using the availability of foreign exchange hedges, marked-to-market at the closing exchange rate for the month, in the program for the hedge accounting for the fair value of inventory.

The balance of estimated losses in the amount of R\$ 3,639 as at March 31, 2019 and December 31, 2018 was established based on an assessment of materials and products with no turnover for more than two years.

The Company offered 255 tons of electrolytic copper rods as a guarantee for a tax lawsuit which, as at March 31, 2019, totaled R\$ 6,794 (R\$5,670 as at December 31, 2018). In the case of an unfavorable decision, the full amount will be paid in cash.

## 08. Recoverable taxes and contributions

	Notes	Parent company		Current assets	Non-current
		03/31/2019	12/31/2018		
Value-added tax on sales and services–ICMS	(a)	26,259	104,800	30,884	104,800
Taxes on fixed assets recoverable		13,418	15,896	14,597	17,600
Income and social contribution taxes to be refunded	(b)	2,770	10,277	690	12,363
Special Tax Reintegration Regime for Exporting Companies (Reintegra)	(c)	13,809	-	13,376	-
Contribution for social security funding–COFINS	(d)	21,905	-	21,278	-
Social integration program - PIS	(d)	4,756	-	5,338	-
Withholding income tax–IRRF		572	-	2,071	-
Excise tax–IPI		280	-	1,994	-
Estimated loss on recoverable value	(e)	-	(10,277)	-	(12,363)
Other		25	-	-	-
		<b>83,794</b>	<b>120,696</b>	<b>90,228</b>	<b>122,400</b>

		Consolidated			
		03/31/2019		12/31/2018	
	Notes	Current assets	Non-current	Current assets	Non-current
Value-added tax on sales and services–ICMS	(a)	29,096	104,800	36,371	104,800
Taxes on fixed assets recoverable		13,418	15,896	14,597	17,600
Income and social contribution taxes to be refunded	(b)	3,815	10,277	750	12,363
Special Tax Reintegration Regime for Exporting Companies (Reintegra)	(c)	13,809	-	13,376	-
Contribution for social security funding–COFINS	(d)	22,830	-	24,063	-
Social integration program - PIS	(d)	4,959	-	5,938	-
Withholding income tax–IRRF		572	-	2,072	-
Excise tax–IPI		280	-	1,994	-
Prepaid income and social contribution taxes		14	-	2,581	-
Estimated loss on recoverable value	(e)	-	(10,277)	-	(12,363)
Other		26	-	-	-
		<b>88,819</b>	<b>120,696</b>	<b>101,742</b>	<b>122,400</b>

- a) Refers substantially to the credit balance on the circulation of goods and services (ICMS), generated from its operations in the Santo André-SP unit, as shown at its net realizable value.

The Company is working to reduce the credit amount with the import operation of cathodes via drawback to meet exports of copper products. In addition, in order to avoid the accumulation of these credits, the Company reverted to applying the 18% rate on internal operations in the State of São Paulo with pipes and laminates.

- b) Refers to income tax (IT) and social contribution (CSLL) credits to be recovered from previous fiscal years. For the amounts classified as non-current assets, the Company has already applied for a refund through judicial proceedings and is awaiting a decision to compensate or receive the amount. The amount of R\$ 10,277, classified in non-current assets, is subject to provision as a loss, since realization is not certain as item (e).
- c) Special Tax Reintegration Regime for Exporting Companies. The amounts were calculated in accordance with the parameters defined in Law 12546/2011, with amendments to Law 13043/2014 with the effects of Decree 9148/2017.
- d) Refers mainly to federal tax credits based on Law 10637/02 (PIS) and Law 10866/03 (COFINS) related to the non-cumulative calculation regime and the recognition of credits, from March 2017 to February 2018 regarding the exclusion of ICMS from calculation basis for PIS and COFINS.
- e) The provision for losses on income tax credits in respect of several lawsuits in the amount of R\$ 10,277 (item “b”). The Company’s legal advisors classified the possibility of loss as remote for the purposes of obtaining a favorable outcome in the lawsuits.
- f) Exclusion of ICMS from calculation basis of PIS and COFINS: On February 28, 2019, a final and unappealable court decision favorable to the Company’s interests was awarded authorizing the recovery of the amounts collected in excess from February 7, 2002 to March 2010.

According to CPC 00 (R1) Conceptual Framework for Financial Reporting (Recognition of items in the financial statement), an item will be recognized if it is probable that any future economic benefit associated with the item will flow to the entity, and the item has value that can be measured with reliability, that is, in a way that is complete, neutral and free from errors. Because the determination of the item value involves a high volume of information to be extracted from physical files, without which the recoverable amount is inexistent, besides many billing systems, as well as transactions taxed by different ICSM rates, among other issues related to the period from 2002 to 2010, plus the existence of different interpretations among administrative and legal

entities, there was insufficient time to reliably measure the item value and any corresponding gain, or proceed with the appropriate accounting record in the information for the quarter ended March 31, 2019, when the estimate changed due to the awarding of the final and unappealable decision in the above-mentioned claim. In view of the above, the Company will seek to quantify the amounts paid in excess for said period and will study the appropriate recognition of the item, including with the engagement of an export consulting service to support the conclusion of the survey of the necessary documentation and value quantification. Accordingly, it will recognize the item and any corresponding gain as soon as it completes the above-mentioned studies.

Management projects that the future taxable income for the Company and its subsidiaries will be adequate to realize the tax credits classified under non-current assets over a six-year term.

These estimates are reviewed annually to ensure that any eventual change in the collection prospects is reflected in the Company's financial information.

## 09. Other current and non-current assets

### 09.1 - Other current and non-current assets

	Note	03/31/2019		Parent company 12/31/2018	
		Current assets	Non- current	Current assets	Non- current
Accounts receivable – related parties		-	-	3,147	-
Municipal writs of payment	(a)	-	67,299	-	67,730
City of Manaus	(b)	-	13,332	-	12,686
Federal writs of payment	(c)	-	1,246	-	1,177
Collective Plan Brasilprev Recovery	(d)	3,094	-	3,255	-
Advances to employees		1,714	-	2,237	-
Amount receivable - Disposal of Cibrafertil		-	1,001	-	1,001
Advances to suppliers		1,913	-	217	-
Accounts receivable from insurance		-	-	421	-
Margin call deposits	(e)	10,561	-	287	-
		3,455	-	-	-
Other		604	1,488	1,694	1,359
Estimated loss in recoverable value		(451)	-	(449)	-
		<b>20,890</b>	<b>84,366</b>	<b>10,809</b>	<b>83,953</b>

		Consolidated			
		03/31/2019		12/31/2018	
	Note	Current assets	Non-current	Current assets	Non-current
Municipal writs of payment	(a)	-	67,299	-	67,730
City of Manaus	(b)	-	13,332	-	12,686
Federal writs of payment	(c)	-	1,246	-	1,177
Collective Plan Brasilprev Recovery	(d)	3,124	-	3,284	-
Advances to employees		1,728	-	2,239	-
Amount receivable - Disposal of Cibrafertil		-	1,001	-	1,001
Advances to suppliers		1,913	-	217	-
Accounts receivable from insurance		-	-	421	-
Margin call deposits	(e)	10,561	-	287	-
		3,455	-	-	-
Other		604	1,488	1,694	1,359
Estimated loss in recoverable value		(451)	-	(449)	-
		<u>20,934</u>	<u>84,366</u>	<u>7,693</u>	<u>83,953</u>

- a) Refers to writs of payment from the Cities of São Paulo, Santo André and Manaus, to be received starting in 2020.

The Company offered a guarantee on a tax lawsuit, a portion of municipal court-ordered debt payments which, on March 31, 2019, totaled R\$ 67,299 (R\$ 67,730 as at December 31, 2018). If there is an unfavorable decision, the amount will be paid in cash.

- b) Refers to the lawsuit filed by a former Paranapanema construction company against the City of Manaus to collect amounts incurred in the infrastructure work on the Flores road grid. The final ruling from the Court was favorable to the Company, but the Court has not presented the final ruling on the updated amount to be reimbursed. A decision on the motion to deny filed by the municipality, which challenges the method used to restate the amounts owed to the Company, is pending.
- c) Value of federal bonds issued to cover court-ordered debt payments to be received in connection with the tax repayment action.
- d) Refers to the collective account of the private pension plan managed by BrasilPrev, the sum total of which was formed using amounts not released by the Company, according to the criteria described in Note 31. It is defined in the contract that the amount accumulated in the collective reserve may be used to adjust or improve the benefits or to settle future contributions.
- e) The line "margin call deposits" refers to amounts that are deposited with metal brokers to cover the Company's exposure when limits are exceeded. The Company is limited to transacting with a certain number of brokers and, because of the contracted volumes, and changes in commodity prices (copper/zinc/tin/lead) according to the prices published by the LME, this limit can be exceeded, and when this occurs the margin is called.

## 09.2 Deposits for judicial claims

	Parent company/Consolidated	
	03/31/2019	12/31/2018
Labor	7,085	15,157
Tax	12,515	11,698
Social Security	789	789
Writs of payment	3,453	3,453
Civil	827	827
Other	385	385
<b>Non-current assets</b>	<b>25,054</b>	<b>32,309</b>

Judicial deposits made for judicial guarantees in labor, tax, social security and civil proceedings, which will remain in the account at the disposal of the court. If there is any decision to withdraw the deposits, for example, due to the replacement of the guarantee, the said values can be obtained before the end of the lawsuits.

## 10. Assets held-for-sale

These were represented by properties available for sale in the amount of R\$112,865 as at March 31, 2019, (R\$ 112,745 as at December 31, 2018) measured at the acquisition cost less accumulated depreciation, which was lower than the expected realization value. This group of assets included real estate no longer used in the Company's operations, and real estate legally confiscated from clients who defaulted against the Company and were available for immediate sale under current conditions.

The Company continues to seek the monetization of assets with an internal team that studies possible alternatives, in conjunction with a consulting firm engaged in August 2018 for the sale of assets, demonstrating that the entity remains committed to its asset sale plan, and indicating that it is unlikely that there will be material changes to the plan, or that the plan will be abandoned. The consulting firm has been assisting the Company with the definition of the marketing value, as well as on the definition of a marketing plan to communicate effectively with all target audiences, using printed material, email, marketing, signs, telephone monitoring and the websites.

On April 11, 2016, the Company signed with Plano Madeira Empreendimentos Imobiliários Ltda., a subsidiary of Plano & Plano Construções e Empreendimentos Ltda., sale and purchase agreements with resolving clauses and other covenants; the subject of the transaction was a land area of approximately 150,000m<sup>2</sup> covering the municipalities of Santo Andre and Maua where the old Capuava plant, which was shut down in February 2015, was installed.

### Guarantee:

The Company offered real estate properties in the total amount of R\$ 78,827 as guarantees to financial institutions, as a fiduciary assignment, two properties in the total amount of R\$20,162 as guarantees for the administrative process related to the collection of social contribution on net profit (CSLL), and five real estate assets as guarantees for loans in the amount of R\$7,560.

If the real estate is sold, the Company will replace the assets pledged as collateral, and in the event of an unfavorable decision on the operations, the amounts will be paid in domestic currency.

## 11. Investments, related parties and others

### 11.1 Summary of the information and investment movements as at March 31, 2019

	CDPC - Centro de Distribuição Prods. Cobre Ltda.	CINC - Caraiba International	Paraibuna Agropec. Ltda.	Total
<b>Summarized financial information of subsidiaries</b>				
Current assets	124,150	378	-	124,528
Non-current assets	12,746	-	598	13,344
<b>Total assets</b>	<b>136,896</b>	<b>378</b>	<b>598</b>	<b>137,872</b>
Current liabilities	113,507	-	-	113,507
Non-current liabilities	228	-	-	228
Equity	23,161	378	598	24,137
<b>Total liabilities and equity</b>	<b>136,896</b>	<b>378</b>	<b>598</b>	<b>137,872</b>
Income from sales of goods and/or services	405,597	(7)	-	405,590
Cost of goods and/or services sold	(399,851)	-	-	(399,851)
<b>Gross income</b>	<b>5,746</b>	<b>(7)</b>	<b>-</b>	<b>5,739</b>
Operating expenses or income	(910)	9	-	(901)
<b>Loss before financial income (loss) and taxes</b>	<b>4,836</b>	<b>2</b>	<b>-</b>	<b>4,838</b>
Financial income (loss)	(1,835)	(6)	-	(1,841)
<b>Loss before income tax</b>	<b>3,001</b>	<b>(4)</b>	<b>-</b>	<b>2,997</b>
Income and social contribution taxes	(1,015)	-	-	(1,015)
<b>Net Income (loss) for the period</b>	<b>1,986</b>	<b>(4)</b>	<b>-</b>	<b>1,982</b>
<b>Balance as at December 31, 2018</b>	<b>21,174</b>	<b>(2,746)</b>	<b>598</b>	<b>19,026</b>
Breakdown / capital increase	-	2,948	-	2,948
Foreign exchange variations on foreign investment	-	180	-	180
Equity in net income of subsidiaries	1,987	(4)	-	1,983
<b>Balance as at March 31, 2019</b>	<b>23,161</b>	<b>378</b>	<b>598</b>	<b>24,137</b>

### 11.2 Parent Company balances and transactions with subsidiaries and other related parties

#### a) Subsidiary - CDPC – Centro de Distribuição de Produtos de Cobre Ltda

	03/31/2019	12/31/2018
<b>Current assets</b>		
Accounts receivable	109,114	159,855
Other current assets	-	3,147
	<b>109,114</b>	<b>163,002</b>
<b>Current liabilities</b>		
Suppliers	23,952	52,020
	<b>23,952</b>	<b>-</b>
<b>Gross income</b>		
Sales of goods and services	370,397	1,420,272
Purchases of goods and services	(105,513)	(463,741)
	<b>264,884</b>	<b>956,531</b>



a) Other related parties

	03/31/2019		12/31/2018	
	Glencore International Investments Ltd	Caixa Econômica Federal	Glencore International Investments Ltd	Caixa Econômica Federal
<b>Current assets</b>				
Accounts receivable	64,828	-	274,238	-
Derivative financial instruments	16,428	-	88,122	-
	<b>81,256</b>	-	<b>362,360</b>	-
<b>Current liabilities</b>				
Suppliers	473,880	-	911,443	-
Advances from clients	2,524	-	120,550	-
Loans and financing	-	2,384	-	2,868
	<b>476,404</b>	<b>2,384</b>	<b>1,031,993</b>	<b>2,868</b>
<b>Current liabilities</b>				
Loans and financing	-	213,511	-	225,863
	-	<b>213,511</b>	-	<b>225,863</b>
<b>Gross income</b>				
Sales of goods and services	320,303	-	1,577,517	-
Purchases of goods and services	(374,427)	-	(2,783,433)	-
	<b>(54,124)</b>	-	<b>(1,205,916)</b>	-

11.3 Business with subsidiaries and other related parties

The Executive Board or the Board of Directors, within the scope of the respective authority levels, in compliance with the Company's Policy for Related Party Transactions and Conflicts of Interest, authorized transactions that were agreed at arm's length market conditions, based on amounts, terms and the usual fees applied to transactions with non-related parties.

a) Caixa Econômica Federal

Credit facilities, in compliance with the Company's Related Party Policy, authorized the Company to contract credit lines up to R\$370,000 with Caixa Econômica Federal (CEF), a shareholder holding 17.32% of the total shares. The contract is bound by the terms and conditions offered by CEF, which are equal to or more competitive than the other credit lines available to the Company.

As at March 31, 2019 the Company had loans related to the anticipation of foreign currency contracts (ACC), with Caixa Econômica Federal, in the amount of R\$ 229,524 (US\$ 58,902 thousand at the rate of 3.8967), and R\$ 228,731 as at December 31, 2018 (US\$ 59,030 thousand at the rate of 3.8748).

b) Glencore International AG (Glencore)

The Company signed and complied with agreements with Glencore to purchase 180,000 tons of copper concentrate during 2018 and sell the equivalent volume of refined copper with the same financial liquidation dates, and sell 100% of the anode slime produced by the Company in 2018.

The Company entered into new agreements for sale of 100% of anode slime produced by the Company in the period from March 01, 2019 to February 28, 2021, and for the purchase of 240kt of copper concentrate and sale of copper cathode until December 2019.

On March 31, 2019, the Company had R\$ 476,404 payable to Glencore, and recorded this in the line of suppliers in the amount of R\$473,880 and in the line of advances from clients in the amount of R\$ 2,524, and a balance receivable of R\$81,256 and recognized this in the line of trade notes receivable totaling R\$ 64,828 and in the line of financial instruments in the amount of R\$ 16,428.

c) CDPC – Centro de Distribuição de Produtos de Cobre Ltda.

The Company signed a cost-sharing agreement on January 2, 2015 with its subsidiary CDPC, which provides for the charging of expenses, costs, related labor contributions and taxes related to shared resources. Given the not-for-profit nature of this contract, neither party will charge any premium for shared services and costs.

11.4 Fees of Directors and Fiscal Council

The Company considered as "key management personnel", as intended by CVM Resolution 642/2010 and IAS 24/CPC 05 (R1), the members of its Executive Board, the Board of Directors and Fiscal Council. The Company has no controlling shareholder and no Shareholders' Agreement.

