

# SUSTAINABILITY REPORT 2013



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# 1. Message from Management

In 2013 particularly in the past quarter, Paranapanema started to reap the benefits from our intensive work - the so-called “New Paranapanema Project,” initiated in 2011 - involving institutional and commercial change, industrial reorganization, greater focus on market risk management, and an increase in the profitability of our assets.

The year saw the consolidation of the first phase of expansion and modernization of our Dias d’Ávila Unit, in Bahia – the Company’s largest plant, which is already operating at its planned production capacity of 280 thousand tons of refined copper per year - and the inauguration of our new cast and roll copper tubes plant at the Utinga Unit in São Paulo. Our investment in the production units had led to expansion in production scale, greater industrial flexibility, and increased productivity and product quality, enabling us to achieve greater premiums from transformed products.

Paranapanema has also sought to improve the management of its working capital, particularly by integrating the Supply Chain area with other functions, underlining Management’s focus on and commitment to the Company’s efficiency.

The economic outlook in 2014 will pose several challenges to Paranapanema as a result of uncertainty about the growth of emerging economies; pressure on international interest rates; new realignments of currencies and asset prices; and uncertainty regarding the political and economic environment in Brazil, which is our principal market.

The company has launched the PMA 2018 project, the purpose of which is to ensure the Company's future and to create value through a comprehensive review and enhancement of manufacturing, commercial, financial and administrative operations, focusing on results, processes and people.

The objectives of the Project include better operating results, more transparency and professionalism in our daily routine, and continuing productivity and efficiency gains in the Primary Copper and Copper Products segments.

We expect to achieve a profound change in our culture, based on meritocracy and results-oriented, with greater engagement of our staff, the creation of new projects and progress with the existing ones.

With the implementation of PMA-2018, Management is following the path indicated by the New Paranapanema Project, accelerating the transformation of the Company through improvements to its business model aimed at producing better results and creating more value for shareholders and other stakeholders.

We thank all shareholders, managers, employees, customers, suppliers, governments and the public in general for their support and partnership throughout 2013, hoping that 2014 will be a constructive and better year for all of us.

The Management



## 2. Paranapanema

### 2.1 Who We Are

Paranapanema is among the most important world-class Brazilian companies in the area of non-ferrous metals,

smelting and refining primary copper and semi-manufactured copper and copper alloy products. With its principal place of business in the municipality of Dias d'Ávila (State of Bahia), where one industrial unit is also located, the Company has plants in Utinga, Capuava (Santo André, State of São Paulo) and Serra (State of Espírito Santo).

The Dias d'Ávila plant, in the State of Bahia, manufactures products such as anodes, cathodes, beams and drawn wire - products widely used for electrical conductors; copper and copper alloy laminates, wires, bars and profiles, which are used to manufacture parts and components for the automotive, electronics and clothing industry, ironware, sanitary metalware, dies, machining, home and industrial air conditioning equipment, compressors, components and a variety of cooling systems, are produced in Utinga (State of São Paulo); straight seamless copper tubes and copper tubes for the civil construction industry are manufactured in Capuava (State of São Paulo); and, copper connections for hot or cold water conduction systems, industrial and residential gases and for fire prevention are produced in Serra (State of Espírito Santo).

The Copper Products Distribution Center (CDPC) was created in 2009 to distribute our products on the domestic market. With its headquarters in the municipality of Santo André (São Paulo), the CDPC has two branches, one in Dias d'Ávila (Bahia) and another in Itatiaia (Rio de Janeiro).

Our view is that the generation of value for shareholders, employees and communities is based on sustainable growth and maintaining proper profitability levels, through competitive advantages and established leadership in the local copper segment, expanding our client base and a selective presence in the foreign market with a diversified, high quality mix of products at lower costs, backed by a high level of social and environmental responsibility.

## Our Mission:

To ensure the sustainable production of copper and copper alloys, creating value for our employees, shareholders, customers and suppliers.

## Our Vision:

To be a world-class company known for our competitive pricing and the excellence of our products and services.

## Our Values:

- ▶ Motivation to win and maintain customers.
- ▶ Capacity to grow with sustainability
- ▶ Exemplary ethics in internal and external relations
- ▶ Creativity and innovation to attain excellence
- ▶ Commitment on everyone's part to face and overcome challenges
- ▶ Work relations based on trust and respect
- ▶ Capacity to adapt in order to overcome adversity

## 2.2 What We Do

Paranapanema is among the most important world-class Brazilian companies in the area of non-ferrous metals, smelting and refining primary copper and semi-manufactured copper and copper alloy products. Our activities are distributed between four industrial units:



Currently, we are the largest Brazilian producer of copper:

### Primary Copper



Absolute leader with over 50% share of sales in the Brazilian market

### Copper products and copper alloys



Three plants for transformation of refined copper and copper scrap



The largest supplier of copper beam in Brazil



Growing presence in the tubes and connections market

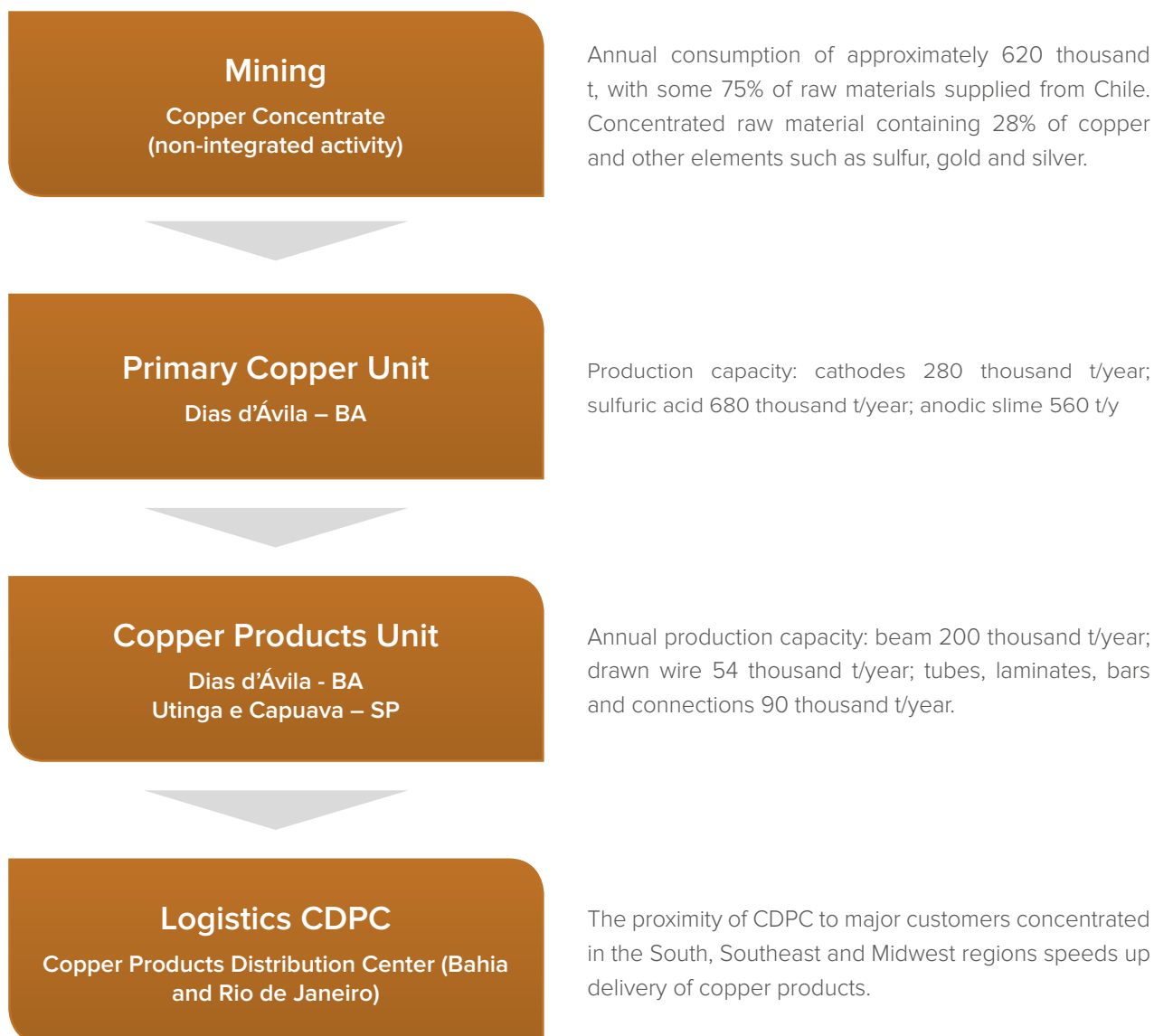
To consolidate our leadership of Brazil's copper segment, in 2012 Paranapanema started a process of financial, tax and corporate restructuring that includes strengthening our management and a comprehensive program for expansion and modernization of our plants, preparing the Company for a new cycle of sustainable growth and more value for shareholders. The project also includes the optimization of operating processes and investments in industrial units, to increase production scale, achieve greater productivity and improve the quality of products, so that the Company can maintain competition levels and efficiency in the domestic and foreign markets.

