

2014 ASSESSMENT OF ACTIONS

CLIMATE FORUM



Credits

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Presentat ion

Climate Forum – Business Action on Climate Change has played, since its foundation in 2009, a key role in society by fostering discussion about climate change. By signing and publishing the *Open Letter to Brazil on Climate Change* transcribed below, it made voluntary commitments to governance, management of GHG emissions, communication, value chain and shared responsibility of its practices related to the transition to a low carbon economy. From 2009 to date, the group has been focusing on influencing public policies and establishing good business practices.

Climate Forum's achievements on public policies

A significant achievement of the group took place in 2009, when the letter was delivered, together with recommendations to the federal government about its position in the COP-15 and the internal management of the issue. This action encouraged Brazil to publicly set its voluntary 38% national carbon reduction target by 2020. After this landmark, Climate Forum led several initiatives that fostered broad-based dialogue with governments, developed publications and has produced periodical reports on its actions and business practices based on the commitments of the letter.

One of the key points brought up by Climate Forum is how the National Policy on Climate

Change (PNMC) and the regulations in subnational levels could be structured in an integrated manner. Therefore, in 2010 the group made a few recommendations on PNMC's regulation, later presented to the federal government in a meeting in the Office of the Chief of Staff.

In the following year the issue was further discussed and critical aspects were identified for an effective integration of policies at all levels, such as the definition of emission mitigation targets, the need for a sectoral regulation, the definition of criteria for inventories, verification and emissions data, the regulation of a national emissions market, existing sources of funding for climate projects and licensing as a tool to promote emission mitigation. All these points were presented and detailed in the publication *"The Challenge of Harmonization of State Policies on Climate Change"*, a study carried out under the supervision of specialists Tasso Azevedo and Ricardo Abramovay, with research and text by Juliana Speranza and Flávia Martins, researchers of the University of São Paulo Center for Socioenvironmental Economics Research (Nesa-USP).

The work focused on this harmonization influenced the development of the Center for Federative Alliance Building for Climate (NAFC), established on February 19, 2013 with the purpose of integrating the different climate-related sectoral policies, especially regarding the impacts of climate change and experience sharing among government bodies. The NAFC is jointly run by the Ministry of the Environment (MMA) and the Office of the Chief of Staff. In 2013, the NAFC developed technical recommendations for companies to prepare their GHG inventories and for the establishment of a national registry of emissions through its two working groups: the Inventory WG, coordinated by the Ministry of Science, Technology and Innovation (MCTI) and by the State of São Paulo; and the Emissions Report WG, coordinated by the Ministry of Finance (MF) and by the State of Rio de Janeiro.

At the same time, Climate Forum developed its second study regarding the challenge of harmonization of state policies on climate change (volume II), launched in an event attended by state (Amazonas, Minas Gerais, Paraná and Pernambuco) and federal government officials in the end of 2013. Besides showing the progress made in all aspects listed in the first publication, the study presents the advances in the country's subnational policies.

As a supplement to this, Climate Forum set up, in partnership with Nesa-USP, the Climate Change Public Policy Observatory in 2012. Since 2012, the Observatory monitors all Brazilian climate change subnational policies and monthly shows the main highlights of the theme through its newsletter.

Climate Forum achievements in business practices

Climate Forum also periodically monitors the activities carried out inside companies, so that they can comply with the five commitments made in the *Open Letter*. To monitor these commitments, it developed in 2011 a methodology that is more straightforward and integrated with other initiatives (such as GRI and CDP). Therefore, since its implementation in 2012, it has been possible to identify the main internal actions that have enabled companies to make progress in management, governance, shared responsibility, communication and influence in the value chain, as well as the main hindrances involved in a less intense carbon management.

Within the goal of business practices, Climate Forum has undertaken even more specific actions related to critical themes, both from the perspective of companies and of a less intense carbon management. In this way, it has since 2013 worked on an in-depth sectoral engagement of companies. In the energy sector, it held seminars, workshops and meetings to talk about the theme and, internally, it will be incorporating this information to improve carbon management in this segment. Within the

Forum another working group was set up – the Engineering and Construction Working Group (E&C WG), which discussed and prepared the *Methodological Guide for GHG Emissions Inventory in the Construction Sector*. These and other activities coordinated by the group are detailed in this report.

With the purpose of sharing the performance and engagement of Climate Forum we invite you all to learn about our activities compiled in this *2014 Assessment of Actions*. With the prospect of a new climate agreement and the new National Adaptation Plan, both to be launched in 2015, the group sees itself, more than ever, as a key player in the coming definitions regarding the participation of Brazil and the Brazilian business sector in climate change mitigation and adaptation.

For further information about Climate Forum and its activities, please access:
<http://forumempresarialpeloclima.org.br/>

Open Letter

Our vision

Climate change constitutes one of the greatest challenges of our time. The Fourth Assessment Report by IPCC (Intergovernmental Panel on Climate Change) shows that an increase in global temperature levels above 2 degrees Celsius in comparison to the beginning of the Industrial Revolution would bring disastrous consequences to the economy of countries and the well-being of mankind, in terms of health, food security, habitability and environment. Such consequences could irreversibly compromise the world's sustainable development.