	Note	1 st Quarter 2019			Total
		Statutory Board	Administrative Council	Supervisor y Board	
Salary or pro labore		870	306	106	1,282
Labor benefits		203	-	-	203
Compensation for participation in Committee		-	184	-	184
Social burden		174	98	21	293
<b>Fixed remuneration</b>		<b>1,247</b>	<b>588</b>	<b>127</b>	<b>1,962</b>
Bonus (ICP)	32	1,593	-	-	1,593
Bonus (ILP)	32	1	-	-	1
Social Burdens		318	-	-	318
<b>Variable remuneration</b>	<b>32</b>	<b>1,912</b>	<b>-</b>	<b>-</b>	<b>1,912</b>
<b>Total remuneration</b>		<b>3,159</b>	<b>588</b>	<b>127</b>	<b>3,874</b>

	Note	1 st Quarter 2018			Total
		Statutory Board	Administrative Council	Supervisor y Board	
Salary or pro labore		633	374	139	1146
Labor benefits		130	-	-	130
Compensation for participation in Committee		-	152	-	152
Social burden		126	105	28	259
<b>Fixed remuneration</b>		<b>889</b>	<b>631</b>	<b>167</b>	<b>1,687</b>
Bonus (ICP)	32	1,662	-	-	1,662
Bonus (ILP)	32	2	-	-	2
Social Burdens		332	-	-	332
<b>Variable remuneration</b>	<b>32</b>	<b>1,996</b>	<b>-</b>	<b>-</b>	<b>1,996</b>
<b>Total remuneration</b>		<b>2,885</b>	<b>631</b>	<b>167</b>	<b>3,683</b>

The members of the Fiscal Council and the Board of Directors are not parties to contracts for additional business benefits, such as post-employment benefits, other long-term benefits or remuneration based on shares.



## 12. Property, plant and equipment and intangible assets

						Parent company
	Average depreciation rate	12/31/2018	Additions	Transfers	Depreciation Amortization	03/31/2019
<b>PROPERTY, PLANT AND EQUIPMENT</b>						
Land		119,685	-	-	-	119,685
Industrial landfill		8,573	-	-	-	8,573
Improvements		21,632	-	5	-	21,637
Buildings		283,473	-	-	-	283,473
Installations		96,695	-	341	-	97,036
Machines and Equipment		1,759,218	-	(105)	-	1,759,113
Furniture and fixtures		21,344	-	590	-	21,934
Vehicles		1,375	-	-	-	1,375
Property, plant and equipment in progress		30,584	16,969	(1,343)	-	46,210
Provision for impairment losses		(1,926)	-	-	-	(1,926)
Spare parts		8,334	-	(1,243)	-	7,091
<b>Cost</b>		<b>2,348,987</b>	<b>16,969</b>	<b>(1,755)</b>	<b>-</b>	<b>2,364,201</b>
Industrial landfill	25%	(8,573)	-	-	-	(8,573)
Improvements	5%	(10,325)	-	-	(303)	(10,628)
Buildings	3%	(85,964)	-	-	(2,803)	(88,767)
Installations	16%	(18,265)	-	-	(3,363)	(21,628)
Machines and Equipment	9%	(941,661)	-	333	(32,465)	(973,793)
Furniture and fixtures	8%	(16,521)	-	-	(362)	(16,883)
Vehicles	20%	(1,123)	-	-	(24)	(1,147)
<b>Accumulated depreciation:</b>		<b>(1,082,432)</b>	<b>-</b>	<b>333</b>	<b>(39,320)</b>	<b>(1,121,419)</b>
<b>Total assets</b>		<b>1,266,555</b>	<b>16,969</b>	<b>(1,422)</b>	<b>(39,320)</b>	<b>1,242,782</b>
<b>INTANGIBLES</b>						
ERP/Software		62,898	-	1,422	-	64,320
<b>Cost</b>		<b>62,898</b>	<b>-</b>	<b>1,422</b>	<b>-</b>	<b>64,320</b>
ERP/Software	20%	(52,733)	-	-	(990)	(53,723)
<b>Accumulated amortization:</b>		<b>(52,733)</b>	<b>-</b>	<b>-</b>	<b>(990)</b>	<b>(53,723)</b>
<b>Intangible assets</b>		<b>10,165</b>	<b>-</b>	<b>1,422</b>	<b>(990)</b>	<b>10,597</b>

						Consolidated
	Average depreciation rate	12/31/2018	Additions	Transfers	Depreciation Amortization	03/31/2019
<b>PROPERTY, PLANT AND EQUIPMENT</b>						
Land		120,283	-	-	-	120,283
Industrial landfill		8,573	-	-	-	8,573
Improvements		22,123	-	5	-	22,128
Buildings		283,473	-	-	-	283,473
Installations		96,695	-	341	-	97,036
Machines and Equipment		1,759,318	-	(105)	-	1,759,213
Furniture and fixtures		21,444	-	589	-	22,033
Vehicles		1,375	-	-	-	1,375
Property, plant and equipment in progress		30,584	16,968	(1,342)	-	46,210
Provision for impairment losses		(1,926)	-	-	-	(1,926)
Spare parts		8,334	-	(1,243)	-	7,091
<b>Cost</b>		<b>2,350,276</b>	<b>16,968</b>	<b>(1,755)</b>	<b>-</b>	<b>2,365,489</b>
Industrial landfill	25%	(8,573)	-	-	-	(8,573)
Improvements	5%	(10,513)	-	-	(328)	(10,841)
Buildings	3%	(85,964)	-	-	(2,803)	(88,767)
Installations	16%	(18,265)	-	-	(3,363)	(21,628)
Machines and Equipment	9%	(941,732)	-	333	(32,466)	(973,865)
Furniture and fixtures	8%	(16,596)	-	-	(366)	(16,962)
Vehicles	20%	(1,123)	-	-	(24)	(1,147)
<b>Accumulated depreciation:</b>		<b>(1,082,766)</b>	<b>-</b>	<b>333</b>	<b>(39,350)</b>	<b>(1,121,783)</b>
<b>Total assets</b>		<b>1,267,510</b>	<b>16,968</b>	<b>(1,422)</b>	<b>(39,350)</b>	<b>1,243,706</b>
<b>INTANGIBLES</b>						
ERP/Software		62,899	-	1,422	-	64,321
<b>Cost</b>		<b>62,899</b>	<b>-</b>	<b>1,422</b>	<b>-</b>	<b>64,321</b>
ERP/Software	20%	(52,734)	-	-	(990)	(53,724)
<b>Accumulated amortization:</b>		<b>(52,734)</b>	<b>-</b>	<b>-</b>	<b>(990)</b>	<b>(53,724)</b>
<b>Intangible assets</b>		<b>10,165</b>	<b>-</b>	<b>1,422</b>	<b>(990)</b>	<b>10,597</b>

The consolidated amount of R\$ 39,350 in property, plant and equipment related to depreciation, and R\$ 990 in intangible assets related to the amortization, totaling R\$ 40,340, refers to:

			Consolidated
	1 <sup>st</sup> Quarter	1 <sup>st</sup> Quarter	
Cost of goods sold	38,260	35,645	
Commercial expenses	774	515	
General and administrative expenses	1,306	871	
<b>Total depreciation and amortization expenses</b>	<b>40,340</b>	<b>37,031</b>	

## 12.1. Property, plant and equipment in progress

As at March 31, 2019, the balance of the account property, plant and equipment in progress presented in the Parent Company and Consolidated was R\$46,210 (R\$30,584 as at December 31, 2018), and was substantially represented by:

12.1.1. The Unit of Dias D'Ávila (Bahia) had a balance of R\$ 41,929 as at March 31, 2019 (R\$ 27,651 as at December 31, 2018), referring to several projects arising from the need to improve the production of copper cathodes. The main projects were as follows: i) scheduled maintenance for the improvement of operating activities; ii) new intermediary absorption tower; iii) new gas treatment system; iv) new wells and reuse water; and v) technological overhauls and operational guarantees.

12.1.2. The Santo André-SP unit had a balance of R\$4,281 as at March 31, 2019 (R\$2,933 as at December 31, 2018). The main projects were aimed at maintaining and improving operational activities and corporate safety.

## 12.2. Losses from the impairment of fixed and intangible assets

In compliance with the requirements set out in IAS 36/CPC 01 (R1) – “Impairment of Assets”, the Company ran annual impairment testing on its fixed assets, which found that the estimated market value was in excess of the net book value as at the assessment date.

As at March 31, 2019, the Company had an allowance for losses of R\$ 1,926, already recorded in prior years regarding machines and equipment without use.

## 12.3. Fixed assets in guarantee

The Company offered its assets as guarantees for fiscal lawsuits, the financing of expansion projects and production line technological updates, and loans under the debt re-profiling process. As at March 31, 2019, total guarantees were R\$ 904,904 as shown in the table below:

Guarantees for lawsuits	Assets Type	Modality	Plant and
CSLL	Municipal writs of payment	Manaus e Semasa writs of payme	-
Fiduciary assignment of rights - CSLL	Installations - Utinga	Fiduciary alienation contract	1,267
Fiduciary assignment of rights - CSLL	Machines and equipment - Utinga	Fiduciary alienation contract	60,943
<b>Total</b>			<b>62,210</b>

Loan Guarantees	Assets Type	Modality	Plant and
FINAME	Buildings	Equipment	1,271
FINAME	Installations	First-degree mortgage	427
FINAME	Machines and equipment	Equipment	9,684
FINAME	Vehicles	Equipment	97
FINEN	Buildings	First-degree mortgage	5,434
FINEN	Improvements	First-degree mortgage	80
FINEN	Land	First-degree mortgage	4,545
FNE	Improvements	First-degree mortgage	5,121
FNE	Buildings	First-degree mortgage	80,780
FNE	Land	First-degree mortgage	106,831
FINIMP	Machines and Equipment	Equipment	67,606
<b>Sub-total (previous to restructuring)</b>			<b>281,876</b>
Mortgage (Post debt reprofiling)	Land improvements - Dias D'Ávila	First-degree mortgage	97
Mortgage (Post debt reprofiling)	Buildings / Civil work- Dias D'Ávila	First-degree mortgage	79,617
Mortgage (Post debt reprofiling)	Land - Dias D'Ávila	First-degree mortgage	8,308
<b>Mortgage (Post debt reprofiling)</b>			<b>88,022</b>
Pledge (Post debt reprofiling) - Dias D'Ávila	Asset under construction	Equipment pledge	25,000
Pledge (Post debt reprofiling) - Dias D'Ávila	Installations	Equipment pledge	9,583
Pledge (Post debt reprofiling) - Dias D'Ávila	Machines and equipment	Equipment pledge	320,208
Pledge (Post debt reprofiling) - Dias D'Ávila	Furniture and fixtures	Equipment pledge	1,656
Pledge (Post debt reprofiling) - Utinga	Asset under construction	Equipment pledge	5,584
Pledge (Post debt reprofiling) - Utinga	Installation	Equipment pledge	14,459
Pledge (Post debt reprofiling) - Utinga	Machines and equipment	Equipment pledge	86,371
Pledge (Post debt reprofiling) - Utinga	Furniture and fixtures	Equipment pledge	239
Pledge (Post debt reprofiling) - Utinga	Vehicles	Equipment pledge	66
Pledge (Post debt reprofiling) - Serra	Machines and equipment	Equipment pledge	1,194
Pledge (Post debt reprofiling) - Utinga	Spare parts - Asset	Equipment pledge	6,121
Pledge (Post debt reprofiling) - Dias D'Ávila	Spare parts - Asset	Equipment pledge	2,315
<b>Sub-total (Mortgaged/Pledged post debt reprofiling)</b>			<b>472,796</b>
<b>Total Loan Guarantees</b>			<b>842,694</b>
<b>Total Guarantees</b>			<b>904,904</b>

### 13. Suppliers

	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
<b>Domestic</b>					
Goods		136,720	44,677	136,768	44,709
Freight and transportation		11,803	10,738	13,857	12,424
Services		15,734	16,252	15,816	16,285
Electric power/Water and sewage/Gas		7,499	4,881	7,499	4,881
Insurance		399	1,749	399	1,749
Others		15	3,045	15	3,045
Related parties	11.2	23,952	52,020	-	-
Adjustment to present value		(367)	(610)	(369)	(611)
		<u>195,755</u>	<u>132,752</u>	<u>173,985</u>	<u>82,482</u>
<b>Foreign</b>					
Goods	(a)	802,698	1,175,505	802,698	1,175,505
		<u>802,698</u>	<u>1,175,505</u>	<u>802,698</u>	<u>1,175,505</u>
		<u>998,453</u>	<u>1,308,257</u>	<u>976,683</u>	<u>1,257,987</u>
<b>Current liabilities</b>		<u>998,453</u>	<u>1,308,257</u>	<u>976,683</u>	<u>1,257,987</u>

a) As at March 31, 2019, the Company had R\$ 473,880 (R\$ 911,443 as at December 31, 2018) of concentrate purchases pursuant to an agreement entered into with Glencore (Note 11.3.b).

### 14. Forfaiting and letter of credit operations

These operations relate to signed copper concentrate purchase contracts with suppliers that use banking operations called “forfaiting” and letters of credit. As part of such transactions, suppliers transfer their securities receiving rights to the banks which, in turn, become the creditors of the operations. This type of transaction does not significantly alter the prices and other conditions set by the Company's suppliers. However, the use of financial institutions allows suppliers to extend the payment terms to clients and, at the same time, anticipate the receipt of payment for forward sales, contributing to the improvement in operating cash flow.

Considering the characteristics of such transactions and an awareness of how the Company's suppliers are funding their operations, the amounts related to these transactions are presented within a specific line item. The terms and conditions are presented below:

	Interest rate	Deadline	Parent company/Consolidated			
			03/31/2019		12/31/2018	
			US\$	R\$	US\$	R\$
Letter of credit	Exchange Variation + 4.0% to 4.4% p.y.	up to 360 days	8,220	32,617	8,220	31,852
Forfaiting - Domestic suppliers	0.99% to 1.4% p.y.	up to 120 days	-	47,158	-	35,062
			<u>8,220</u>	<u>79,775</u>	<u>8,220</u>	<u>66,914</u>

## 15. Lease

						Consolidated			
						03/31/2019			
						Non-current assets		Liabilities	
Contract	Interest rate	Additions	Amortization	Non-current Assets		Current	Non-current		
Rental of communication radios-BA	aug-19	0.92%	251	(94)	157	164	-		
Car rental for Board of Directors	sep-21	0.92%	585	(53)	532	248	425		
Forklift Rental-ES	aug-23	0.92%	118	(6)	112	32	111		
Rental of Forklifts-SP	dec-20	0.92%	131	(16)	115	73	55		
Rental Truck Munck	jan-20	0.92%	502	(116)	386	411	-		
Scaffolding Rental + Assembly and Dismantling	feb-20	0.92%	1,763	(378)	1,385	1,483	-		
Cranes rental-BA	mar-20	0.92%	910	(182)	728	783	-		
Lifting Platforms rental-BA	apr-20	0.92%	715	(134)	581	579	48		
Forklifts rental-SP	jul-23	0.92%	4,211	(231)	3,980	1,175	3,915		
Commercial Room Rental	mar-23	0.92%	1,177	(69)	1,108	316	1,148		
Forklift Rental-BA	jul-21	0.92%	2,965	(287)	2,678	1,324	1,766		
Equipment Rental for Internal Handling	nov-21	0.92%	20,947	(1,795)	19,152	8,431	14,052		
Forklift Rental-RJ	jul-21	0.92%	435	(42)	393	194	259		
			34,710	(3,403)	31,307	15,213	21,779		
Adjustment to present value						(1,884)	(3,276)		
						13,329	18,503		

## 16. Loans and financing

The main conditions renegotiated as part of the debt re-profiling process in 2017 on a common basis for all creditors were total payment terms of up to seven years, with a grace period of two years for principal amortization and annual interest payments.

Transaction costs directly attributable to the process of debt re-profiling, mainly involving the contracting of legal and financial advisors, external audit services, costs for the preparation of prospectuses and reports, as well as fees, commission and registries are calculated in a reduction account of liabilities as shown in the table below.

Loan balances, net of transaction costs, at the end of each period are also shown below.