With this change, the units ceased to be defined according to their geographic location. They are now divided into business lines named "Primary Copper Unit" – the only Brazilian producer of electrolytic copper with 99.99% purity – and "Copper Products Unit" – responsible for production of semi-manufactured copper and copper alloy products.

To improve its results, Paranapanema continues to make major investments, such as the additional expansion of the Primary Copper Unit, to modernize production lines and increase installed capacity.

In 2013, we completed the first phase of modernization of the electrolysis unit, with the assembly of the new Permanent Cathode equipment and the interconnection of electrical cables and instruments. Thanks to this technology, in September 2013 the Primary Copper Business Unit reached its nominal production capacity of 280 thousand tons/year of electrolytic copper, of which 46% is now manufactured using the new technology.

The production process flow can be summarized as follows:



**Strategy:** to maintain Paranapanema's leadership in Brazil's copper segment through its brands Caraíba and Eluma. In 2013 Paranapanema was the largest non-integrated manufacturer of refined copper in Brazil, with production representing approximately 57% of domestic consumption. It is also a market leader in the country in the segment of copper products, such as laminates, bars, tubes, connections and copper alloys.

## Competitive Advantages

The Company has several competitive advantages that it believes are essential to achieve its business purpose. Its advantages include:

- Recognized quality of products: the Company is the only producer in Brazil of electrolytic copper with 99.99% purity, which is confirmed by its “A” rating with the LME and its ISO 9002 certification. This makes the company able to compete with international competitors.

- Unique infrastructure position: the investments made to modernize and expand our industrial plants in recent years have increased our production capacity for refined copper and resulted in greater industrial flexibility, enabling us to obtain higher premiums for transformed products.

- Metal risk and exchange exposure management: the Company believes that the investments made to control and manage volatility in metal prices and exchange rates reduce the volatility of production costs and contribute to more competitively priced final products.



## 2.3 Corporate Governance

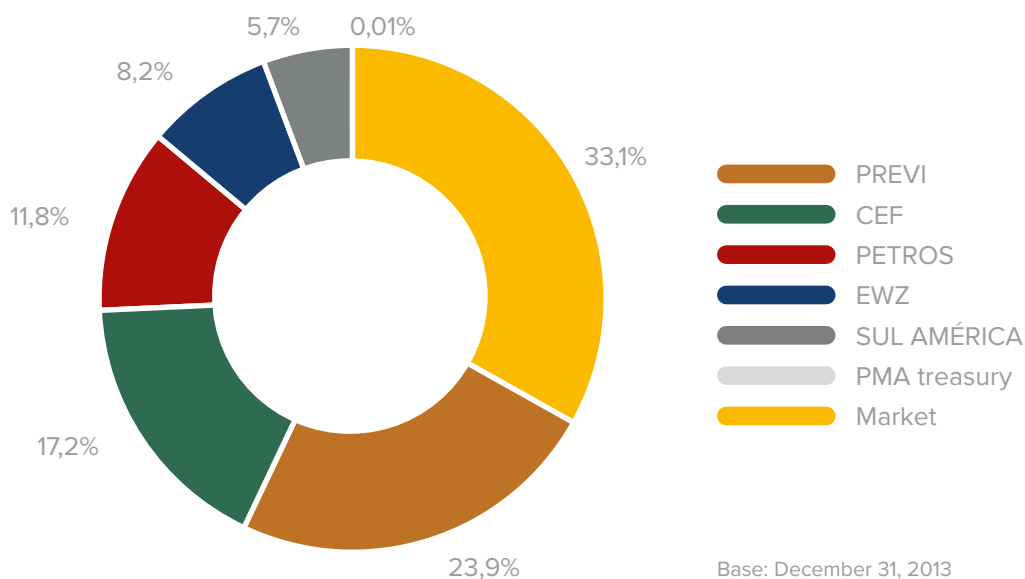
Paranapanema is a publicly held company with private and diffuse share ownership, listed on BM&FBovespa since 1971. In February 2012, the Company joined the “Novo Mercado”, the highest Corporate Government level in the Stock Exchange, complying with requirements such as: capital composed only of common shares; 100% tag along; public meetings with investors; and bylaws with an Arbitration Chamber membership clause.

Paranapanema has a governance structure that emphasizes a commitment to ethics in its decision making processes. Our practices are based on references such as the Code of Conduct and the Bylaws, always observing the guidelines on corporate responsibility, rendering of accounts, transparency, equity and collegiate decision-making on a consensus basis, with a long-term outlook.

Our financial statements have been issued according to the IRFS (International Financial Reporting Standards) since 2010, and conference calls with the capital market are held on a quarterly basis.

All communications between the Company and the capital market are available on our Investor Relations website.

## 2.4 Share Distribution



## 2.5 Stakeholders

Paranapanema is constantly developing and improving its channels of communication with its stakeholders.

Our website ([www.paranapanema.com.br](http://www.paranapanema.com.br)) gives access to financial and sustainability reports, reports and articles, as well as other corporate information, such as awards, certifications, products and addresses.

Stakeholders	Relationship Events and Communication Channels
<b>Shareholders and Investors</b>	Investor Relations website   Email address for communication with the Investor Relations area   Phone contact   Meetings   Meetings of the Association of Capital Market Analysts and Investment Professionals (APIMEC)   Quarterly Reports and Conference Calls   Sustainability Report   Participation in Conferences   Institutional video   Ethics Line   Code of Ethics   Specific Policies
<b>Customers</b>	Customer relations meetings   Website   Phone contact   Regular visits   Printed and virtual information channels   Visits carried out by the Technical Assistance and Sales teams   Institutional videos   Sustainability report   Ethics Line   Code of Ethics
<b>Employees</b>	Printed and virtual information channels   Intranet   Website   Meetings with management   Ombudsman   Website   Regular meetings   Personal assistance   Environment and Accident Prevention Week   Sustainability Report   Ethics Line   Code of Ethics
<b>Suppliers</b>	Phone and email contact   Specific policies   Sustainability report   Ethics Line   Code of Ethics
<b>Communities</b>	Assistance through website/phone contact   Publication of social and environmental information   Sustainability report   Visits to communities   Ethics Line   Code of Ethics
<b>Government and society</b>	Participation in sector forums and committees   Membership of associations and institutions   Website   Sustainability Report   Ethics Line   Code of Ethics