	Parent company/Consolidated			
	03/31/2019		12/31/2018	
	Current liabilities	Non-current liabilities	Current liabilities	Non-current liabilities
<b>Contracted in US\$ Currency</b>				
Import financing	6,432	-	12,932	-
Foreign trade loans	72,307	636,403	38,260	673,219
Loans in foreign currency	122,425	1,085,725	20,389	1,199,582
Bank Credit Notes	7,970	70,704	1,305	78,119
	<b>209,134</b>	<b>1,792,832</b>	<b>72,886</b>	<b>1,950,920</b>
<b>Contracted in R\$ Currency</b>				
Project financing	6,533	253	9,664	345
Banco do Nordeste do Brasil – FNE	24,397	36,892	24,472	41,802
Working capital	27,215	38,014	29,166	44,721
	<b>58,145</b>	<b>75,159</b>	<b>63,302</b>	<b>86,868</b>
<b>Transaction Costs - reprofiling</b>	<b>(4,359)</b>	<b>(20,704)</b>	<b>(4,359)</b>	<b>(20,704)</b>
	<b>262,920</b>	<b>1,847,287</b>	<b>131,829</b>	<b>2,017,084</b>

Long-term installments on March 31, 2019 mature as follows:

Parent company/Consolidated	
2020.....	258,385
2021.....	423,721
2022.....	658,840
2023.....	252,626
2024.....	253,715
	<b>1,847,287</b>

Summary of changes in loans in the period

						Consolidated
	12/31/2018	Entry	Payment Principal	Payment Interest	Exchange rate variation	03/31/2019
Import financing	12,932	-	(6,412)	(278)	190	6,432
Foreign trade loans	711,479	23,264	(28,266)	(10,478)	12,711	708,710
Loans in foreign currency	1,219,970	-	-	(35,389)	23,570	1,208,151
Project financing	10,010	-	(3,201)	(191)	168	6,786
Banco do Nordeste do Brasil – FNE	66,274	-	(6,000)	(1,068)	993	60,199
Working capital	73,887	-	(8,385)	(2,157)	1,883	65,228
Bank Credit Note	79,423	-	-	(2,311)	1,562	78,674
Transaction costs - reprofiling	(25,062)	-	-	-	1,089	(23,973)
Loans and financing	<b>2,148,913</b>	<b>23,264</b>	<b>(52,264)</b>	<b>(51,872)</b>	<b>42,166</b>	<b>2,110,207</b>

Debt breakdown by financial institution after debt re-profiling.

Modality	Bank	Payment	Maturities Principal	Tax	03/31/2019			In US\$		
					Current liabilities - Principal	Current liabilities - Interest	Non-current liabilities	Current liabilities - Principal	Current liabilities - Interest	Non-current liabilities
Contracted in R\$ Currency										
FINAME	Banco Abc Brasil S.A.	Monthly	2018 to 2019	6.00% p.y.	176	1	-	-	-	-
FINAME	Banco Safra S.A.	Monthly	2018 to 2020	9.50% p.y.	363	1	-	-	-	-
BNDES AUT.	Banco Safra S.A.	Monthly	2018 to 2020	2.5% to 18.5% p.y.	1,372	7	254	-	-	-
FINEM	Banco Safra S.A.	Monthly	2018 to 2019	TJLP + 3.35% p.y.	4,595	17	-	-	-	-
FINEP	Finep	Monthly	2018 to 2023	TJLP + 5% p.y.	-	-	-	-	-	-
FNE	Banco do Nordeste do Brasil S.A.	Monthly	2018 to 2023	10% p.y.	24,000	397	35,802	-	-	-
GIRO	Banco do Nordeste do Brasil S.A.	Monthly	2018 to 2021	CDI + 0.5% p.y.	26,833	382	38,013	-	-	-
Total contracted in Currency BRL					57,339	805	74,069	-	-	-
Contracted in US\$ Currency										
FINIMP	HSBC Bank Brasil S.A.	Half-Year	2018 to 2019	LIBOR 06 + 1.7% p.y.	6,432	-	-	1,651	-	-
ACC	Banco Bnp Paribas Brasil S.A.	Half-Year	2018	LIBOR 12 + 1.75% p.y.	6,546	1,145	102,561	1,680	294	26,320
ACC	Banco Do Brasil S.A.	Half-Year	2020 to 2022	LIBOR 12 + 1.75% p.y.	6,546	1,145	102,561	1,680	294	26,320
ACC	Caixa Economica Federal	Half-Year	2020 to 2022	LIBOR 12 + 1.75% p.y.	13,629	2,384	213,511	3,497	612	54,793
ACC	China Construction Bank	Half-Year	2020 to 2022	LIBOR 12 + 1.75% p.y.	4,509	402	54,927	1,157	103	14,096
ACC	Ing Bank N.V.	Half-Year	2020 to 2022	LIBOR 12 + 1.75% p.y.	4,676	818	73,258	1,200	210	18,800
ACC	Scotiabank	Half-Year	2020 to 2022	LIBOR 12 + 1.75% p.y.	4,715	1,211	89,585	1,210	311	22,990
ACC	Banco Banrisul	Annual	2020	5.20% a 5.30% p.y.	24,447	134	-	6,274	34	-
PPE	Banco Sumitomo Mitsui Br. S.A.	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	13,767	204	123,902	3,533	52	31,797
PPE	Scotiabank	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	1,395	21	12,554	358	5	3,222
PPE	Ing Bank N.V.	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	3,389	50	30,497	870	13	7,826
PPE	China Construction Bank	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	4,466	66	40,193	1,146	17	10,315
PPE	Cargill Incorporated	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	53,958	800	485,623	13,847	205	124,624
PPE	Banco Bradesco S.A.	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	22,353	332	201,176	5,736	85	51,627
PPE	Banco Do Brasil S.A.	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	10,579	157	95,213	2,715	40	24,434
PPE	Bladex Representação Ltda	Half-Year	2020 to 2024	LIBOR 12 + 3.25% p.y.	10,730	159	96,567	2,754	41	24,782
CCB	Banco Itaú Bba S.A.	Half-Year	2018 to 2019	LIBOR 6 + 3.25% p.y.	7,856	114	70,704	2,016	29	18,145
Total contracted in Currency US\$					199,993	9,142	1,792,832	51,324	2,345	460,091
Transaction Costs - reprofiling					(4,359)	-	(19,614)	-	-	-
Total					252,973	9,947	1,847,287	51,324	2,345	460,091

Guarantees:

As at March 31, 2019, loans and financing were guaranteed by property, plant and equipment items of R\$842,694 as described in Note 12.3.

Covenants:

In relation to financial covenants, such as those under the Debt Re-profiling Global Agreement, the Company is obliged to comply with the following ratios:

a) Net debt/EBITDA:

- Equal to or less than -50.9x on December 31, 2017;
- Equal to or less than 63.1x on June 30, 2018;
- Equal to or less than 16.6x on December 31, 2018;
- Equal to or less than 14.6x on June 30, 2019;
- Equal to or less than 10.4x on December 31, 2019;
- Equal to or less than 9.0x on June 30, 2020;
- Equal to or less than 7.0x on December 31, 2020;
- Equal to or less than 6.5x on June 30, 2021;
- Equal to or less than 5.8x on December 31, 2021;
- Equal to or less than 5.8x on June 30, 2022;
- Equal to or less than 5.2x on December 31, 2022;
- Equal to or less than 5.0x on June 30, 2023;
- Equal to or less than 4.3x on December 31, 2023;
- Equal to or less than 4.6x on June 30, 2024; and
- Equal to or less than 3.9x on December 31, 2024.

For the purposes of this item (a), the parties agree that any breach of the financial index arising from the quotient of the division of the net debt by the recurring and unadjusted EBITDA, on a consolidated basis, found as at December 31, 2017, June 30, 2018 and December 31, 2018 will not give rise to the accelerated maturity of the Definitive Agreements. Without prejudice, the Company is, in this case, required to, within (15) days of such a breach, submit to the lenders a detailed report setting out the reasons for such breach, and describing the Company's financial condition, as well as making itself available to hold a meeting or conference call, on a business day and during regular working hours, with the creditors to present the causes and the action plan for remedying such a breach.

As at March 31, 2019 the Company recorded an index of 14.1x, which was compliant with the index for the next period.

b) Current liquidity

The Company must also present the current liquidity ratio based on a quotient of the division of current assets by current liabilities equal to or higher than one, assessed as at June 30 and December 31 of each year, in accordance with the accounting principles generally accepted in Brazil, based on the financial statements published by the Company after the first publication of quarterly information reviewed after the execution hereof.

The Company was in compliance with this index for the periods ended June 30, 2018 and December 31, 2018, achieving 1.7 and 1.5, respectively.



c) Minimum limits on inventory and receivables

For the quarter ending September 30, 2017 (including that day), deliver to the creditors correspondence showing the detailed calculation of the Minimum Limit on Inventory and Receivables for the corresponding fiscal period, based on the financial information disclosed on a quarterly basis by the Company, under the terms of the Brazilian Securities Exchange Commission – CVM (i.e. Quarterly Financial Information - ITRs for the quarters ended in March, June and September, and annual financial information for the quarter ended in December).

In view of the performance expectation, the Company will continue with the timely monitoring of the indexes of covenants.

## 17. Salaries and social security charges

	Parent company		Consolidated	
	03/31/2019	12/31/2018	03/31/2019	12/31/2018
Provision for vacations	24,389	27,057	24,444	27,110
Profit sharing	17,371	24,299	17,425	24,388
Provision for 13th month's salary	3,782	-	3,793	-
Social security	5,805	5,840	5,817	5,853
Contribution to the Severance Indemnity Fund	989	1,537	991	1,541
Social security	474	454	474	454
Other	65	715	66	715
<b>Current liabilities</b>	<b>52,875</b>	<b>59,902</b>	<b>53,010</b>	<b>60,061</b>

## 18. Taxes and contributions payable

	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Contribution for social security funding-COFINS		7,823	-	7,823	-
Value-added tax on sales and services - ICMS		9,939	4,198	9,944	4,218
Social Integration Program-PIS		1,696	-	1,696	-
Property tax urban		1,230	190	1,230	190
Excise Tax - IPI		1,948	1,861	1,948	1,861
Withholding income tax-IRRF		1,424	2,505	1,426	2,509
Income tax and social contribution	26.2	-	-	431	1,424
Withheld PIS, COFINS, income tax and social		677	470	677	470
ISS - Service Tax		624	431	624	431
Other		5	36	5	36
<b>Current liabilities</b>		<b>25,366</b>	<b>9,691</b>	<b>25,804</b>	<b>11,139</b>

The Brazilian tax system is based on self-assessment, where tax filing declarations are available for review by the fiscal authorities for a period of five years from the filing date.

## 19. Provision for judicial claims

### 19.1. Accrued risks

The Company makes provisions for tax, labor and civil lawsuits and administrative proceedings against the Company and its subsidiaries in cases where the likelihood of loss is deemed probable by its legal counsel.



The balances of the provision for contingencies, with a statement of the net balance of judicial deposits to the respective claims, are given below. Judicial deposits are provided as guarantees and surveyed by the adverse parties upon settlement of the claim, in the event of an unfavorable final decision.

	Parent company/Consolidated		
	03/31/2019	12/31/2018	
	Provision	Judicial Claims	Provision
Labor	176,425	(7,919)	168,506
Tax	2,215	-	2,215
Social Security	4,658	-	4,658
Civil	18,225	-	18,225
	<b>201,523</b>	<b>(7,919)</b>	<b>193,604</b>

Changes in provision have progressed as shown below:

	Parent company/Consolidated				
	Labor	Tax	Civil	Social Security	Total
Balance as at December 31, 2017	179,350	1,875	4,980	-	186,205
Provision (Reversal)	45,323	1,948	1,801	792	49,864
Write-offs	(60,253)	(1,619)	(37)	-	(61,909)
Balance as at December 31, 2018	164,420	2,204	6,744	792	174,160
Provision (Reversal)	16,254	55	12,581	3,866	32,756
Write-offs	(12,168)	(44)	(1,100)	-	(13,312)
Balance as at March 31, 2019	<b>168,506</b>	<b>2,215</b>	<b>18,225</b>	<b>4,658</b>	<b>193,604</b>

The provision for labor contingencies refers to lawsuits in progress before the Labor Court which, individually, are not material to the Company's business.

The provision for civil lawsuits consists mainly of indemnity suits related to contractual disputes.

## 19.2. Risks assessed as possible

In addition to the abovementioned lawsuits, there are other lawsuits in progress with a likelihood of loss deemed possible by the legal counsel. Therefore, in accordance with the accounting practices of the Company, no provision was recorded.

	Parent company		Consolidated	
	03/31/2019	12/31/2018	03/31/2019	12/31/2018
Labor	60,035	67,479	60,035	67,479
Tax	674,365	678,197	676,136	679,937
Social security	36,559	20,070	36,559	20,070
Civil	470,601	471,324	470,601	471,324
	<b>1,241,560</b>	<b>1,237,070</b>	<b>1,243,331</b>	<b>1,238,810</b>

Most relevant lawsuits with a risk of loss assessed as possible were tax-related, and are commented on in items "a" and "b" below:

### a) Social contribution on net profit - CSLL

According to final legal decision, in 1994 the company Caraíba Metais S.A., which merged with Paranapanema S.A. on November 13, 2009, obtained the right of not paying CSLL established by Law 7689/88.

Following the decision favorable to Caraíba Metais S.A., this decision was challenged by the National Treasury through a motion for a new trial proposed in 1994, with the object of

reestablishing the obligation of the Company (the successor company of Caraíba Metais S. A.) to pay the contribution. The motion for a new trial was accepted, and the final ruling favorable to the Federal Government was issued on March 29, 2010.

The Company, based on the opinion of its legal counsel, believes that the decision that canceled the Company's right not to pay CSLL cannot have its effects canceled as of the year of the Law's enactment and, for this reason, the merged Company has not been recording a provision for this contribution beginning from base year 1994. In periods prior to this date, the Company did not determine a positive calculation basis for CSLL.

Regarding this matter, the Brazilian Internal Revenue Service filled five infraction notices relating to facts generated between 1996 and 2008. Furthermore, one of these notices was segregated, keeping part of the discussion at the administrative level and the other at the judicial level. Currently, four of these notices are subject to tax foreclosures, duly guaranteed, which were accepted by the competent judge.

As at March 31, 2019, the Company estimated non-provisioned amounts of R\$ 349,977 and R\$ 256,049 as possible risk and R\$ 93,928 as remote risks (R\$348,022 as at December 31, 2018, 254,562 were assessed as representing possible risks and R\$ 93,460 remote risks) according to the opinion of its legal counsel.

b) Isolated IPI and IRPJ fine

The Brazilian Federal Internal Revenue Service filed an infraction notice to collect a one-off fine related to the incorrect payment of IPI and IRPJ debits between 2004 and 2006 by Caraíba Metais S.A. This payment was made by the Company before the final court ruling on the validity of the use of the credits.

On August 24, 2010, the merged company Caraíba Metais S.A. had a partial success at the Appeals Court, recognizing the lack of a legal basis for the enforcement of an "one-off/non-cumulative" fine before the edition on Law 11196/2005.

The Company, supported by its legal counsel, believes that this collection is not due, in accordance with the decision issued by the Supreme Court of Justice in special appeal 1164.452/MG, which states that the requisite final ruling can only be applied to lawsuits filed after Complementary Law 104/2001 was published on January 11, 2001. The legal action which allowed the use of the credit was published on August 17, 1998.

Presently, the case is under discussion at the first legal instance, being the collection of the fine contested by the Company through the suspension of fiscal execution.

As at March 31, 2019, the Company estimated the amount, not subject to provision and duly updated, as being R\$108,626 (R\$107,788 as at December 31, 2018) and the risk was evaluated as possible.

c) BTG Pactual S.A. and Banco Santander (Brasil) S.A.

There was a disagreement involving the Company, BTG Pactual S.A. (BTG Pactual) and Banco Santander (Brasil) S.A. (Santander, referred to together with BTG Pactual as Bancos), regarding certain obligations under a credit facility agreement executed among the parties, including collections from swap agreements, also executed between the parties. As a result, Santander, in April 2010, initiated arbitration proceedings before the Arbitration and Mediation Center of the Chamber of Commerce Brazil-Canada (CAM-CCBC and the First Arbitration, respectively). The judgment issued by this body, in favor of Santander, required the payment by the Company of

R\$292,000, restated from the dates set out in the judgment, at the IGP-M + 1% per month. That judgment was an annulment of the action proposed by Paranapanema in common law, which was upheld in the first and second instances (interest on own capital), determining the annulment of the decision by the Arbitration Court. After the special appeals filed by Paranapanema and BTG Pactual, the Supreme Court of Justice (STJ), on September 18, 2018, upheld the decision rendered by the Court of Justice of São Paulo (TJSP), ratifying the annulment of the First Arbitration. The lawsuit was judged in November 2018.

At the beginning of 2015, after the aforementioned decision held by the TJSP, Santander requested the filing of a new arbitration claim with CAM-CCBC. The new arbitration was established under Number 02/2015/SEC1 (the Second Arbitration). This Arbitration involves Santander and BTG Pactual as applicants and the Company as defendant. This new arbitration was aimed at disputing the same matter as the First Arbitration. On August 10, 2018, Paranapanema was summoned for the partial arbitration decision awarded in this Second Arbitration, and of its decision annulled certain obligations set out in the Credit Facility Agreement, with repercussions for swap contracts. On the other hand, the partial arbitration decision recognized the existence of counter credits between the parties, and, for this reason, determined to carry out in the same arbitration procedure, a settlement phase to determine the possible amounts due between the parties, under the criteria still to be established by the Arbitration Court, thus, not allowing the precise result, considering that such discussion is in progress.

Supported by Technical Pronouncement CPC 25, Paranapanema's management understands that the circumstances, risks and uncertainties of the case should be considered in order to obtain the best estimate of the possible contingency, asset or liability. Contingencies should be revalued at each balance sheet date and adjusted to reflect the current best estimate. So, in view of the extent decided by the Arbitration Court in the Second Arbitration thus far, as well as considering that certain criteria are still subject to discussion between the parties and definition by the arbitrators, Paranapanema's management, supported by discussions, reports and analysis of its external advisors, understands that it is not practicable to estimate with certainty the outcome or the financial effects of this issue (items 84 onwards of CPC 25).

In March 2019, BTG Pactual filed an Annulment Action concerning the Second Arbitration, with an injunction requesting the suspension of the effectiveness of the partial arbitration award rendered. The lawsuit is in the secrecy of justice before the First Business Court of and Arbitration Conflicts of the Central Court of São Paulo/SP. The injunction was denied, maintaining the course of the Second Arbitration up to now.

## 20. Other current liabilities

	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Dividends payable	(a)	26,842	26,274	26,842	26,274
Advances from customers	(d)	20,323	192,515	21,543	193,122
Attorneys' fees and services		3,133	9,661	3,133	9,661
Various provision		16,251	26,662	16,276	26,843
Sales commission		8,051	9,571	8,191	9,690
Provision for environmental expenses	(b)	6,303	6,681	6,303	6,681
Customer credits	(c)	3,571	1,709	3,653	2,034
Others		1,084	1,069	1,085	1,070
<b>Current liabilities</b>		<b>85,558</b>	<b>274,142</b>	<b>87,026</b>	<b>275,375</b>
<b>Dividends payable</b>		<b>26,842</b>	<b>26,274</b>	<b>26,842</b>	<b>26,274</b>
<b>Advances from customers</b>		<b>20,323</b>	<b>192,515</b>	<b>21,543</b>	<b>193,122</b>
<b>Other current liabilities</b>		<b>38,393</b>	<b>55,353</b>	<b>38,641</b>	<b>55,979</b>
		<b>85,558</b>	<b>274,142</b>	<b>87,026</b>	<b>275,375</b>

- a) Refers to a mandatory minimum dividend equivalent to 25% of the net income in 2015, adjusted by the legal reserve, with inflation adjustments based on the IGP-M (General Inflation Index), as shown in Note 21k.
- b) Refers to the expenditure forecast to fulfill the obligations under the Conduct Adjustment Agreement (TAC) signed on December 4, 2015 between the Public Ministry of Bahia, Paranapanema and other companies. The objective of the agreement is to implement mitigation, reparation and compensation measures related to environmental impacts within the Ilha da Maré area.
- c) Client credits refer to adjustments between price parameters, volumes and/or metal content yields charged temporarily upon invoicing, and final transaction parameters.
- d) Advances from clients (mainly from export sales) where the final sales price is later adjusted to reflect the volume, metal yields or quality as verified by the clients.

## 21. Shareholders' equity

### a) Capital

The subscribed and paid-up capital, as at March 31, 2019 and December 31, 2018, corresponded to R\$1,990,707,732.56 represented by 692,370,186 book-entry shares, all common, registered and with no par value.

The ownership structure of the Company as at March 31, 2019 was as follows:

	%	03/31/2019	%	12/31/2018
Caixa de Previd. dos Func. do Banco do Brasil - PREVI	19.80	<b>137,120,603</b>	19.80	137,120,603
Caixa Econômica Federal	17.32	<b>119,920,814</b>	17.32	119,920,814
Mineração Buritirama S.A.	9.20	<b>63,730,682</b>	9.20	63,730,682
Cargill Financial Services Internat, Inc	6.70	<b>46,405,116</b>	6.70	46,405,116
Bonsucex Holding S.A.	6.56	<b>45,437,178</b>	6.27	43,437,178
Glencore International Investments Ltd	6.11	<b>42,307,692</b>	6.11	42,307,692
Fund. Petrobras de Seguridade Social - PETROS	4.10	<b>28,357,370</b>	5.10	35,331,221
Treasury shares	0.00	<b>24,509</b>	0.00	24,509
Market	30.20	<b>209,066,222</b>	29.48	204,092,371
<b>Total shares outstanding</b>		<b><u>692,370,186</u></b>		<b><u>692,370,186</u></b>

b) Debentures into shares

On August 29, 2017, the Board of Directors approved the launch of a public offering of debentures, mandatorily convertible into Company shares. As described in Note 1.b., with the release of a debenture public offering with restricted placement efforts, these debentures are mandatorily convertible into the Company's shares, and are issued in two series, unsecured, without any additional guarantees, for public distribution and with restricted placement efforts under the terms of CVM Instruction 476. Banco Modal S.A. is the fiduciary agent together with Pentágono S.A. Distribuidora de Títulos e Valores Imobiliários. Banco Bradesco S.A. is the underwriter agent.

334,216,991 Series 1 debentures and 25,786,827 Series 2 debentures were issued. Series 1 debentures mature on September 1, 2019, and Series 2 debentures mature on September 1, 2021. The subscription amount was R\$360,004 of debentures, convertible into 207,694,550 shares. As at September 22, 2017, the investors had converted their debts into debentures, as described in Note 1.

The debentures may be converted into shares at any time. Moreover, and up to their maturity dates, the conversion will occur automatically and will be mandatory. As at March 31, 2019, total debentures translated into shares totaled R\$255,358 and the balance to be reversed is R\$104,645, as outlined in Note 1.

c) Authorized capital

The Company's management is authorized to increase its capital without a decision of a Shareholders' Meeting, up to the limit of R\$ 3,500,000, through a resolution of the Board of Directors, which will also establish issuance and placement conditions for the said securities, among the assumptions permitted by law.

d) Rights of shares

Each year, the shareholders will receive minimum dividends of 25% of the net income calculated pursuant to the terms of Brazilian corporate law, and they must be paid within a maximum period of 60 days after the date on which they are declared by the General Shareholders' Meeting. The shareholders are also entitled to voting rights on all of the shares that comprise the capital which is fully subscribed and paid-in.

In accordance with the regulations of B3 S.A. - Brasil, Bolsa, Balcão New Market segment, owners of common shares have the right to sell their shares for the same prices as the shares negotiated through a controlling group/shareholder (tag along rights of 100%).

e) Legal reserve

Brazilian public corporate law requires corporations to allocate 5% of their net income for the year to a legal reserve, before profit sharing, limiting this reserve to 20% of the paid-in capital.

f) Treasury shares

As at March 31, 2019, the Company had 24,509 treasury shares (24,509 as at December 31, 2018), all of which were common shares. The market value of the total treasury shares, calculated based on the last stock exchange quotation as at March 31, 2019, was R\$ 36 (R\$ 34 as at December 31, 2018).

g) Tax incentive reserve

Paranapanema is a tax beneficiary until 2027 of a 75% fixed reduction in the income tax rate and additions calculated based on the operating profit. This tax benefit is established under the Regulation of Tax Incentives of the Northeast Development Superintendence (SUDENE), as established by the Minister of National Integration (MIN) 283, dated July 4, 2013 (the Regulation). This profit is calculated based on the net income for the period, excluding the tax benefits of: (i) financial results; and (ii) capital gains.

According to Article 11, “the amount of tax not paid because of tax benefits described in this Regulation may not be distributed to partners or shareholders and constitutes the tax incentive reserve, which can only be used to offset losses or increase capital.” Thus, it is an obligation of the Company to allocate to the tax incentive reserve account the amount arising from the tax benefit (tax amount not paid) which, by definition, does not form part of the net income, because it does not arise from the delivery of goods or services by the Company.

h) Equity valuation adjustments

The reserve for equity valuation adjustments includes:

- Net changes in the fair value of financial instruments used as a cash flow hedge, which will later be recognized in the profit or loss upon liquidation (see Note 28).
- Accumulated translation adjustments, including all foreign currency differences deriving from the translation of the financial statements of subsidiaries with foreign operations.
- The balance of the deemed cost reserve refers to values recognized prior to the coming into effect of Law 11638/07 and will be maintained until its effective realization. The realization of the reserve is reflected in the account retained earnings or losses. The same treatment is given to the reversal of deferred taxes and contributions, which were recorded upon the deemed cost accounting.



## Changes in equity valuation adjustments

	Export revenue ACC/PPE	NDF sales revenue	Metal cost x exchange future	Other debts	Revaluation reserve	Exchange variations on investments abroad	Total
Balance as at December 31, 2017	(433,145)	(147,526)	81	(424,584)	218,917	(102)	(786,359)
Other comprehensive income	2,168	31,524	3,157	-	(12,479)	499	285,702
Balance as at December 31, 2018	(430,977)	(116,002)	3,238	(424,584)	206,438	397	(761,490)
Other comprehensive income	(189)	12,304	(2,630)	-	(1,883)	180	7,782
<b>Balance as at March 31, 2019</b>	<b>(431,166)</b>	<b>(103,698)</b>	<b>608</b>	<b>(424,584)</b>	<b>204,555</b>	<b>577</b>	<b>(753,708)</b>

### i) Market value of the Company's shares.

The market value of the Company's shares, in accordance with the last average quotation of shares traded on B3 S.A., corresponded as at March 31, 2019 to R\$ 1,010,860 (R\$ 934,700 as at December 31, 2018). As at March 31, 2019, the Company had shareholders' equity of R\$ 571,991 (R\$ 602,496 as at December 31, 2018), and the shares' book value was R\$ 0.83 (R\$ 0.87 as at December 31, 2018).

### j) Loss per share

The basic calculation of the (loss) per share is made by dividing the net income (loss) for the period attributable to the Company's common shareholders by the weighted average number of common shares outstanding during the period.

The diluted (loss) per share is calculated by dividing the net (loss) attributable to the common shareholders of the Company by the weighted average number of common shares outstanding during the period, plus the weighted average number of common shares that would be issued in the event of the conversion of all common shares with dilutive potential into common shares.

The following table shows the results and share data used for the calculation of the basic loss per share:

	1 st Quarter	1 st Quarter
<b>Loss per common share</b>		
Loss for the period	(38,941)	(49,158)
Weighted average of shares outstanding(*)	689,144,631	689,144,631
Loss per common share	(0.05651)	(0.07133)
<b>Loss per diluted common share</b>		
Loss for the period	(38,941)	(49,158)
Weighted average of shares outstanding(*)	689,144,631	689,144,631
Convertible debentures	60,372,328	60,372,328
Weighted average of shares diluted with convertible debentures	749,516,959	749,516,959
Loss per diluted common share	(0.05195)	(0.06559)

(\*) The weighted average quantity of shares considers the effect of changes in the weighted average quantity of shares during the year (except treasury shares).

There were other transactions involving common shares or potential common shares between the balance sheet date and the date of completion of these financial statements.

k) Profit allocation

The Company's bylaws provide a mandatory minimum dividend payment of 25% of the adjusted net income after the establishment of the legal reserve, in compliance with the public company (S.A.) regulations.

l) Payment of dividends

The Ordinary and Extraordinary Shareholders' Meeting (AGOE) held on April 28, 2017 unanimously approved the renewal of the postponement date for dividend payments declared in the Ordinary Shareholders' Meeting held on April 29, 2016 (AGO 2016). Dividends will be paid until December 31, 2019 including inflation adjustments based on the inflation index IGP-M from June 24, 2016 until the effective payment date.

## 22. Net sales

a) Breakdown of net revenue

	Parent company		Consolidated	
	1 st Quarter	1 st Quarter	1 st Quarter	1 st Quarter
<b>Gross sales</b>	<b>1,586,112</b>	1,129,354	<b>1,483,996</b>	1,135,386
Domestic market	<b>849,187</b>	625,109	<b>747,071</b>	511,865
Foreign market	<b>736,925</b>	504,245	<b>736,925</b>	623,521
<b>Taxes and sales deductions</b>	<b>(167,777)</b>	(131,047)	<b>(147,607)</b>	(115,421)
Excise Tax - IPI	<b>(5,880)</b>	(6,428)	<b>(5,880)</b>	(6,428)
Value-added tax on sales and services - ICMS	<b>(95,017)</b>	(65,738)	<b>(79,146)</b>	(53,618)
Tax Incentive Fiscal ICMS - Desenvolve (I)	<b>24,779</b>	18,641	<b>24,779</b>	18,641
Social Integration Program-PIS	<b>(11,596)</b>	(9,213)	<b>(9,416)</b>	(7,589)
Contribution for social security funding-COFINS	<b>(53,411)</b>	(42,436)	<b>(43,372)</b>	(34,955)
Other taxes and sales deductions	<b>(26,652)</b>	(25,873)	<b>(34,572)</b>	(31,472)
<b>Net revenue from sales</b>	<b>1,418,335</b>	998,307	<b>1,336,389</b>	1,019,965
<b>Net revenue DM</b>	<b>698,252</b>	505,394	<b>616,312</b>	412,571
<b>Net revenue FM</b>	<b>720,083</b>	492,913	<b>720,077</b>	607,394
	<b>1,418,335</b>	998,307	<b>1,336,389</b>	1,019,965

- (I). The industrial headquarters located in Dias D'Ávila, in the State of Bahia, were granted an ICMS tax incentive, within the scope of the Industrial Development and Economic Integration Program of the State of Bahia (DESENVOLVE). In August 2016, through Decree 16970, Law 13564 the Government established that every company enjoying fiscal and financial benefits, or incentives that result in a reduction in the value of ICMS paid, must contribute the corresponding amount of 10% of the benefit or incentive to the State Fund to Combat and Eradicate Poverty.

b) Geographical information – income from clients abroad

	Parent company		Consolidated	
	1 st Quarter	1 st Quarter	1 st Quarter	1 st Quarter
America	<b>291,349</b>	250,638	<b>291,349</b>	250,638
Europe	<b>425,955</b>	230,000	<b>425,955</b>	349,276
Asia	<b>19,022</b>	20,283	<b>19,022</b>	20,283
Africa	<b>599</b>	3,324	<b>599</b>	3,324
	<b>736,925</b>	504,245	<b>736,925</b>	623,521

Exports to Europe and Asia mainly represented sales to trading companies, where the main destination was China.



## 23. Expenses per type

		Controladora		Consolidated	
		1 st Quarter	1 st Quarter	1 st Quarter	1 st Quarter
Metal cost		(1,211,182)	(858,079)	(1,122,903)	(877,730)
Personnel and benefits	(b)	(62,929)	(58,799)	(63,400)	(59,273)
Depreciation		(40,310)	(37,004)	(40,340)	(37,031)
		(3,361)	-	(3,403)	-
Electricity/water/gas/fuel and lube oil		(42,049)	(33,858)	(42,074)	(33,884)
Services rendered by third parties and others		(21,089)	(11,383)	(21,375)	(11,484)
Maintenance		(21,951)	(28,570)	(21,953)	(28,576)
Petrochemicals stock used/absorbed		(6,029)	(12,631)	(6,435)	(14,147)
Rent		(2,927)	(4,337)	(3,106)	(4,575)
institutional and legal issues		(3,923)	(3,914)	(3,932)	(3,925)
Informatics/telecommunications		(2,108)	(2,607)	(2,117)	(2,623)
Other expenses		(3,485)	(2,203)	(3,499)	(2,215)
Travel expenses		(749)	(806)	(751)	(806)
Sales and marketing		1,306	(837)	1,301	(850)
Idleness transfer for expense	(a)	41,583	57,272	41,583	57,273
		<u>(1,379,203)</u>	<u>(997,756)</u>	<u>(1,292,404)</u>	<u>(1,019,846)</u>
<b>Cost of products sold</b>		<b>(1,354,689)</b>	<b>(975,201)</b>	<b>(1,267,002)</b>	<b>(996,378)</b>
<b>Sales expenses</b>		<b>(5,464)</b>	<b>(6,547)</b>	<b>(5,978)</b>	<b>(7,098)</b>
<b>Administrative and general expenses</b>		<b>(19,050)</b>	<b>(16,008)</b>	<b>(19,424)</b>	<b>(16,370)</b>
		<u>(1,379,203)</u>	<u>(997,756)</u>	<u>(1,292,404)</u>	<u>(1,019,846)</u>

- a) Idleness derived mainly from the lower production volume due to unscheduled downtime caused by operating problems with the smelter, as well as scheduled maintenance at the industrial complex in Dias D'Ávila, in the state of Bahia.
- b) The amounts related to personnel and benefits include salaries, vacations, 13<sup>th</sup> month's salary, social security and private pension, medical and dental care, meals and transportation.

## 24. Other income (expenses)

	Notes	Parent company		Consolidated	
		1 st Quarter	1 st Quarter	1 st Quarter	1 st Quarter
Tax recoveries		-	139	-	139
Energy sales revenue	a)	6,845	4,522	6,845	4,522
Sundry recoveries		433	426	454	426
Sundry sales		650	555	650	555
Reversal provision penalty - Onerous contracts		4,020	-	4,020	-
Leasing of property and equipment		65	65	65	65
Other income		610	254	611	343
<b>Total of other income</b>		<u>12,623</u>	<u>5,961</u>	<u>12,645</u>	<u>6,050</u>
Idleness	23	(41,583)	(57,273)	(41,583)	(57,273)
Provision for judicial claims	19	(32,756)	(17,128)	(32,756)	(17,128)
Severance pay		(1,387)	(869)	(1,387)	(869)
PIS and COFINS on other income		(911)	(746)	(911)	(754)
Provision for judicial claims		(530)	(93)	(530)	(93)
Write-off of property, plant and equipment		-	(5)	-	(5)
Fines from infraction notices		(44)	(133)	(57)	(153)
Sundry sales costs		(89)	(46)	(89)	(46)
Other estimated losses		(1,254)	(324)	(1,254)	(324)
Other expenses		(296)	(833)	(297)	(834)
<b>Total of other expenses</b>		<u>(78,850)</u>	<u>(77,450)</u>	<u>(78,864)</u>	<u>(77,479)</u>
<b>Total of other income (expenses), net</b>		<u>(66,227)</u>	<u>(71,489)</u>	<u>(66,219)</u>	<u>(71,429)</u>

- a) Income from sales of surplus electricity not used in production.