“Associations” are organizations intended to foster social assistance, culture, political representation and defense of professional interests. Paranapanema is a member and active participant in major associations and entities in the copper segment:

Entidade	Descrição
<b>ABCobre</b>	Associação Brasileira do Cobre (Brazilian Copper Association)
<b>ABM</b>	Associação Brasileira de Metalurgia (Brazilian Metallurgy Association)
<b>ABRASCA</b>	Associação Brasileira das Companhias Abertas (Brazilian Association of Publicly Held Companies)
<b>ACB</b>	Associação Comercial da Bahia (Trade Association of the State of Bahia)
<b>Cofic Pólo Petroquímico</b>	Conselho Fomento Industrial do Pólo Petroquímico (Council for Industrial Promotion of the Petrochemical Hub)
<b>FIESP</b>	Federação das Indústrias do Estado de São Paulo (São Paulo State Industry Federation)
<b>Instituto Pro Cobre</b>	Member of the International Copper Association (ICA), which is responsible for the promotion of copper worldwide.
<b>LIDE</b>	Grupo de Líderes Empresariais (Business Leaders Group)
<b>Sindicel</b>	Sindicato da Indústria de Condutores Elétricos, Trefilação e Laminação de Metais Não Ferrosos do Estado de São Paulo (Association of Manufacturers of Electrical Conductors, Drawn Wires and Lamination of Non-ferrous Metals of the State of São Paulo)
<b>EMI</b>	Escola de Marketing Industrial (School of Industrial Marketing)
<b>USUPORT</b>	Associação de Usuários dos Portos da Bahia (Association of Port Users of Bahia)
<b>FIEB</b>	Federação das Indústrias do Estado da Bahia (Industry Federation of the State of Bahia)
<b>SIMMEB</b>	Sindicato das Indústrias Metalúrgicas, Mecânicas e Material Elétrico do Estado da Bahia (Association of Metallurgy, Mechanical and Electrical Materials Industries of the State of Bahia)

## 2.6 Estrutura



\* Non-statutory Officer

Structure effective as from May 2014

### General Shareholders' Meeting

The General Shareholders' Meeting is Paranapanema's highest decision making body. The Board of Directors is required to call an Ordinary Shareholders' Meeting on a yearly basis, and an Extraordinary Meeting whenever necessary.

Call notices are public, and the agenda of the meetings cover issues relating to the conduct of the business. Shareholders are encouraged to attend and vote, by means of the Shareholders' Meeting Attendance Guide, which Paranapanema has made available for all meetings since 2008.



## Board of Directors

The Board of Directors of Paranapanema is responsible for establishing all policies and strategies, for electing the executive officers and overseeing their management.

The Board of Directors consists of seven permanent members and seven deputies. It meets ordinarily once a month, or whenever an extraordinary decision is required. Board members are elected for a unified term of office of two years, reelection being permitted. According to Paranapanema's Bylaws, and pursuant to the regulations of BM&FBovespa's Novo Mercado, 20% of the Directors elected must be independent.

The compensation of Board members is based on a monthly fixed amount in line with market practice. Deputies receive 50% of the fixed compensation only when they attend meetings, in the absence of the permanent member. The compensation of the Company's management bodies is detailed in the Reference Form.

## Fiscal Council

The Fiscal Council is independent of the Company management and the external auditors, and its primary responsibility is to monitor management's actions, review the financial statements, and report its findings to the shareholders.

It is a permanent body with a term of office of one year, consisting of five permanent members and five deputies. Its members may not be members of the Board of Directors or the Executive Board, or employees of the Company, its subsidiaries or other group companies, or be spouses or relatives up to the third degree of the managers.

Fiscal Council members receive a monthly fixed amount that seeks to compensate them in line with market practice. Deputies receive 50% of the fixed compensation only when they attend meetings, in the absence of the permanent member. The compensation of the Company's management bodies is detailed in the Reference Form.

## Advisory Committees

The internal regulations of the Board of Directors provide for advisory committees to be set up to support the management. Currently, the Company maintains the following committees: the Audit Committee; (ii) the Finance, Risk and Contingencies Committee; and (iii) the People Management and Sustainability Committee. The principal function of the Advisory Committees is to analyze, recommend and validate the information supplied to the Board of Directors, so as to increase the efficiency of the decisions made by this body.

## Executive Board

The Executive Officers are the legal representatives of the Company, primarily responsible for its day-to-day management and implementation of the general policies and directives handed down by the Board of Directors. They are elected by the Board of Directors with concurrent terms of office, and may be reelected or dismissed at any time.

Currently, Paranapanema's Executive Board is made up of six members, including four statutory officers and two non-statutory officers, with a term of office of two years terminating on the same date as the Board of Directors. They may be reelected.

Executive Board members receive a fixed amount per month that seeks to compensate them according to the attributes and responsibilities of each position, and variable compensation paid on a yearly basis, according to the results achieved against targets agreed with the Board of Directors each year. The package of benefits granted to Executive Officers includes a healthcare plan, collective life insurance, a supplementary pension plan and a car. The compensation of the Company's management bodies is detailed in the Reference Form.

## 3. Sustainable Development

Paranapanema sees sustainability as a strategic value that should be shared by all the Company's segments at every level, so as to ensure the future of the business through a balance between economic, social and environmental aspects.

### 3.1 Ethical Relationships

Paranapanema follows governance guidelines that are based on values and principles such as the transparency of information; integrity throughout all management systems in internal and external relations; equality and fair treatment of all stakeholders; responsibility; and care for the future, by instilling a broader vision of our business strategy, taking into account the principles of sustainability and ethics, and operating according to these principles and all regulatory, legal and statutory norms and internal rules.

The Code of Ethics is the principal document that provides guidance on both the personal attitudes of our employees and the best business and operational practices to be followed. This document establishes the values, principles and practices guiding our corporate conduct, such as honesty, integrity, ethics, and respect for the law and human rights.

The Code of Ethics ensures that the Corporate Governance model promotes transparent communication, and the compliance of our operations and business throughout the whole chain. The full text of the Code of Ethics is available at [www.paranapanema.com.br](http://www.paranapanema.com.br)

In 2014, Paranapanema introduced its ombudsman channel, known as "Ethics Line", to provide an independent channel for communications from stakeholders. In this way we shall will be able to get closer to our public, find innovative solutions and maintain an open dialog aimed at improving our processes, products and services.

Access our Ethics Line on [www.paranapanema.com.br](http://www.paranapanema.com.br).

## 3.2 Environmental Management

Paranapanema's Environmental Management operations are decentralized at each industrial unit, under the responsibility of the Business Unit Directorates.

The establishment of all environmental objectives and targets is in line with legal and regulatory requirements, taking into account all associated risks and impacts, under the responsibility of technical specialists, and is submitted for analysis by the Executive Board.

All industrial units use the Environmental Management System ("SGA"), which ensures that all processes are monitored, from the use of raw materials, and manufacturing and distribution of products, to the correct disposal of waste the byproducts generated.

### Water Reutilization System

We have a process for the reuse of rainwater at our industrial units in Santo André (São Paulo), with storage capacity for approximately 6 million liters of water. Rainwater is captured in galleries and sent to a central reservoir, and then pumped to the industrial water treatment station prior to reuse.

Reutilized water accounts for approximately 95% of the total water required for production at our Utinga and Capuava units, in Santo André (São Paulo). Taking the two units together, in 2013 we reused 1,825,073,000 liters of water (equivalent to the volume of drinkable water required to fill some 730 Olympic swimming pools or serve approximately 304,000 persons for a period of 30 days).