## 25. Financial income (expenses)

	Note	Parent company		Consolidated	
		1 st Quarter	1 st Quarter	1 st Quarter	1 st Quarter
Liability foreign exchange fluctuations	a)	(305,791)	(63,292)	(158,272)	(63,292)
Derivative financial instruments		(19,830)	(3,926)	(19,830)	(3,935)
Hedge on fair value of inventory		(83,716)	(65,540)	(83,716)	(65,540)
Interest expenses		(42,608)	(38,752)	(46,995)	(40,096)
Adjustment to present value		(8,044)	(1,738)	(11,786)	(5,200)
Bank expenses/IOF		(548)	(1,315)	(570)	(1,345)
Liability monetary variation		(6,718)	(195)	(6,718)	(195)
Other financial expenses		(3,386)	(3,872)	(4,002)	(4,129)
<b>Total financial expenses</b>		<b>(470,641)</b>	<b>(178,630)</b>	<b>(331,889)</b>	<b>(183,732)</b>
Asset foreign exchange fluctuations	a)	305,653	68,526	158,134	68,526
Derivative financial instruments		33,611	11,488	33,611	11,452
Hedge on fair value of inventory		90,888	102,090	90,888	109,510
Adjustment to present value		7,532	5,799	10,700	7,878
Interest income		2,004	2,781	2,601	2,993
Monetary variation – assets		2,576	367	2,576	367
Other financial income		1,827	1,754	4,987	4,971
<b>Total financial income</b>		<b>444,091</b>	<b>192,805</b>	<b>303,497</b>	<b>205,697</b>
<b>Total financial result</b>		<b>(26,550)</b>	<b>14,175</b>	<b>(28,392)</b>	<b>21,965</b>

- a) Exchange-rate change: Refers to the restatement of assets and liabilities exposed in foreign currency, mainly in US\$, the appreciation of which against the R\$ during the period generated considerable exchange-rate changes, on both the asset and liability sides. The table below presents the net income (loss) of the Company's exchange-rate change:

	Parent company / Consolidated	
	1 st Quarter	1 st Quarter
Negative exchange variation	(305,791)	(63,292)
Exchange variation gain	305,653	68,526
<b>Net effect of exchange rate variation</b>	<b>(138)</b>	<b>5,234</b>

## 26. Deferred income tax and social contribution

### 26.1 Deferred income tax and social contribution

The parent company received a favorable court decision regarding the non-payment of CSLL. The company is only subject to the payment of income tax at a rate of 25% on its profits.

Deferred income tax and social contribution have the following sources:

Rate	Note	03/31/2019			12/31/2018		
		Parent company	Parent company	Consolidated	Parent company	Parent company	Consolidated
		25%	34%		25%	34%	
Credits on tax losses		1,392,138	31,033	1,423,171	1,315,219	31,584	1,346,803
<b>Income tax on fiscal loss</b>	<b>a)</b>	<b>348,035</b>	<b>10,551</b>	<b>358,586</b>	<b>328,805</b>	<b>10,739</b>	<b>339,544</b>
Net exchange variations		(632,283)	-	(632,283)	(602,455)	-	(602,455)
Estimated losses (reversals) on allowance for doubtful assets		57,900	1,410	59,310	58,524	1,402	59,926
Shareholders' deficit		-	-	-	2,746	-	2,746
Provision for lawsuits		193,604	-	193,604	174,159	-	174,159
Estimated loss (reversal) on recoverable inventory sums		(32,858)	-	(32,858)	(10,649)	-	(10,649)
Estimated sundry losses (reversals)		31,173	-	31,173	33,257	-	33,257
Provision (Reversals) for financial instruments and others		(22,976)	1,092	(21,884)	(46,178)	1,135	(45,043)
Management profit sharing and others		4,228	41	4,269	8,319	76	8,395
Provision for adjustment to present value		(2,866)	1,797	(1,069)	1,450	2,890	4,340
<b>Total temporary differences</b>		<b>(404,078)</b>	<b>4,340</b>	<b>(399,738)</b>	<b>(380,827)</b>	<b>5,503</b>	<b>(375,324)</b>
<b>Income tax on temporary differences</b>	<b>b)</b>	<b>(101,020)</b>	<b>1,476</b>	<b>(99,544)</b>	<b>(95,207)</b>	<b>1,871</b>	<b>(93,336)</b>
Deferred income tax and social contribution		247,015	12,027	259,042	233,598	12,610	246,208
Tax on revaluation reserve	<b>c)</b>	(68,185)	-	(68,185)	(68,813)	-	(68,813)
<b>Non-current assets</b>		<b>178,830</b>	<b>12,027</b>	<b>190,857</b>	<b>164,785</b>	<b>12,610</b>	<b>177,395</b>

- a) The Company had consolidated tax losses generated in Brazil in the amount of R\$1,423,262 (R\$ 1,346,803 as at December 31, 2018), subject to offsetting against future taxable income. In Brazil, the offsetting of tax losses has no statute of limitations, being limited to the offsetting of 30% of the annual profits.
- b) As at March 31, 2019, the Company had recorded under the account "deferred income tax" amounts calculated on temporarily non-deductible expenses arising from the calculation of the taxable income for income tax purposes, which are available for future offsetting against the said tax.
- c) The realization of the deferred income tax on equity valuation adjustments is proportional to the revaluation reserve realization.

Additionally, based on a technical study of the generation of future taxable profits, various financial and business assumptions were considered, such as the optimization of the installed capacity, diluting fixed costs and optimizing cash generation, an increase in the sales volume mainly due to exports, management's focus on the reduction of the cash conversion cycle through customs actions, and shortening the terms of receivables to ensure that the working capital needs are not increased. The Company continues to adopt a conservative approach to cash management, combined with greater use of operating assets and the streamlining of costs and expenses.

The projected realization of deferred taxes has been prepared based on management's best estimates and on the projections of profit or loss approved by the Company's corporate governance bodies. However, since they involve several assumptions that are not under the Company's control, such as inflation rates, exchange rate volatility, international market prices and other economic uncertainties in Brazil, future results may differ materially from those considered in the preparation of the said projection.

The Company and its subsidiaries expect to recover tax credits over tax losses within a period of up to 10 years, as shown below:

	<u>Consolidated</u>
2019.....	-
2020.....	6,430
2021.....	7,178
2022.....	17,870
2023.....	21,658
2024 to 2026.....	118,903
From 2027.....	186,569
	<b>358,608</b>

The Company has a 75% exemption on income tax and non-refundable additional taxes on earnings from the exploration and production of copper and its byproducts, up to the base period of 2020. This exemption is applied to the balance of income tax payable after offsetting tax losses, as described in item a.

The income tax benefits enjoyed by the Company depend on the recognition of a capital reserve at an amount equivalent to the tax not paid. Recognized tax incentive reserves may only be used to increase capital or to absorb losses.

## 26.2 Reconciliation of income tax and social contribution expenses

The reconciliation between the tax expense as calculated by the combined nominal rates and the income and social contribution tax expense charged to income is presented below:

	<u>Parent company</u>		<u>Consolidated</u>	
	<u>1 st Quarter</u>	<u>1 st Quarter</u>	<u>1 st Quarter</u>	<u>1 st Quarter</u>
<b>(Loss) before income and social contribution taxes</b>	<b>(52,986)</b>	<b>(60,197)</b>	<b>(51,971)</b>	<b>(59,243)</b>
Nominal combined statutory rates	25%	25%	25% e 34%	25% e 34%
Income tax	-	-	1,020	954
Permanent additions	(717)	(2,813)	(717)	(2,807)
Realization of revaluation reserve (depreciation/write-off)	1,677	1,398	1,677	1,398
Provisions for doubtful credit	(156)	(43)	(153)	(59)
Provisions for litigation	4,861	1,509	4,861	1,509
Other deductible provision	(2,375)	(16,976)	(2,774)	(17,198)
Net exchange variation (cash basis)	(7,457)	155	(7,457)	155
Shareholders' deficit	(687)	-	(687)	-
Deferred income tax and social contribution on tax losses				
Tax loss and negative basis of social contribution	18,271	26,410	16,632	24,734
Deferred income tax on revaluation reserve	628	1,399	628	1,399
<b>Current income tax credits</b>	<b>14,045</b>	<b>11,039</b>	<b>13,030</b>	<b>10,085</b>
Income tax for the current year	-	-	(315)	(366)
Social contribution for the current year	-	-	(116)	(134)
<b>Current taxes</b>	<b>-</b>	<b>-</b>	<b>(431)</b>	<b>(500)</b>
Deferred income tax	13,417	9,640	12,987	9,306
Deferred social contribution	-	-	(154)	(120)
Deferred income tax on revaluation reserve	628	1,399	628	1,399
<b>Deferred taxes</b>	<b>14,045</b>	<b>11,039</b>	<b>13,461</b>	<b>10,585</b>
<b>Credit (expense) from income and social contribution taxes</b>	<b>14,045</b>	<b>11,039</b>	<b>13,030</b>	<b>10,085</b>
<b>Total effective rate</b>	<b>-26.51%</b>	<b>-18.34%</b>	<b>-25.07%</b>	<b>-17.02%</b>
Current effective rate	0.00%	0.00%	0.83%	0.84%

## 27. Operating segments

The Company only operates in the copper segment, which includes the production and sale of electrolytic refined copper, its byproducts and related services, as well as semi-finished copper and its alloys.

## 28. Financial instruments

### 28.1 Market Risk Management Policy

The Company recognizes that certain financial risks, such as changes in commodities prices, foreign exchange (FX) rates and interest rates, are inherent to its business. However, the Company's policy is to avoid unnecessary risks and to guarantee that the business risk exposure has been identified and measured, and can be controlled and minimized using the most effective and efficient methods to eliminate, reduce or transfer such exposure.

The Board of Directors has a Finance, Risks and Contingencies Committee to assist with the establishment of market risk management policies and to guarantee that the proper procedures are in place at the Company such that all risk exposure can be identified and evaluated. In addition, the Committee monitors this exposure to ensure that it is within established limits. The identified business risks are as follow:

- Interest rate risk inherent in the Company's debts;
- Foreign exchange risk and commodity price risk deriving from raw materials and sold products, forecast transactions and firm commitments;
- Foreign exchange risk deriving from assets and liabilities such as: investments abroad and loans, inventory linked to commodities whose prices are denominated in foreign currency, among others; and
- Basis risk arising from differences in timing volume or indexation that could occur between the contracting and settlement of hedging instruments and objects.

The Market Risk Management policy permits the Company to use approved derivative financial instruments to minimize its exposure to market risks including FX, commodities and interest rate risks.

Derivative instruments are only used for hedging purposes, as they limit the financial exposure associated with the risks identified for some of the Company's assets and liabilities. The use of derivatives is not automatic, nor is it necessarily the only way of managing business risk. Their use is permitted only after verifying that the derivative chosen can minimize risks to within certain tolerance levels established by this policy.

The Company carries out hedging transactions using derivative or non-derivative financial instruments, and makes such transactions fit the hedge accounting rules, as defined by CVM Resolution 763 (CPC 48). Not all hedge transactions with derivatives are accounted for by applying the hedge accounting rules.

## 28.2 Fair value methodologies

Derivative financial instruments are measured at fair value and recognized in the respective accounts in the statement of financial position. The methodology for fair value evaluation involves verifiable parameters extracted from B3 S.A. - Brasil, Bolsa, Balcão (Foreign Exchange Coupon and Fixed Coupon), LME (copper, zinc, tin and lead) and LBMA (gold and silver), British Bankers' Association (LIBOR), Reuters and Bloomberg (US\$ spot).

The Company measures the fair value of its FX derivatives by calculating the present value of the future price discounted based on the market curve (Pre- and FX Coupon), with all values published by Bloomberg and B3 S.A. - Brasil, Bolsa, Balcão. Adjustments to embedded derivatives are carried out at average future prices, based on the curves disclosed in the LME and LBMA.

## 28.3 Embedded derivatives

Purchase contracts with price adjustment clauses for raw materials such as copper which are based on market prices at a date subsequent to the shipment or delivery date are considered as embedded derivatives that require segregation and separate accounting. According to CPC 48, the cash flow adjustment of payments indexed to raw materials prices (such as copper, for example) embedded in financial liabilities are not closely related to the principal instrument because the risks inherent in the principal contract and embedded derivative are not similar. An embedded derivative that is separated from its host contract and is accounted for separately at fair value through profit or loss, like any other derivative instrument, can be designated as a hedge instrument and subject to hedge accounting, such as a fair value hedge of copper inventory.

Purchase contracts for copper concentrate for copper products normally include a provisional price on the shipment date, with a final price based on the monthly average copper price at the LME for a certain future period. This period normally varies from 30 to 120 days after the shipment or billing date. This purchase of concentrate at a provisional price contains an embedded derivative that must be separate from the main contract and calculated as a separate derivative in the statement of income (loss).

## 28.4 Classification of financial instruments

Financial assets and liabilities are classified into two measurement categories: assets and liabilities at fair value through profit or loss, or at amortized cost.

The classification of financial assets and liabilities is as follows:

				Parent company	
				Book value	Fair value
	Notes	At fair value through profit or loss	Amortized cost method	03/31/2019	03/31/2019
<b>Financial assets</b>					
Cash and cash equivalents	05	-	141,835	141,835	141,835
Interest-earning bank deposits	05	-	22,081	22,081	22,081
Trade accounts receivable	06	-	414,784	414,784	414,784
Financial instruments - Hedge accounting	28	7,102	-	7,102	7,102
Financial instruments - Other derivatives	28	43,559	-	43,559	43,559
<b>Total assets</b>		<b>50,661</b>	<b>578,700</b>	<b>629,361</b>	<b>629,361</b>
<b>Financial liabilities</b>					
Suppliers	13	-	998,453	998,453	998,453
Securitization of accounts payable	14	-	79,775	79,775	79,775
Advances from customers	20	-	20,323	20,323	20,323
Customer credit	20	-	3,571	3,571	3,571
Loans and financing	16	-	2,110,207	2,110,207	2,110,207
Financial instruments - Hedge accounting	28	15,901	-	15,901	15,901
Financial instruments - Other derivatives	28	59,777	-	59,777	59,777
<b>Total liabilities</b>		<b>75,678</b>	<b>3,212,329</b>	<b>3,288,007</b>	<b>3,288,007</b>

				Parent company	
				Book value	Fair value
	Notes	At fair value through profit or loss	Amortized cost method	12/31/2018	12/31/2018
<b>Financial assets</b>					
Cash and cash equivalents	05	-	201,571	201,571	201,571
Interest-earning bank deposits	05	-	44,788	44,788	44,788
Trade accounts receivable	06	-	771,710	771,710	771,710
Financial instruments - Hedge accounting	28	25,793	-	25,793	25,793
Financial instruments - Other derivatives	28	103,520	-	103,520	103,520
<b>Total assets</b>		<b>129,313</b>	<b>1,018,069</b>	<b>1,147,382</b>	<b>1,147,382</b>
<b>Financial liabilities</b>					
Suppliers	13	-	1,308,257	1,308,257	1,308,257
Securitization of accounts payable	14	-	66,914	66,914	66,914
Advances from customers	20	-	192,515	192,515	192,515
Customer credit	20	-	1,709	1,709	1,709
Loans and financing	16	-	2,148,913	2,148,913	2,148,913
Financial instruments - Hedge accounting	28	10,367	-	10,367	10,367
Financial instruments - Other derivatives	28	16,082	-	16,082	16,082
<b>Total liabilities</b>		<b>26,449</b>	<b>3,718,308</b>	<b>3,744,757</b>	<b>3,744,757</b>



					Consolidated	
					Book value	Fair value
	Notes	At fair value through profit or loss	Amortized cost method		03/31/2019	03/31/2019
<b>Financial assets</b>						
Cash and cash equivalents	05	-	143,548		143,548	143,548
Interest-earning bank deposits	05	-	22,860		22,860	22,860
Trade accounts receivable	06	-	375,404		375,404	375,404
Financial instruments - Hedge accounting	28	7,102	-		7,102	7,102
Financial instruments - Other derivatives	28	43,559	-		43,559	43,559
<b>Total assets</b>		<b>50,661</b>	<b>541,812</b>		<b>592,473</b>	<b>592,473</b>
<b>Financial liabilities</b>						
Suppliers	13	-	976,683		976,683	976,683
Securitization of accounts payable	14	-	79,775		79,775	79,775
Advances from customers	20	-	21,543		21,543	21,543
Customer credit	20	-	3,653		3,653	3,653
Loans and financing	16	-	2,110,207		2,110,207	2,110,207
Financial instr. - Hedge accounting	28	15,901	-		15,901	15,901
Financial instr. - Other derivatives	28	59,777	-		59,777	59,777
<b>Total liabilities</b>		<b>75,678</b>	<b>3,191,861</b>		<b>3,267,539</b>	<b>3,267,539</b>

					Consolidated	
					Book value	Fair value
	Notes	At fair value through profit or loss	Amortized cost method		12/31/2018	12/31/2018
<b>Financial assets</b>						
Cash and cash equivalents	05	-	216,668		216,668	216,668
Interest-earning bank deposits	05	-	45,556		45,556	45,556
Trade accounts receivable	06	-	666,685		666,685	666,685
Financial instruments - Hedge accounting	28	25,793	-		25,793	25,793
Financial instruments - Other derivatives	28	103,520	-		103,520	103,520
<b>Total assets</b>		<b>129,313</b>	<b>928,909</b>		<b>1,058,222</b>	<b>1,058,222</b>
<b>Financial liabilities</b>						
Suppliers	13	-	1,257,987		1,257,987	1,257,987
Securitization of accounts payable	14	-	66,914		66,914	66,914
Advances from customers	20	-	193,122		193,122	193,122
Customer credit	20	-	2,034		2,034	2,034
Loans and financing	16	-	2,148,913		2,148,913	2,148,913
Financial instruments - Hedge accounting	28	10,367	-		10,367	10,367
Financial instruments - Other derivatives	28	16,082	-		16,082	16,082
<b>Total liabilities</b>		<b>26,449</b>	<b>3,668,970</b>		<b>3,695,419</b>	<b>3,695,419</b>

#### Fair value hierarchy

The Company discloses its assets and liabilities at fair value, based on relevant accounting pronouncements that define the fair value, and the structure for determining the fair value, which refers to the evaluation criteria and practices, and requires certain disclosures regarding the fair value.

Financial assets and liabilities recorded at fair value are classified and disclosed with reference to the following levels:



Level 1 – prices quoted (not adjusted) in active markets for identical assets and liabilities as at the measurement date. A price that is quoted in an active market provides more reliable evidence of the fair value, and should be used whenever available.

Level 2 – quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in non-active markets (i.e. markets where few transactions are made involving those assets or liabilities), data other than observable quoted prices for an asset or liability, and data derived from or corroborated mostly by data observable in the market through correlation or other means.

Level 3 –unobservable inputs for an asset or liability. Unobservable inputs should be used to measure the fair value only when observable inputs are not available, and should reflect the business unit's expectations of what other market players would use as assumptions for pricing an asset or a liability, including risk assumptions. No financial instrument held has Level 3 category characteristics.

The Parent company and Consolidated assets and liabilities measured at fair value as at March 31, 2019 and December 31, 2018 were as follow:

		Parent company			Consolidated		
	Notes	Level 1	Level 2	03/31/2019	Level 1	Level 2	03/31/2019
<b>Financial assets</b>							
Financial instruments - Hedge accounting	28	-	7,102	7,102	-	7,102	7,102
Financial instruments - Other derivatives	28	-	43,559	43,559	-	43,559	43,559
<b>Total assets</b>		-	50,661	50,661	-	50,661	50,661
<b>Financial liabilities</b>							
Suppliers	13	-	998,453	998,453	-	976,683	976,683
Forfait and letter of credit operations	14	-	79,775	79,775	-	79,775	79,775
Loans and financing	16	2,110,207	-	2,110,207	2,110,207	-	2,110,207
Advances from customers	20	-	20,323	20,323	-	21,543	21,543
Customer credit	20	-	3,571	3,571	-	3,653	3,653
Financial instruments - Hedge accounting	28	-	15,901	15,901	-	15,901	15,901
Financial instruments - Other derivatives	28	-	59,777	59,777	-	59,777	59,777
<b>Total liabilities</b>		2,110,207	1,177,800	3,288,007	2,110,207	1,157,332	3,267,539

		Parent company			Consolidated		
	Notes	Level 1	Level 2	12/31/2018	Level 1	Level 2	12/31/2018
<b>Financial assets</b>							
Financial instruments - Hedge accounting	28	-	25,793	25,793	-	25,793	25,793
Financial instruments - Other derivatives	28	-	103,520	103,520	-	103,520	103,520
<b>Total assets</b>		-	129,313	129,313	-	129,313	129,313
<b>Financial liabilities</b>							
Suppliers	13	-	1,308,257	1,308,257	-	1,257,987	1,257,987
Forfait and letter of credit operations	14	-	66,914	66,914	-	66,914	66,914
Loans and financing	16	2,148,913	-	2,148,913	2,148,913	-	2,148,913
Advances from customers	20	-	192,515	192,515	-	193,122	193,122
Customer credit	20	-	1,709	1,709	-	2,034	2,034
Financial instruments - Hedge accounting	28	-	10,367	10,367	-	10,367	10,367
Financial instruments - Other derivatives	28	-	16,082	16,082	-	16,082	16,082
<b>Total liabilities</b>		2,148,913	1,595,844	3,744,757	2,148,913	1,546,506	3,695,419

## Summary of consolidated derivative financial instruments

			Reference Value		Consolidated Fair value	
Instrument	Position	Index	03/31/2019	12/31/2018	03/31/2019	12/31/2018
<b>Designated for hedge accounting</b>						
<b>Risk of commodity prices</b>						
NDF	Purchased	Copper	5,327 tonnes	6,853 tonnes	(5,808)	10,367
Firm commitment for sales	Sold	Copper	(5,327) tonnes	(6,853) tonnes	5,808	(10,367)
NDF	Sold	Copper	(2,000) tonnes	(2,000) tonnes	(1,347)	3,127
NDF	Sold	Gold	(9,600) Oz	- Oz	685	-
NDF	Sold	Silver	(105,850) Oz	(76,072) Oz	202	121
NDF	Sold	Zinc/Tin/Lead	(1,780) tonnes	(1,775) tonnes	(1,007)	819
Embedded derivative	Sold	Copper	(4,376) tonnes	(12,396) tonnes	(7,739)	8,932
Embedded derivative	Sold	Gold	(2,851) Oz	(14,607) Oz	201	1,921
Embedded derivative	Sold	Silver	(118,739) Oz	(268,060) Oz	206	506
<b>Total</b>					<b>(8,799)</b>	<b>15,426</b>
<b>Total derivatives designated for hedge accounting</b>					<b>(8,799)</b>	<b>15,426</b>
<b>Not designated for hedge accounting</b>						
<b>Risk of commodity prices</b>						
Firm commitment for sales	Purchased	Copper	- tonnes	- tonnes	134	(1,744)
Cash Flow - Cost	Sold	Cobre	(16,156) tonnes	4,196 tonnes	(5,423)	(1,259)
NDF	Sold	Copper	(1,200) tonnes	(213) tonnes	(30,153)	(4,634)
NDF	Sold	Gold	(4,415) Oz	4,285 Oz	1,143	(510)
NDF	Sold	Silver	(167,660) Oz	(207,816) Oz	495	(1,263)
NDF	Purchased	Zinc/Tin/Lead	- tonnes	- tonnes	(1,723)	(245)
Embedded derivative	Purchased	Copper/Gold/Silver	- tonnes	- tonnes	23,101	99,498
<b>Total</b>					<b>(12,426)</b>	<b>89,843</b>
<b>Economic Hedge - Exchange Rate US\$ / BRL</b>						
MTM options			5,000 US\$	5,000 US\$	(634)	(1,984)
MTM NDF	Sold	USD/BRL	(55,000) US\$	(39,000) US\$	(3,143)	(682)
BM&F Futures	Purchased	US\$ Future	- US\$	- US\$	(59)	137
<b>Total</b>					<b>(3,836)</b>	<b>(2,529)</b>
<b>Risk of interest rate</b>						
Swap	Purchased	LIBOR 3M/6M + VC	1,651 US\$	3,301 US\$	6,329	12,768
Swap	Sold	Pre+Foreign exchange variation	(1,651) US\$	(3,301) US\$	(6,285)	(12,644)
<b>Total</b>					<b>44</b>	<b>124</b>
<b>Total other derivatives</b>					<b>(16,218)</b>	<b>87,438</b>
<b>Total</b>					<b>(25,017)</b>	<b>102,864</b>
<b>Current Assets</b>					<b>50,661</b>	<b>129,313</b>
<b>Current liabilities</b>					<b>(75,678)</b>	<b>(26,449)</b>

## 28.5 Market risks

### 28.5.1 Foreign exchange risk

The Company has assets and liabilities denominated or indexed to foreign currency, as well as futures operations that will involve income and costs denominated or indexed to foreign currencies.

The Policy establishes that risk management has as its objective hedging against the exchange risk of the forecast cash flow denominated in foreign currency using over-the-counter operations (NDFs), stock exchange futures, zero cost collars and non-derivative financial instruments (liabilities indexed in US Dollars).

The foreign currency exposure is shown in the table below:

	Position	Parent company / Consolidated	
		03/31/2019 US\$	12/31/2018 US\$
<b>Object</b>			
Accounts receivable	Purchased	1,421,127	1,450,783
Inventory	Purchased	180,017	268,077
<b>Instrument designated as hedge accounting</b>			
NDF - Revenue	Sold	(203,228)	(232,883)
Loans and financing	Sold	(856,133)	(857,179)
Suppliers	Sold	(541,783)	(628,798)
<b>Derivatives not designated as hedge accounting</b>			
NDF (US\$/R\$)	Sold	(53,000)	(50,000)
Option Call (US\$/R\$)	Sold	(5,000)	(15,000)
Option Put (US\$/R\$)	Purchased	5,000	15,000
Future (Pre x US\$)	Purchased	3,000	11,000
Loans and financing	Sold	(339,617)	(337,297)
<b>Total net exposure</b>		<b>(389,617)</b>	<b>(376,297)</b>

#### 28.5.2 Interest rate risk

The Company has floating exposure to LIBOR, the CDI, the long-term interest rate (TJLP) and Interest Rate Resolution 635/87, derived from investments and loans. LIBOR risk is concentrated on Trade Finance transactions, which consist of LIBOR x fixed rate transactions, as cash flow hedges.

Exposure to interest rates is shown in the table below:

		Parent company/Consolidated	
		03/31/2019	12/31/2018
<b>Designated to hedge accounting</b>			
Loans and financing	LIBOR	(1,284,922)	(1,284,096)
Derivatives – Swap	LIBOR	-	6,396
		<b>(1,284,922)</b>	<b>(1,277,700)</b>
<b>Not designated to hedge accounting</b>			
Loans and financing	TJLP	(5,854)	(6,798)
		<b>(5,854)</b>	<b>(6,798)</b>
Loans and financing	Interest rate Res. 635/87	(2,039)	(2,939)
		<b>(2,039)</b>	<b>(2,939)</b>
Investments	PRE	66,268	94,897
Loans and financing	PRE	(64,845)	(73,231)
		<b>1,423</b>	<b>21,666</b>

#### 28.5.3 Commodities risk

Paranapanema's business activities include acquiring raw materials and selling products, both benchmarked against the amounts of metals contained therein, and prices of these metals on the international exchanges LME and LBMA.

Commodity risk arises from the mismatch between the selling and buying prices of the metals contained in the products and raw materials.

The Company's Market Risk Policy establishes that the exposure to commodities risk of each metal is derived from the mismatch between the volume of this metal already priced for purchase and the amounts of this metal already priced for sale, and sets risk exposure limits.

To manage this exposure, the Company has a strategy of keeping all inventory metal costs in US\$ fluctuating (mark-to market), and only fixing the metal prices when they are sold and the price can be known for certain.

				Parent company/Consolidated	
Copper	Position	03/31/2019		12/31/2018	
		Reference value	Exposure	Reference value	Exposure
Assets, net	Purchased	69,757 tonnes	1,762,770	48,425 tons	1,119,252
<b>Designated for hedge accounting</b>					
Embedded derivatives	Sold	(41,605) tonnes	(1,027,047)	(37,393) tons	(853,364)
Firm commitments	Sold	(13,019) tonnes	(328,997)	(7,451) tons	(172,214)
NDF	Sold	(14,004) tonnes	(353,889)	8,823 tons	203,923
<b>Not designated for hedge accounting</b>					
Embedded derivatives	Purchased	- tonnes	-	(17) tons	(393)
Firm commitments	Sold	(3,380) tonnes	(85,412)	(17,033) tons	(393,685)
<b>Total net exposure</b>		<b>(2,251) tonnes</b>	<b>(32,575)</b>	<b>(4,646) tons</b>	<b>(96,481)</b>

				Parent company/Consolidated	
Gold	Position	03/31/2019		12/31/2018	
		Reference value	Exposure	Reference value	Exposure
Assets, net	Purchased	11,292 Oz	56,907	35,511 Oz	176,172
<b>Designated for hedge accounting</b>					
Embedded derivatives	Sold	(2,909) Oz	(14,661)	(22,271) Oz	(110,485)
NDF	Sold	(9,600) Oz	(48,377)	- Oz	-
<b>Not designated for hedge accounting</b>					
Embedded derivatives	Purchased	5,511 Oz	27,773	5,671 Oz	28,136
Firm commitments	Purchased	88 Oz	443	65 Oz	325
NDF	Sold	(4,415) Oz	(22,251)	4,059 Oz	20,136
<b>Total net exposure</b>		<b>(33) Oz</b>	<b>(166)</b>	<b>23,035 Oz</b>	<b>114,284</b>

				Parent company/Consolidated	
Silver	Position	03/31/2019		12/31/2018	
		Reference value	Exposure	Reference value	Exposure
Assets, net	Purchased	299,611 Oz	17,629	509,333 Oz	30,521
<b>Designated for hedge accounting</b>					
Embedded derivatives	Purchased	1,222 Oz	72	(150,013) Oz	(8,989)
NDF	Sold	(105,850) Oz	(6,228)	(76,072) Oz	(4,559)
<b>Not designated for hedge accounting</b>					
Firm commitments	Purchased	1,441 Oz	85	14,536 Oz	871
NDF	Sold	(167,660) Oz	(9,865)	(209,473) Oz	(12,552)
<b>Total net exposure</b>		<b>28,764 Oz</b>	<b>1,693</b>	<b>88,311 Oz</b>	<b>5,292</b>

				Parent company/Consolidated	
Other	Position	03/31/2019		12/31/2018	
		Reference value	Exposure	Reference value	Exposure
Assets, net	Purchased	1,338 tonnes	19,488	1,496 tons	18,277
<b>Designated for hedge accounting</b>					
NDF	Sold	(1,455) tonnes	(20,800)	(1,513) tons	(17,914)
<b>Not designated for hedge accounting</b>					
Firm commitments	Sold	(78) tonnes	(961)	(78) tons	(813)
NDF	Purchased	- tonnes	-	(31) tons	(612)
<b>Total net exposure</b>		<b>(195) tonnes</b>	<b>(2,273)</b>	<b>(126) tons</b>	<b>(1,062)</b>

#### 28.5.4 Sensitivity analysis

In order to measure the impact on the Company's net income (loss) and shareholders' equity arising from changes to financial market rates, stress scenarios were created based on the rates effective as at December 31, 2018. As required by CVM Instruction 475/08, the Company carried out a sensitivity analysis using the probable scenario, and scenarios involving a 25% and 50% decrease and increase.