All water from the industrial process, treated wastewater and rainwater can be reused. To reduce environmental impact and comply with the environmental regulations, Paranapanema's wastewater treatment stations process the raw wastewater, which is then sent to an industrial water treatment station for polishing and then returns to the system for reuse; in other words, water that would otherwise be discharged into a river is used again in the industrial process.

Paranapanema is always seeking to use the best technologies for the reuse of water in its production processes, maintaining the quality and safety of its industrial operations.

## Dias d'Ávila Granulated Slag Recovery system (BA)

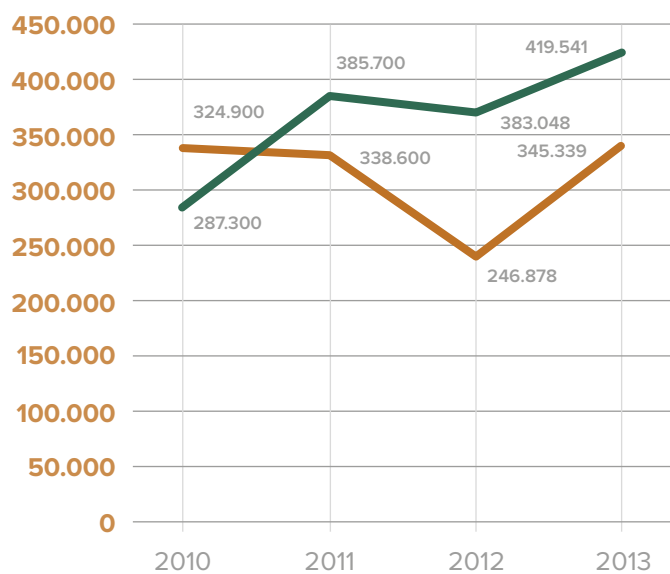
Granulated slag is a by-product of our productive process. It is a black, dry material that does not absorb water and is harder than sand, and therefore suitable as a raw material in cement production. Granulated slag is rated as non-toxic and does not damage the environment because it contains no free iron, free chlorides or water-soluble salts.

Copper slag generation is part of the pyrometallurgical process used to purify copper. The Company works with a raw material (ore concentrate) with an approximate 28% copper and contained about 25% iron, which combined with silica added to form slag process.

Paranapanema has concentrated on developing new reuse applications for granulated slag such as:

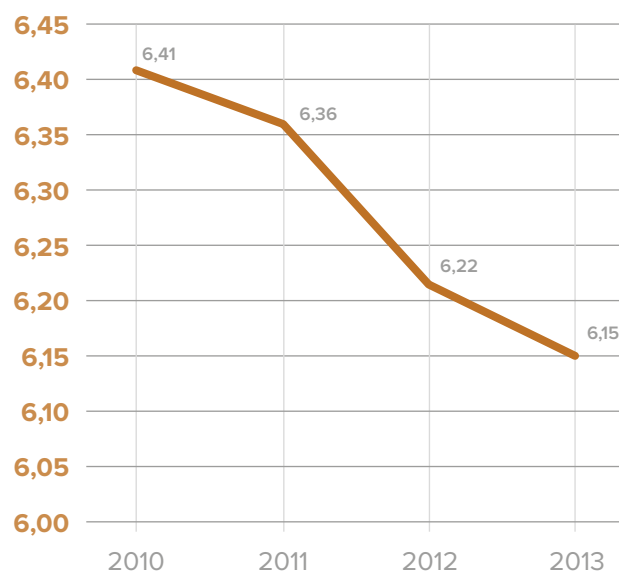
- ▶ additive to concrete
- ▶ flooring blocks
- ▶ surface blasting
- ▶ slope stabilization

**Granulated Slag Reuse**  
(tons) \*



Slag Generation per year  
Slag Sales per year

**Granulated Slag**  
(millions of tons) \*



Slag mass (million t)

\* estimated values

## Internal Selective Collection System

The Internal Selective Collection System aims to educate employees about the importance of attitudes favoring the reduction, reuse and recycling of materials.

Through the internal selective collection program, which is in place at the industrial units, and with proper waste segregation, it was possible to raise the recycling rate threefold this year, shipping out about 205t of waste to recycling companies.

Waste	Unit of measurement	2012	2013
Plastic	kg	13.521	60.971
Paper and Cardboard	kg	55.557	143.884
<b>Total</b>	<b>kg</b>	<b>69.078</b>	<b>204.855</b>

## Solar Power System

Paranapanema uses solar energy to heat water for the employees' locker rooms at the Santo André (SP) and Serra (ES) Industrial Units.



### 3.3 Environmental Indicators

General Indicators	Unit of Measurement	2010	2011	2012	2013
Amount invested in environmental improvement projects	R\$/thousand	12.640	9.791	18.331	9.446
Annual power consumption	kwh	433.009.270	437.439.629	352.733.783	383.797.122
Power consumption per t of copper	kwh/t	2.183	2.269	2.119	1.494
Annual water consumption	m3	2.783.480	2.607.400	2.413.893	2.617.081
Water consumption per t of copper	m3/t	13	12	14	10
Natural gas	m3	47.238.675	42.930.159	38.466.811	41.802.924
Natural gas consumption per t of copper	m3/t	228	209	223	163

Primary Copper Unit	Unit of Measurement	2010	2011	2012	2013
Electrolytic copper recovery using a saturated solution from the pickling process	kg	2.289	1.600	2.390	7.830
Rate of specific sulfur emissions into the atmosphere	(kg sulfur / t raw material)	14	17	11	12
SO2 concentration at the air quality stations	(µg/m3)	4	3	3	2
Amount of solid waste generated	(t)	331.553	465.896	397.727	449.397
Amount of waste recycled	(t)	306.615	412.656	424.161	419.541
Waste recovery	%	92%	89%	107%	93%

## 3.4 Social aspects

### People Management

Paranapanema manages people on the basis of a relationship of trust and mutual respect: this is one of our values. We seek everyone's involvement to secure and improve the Company's results.

In late 2013, Paranapanema had 2,495 employees, of whom 1,410 were in Santo André (SP), 923 in Dias d'Ávila (BA), and 162 in Serra (ES), including statutory officers, full-time (CLT) employees, trainees and apprentices.

### Compensation and Benefits

Pursuant to Paranapanema's Remuneration policy and practice, wages, benefits and variable compensation paid to employees are in line with market practices, and the value of each position is defined according to its complexity, specialization and importance. The goal is to improve the Company's ability to attract, develop, motivate and encourage performance and commitment to its objectives and results.

Variable compensation is in the form of a Profit Sharing Program, which encourages productivity and allows all employees to participate in the results attained annually. At Paranapanema, there is no differentiation in the base salary paid to men and women holding the same positions. Variations are due to each employee's performance and seniority.

Paranapanema is committed to the welfare and health of its employees and their dependents, offering benefits such as healthcare and dental insurance, group life insurance, a supplementary pension plan, transport, and an inhouse cafeteria.

## Relations with labor unions

Paranapanema has a long-standing relationship with the Santo André (SP), Serra (ES) and Dias d'Ávila (BA) Unions. This favors dialog and constant negotiations in pursuit of a constructive, transparent, accountable and effective partnership. Meetings, which are not subject to a regular schedule, are peaceful and informal affairs. Paranapanema believes that all employees are entitled to freedom of association.