					Parent company/Consolidated			
	Notional	Unit	Risk factors	Probable scenario	Falling scenario		Rising scenario	
					25%	50%	25%	50%
<b>Impact on profit or loss</b>								
<b>Foreign exchange rate risk</b>								
<b>Subject to hedge</b>								
Accounts receivable	1,421,127	US\$	US\$	5,537,706	(1,384,427)	(2,768,853)	1,384,427	2,768,853
Inventory	180,017	US\$	US\$	701,472	(175,368)	(350,736)	175,368	350,736
<b>Hedge instrument</b>								
NDF - Cash flow hedge	(203,228)	US\$	US\$	(103,698)	197,980	395,959	(197,980)	(395,959)
Suppliers	(541,783)	US\$	US\$	(424,584)	527,791	1,055,583	(527,791)	(1,055,583)
Loans	(856,133)	US\$	US\$	(399,593)	834,023	1,668,047	(834,023)	(1,668,047)
<b>Other non-derivative financial instruments</b>								
Liabilities	(339,617)	US\$	US\$	(1,323,386)	330,846	661,693	(330,846)	(661,693)
<b>Other derivativess</b>								
NDF (US\$/R\$)	(53,000)	US\$	US\$	(3,562)	(56,401)	(109,658)	56,401	-
Option Call (US\$/R\$)	(5,000)	US\$	US\$	-	-	-	(5,504)	(10,375)
Option Put (US\$/R\$)	5,000	US\$	US\$	-	3,887	8,758	-	-
Future (Pre x US\$)	3,000	US\$	US\$	2,237	(2,918)	(5,836)	2,918	5,836
<b>Total</b>	<b>(389,617)</b>			<b>3,986,592</b>	<b>275,414</b>	<b>554,957</b>	<b>(277,031)</b>	<b>(666,232)</b>
<b>Interest rate risk</b>								
<b>Subject to hedge</b>								
Liabilities	(329,746)	US\$	LIBOR	(1,210,882)	(41,844)	(33,371)	(58,788)	(67,261)
<b>Hedge instrument</b>								
Swap - Cash flow hedge	-	US\$	LIBOR	6,330	-	-	-	-
<b>Other non-derivative financial instruments</b>								
Liabilities	(5,854)	R\$	TJLP	(7,559)	(8)	103	(225)	(332)
Assets	66,268	R\$	PRÉ	66,001	139	139	255	311
Liabilities	(64,845)	R\$	PRÉ	(61,587)	327	1,394	(1,685)	(2,634)
<b>Total</b>	<b>(334,177)</b>			<b>(1,207,697)</b>	<b>(41,386)</b>	<b>(31,735)</b>	<b>(60,443)</b>	<b>(69,916)</b>
<b>Commodity price risk</b>								
<b>Hedge instrument</b>								
NDF (Copper) - Fair value hedge	(13,019)	tonnes	Copper	(328,997)	82,249	164,499	(82,249)	(164,499)
NDF (Copper) - Fair value hedge Inventory	(14,004)	tonnes	Copper	(353,889)	88,472	176,945	(88,472)	(176,945)
Embedded derivatives (Cooper) - Fair Value Hedge	(40,643)	tonnes	Copper	(1,027,047)	256,762	513,524	(256,762)	(513,524)
<b>Total</b>	<b>(67,666)</b>			<b>(1,709,933)</b>	<b>427,483</b>	<b>854,968</b>	<b>(427,483)</b>	<b>(854,968)</b>
<b>Not designated for hedge accounting</b>								
NDF	(4,415)	Oz	Gold	(22,251)	5,563	11,126	(5,563)	(11,126)
<b>Hedge instrument</b>								
NDF	(9,600)	Oz	Gold	(48,377)	12,094	24,189	(12,094)	(24,189)
Embedded derivatives	2,602	Oz	Gold	13,113	(3,278)	(6,557)	3,278	6,557
<b>Total</b>	<b>(11,413)</b>			<b>(57,515)</b>	<b>14,379</b>	<b>28,758</b>	<b>(14,379)</b>	<b>(28,758)</b>
<b>Not designated for hedge accounting</b>								
NDF	(167,660)	Oz	Silver	(9,865)	2,466	4,933	(2,466)	(4,933)
<b>Hedge instrument</b>								
NDF	(105,850)	Oz	Silver	(6,228)	1,557	3,114	(1,557)	(3,114)
Embedded derivatives	1,222	Oz	Silver	72	(18)	(36)	18	36
<b>Total</b>	<b>(272,288)</b>			<b>(16,021)</b>	<b>4,005</b>	<b>8,011</b>	<b>(4,005)</b>	<b>(8,011)</b>
<b>Hedge instrument</b>								
NDF (Zinc, Lead and Tin)	(1,455)	tonnes	Other Metals	(20,800)	5,200	10,400	(5,200)	(10,400)
<b>Total</b>	<b>(1,455)</b>			<b>(20,800)</b>	<b>5,200</b>	<b>10,400</b>	<b>(5,200)</b>	<b>(10,400)</b>
<b>Total</b>								
<b>Premises</b>								
Exchange tax	Ptax - USD/BRL			3,8967	2,9225	1,9484	4,8709	5,8451
Copper Price	Official Price Cash LME			\$6,485	\$4,864	\$3,243	\$8,106	\$9,728
Gold Price	Official Price Cash LBMA			\$1,293	\$970	\$647	\$1,617	\$1,940
Silver Price	Official Price Cash LBMA			\$15	\$11	\$8	\$19	\$23
Price Zinc	Official Price Cash LME			\$3,000	\$2,250	\$1,500	\$3,750	\$4,500
Tin Price	Official Price Cash LME			\$21,575	\$16,181	\$10,788	\$26,969	\$32,363
Lead Price	Official Price Cash LME			\$2,022	\$1,517	\$1,011	\$2,528	\$3,033

## 28.6 Hedge accounting

Paranapanema adopted the following hedge accounting programs:

### 28.6.1 US Dollar Income Cash Flow Hedge

The program's purpose is to ensure that a percentage of income equivalent to the sales premium pegged to the US\$ is not impacted by exchange rate changes. The derivative and income combination will result in a fixed/constant cash inflow based on the derivative financial instrument's US\$ rate, collateralized by the derivative financial instrument.

The hedged item refers to a percentage of the income equivalent to the highly probable future sales premium, indexed to the US\$. The hedging instruments contracted for this program are US\$/R\$ (NDF) currency contracts. In addition to the derivative instruments, the Company also, as authorized by CVM Resolution 604/09, uses changes in the exchange rates of non-derivative financial instruments such as advances on exchange contracts (ACC), prepayment of exports (PPE) and debt contracts in US\$ to mitigate the exchange risk arising from its highly probable future sales in foreign currencies. This program was implemented from November 2013 for the ACC and PPE instruments, and from December 2013 for the other debts such as hedge instruments.

The exchange rate change on debt in US\$ is credited in OCI and debited from loans and financing when the adjustment is positive. In the case of a negative adjustment, the loans and financing account is credited, and the equity valuation adjustment account is debited. The corresponding balance in OCI is recognized within the operating profit or loss only when the hedged item (the income percentage equivalent to the sales premium) matures, and the hedge relationship is effective.

Based on CPC 48, hedge instruments can be rolled over until the hedged item's expected month of realization. The month of realization is defined at the hedge relationship designation date.

### 28.6.2 Firm Sales Commitment Fair Value Hedge

The purpose of the firm sales commitment hedge is to protect the fair value in US\$ of the fixed sales price of copper against unfavorable trends in the price of copper quoted on the LME.

The hedge covers future copper sales in US\$ with a pre-fixed price for clients subject to fixed sales commitments. The hedging instruments are copper derivatives quoted on the LME.

The metal price mark-to-market adjustments on derivatives contracts designated as hedges are credited to the operating profit or loss, along with the firm sales contracts. The derivative financial instruments account within assets is debited against the operating profit or loss when adjustments are positive, and credited within liabilities against the operational loss when adjustments are negative.

### 28.6.3 Inventory Fair Value Hedge

The purpose of the inventory fair value hedge is to hedge the Company's highest cost item, which is the metal portion (copper, zinc, lead, tin, gold and silver) of inventory, maintaining them at market prices (the price of the metal in Reais) until the effective sale date. The costs of transformation of metals (labor and inputs) are not material compared to the total inventory cost, and are denominated in Reais, and therefore are not subject to metal price hedges or exchange hedges.

Instruments hedging the metal price include embedded derivatives of copper concentrate supply contracts, which were separated from the contracts. This program was implemented from



December 2013. On March 1, 2014, an inventory fair value hedge was implemented using mercantile exchange derivatives as hedging instruments to protect against changes in the monthly average spot prices. The same strategy was implemented on May 1, 2014 with derivatives on the stock exchange for the metals zinc, lead and tin. The same strategy was implemented on June 1, 2014 with derivatives on the stock exchange for gold and silver. On January 1, 2016, the prices of metals in R\$ were marked-to-market by means of the designation of financial instruments as foreign exchange hedges.

The effects of the marking-to-market of derivative instruments covering the fair value of inventory are subject to retrospective and prospective effectiveness testing, respecting the limits of 80% - 125% effectiveness required to maintain the hedging relationship. The ineffective portion is recorded directly in the result.

The mark-to-market adjustments to derivatives contracts in the stock exchange and financial instruments are recognized within inventory, as well as the hedged item, which is the metals portion of inventory. The derivative financial instruments account within assets is debited against the operating profit or loss when adjustments are positive, and credited within liabilities against the operational loss when adjustments are negative.

#### 28.6.4 Cost of metals cash flow hedge

The objective of the hedge is to protect the cost of copper of products sold for a particular month of sale, adjusting the cost of the goods sold based on price references (LME) that are identical or close to the price references for the income from the sale of copper. This hedge, together with the inventory fair value hedge program, allows the US\$ cost of metals in cost of goods sold (COGS) to be similar to the R\$ metal price in income.

The item to be hedged is the cost of copper in the products sold in a particular month. The hedge instrument consists of forward contracts for copper, the objective of which is to exchange references for average copper prices. This program has been implemented since April 2014.

The mark-to-market adjustments to the derivative contracts designated as hedges are credited to the OCI, and are debited from the derivatives receivable account when adjustments are positive. In the case of negative adjustments, the derivative financial instruments account within liabilities is credited, and the OCI is debited. The corresponding OCI balance is recognized within the operating profit or loss when the hedged item matures.

#### 28.6.5 Payments' cash flow hedge (CAPEX) in foreign currency

The objective of the program is to ensure that payments related to the acquisition of fixed assets indexed to foreign currencies are not impacted by exchange rate changes. The combination of the derivative and the payment will result in a fixed/constant cash outflow, based on the rate guaranteed by the derivative financial instrument.

The hedged item is the cash outflow in foreign currency (US\$, Canadian Dollars and Euros). The hedge instrument used in this program is a long position, with a NDF of US\$/R\$, CAD/R\$ and EUR/R\$.

In compliance with the documentation requirements defined in IFRS 09, the Company made the formal designation of its hedge operations subject to hedge accounting by documenting the following:

- i. The hedge relationship;
- ii. The objective and strategy of the risk management of the Company in carrying out hedging activities;
- iii. The identification of the hedge instrument (derivative or non-derivative financial instrument);
- iv. The hedged item or position;
- v. The nature of the risk to be covered;
- vi. The description of the coverage ratio;
- vii. The statement of the correlation between the hedge instrument and the hedged item, when applicable;
- viii. The prospective and retrospective statement of the hedge's effectiveness.

The transactions which Paranapanema designated as cash flow hedges are highly probable. The deferral of unrealized gains and losses on derivative and non-derivative financial instruments designated for hedging against exchange and interest rates was carried out in OCI within shareholders' equity.

Parent company/Consolidated						
Instrument	Object	Index	Maturities	Reference	Market value(*)	
03/31/2019						
<b>Cash flow hedge</b>						
<b>Derivatives – designated</b>						<b>Instrument</b>
NDF – Closed	Income (in USD)	USD	Apr-18 - Mar-19	(93,067) US\$		(11,001)
NDF – Provision	Income (in USD)	USD	Apr-19 - Sep-21	(203,228) US\$		(116,002)
NDF – Closed	Cost	Copper	Apr-18 - Mar-19	14,075 tonnes		(8,810)
NDF – Provision	Cost	Copper	Apr-19	5,754 tonnes		3,238
<b>Non-derivative - designated</b>						
ACC / PPE – Provision	Income (in USD)	USD	Apr-19 - sep-30	(676,117) US\$		(430,977)
Other debt – provision	Income (in USD)	USD	Apr-19 - nov-36	(541,783) US\$		(424,584)
<b>Fair value hedge</b>						
<b>Derivatives</b>						
NDF – Closed	Sales commitment	Copper	Apr-18 - Mar-19	10,717 tonnes		(12,185)
NDF – Provision	Sales commitment	Copper	Apr-19 - Dec-19	5,327 tonnes		(5,808)
Embedded derivatives	Inventory	Copper	Apr-18 - Mar-19	89,412 tonnes		(8,667)
Embedded derivatives	Inventory	Copper	Apr-19 - Mar-20	4,376 tonnes		(7,739)
Embedded derivatives	Inventory	Gold	Apr-18 - Mar-19	60,506 Oz		(4,206)
Embedded derivatives	Inventory	Gold	Apr-19 - Mar-20	2,851 Oz		201
Embedded derivatives	Inventory	Silver	Apr-18 - Mar-19	1,058,522 Oz		(179)
Embedded derivatives	Inventory	Silver	Apr-19 - Mar-20	118,739 Oz		206
NDF – Closed	Inventory	Copper	Apr-18 - Mar-19	100,006 tonnes		5,057
NDF – Provision	Inventory	Copper	Apr-19 - Mar-20	2,000 tonnes		(1,347)
NDF – Closed	Inventory	Zinc	Apr-18 - Mar-19	9,800 tonnes		4,559
NDF – Provision	Inventory	Zinc	Apr-19 - Mar-20	1,675 tonnes		(970)
NDF – Closed	Inventory	Lead	Apr-18 - Mar-19	300 tonnes		41
NDF – Provision	Inventory	Lead	Apr-19 - Mar-20	50 tonnes		1
NDF – Closed	Inventory	Tin	Apr-18 - Mar-19	430 tonnes		(583)
NDF – Provision	Inventory	Tin	Apr-19 - Mar-20	55 tonnes		(38)
NDF – Closed	Inventory	Gold	Apr-18 - Mar-19	72,719 Oz		376
NDF – Provision	Inventory	Gold	Apr-19 - Mar-20	9,600 Oz		685
NDF – Closed	Inventory	Silver	Apr-18 - Mar-19	1,810,210 Oz		1,948
NDF – Provision	Inventory	Silver	Apr-19 - Mar-20	105,850 Oz		202

(\*) The market value for the derivatives designated as providing cash flow hedge accounting are stated in shareholders equity



	Parent company/Consolidated	
	Equity	
	03/31/2019	12/31/2018
<b>Derivatives designated for hedge accounting</b>		
Commodities risk	3,238	3,238
Foreign exchange risk	(116,002)	(116,002)
	<u>(112,764)</u>	<u>(112,764)</u>
<b>Non-derivatives designated for hedge accounting</b>		
Foreign exchange risk - Operation settled	-	-
Foreign exchange risk - Outstanding operations	(855,561)	(855,561)
	<u>(855,561)</u>	<u>(855,561)</u>

## 28.7 Credit risk

The Company's sales policy varies depending on the level of credit risk that it is willing to accept.

Credit is an important instrument for promoting business between the Company and its clients. This is due to the fact that clients leverage their purchasing power to obtain favorable credit terms.

Risk is inherent to credit transactions, and the Company must perform a careful analysis. This work involves quantitative and qualitative evaluations of the clients, as well as considering the industry in which they operate. This analysis takes into consideration the client's past performance, a forecast of its economic-financial robustness, the client's risk management policy, and its future prospects.

The diversification of the receivables portfolio, the selection of clients and the monitoring of terms and credit limits per individual client are among the procedures adopted to minimize delays and defaults on accounts receivable. In addition to performing credit limit checking procedures, individual client balances are limited to 10% of the Company's total income. Thus, the Company spreads the credit risk among several clients.

As regards the credit risk associated with interest-earning bank deposits, the Company always invests with low-risk institutions, as evaluated by independent ratings agencies.

Credit risks	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
<b>Assets</b>					
Cash and cash equivalents	05	141,835	201,571	143,548	216,668
Interest-earning bank deposits	05	22,081	44,788	22,860	45,556
Trade accounts receivable	06	414,784	771,710	375,404	666,685
Other assets	09	105,256	94,762	105,300	91,646
Derivative financial instruments	28	50,661	129,313	50,661	129,313
		<u>734,617</u>	<u>1,242,144</u>	<u>697,773</u>	<u>1,149,868</u>

## 28.8 Liquidity risk

a) The risk management policy requires the maintenance of a safe level of cash and cash equivalents and access to sufficient lines of credit. The Company's investments have immediate liquidity, at amounts sufficient to cover the possible necessity to settle accounts with suppliers, loans or financing.

b) Liquidity risk represents a shortage of funds intended to pay debts and interest (see Note 1).

The estimate of existing debt contract payments, as at March 31, 2019, was as follows:

The amounts presented include the estimated principal amounts and interest calculated using the US Dollar rate prevailing on March 31, 2019 (R\$3.8967/US\$ 1.0000) for debts denominated in US Dollars (PPE, ACC and FINIMP) and the prevailing contracts' interest rates:

Liquidity risk			Consolidated			
	Notes	Amount	Up to 1 year	1 – 2 years	2 – 5 years	Over 5 years
<b>Assets</b>						
Cash and cash equivalents	05	143,548	143,548	-	-	-
Interest-earning bank deposits	05	22,860	9,915	12,945	-	-
Trade accounts receivable	06	375,404	375,404	-	-	-
Other assets	09	105,300	20,934	84,366	-	-
Derivative financial instruments	28	50,661	50,661	-	-	-
		<u>697,773</u>	<u>600,462</u>	<u>97,311</u>	<u>-</u>	<u>-</u>
<b>Liabilities</b>						
Loans and financing	16	(2,110,207)	(262,920)	(258,385)	(1,335,187)	(253,715)
Advances from customers	20	(21,543)	(21,543)	-	-	-
Customer credit	20	(3,653)	(3,653)	-	-	-
Derivative financial instruments	28	(75,678)	(75,678)	-	-	-
Suppliers	13	(976,683)	(976,683)	-	-	-
Forfait and credit card operations	14	(79,775)	(79,775)	-	-	-
		<u>(3,267,539)</u>	<u>(1,420,252)</u>	<u>(258,385)</u>	<u>(1,335,187)</u>	<u>(253,715)</u>
<b>Net position</b>		<u>(2,569,766)</u>	<u>(819,790)</u>	<u>(161,074)</u>	<u>(1,335,187)</u>	<u>(253,715)</u>

## 28.9 Book value/fair value

Management considers that the fair value is a tax incentive reserve equivalent to the book value of short-term transactions, once the book value for such transactions is a reasonable approximation of the fair value (CPC-40/item 29), except for loans and financing transactions, for which the fair values are determined and shown in the table in Note 28.4 giving the classification of financial instruments.