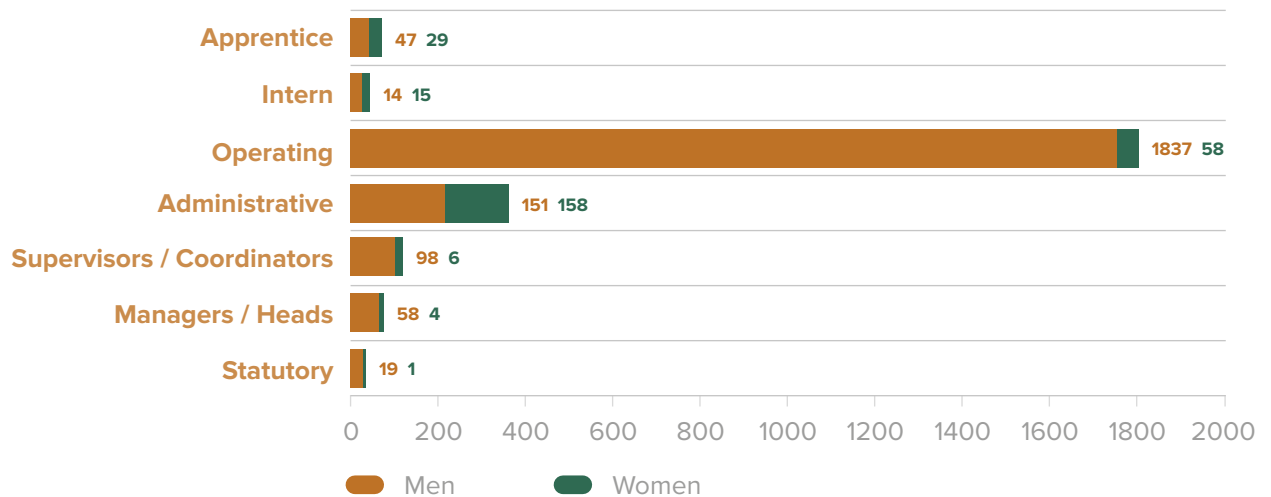
## Profile of the workforce

### Breakdown of the employees

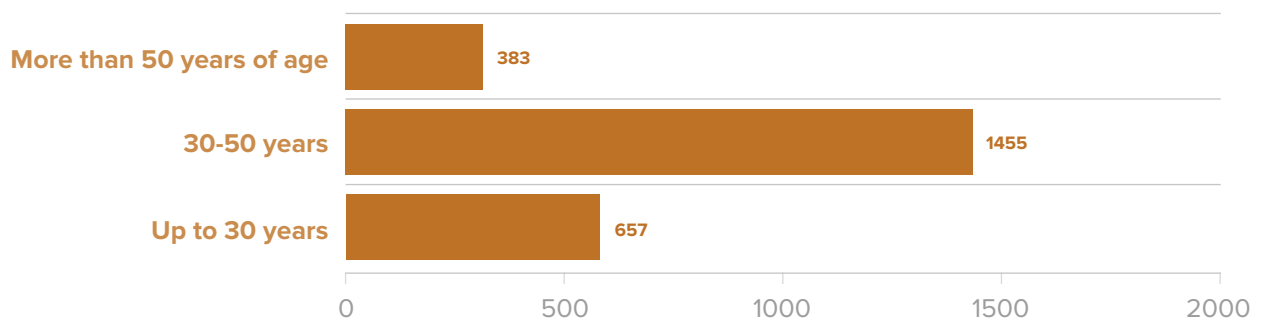
Number of employees by category and gender	2010	2011	2012	2013	2013				
					Men	Women	Up to 30 years of age	30 to 50 years of age	More than 50 years of age
<b>Statutory*</b>	16	16	20	20	19	1	0	5	15
<b>Managers/ Heads</b>	71	71	71	62	58	4	0	32	30
<b>Supervisors / coordinators</b>	112	117	108	104	98	6	0	74	30
<b>Administrative</b>	276	293	290	309	151	158	105	178	26
<b>Operating</b>	1832	1731	1714	1895	1837	58	447	1166	282
<b>Intern</b>	63	77	65	29	14	15	29	0	0
<b>Apprentice</b>	54	46	80	76	47	29	76	0	0
<b>Total Employees</b>	2424	2351	2348	2495	2224	271	657	1455	383
<b>Percentage</b>	100%	100%	100%	100%	89%	11%	26%	58%	15%

\* Includes Board members, Board of Directors, Fiscal Council

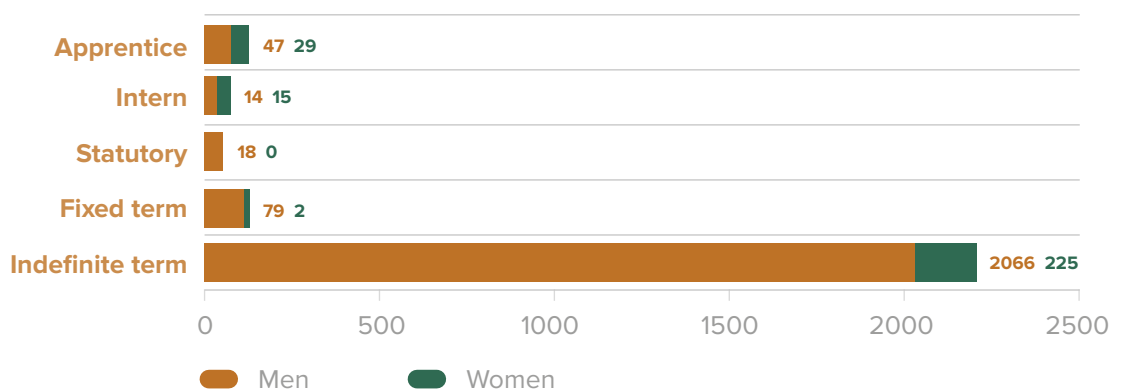
## Distribution by category and gender in 2013



## Distribution by age group - 2013



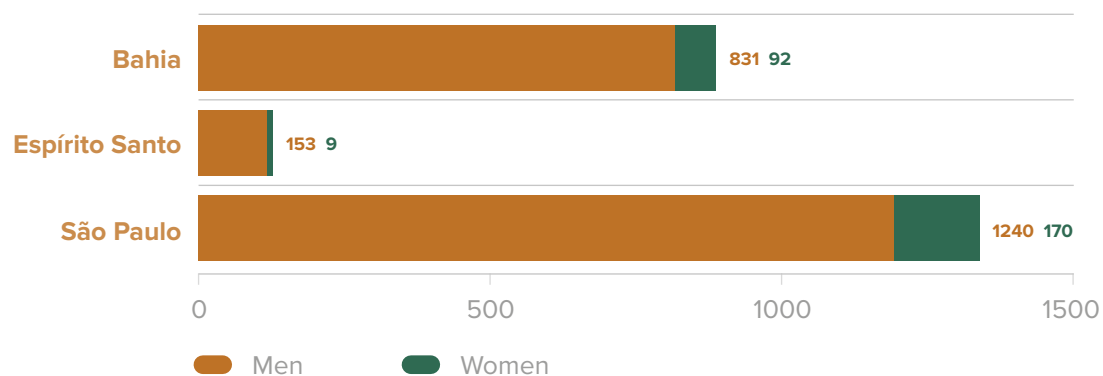
## Distribution by type of Contract and Gender - 2013



## Employees by region

Number of employees	2010	2011	2012	2013		Total
				Men	Women	
São Paulo	1366	1289	1327	1240	170	1410
Espírito Santo	161	146	137	153	9	162
Bahia	897	916	884	831	92	923
Total Employees	2424	2351	2348	2224	271	2495