## 28.10 Capital management

The main purpose of the capital management of Paranapanema and its subsidiaries is to ensure strong credit ratings for institutions and an adequate capital ratio to support the Company's business and to maximize shareholder value.

The Company includes the following within its net debt structure: loans, financing, derivative financial instruments payable, net of cash, cash equivalents, interest-earning bank deposits and derivative financial instruments receivable.

	Notes	Parent company		Consolidated	
		03/31/2019	12/31/2018	03/31/2019	12/31/2018
Loans and financing	16	2,110,207	2,148,913	2,110,207	2,148,913
Derivative financial instruments payable	28	67,939	35,381	67,939	35,381
(-) Cash and cash equivalents	05	(141,835)	(201,571)	(143,548)	(216,668)
(-) Interest-earning bank deposits	05	(22,081)	(44,788)	(22,860)	(45,556)
(-) Derivative financial instruments receivable	28	(27,153)	(27,388)	(27,153)	(27,388)
<b>(=) Net debt (cash)</b>		<b>1,987,077</b>	<b>1,910,547</b>	<b>1,984,585</b>	<b>1,894,682</b>
Derivative financial instruments payable	28	7,739	(8,932)	7,739	(8,932)
(-) Derivative financial instruments receivable	28	(23,508)	(101,925)	(23,508)	(101,925)
<b>(=) Net debt on embedded derivative</b>		<b>1,971,308</b>	<b>1,799,690</b>	<b>1,968,816</b>	<b>1,783,825</b>
Equity	21	573,220	602,496	573,221	602,497
Leverage ratio		77.61%	76.03%	77.59%	75.87%
Leverage ratio with embedded derivative		77.47%	74.92%	77.45%	74.75%

## 29. Assumed commitments

The Company has a contractual commitment with a supplier for the coming years regarding the outsourcing of the management, operation and maintenance of an oxygen gas plant located in the industrial plant of Dias D'Ávila, maturing in March 2023. The commitment does not subject the Company to any restrictions.

The renewal and adjustment clauses are described in the contract and follow market practices.

The future minimum obligations payable under this contract, if not canceled before maturity, are as follow:

	Parent company/Consolidated	
	03/31/2019	12/31/2018
Up to one year	8,013	7,577
From two to four years	16,026	15,154
Over four years	8,013	9,471
	<u>32,052</u>	<u>32,202</u>

## 30. Insurance

The Company maintains insurance coverage at amounts considered sufficient to cover potential losses arising from claims, taking into account the nature of the activities, the risks involved in the operations and the guidance of its insurance consultants.

As at March 31, 2019, the amounts insured, and the coverage limits contracted within the respective insurance segments were as follow:

Type	Declared value at risk	Maximum Limit Indemnified
Operational Risks	R\$ 1,348,203	R\$ 200,000
General Liability	R\$ 11,000	R\$ 22,000
Liability (D&O)		R\$ 65,000
Transport (National territory)	R\$ 15,000,000	R\$ 15,000,000
Export Credit Insurance	USD 134.376	USD 7.863
Transports (international territory)	USD 2,400,000	USD 2,400,000
Judicial and Financial Actions		Stipulated value for cause defended
Vehicles		100% of the vehicle's value (Based on FIPE table)
Group Life insurance		30 x base salary

## 31. Private pension

The private pension plans offered by the Company and its subsidiaries include a pension plan deductible for income tax purposes (PGBL) and a private pension plan non-deductible for income tax purposes (VGBL) respectively, both of which are administered by BrasilPrev based on joint contributions made by the Company, its subsidiaries and the employees.

PGBL/VGBL: After meeting the cumulative prerequisites of contributions for 120 months and reaching 60 years of age, or in the case of death or permanent disability, the beneficiaries will be entitled to redeem 100% of the savings accumulated from them, the Company and its subsidiaries, provided that they are not employed by the Company at the redemption date. In the case of termination by the Company before becoming eligible, the beneficiary shall be entitled to withdraw up to 80% of the amount deposited by the Company, respecting a policy which provides for a rate of 1% per month of contributions.

Therefore, plans exclude the risk benefits and thus do not generate actuarial liabilities. If the participant opts for a life income benefit, BrasilPrev is responsible for maintaining reserves under the contract.

The value of the contributions made to the plans by the Company and subsidiaries in the period was R\$ 564 (R\$ 531 in the same period of 2018).

## 32. Variable remuneration plan

### ***General terms and conditions***

**Beneficiaries:** All of the Company's executives holding positions such as Director, Manager or Chief are eligible for the Variable Remuneration Program. Consisting of short (ICP) and long-term (ILP) incentives. The ICP and ILP incentives are linked to specified team and individual goals, the percentage achievement of which is evaluated at the end of each year.

Until 2016, the ILP was based on the Company's shares using the concept of "phantom shares" whereby, at the end of each period, the goals achieved in the period between January and December were converted into units (URVs) based on the performance, changes and value of Company's shares (PMAM3), distributed across certain vesting periods. Payment obligations from URVs distributed until 2016 will follow the concept described in this paragraph.

Starting in 2017, the Board of Directors approved the change in the definition of ILP, revoking the calculation based on the performance of phantom shares. ILP is now calculated on salary multiples and based on collective goals established by the Board of Directors, and on previously agreed individual goals.

The Variable Remuneration Program conditions and rules can be changed at any moment by the Company, with such changes to be expressly communicated to the eligible executives.

**Exercising conditions:** The private contract determines eligibility rights for and payments based on variable remuneration made to all employees who meet the annual goals under the terms of the contract.

### ***The contract provides the following eligibility conditions for variable remuneration:***

The eligible employee has the right to receive the ILP only if his/her labor contract is active, otherwise:

- I. In the case of labor contract suspension due to disability, there will be no payments while the labor contract remains suspended.
- II. In the case of employee decease, his/her heirs and/or legal beneficiaries will receive 50% of the amount due at the decease date.

**Criteria for fixing the exercise term:** Except for the ineligibility conditions mentioned above, the vesting will be deferred in two installments, with annual payments, or 50% of salary multiples per year, being the first payment due for the year following the acquisition of the ILP. The amount to be granted will be based on the salary multiple as at December 31 for the year prior to payment.

**Settlement form:** Settlement will be through a payroll process when all of the established conditions are met.

### **Phantom shares up to 2016:**

**Criteria for fixing the acquisition or exercise price:** For every phantom share payment year, the vesting number of shares ( $\frac{1}{4}$  per year) will be multiplied by the average stock price (PMAM3) from January to December of the year prior to payment.

**Restrictions on stock transfers:** The exercise of phantom shares does not imply the concession of any Company stock, with all remuneration being linked to the phantom shares paid in cash. All rights and obligations derived from the individual instrument cannot in any circumstances be assigned or transferred to third parties, nor offered as guarantees for obligations.

**Phantom share remuneration based on stocks recognized in the results in the last social year and forecast to the current social year:** In the first quarter of 2017, the Company completed the second evaluation cycle referring to the year 2016, granting phantom shares, which will be deferred for four years, to eligible individuals who fulfilled the criteria established in the individual contracts. The approval of targets met and phantom share distribution occurred on April 29, 2017 in the Extraordinary Shareholders' Meeting (ESM), upon approval of the 2016 financial statements.

## **33. Additional information regarding cash flow**

- a) Transactions related to investment and financing activities not involving cash were as follow:

	1 st Quarter 2019	1 st Quarter
<b>Investing activities</b>		
Residual value of written-off fixed assets	-	5
Depreciation and amortization	40,340	37,031
Financial charges	(214)	(8)
Provision for impairment losses	-	324
Fixed assets and intangible additions	40,126	37,352
<b>Financing activities</b>		
Amortization of right use the assets	3,403	-
Financial charges	42,166	35,321
	45,569	35,321

- b) Reconciliation of the net debt

	03/31/2019	12/31/2018
Loans and financing	2,110,207	2,148,913
Forfeiting and letter of credit operations	79,775	66,914
Derivative financial instruments	25,017	(102,864)
<b>Indebtedness</b>	<b>2,214,999</b>	<b>2,112,963</b>
Cash and cash equivalents	143,548	216,668
Financial investments	22,860	45,556
<b>Total cash</b>	<b>166,408</b>	<b>262,224</b>
<b>Net debt</b>	<b>2,048,591</b>	<b>1,850,739</b>

	Loans and financing	Forfait and letter of credit operations	Derivative Financial Instruments	Indebtedness	Total cash	Net debt
Net debt at December 31, 2018	2,148,913	66,914	(102,864)	2,112,963	262,224	1,850,739
Transactions with cash impact	(80,872)	12,681	136,453	68,262	(95,816)	164,078
Transactions without cash impact	42,166	180	(8,572)	33,774	-	33,774
Financial charges and exchange rate variations	42,166	180	(8,572)	33,774	-	33,774
<b>Net debt as at March 30, 2019</b>	<b>2,110,207</b>	<b>79,775</b>	<b>25,017</b>	<b>2,214,999</b>	<b>166,408</b>	<b>2,048,591</b>

### 34. Subsequent events

- A) On March 29, 2019, the Company, at its Annual and Extraordinary Shareholders' Meetings held, approved the proposal of grouping the total shares representing the capital of the Company, with no change in the value of capital under article 12 of Law No. 6.404/76, with the following characteristics:
- (I) The grouping of the total shares representing the capital of the Company was deliberated at the proportion of seventeen common shares to one share of the same type, whereby the capital began to be represented by 40,727,658 registered common shares, without par value;
  - (II) The aim of the grouping is to reduce the volatility of the Company's issued shares and provide better level for the price of its shares, preventing that immaterial changes represent high percentages, in line with the standards and instructions of B3 S.A. – Brasil, Bolsa, Balcão ("B3");
  - (III) It will be granted a period of thirty days, from April 01, 2019 to April 30, 2019, for the shareholders, at their free and sole discretion, to make adjustments in their shareholding positions by way of trading through brokerage firms authorized to operate through B3;
  - (IV) After thirty days for adjustment of equity interests by the Company's shareholders, any fractions of shares resulting from the grouping will be separated, grouped in whole numbers and sold in as many auctions as necessary, to be held on timely basis at B3, being the proceeds from the sale proportionally apportioned among the holders of fractions, after the financial settlement;
  - (V) Further information about the auction of the fractions will be disclosed on timely basis;
  - (VI) The shares representing the capital of the Company will begin to be traded grouped as of May 02, 2019.
- B) On April 04, 2019, it was disclosed communication of related-party transactions, regarding the sale of anode slime to Glencore International AG, which agreed to acquire 100% of the anode slime produced by the Company in the period from 06/01/2019 to 02/28/2021. The financial volume of the agreement is around US\$163 million.
- Glencore International Investments Ltd. ("Glencore") is shareholder of the Company, holding approximately 6% of its total capital, and has a representative in the Board of Directors of the Company, being Glencore International AG a company of Glencore Group.
- C) On April 15, 2019, the Company informed through "communication to the market", that it received communication from Buritipar Group, of whose economic group the shareholder Mineração Buritirama S.A. is part; the Company stated that, through a subsidiary of its economic group, it had entered into an irrevocable and irrevocable agreement of purchase and sale of shares, the object of which are 137,120,603 common shares of the Company, subject to approval of the Administrative Council of Economic Defense. In addition, in communication disclosed on April 16, 2019, the Company declared that it received communication from Caixa de Previdência dos Funcionários do Banco do Brasil – PREVI, a supplementary closed pension entity, enrolled with CNPJ/ME under No. 33.754.482/0001-24, with head office at Praia de Botafogo, n° 501, 3<sup>rd</sup> and 4<sup>th</sup> floor, in the city of Rio de Janeiro, State of Rio de Janeiro, informing that, on April 15, 2019, it entered into an irrevocable and

irretractable agreement of purchase and sale of shares subject to the compliance with preceding conditions, including the approval of the acquisition by the Administrative Council of Economic Defense, with a subsidiary of Buritipar Group, which will result in the sale of 137,120,603 common shares of the Company, representing, on this date, 19.80% of the capital of the Company.



## Report on review of quarterly information

To the Board of Directors and Stockholders Paranapanema S.A.

### Introduction

We have reviewed the accompanying parent company and consolidated interim accounting information of Paranapanema S.A. ("Company"), included in the Quarterly Information Form (ITR) for the quarter ended March 31, 2019, comprising the balance sheet at that date and the statements of operations, comprehensive income (loss), changes in equity and cash flows for the quarter then ended, and a summary of significant accounting policies and other explanatory information.

Management is responsible for the preparation of the parent company and consolidated interim accounting information in accordance with the accounting standard CPC 21, Interim Financial Reporting, issued by the Brazilian Accounting Pronouncements Committee (CPC), and the International Accounting Standard (IAS) 34, Interim Financial Reporting, issued by the International Accounting Standards Board (IASB), as well as the presentation of this information in accordance with the standards issued by the Brazilian Securities Commission (CVM), applicable to the preparation of the Quarterly Information (ITR). Our responsibility is to express a conclusion on this interim accounting information based on our review.

### Scope of review

We conducted our review in accordance with Brazilian and International Standards on Reviews of Interim Financial Information (NBC TR 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity and ISRE 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity, respectively). A review of interim information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Brazilian and International Standards on Auditing and, consequently, does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

### Conclusion on the interim information

Based on our review, nothing has come to our attention that causes us to believe that the accompanying parent company and consolidated interim accounting information included in the quarterly information referred to above has not been prepared, in all material respects, in accordance with CPC 21 and IAS 34 applicable to the preparation of the Quarterly Information, and presented in accordance with the standards issued by the CVM.

### Emphasis of matter - Lawsuits with a possible risk of an unfavorable outcome

We draw attention to Note 19.2 to the interim accounting information, in which the Company discloses that it is a party to several lawsuits arising from its operations, amounting to R\$ 1,241,560 thousand and R\$ 1,243,331 thousand in the parent company and consolidated, respectively (December 31, 2018 - R\$ 1,237,070 thousand and R\$ 1,238,810 thousand, respectively), whose risk of an unfavorable outcome are assessed as possible, based on the opinion of its legal advisors, therefore, the Company does not record a provision for these lawsuits. The main lawsuit refers to the court ruling regarding the right to pay the Social Contribution on Net Income (CSLL). In addition, as disclosed in Note 19.2, due to the new developments of the arbitration procedure referring to the contract with BTG Pactual S.A. and Banco Santander S.A., the Company's management, supported by the opinion of its legal advisors, considers that there are no elements specified in the decision that allow the measurement of the possible amount due between the parties. Our conclusion is not qualified in respect of these matters.

### Other matters - Statements of value added

We have also reviewed the parent company and consolidated statements of value added for the quarter ended March 31, 2019. These statements are the responsibility of the Company's management, and are required to be presented in accordance with standards issued by the CVM applicable to the preparation of Quarterly Information (ITR) and are considered supplementary information under IFRS, which do not require the presentation of the statement of value added. These statements have been submitted to the same review procedures described above and, based on our review, nothing has come to our attention that causes us to believe that they have not been prepared, in all material respects, in a manner consistent with the parent company and consolidated interim accounting information taken as a whole.

Barueri, April 26, 2019

PricewaterhouseCoopers  
Auditores Independentes  
CRC 2SP000160/O-5  
José Vital Pessoa Monteiro Filho  
Contador CRC 1PE016700/O-0



**PARANAPANEMA S.A.**  
**EIN 60.398.369/0004-79 – NIRE 29.300.030.155**  
**PUBLICLY-HELD COMPANY**

**Statement of the Executive Officers on the Financial Statements**

In compliance with article 25, paragraph 1, subsection VI, of CVM Instruction No. 480/2009, the Executive Board declares that it has reviewed, discussed and agreed to the Company's financial statements "parent company and consolidated", for the fiscal year ended March 31, 2019.

Dias d'Ávila, April 26, 2019.

**CEO**

Marcos Paletta Camara

**CFO and Investor Relations Officer**

André Luis da Costa Gaia

**Chief Legal Officer**

Paulo Rodrigo Chung

**Operations Director**

Alexandro Avila de Moura

**PARANAPANEMA S.A.**  
**EIN 60.398.369/0004-79 – NIRE 29.300.030.155**  
**PUBLICLY-HELD COMPANY**

**Directors Statement over Independent Auditors' Report**

In accordance with article 25, paragraph 1, items V, of CVM Instruction 480/2009, the Company's Executive Directors declare they have reviewed, discussed and agreed with the report issued on April 26, 2018 by PRICEWATERHOUSECOOPERS, the Independent Auditors of the Company and its subsidiaries, regarding the "Parent company and Consolidated" financial statements, related to the quarter ended March 31, 2019.

Dias D'Ávila, April 26, 2019.

**CEO**

Marcos Paletta Camara

**CFO and Investor Relations Officer**

André Luis da Costa Gaia

**Chief Legal Officer**

Paulo Rodrigo Chung

**Operations Director**

Alexandro Avila de Moura