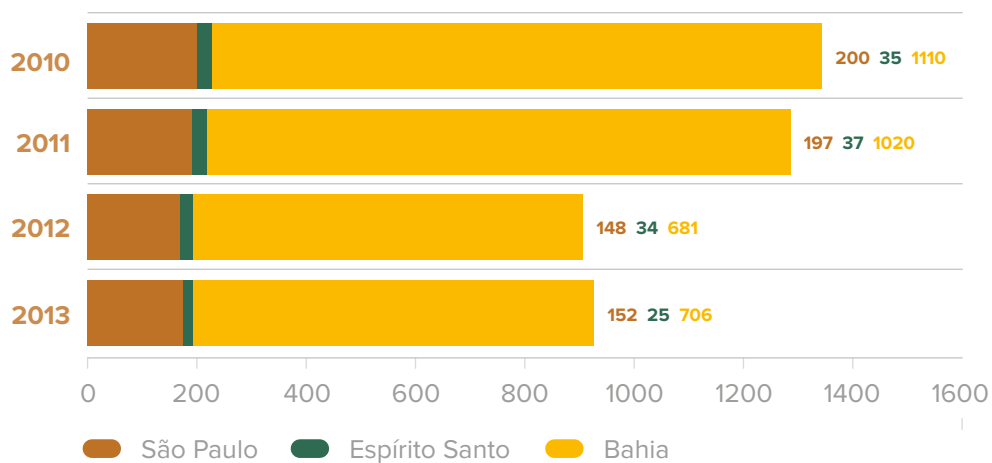
## Distribution by Region and Gender - 2013



## Outsourced Staff by region

Number of Outsourced Staff per region	2010	2011	2012	2013
São Paulo	200	197	148	152
Espírito Santo	35	37	34	25
Bahia	1110	1020	681	706
<b>Total Outsourced Staff</b>	<b>1345</b>	<b>1254</b>	<b>863</b>	<b>883</b>

## Outsourced Staff Distribution by Region



## Turnover

### Distribuição por Categoria e Gênero 2013

Turnover by age group	2010	2011	2012	2013			
	Index	Index	Index	Hired	Terminated	Total employees	Index
Up to 30 years	18,4	23,0	17	225	108	657	25,34
30 to 50 years	9,6	9,0	10,2	173	145	1455	10,93
More than 50 years	7,3	12,9	10,9	20	55	383	9,79
Total	10,7	12,5	12,0	418	308	2495	14,55

Turnover by gender	2010	2011	2012	2013			
	Index	Index	Index	Hired	Terminated	Total employees	Index
Men	11,1	12,2	12,2	356	268	2224	14,03
Women	7,3	14,8	10,3	62	40	271	18,82
Total	10,7	12,5	12,0	418	308	2495	14,55

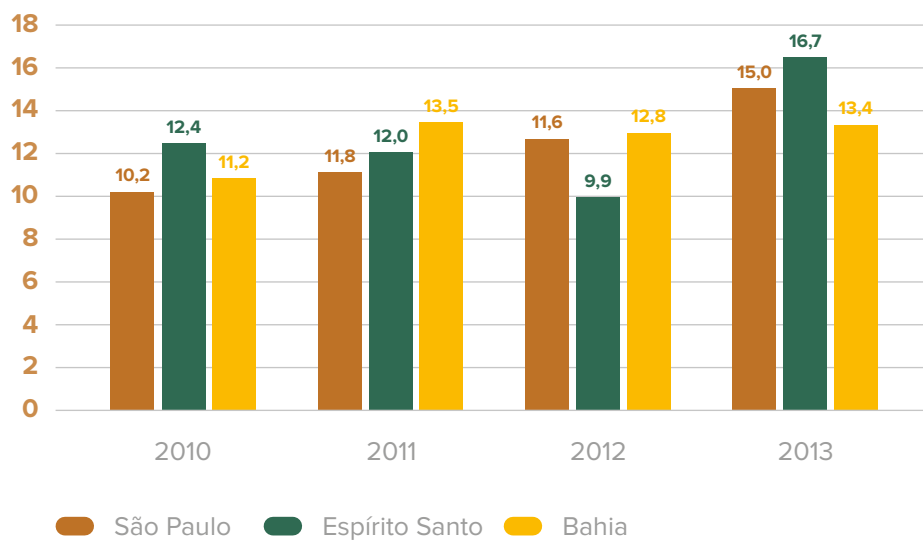
Turnover by region	2010	2011	2012	2013			
	Index	Index	Index	Hired	Terminated	Total employees	Index
São Paulo	10,2	11,8	11,6	237	187	1410	15,04
Espírito Santo	12,4	12,0	9,9	37	17	162	16,67
Bahia	11,2	13,5	12,8	144	104	923	13,43
Total	10,7	12,5	12,0	418	308	2495	14,55

Index calculation: Considers Total employees (CLT Employees + Interns + Statutory + Apprentices) on the last day of the period

$$\text{Formula} \left\{ \frac{\frac{A + D}{2} \times 100}{EM} \right.$$

A = Staff hiring in the period  
 D = Staff termination in the period  
 EM = average staff during the period  
 BASE = january to december

## Turnover by Region



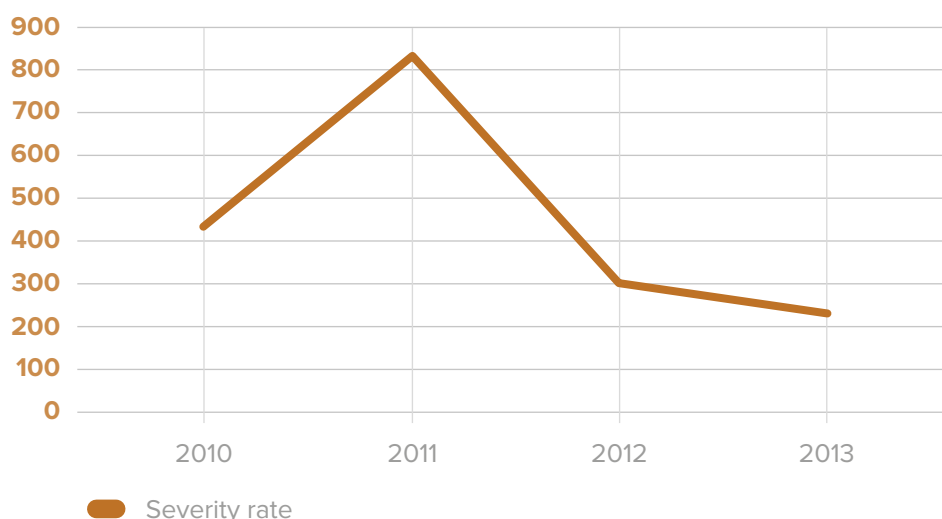
## Occupational Health and Safety

Paranapanema considers the health and safety issue strategic for maintaining a healthy work environment. Our focus is on prevention, reducing risks and encouraging changes in behavior to ensure appropriate working conditions for all employees.

In 2013, 100 accidents with and without lay-off were recorded. Compared to 2012, there was a 36% reduction in the total number of such accidents. Efforts to reduce accidents will be intensified in 2014.

Health & safety indicators	2010	2011	2012	2013
Accident frequency rate - with and without lay-off <sup>(1)</sup>	35,66	40,71	37,71	21,18
Severity rate	418	814	296	231
Accidents with and without lay-off <sup>(2)</sup>	165	188	157	100

(1) Frequency and severity rates are based on each 1 million man-hours worked, as per NBR 14,280. To calculate lost days, the day following the accident is considered. (2) Minor injuries with first-aid treatment are not included



Paranapanema provides medical services at all industrial units for preventive and emergency care. We employ occupational safety staff, in addition to employees of the various operating areas who are duly trained to man the Emergency Brigade.

## Prevention Programs

The Prevention Programs aim to control risks and consist of training, education and awareness-raising for employees and outsourced staff. During 2013, Paranapanema provided specific training for 2,219 employees, in addition to respiratory protection and hearing loss prevention programs.

Safety Dialogs discuss Safety and Health topics interactively, and environmental and ergonomic assessments are also performed to control risk and prevent disease.

## Men's Health Program

The Men's Health Program got underway in October 2011 and was concluded in November 2013. Its goal was to provide information designed to change behavior and attitudes of the male population with regard to self-care for health and wellbeing.

In 2013, a number of activities were held during working hours, such as theatrical sketches, guidance lectures, demonstrations and DDS - Health Dialogs on the prevention of Sexually Transmitted Diseases (STDs), misuse of drugs and substances, dangers of self-medication, guidance on healthy eating and prevention of hypertension, involving employees and outsourced staff.

All activities were coordinated and taught by Paranapanema healthcare professionals in partnership with SESI staff.

## Vaccination program

The annual vaccination program aims at immunization and protecting against all three subtypes of influenza viruses that circulate in winter: A (H1N1 - commonly known as swine flu), A (H3N2) and B.

In 2013, 1,340 doses of vaccine were given to Utinga, Capuava, Serra, and Dias d'Ávila employees.

## Training and Development

Paranapanema believes that a company is formed, essentially, by people, and that through substantial investment in their development it is possible to achieve excellence. The Company seeks to create conditions for employees to reach their maximum potential, through both professional and personal growth.

Training and development needs are decided annually by Paranapanema Managers and Officers in order to provide for the continuous improvement of procedures and activities in each area.

### Annual average hours of training per employee

2010	2011	2012	2013
4,13	5,3	3,71	8,23

## Young Apprentice Project

To help train young people, Paranapanema has introduced its Young Apprentice project, a learning program aimed at preparing and inserting them into the labor market. The project provides appropriate technical and vocational training and seeks to convey to the young apprentices values such as a working relationship based on mutual trust and respect, and the need for everyone's commitment to face and overcome challenges.

Location	Partnerships	No. of young people	
		2012	2013
<b>Santo André - SP</b>	Piero Pollone and Camp SBC	30	29
<b>Serra - ES</b>	CESAM - Centro Salesiano do Menor	7	8
<b>Bahia</b>	Leandrinho and Lamarão do Passé Community	28	33
<b>Total young apprentices</b>		<b>65</b>	<b>70</b>

## Ayrton Senna Institute

Enhancing public education and providing development opportunities for children and young people in Brazil is the best path to building a better and fairer nation. Thus Paranapanema works jointly with LIDE Educação, a mobilization group consisting of businesses and executives that believe in this cause and support the Ayrton Senna Institute (IAS).

Since 1994 the IAS has worked to develop the potential of new generations. Thanks to its recognized production and diffusion of knowledge and solutions for human development, since 2004 it has been part of the UNESCO Cathedras (higher education) movement worldwide, collaborating directly so that Brazil can achieve the targets proposed by the UNO in promoting quality basic education for all children and young people by 2015.

As a partner of Lide Educação, Paranapanema contributes to this fundamental cause in Brazil.

The Ayrton Senna Institute currently provides quality education – with the support of LIDE Educação – to over 2 million children and young people throughout Brazil.

## Community Support Program

Paranapanema is concerned about the quality of life of those living in the areas surrounding its manufacturing units, and to that end it is searching for solutions that ensure the conditions required for the proper development of the population.

Since 1989 the company has run the PAC – Community Support Program. This initiative assists projects undertaken in municipalities where the company operates. Since 1989 the company has been active in the municipality of Dias d'Ávila (BA) and in the Leandrino and Lamarão do Passé communities, engaging at all times with the local authorities and the public in order to promote the means to sustainable regional development while strengthening the company's integration within the community in the areas of employment and income, healthcare, the environment and security.

Program	No. of people assisted	
	2012	2013
Dental clinics in partnership with SESI, so as to ensure access to oral healthcare	839	980
The junior apprentice project for young people from the community between the ages of 18 and 22 years.	28	33

### 3.5 Relations with Suppliers

Paranapanema sees its suppliers as partners in the development of productive and responsible business. Therefore it is careful when selecting professionals and businesses to serve its needs, where the relationship is always based on honesty, integrity and loyalty.

Negotiations with suppliers seek to obtain the best outcome for Paranapanema, and employees are prohibited from obtaining privileges in terms of pricing or otherwise when acquiring goods for personal use; they are also prohibited from having a continuous or occasional employment relationship with suppliers, as well as from receiving commissions, advantages or gifts that might interfere in any manner with the negotiations.

Paranapanema inserts in all its supplier agreements specific clauses where the parties agree to expressly abide by the current labor legislation, in addition to executing the services in accordance with the law. In addition, and in line with its Code of Ethics, it requires suppliers not to engage in child or slave-like labor practices, to respect human rights and prohibit any kind of discrimination. Failure to comply with the legislation may result in the agreement with the supplier being terminated.



## 3.6 Relations with Customers

Paranapanema's relations with its customers are built primarily on ethics and transparency of information, leading to relations that are sound, responsible and trustworthy, and obtaining excellent results from its products and services.

Paranapanema pursues excellence in all aspects of its business, from the quality of its products and services, through to delivery to the customer; to do this it has a team of highly specialized employees that provide all-round technical and commercial support, responding quickly to the customers and indicating and developing innovative products that fit for the particular requirements of each customer.

The commercial structure is constantly evolving in order to generate perceived value for customers, as these actions are considered essential for obtaining customer satisfaction and preference. Especially where technical issues are concerned we are constantly striving to advance initiatives for research and innovation in copper products, together with customers and respected partners such as the University of São Paulo and the Institute for Technological Research (IPT).

### Awards

In 2013 Paranapanema received the following awards:

- ▶ **The highlight of the sector at the 6th Top Engineering Awards** organized by the Association of Former Pupils of the School of Engineering (AEAEE) of the Federal University of Minas Gerais (UFMG), whose aim is to honor people and businesses that have contributed to the development of engineering, both in the corporate sector, and in academia, teaching and culture;
- ▶ **2013 Anamaco Award** – copper tubes and connections segment – Mass Market and Large Customers category;
- ▶ **17th Reseller Award** – Best Product of the Year in the category in the copper tubes and copper connections segment;
- ▶ In July/2013 Paranapanema was awarded the **Green Seal of the Chico Mendes International Socioenvironmental Institute** in recognition of its work in protecting the environment.

## Certifications

Paranapanema possesses the certifications required by the Brazilian and international markets through its management system, whereby the industrial units are certified to the following standards:

Certification	Industrial Unit PMA Dias D'Ávila	Industrial Unit PMA Utinga	Industrial Unit PMA Capuava	Industrial Unit PMA Serra
<b>ISO 9001 (product)</b>	Validity: 10/27/2014 Certificate No.: BR 011987-1	Validity: 05/18/2015 Certificate No.: BR FM 67115	Validity: 05/18/2015 Certificate No.: FM 67115	Validity: 04/16/2015 Certificate No.: FM 77829
<b>ISO 14001 (the environment)</b>	Validity: 10/25/2014 Certificate No.: BR 011822-1	Validity: 06/14/2017 Certificate No.: EMS 567751	-	Validity: 04/16/2015 Certificate No.: SEM 553520
<b>OHSAS 18001 (Occupational health and safety)</b>	Validity: 05/07/2015 Certificate No.: BR 013931-1	Validity: 05/08/2015 Certificate No.: OHS 596092	-	Validity: 04/16/2015 Certificate No.: OHS 569069



## Products and Services

Paranapanema's certified products are marketed in accordance with the technical standards described below:

Produtos	Normas
Rolled laminates, seamless tubes, profiles, bars, wires and rebars of copper and copper alloys	RoHs and Reach
Seamless tubes for water, gas, air conditioning, refrigeration and industrial purposes in 110, 120 and 122 copper alloys	RoHs and Reach
Light, medium and heavy seamless copper tubes for conveyance of fluids	ABNT NBR 13206
Seamless copper tubes for flexible conveyance of fluids	ABNT NBR 14745
Seamless copper tubes for water	ASTM B88
Seamless copper tubes for air conditioning and refrigeration	ASTM B280
Copper tubes for drainage	ASTM B306
Drinking water system components - healthcare	NSF / ANSI Standard 61
Connections for joining copper tubes by welding or capillary brazing	ABNT NBR 11720
Connections with compression terminals for use with copper tubes	ABNT NBR 15277
Cathodes	Registered on the LME and Shanghai Metal Exchange

## Compliance

Paranapanema operates in accordance with current Brazilian and international standards and legislation, using standardized manufacturing processes so that its products are appropriate for the purposes of its customers. Furthermore, it works to detect and correct any possible non-conformity.

The management systems at our units are periodically evaluated for compliance with corporate guidelines on safety, quality and the environment. There are no records of deviations or non-conformity events in the supply and use of our products.

## 3.7 Risk Management

Paranapanema understands risk management as essential for supporting its growth plan and its strategic and financial planning. Risk management is founded on the Market Risk Management Policy approved by the Board of Directors, and its purpose is: to support the growth plan, strategic planning and business continuity of the company, reinforce its capital and asset management structure, ensure the reliability of its financial management and strengthen corporate governance practices.

All matters involving risk management for submission to the Board of Directors must be presented to the Finance, Risks and Contingencies Committee.

### **The Risks Commission is in charge of:**

- i. identifying risks and monitoring exposure;
- ii. providing guidance and validating proposed limits and responses to risks, submitting them for approval by the Finance, Risks and Contingencies Committee;
- iii. reviewing the results of the hedge strategy;
- iv. approving the financial instruments and counterparties in hedge transactions;
- v. following up on the implementation of risk management actions;
- vi. proposing occasional updates, modification or flexibilization of the criteria or limits set out in the Policy.

### **The responsibilities of the Risk Management area are:**

- i. to measure and report on exposure to the risks identified;
- ii. to contribute to identifying new risks and reassessing those already identified;
- iii. to produce the monitoring and follow-up reports envisaged in the Policy;
- iv. to centralize the information required for internal and external notification of the Market Risk Management activities, thereby ensuring their transparent disclosure.

### **It is incumbent on the Executive Board:**

- i. to evaluate the company's positioning for each risk identified in accordance with the guidelines and policies handed down by the Board of Directors;
- ii. to approve the performance indicators to be used in risk management;
- iii. to foster ways of strengthening and diffusing a risk management and internal controls culture.

## 3.8 Economic Aspects

Consolidated net revenue stood at R\$5,548.6 million, growth of 37.8% year-on-year. Domestic market sales amounted to R\$3,323.7 million, representing 60% of consolidated net revenue in 2013, against 72% in 2012.

### Gross Profit

Paranapanema showed a Gross Profit of R\$394.9 million in 2013, an increase of 114.2% compared with 2012, on account of the sharp rise in sales volume, higher productivity, the favorable impact of the depreciation of the Brazilian Real against the US Dollar and the improved premiums on export prices.

### Adjusted EBITDA

Paranapanema's Adjusted EBITDA (earnings before interest, tax, depreciation and amortization, after stripping out non-recurring revenues and expenses) amounted to R\$332.4 million in 2013, an increase of 166% over 2012. Thanks to improved operating results the company ended the year with an Adjusted EBITDA Margin of 6% against 3.1% in 2012.

### Investments

The year 2013 saw investments of R\$115.4 million, of which R\$38.3 million was in raw copper and R\$77.1 million in the copper and copper alloy product range, primarily upon conclusion of the new Cast & Roll copper tube factory at Utinga.

## Economic and Financial Indicators

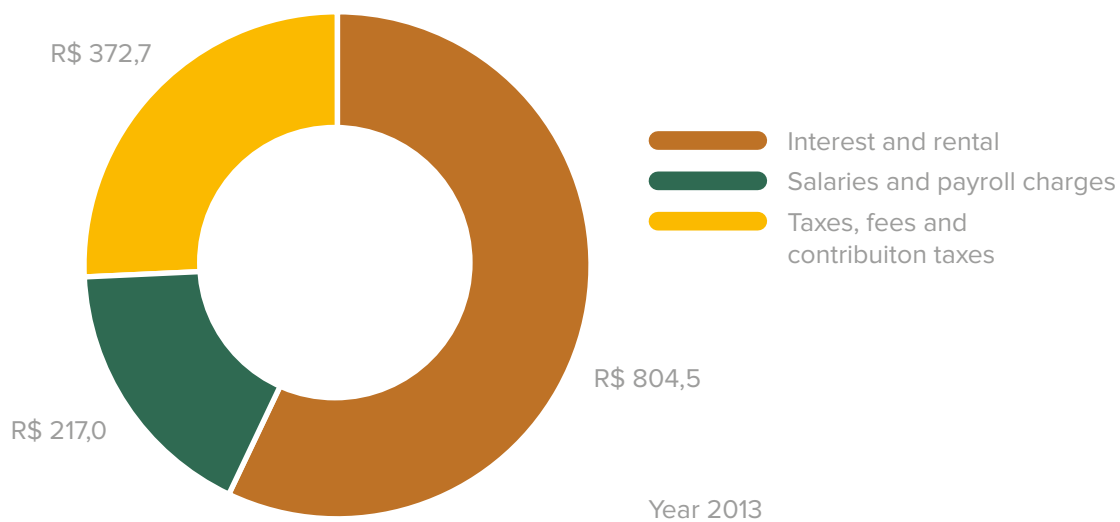
Specification (R\$ millions)	2010	2011	2012	2013
<b>Consolidated Net Revenue</b>	3192.1	4098.4	4025.8	5548.6
<b>Domestic Market</b>	1919.0	2375.4	2880.7	3323.7
<b>Overseas Market</b>	1237.1	1722.9	1145.1	2224.8
<b>COGS</b>	-3036.1	-4005.1	-3841.5	-5153.8
<b>Cost of Metal</b>	-2529.1	-3431.6	-3361.5	-4569.9
<b>Cost of Metal/COGS</b>	83.3%	85.7%	87.5%	88.7%
<b>Gross Profit</b>	156.0	93.3	184.3	394.9
<b>Operating Expenses</b>	-106.3	-111.1	-111.4	-144.2
<b>Other operating revenues/expenses, net</b>	-25.0	-29.0	-282.7	-90.5
<b>Financial Revenue / Expenses, net</b>	6.5	-43.8	-70.7	-163.4
<b>Income and social contribution taxes</b>	16.0	42.9	74.0	9.2
<b>Net Income (Loss)</b>	47.5	-47.7	-206.5	5.9
<b>Adjusted EBITDA</b>	130.7	69.2	125.0	332.4
<b>EBITDA margin</b>	3.3%	1.0%	3.1%	6.0%
<b>Net Debt (cash)</b>	308.4	-144.4	156.1	716.6
<b>Investments</b>	51.5	139.8	358.2	115.4

## Operating indicators

THOUSANDS OF TONS	2010	2011	2012	2013
Raw Copper Production	106.1	113.0	51.3	104.7
Copper products BA	106.1	100.2	124.1	152.1
Copper products SP	60.5	58.5	57.6	59.7
Total Sales <sup>1</sup>	242.5	248.1	232.8	333.1
Raw Copper Sales	77.1	78.5	55.2	125.2
Copper products BA	96.9	108.9	114.9	133.8
Copper products SP	68.5	60.7	62.7	74.1

(1) After eliminating intercompany items

## Distribuição de Valor Adicionado (R\$ millions)



This report represents Paranapanema's commitment to all its stakeholders, and is part of our constant process of transparency. It covers the period from January 1 to December 31, 2013.

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## Credits

The Paranapanema Sustainability Report was produced from information collated with the participation of all areas of the Company.