In Brazil, an increase in temperature levels of such magnitude would have serious impacts on agricultural production, the integrity of forests and biodiversity, the safety of coastal zones, and availability of water and electricity. It would, therefore, slow down anti-poverty actions and worsen society's quality of life.

The reduction of global emissions of greenhouse gases (GHG) is a great challenge. In order for the temperature increase to stabilize below 2 degrees Celsius, IPCC advocates the need to limit the concentration of CO₂e in the atmosphere to up to 450 ppm (parts per million). To achieve this goal, total emission of GHG during this century

must, on average, not be over around 18 Gt CO₂e/year (billions of tones of GHG expressed in CO₂ equivalent per year). Currently, global emissions are above 40 Gt CO₂e/year. Even if developed countries reduced their emissions to zero immediately, it would not be possible to meet the global reduction target without the participation of emerging economies, including Brazil.

We experience a unique opportunity to build a new development model based on a low carbon economy, which will mobilize companies, governments and civil society. We believe that Brazil, more than any other country in the world, is able to lead the agenda of this new economy. The target of reducing 80% of deforestation by 2020, announced in the Brazilian National Plan on Climate Change (PNMC), will significantly contribute to the reduction in global emissions. Brazil has positive experiences in other sectors, as the production of biofuels, which show our capacity to meet this target.

We are certain that Brazilian companies can give a key contribution so that the country may lead the transition to a low carbon economy, take advantage of new business opportunities and increase its competitiveness. In this letter to the Brazilian government and society, we make commitments regarding the climate change agenda and propose actions to the public power.

Our Commitments

As a contribution to the global efforts to reduce the impacts of climate change, we commit ourselves to:

- A** Annually publishing the inventory of GHG emissions of our companies, as well as the actions for the mitigation of emissions and adaptation to climate change.
- B** Including the choice of options that promote the reduction of GHG emissions in our processes, products and services, as a strategic guidance for investment decisions.
- C** Pursuing continuous reduction of specific GHG emissions and of the net balance of CO₂ emissions from our companies through actions of direct reduction of emissions in our production processes, investments in carbon capture and sequestration and/or support to actions for the reduction of emissions from deforestation and degradation.
- D** Working with the supply chain aiming at emission reduction from suppliers and clients.
- E** Engaging with the government, civil society and our business sectors in an effort to understand climate change impacts on the regions where we operate and respective adaptation actions.

Proposals to the Brazilian Government (dated August 25, 2009)

The COP15 – 15th Conference of the Parties of the United Nations Climate Change Conference – will take place next December in Copenhagen. During the event, representatives of around 200 countries will discuss new commitments and incentives for the reduction of GHG emissions, the adaptation to the effects of historic emissions and the development, financing and technological cooperation that promote the reduction of global emissions and climate stability.

In order for Brazil to advance in the agenda of low carbon economy and for companies to plan on how to operate in the new context, a predictable and stable governance system for climate change issues must be structured.

For that matter, we put forward the following measures to the government, regarding Brazil's participation in the COP – 15:

- A** Taking on a leading position in the negotiations for the definition of clear targets for global reduction of GHG emissions, ensuring the use of the principle of common, yet differentiated, responsibilities.
- B** Seeking to streamline and expedite CDM (Clean Development Mechanism) implementation, using as central eligibility criterion its verified emission reduction, eliminating the concepts of financial and regulatory additionality and the characterization of forest credits as temporary.
- C** Supporting the creation of an incentives mechanism for REDD (Reducing Emissions from Deforestation and Forest Degradation), including conservation and sustainable management of forests. Such mechanism shall receive funds from different sources, including voluntary contributions, such as the Amazon Fund, and other ways of raising funds from market instruments.
- D** And at the national level, Producing and publicizing Annual Estimates of GHG Emissions in Brazil and, every three years, a Brazilian Inventory of GHG Emissions.
- E** Establishing a National Emissions Control System, including mechanisms that allow society to participate in the process and be consulted, and defining an independent regulatory sphere for the theme.
- F** Prioritizing GHG emissions reduction in public policy and investments, in order to consolidate the country's positioning in a low carbon economy.
- G** Seeking to streamline the evaluation process of CDM projects in Brazil.
- H** Defining and implementing a policy to support forest peoples, rural producers, companies and institutions for actions aimed at conservation and sustainable management of forests that promote REDD.
- I** Establishing and implementing a strategy for Brazil to adapt to climate change.

Climate Forum actions

The Challenge of Harmonization of Public Policies on Climate Change

Volume I

Climate Forum officially launched the first study entitled *The Challenge of Harmonization of Public Policies on Climate Change* at the 2012 Ethos International Conference. This survey was conducted by the University of São Paulo Center for Socioenvironmental Economics Research (Nesa-USP), advised by forest engineer Tasso Azevedo and Professor Ricardo Abramovay, Nesa-USP coordinator. Developed within the Climate Forum activities, the study aimed to survey the climate change public policy in each Brazilian State, based on the laws and bills that regulate them, and analyze the similarities and differences among state policies and the PNMC.

The first study presented the main challenges and tried to point out the major hindrances to governability of state policies with the purpose of creating an integrated system to face the effects of global warming. As a result of this exercise, the publication indicated the following points of potential conflict for a greater integration of policies: the definition of emission reduction targets; the definition

of methodologies for emission inventories, verification processes and the creation of a registry of emissions; the regulation of a carbon market and the licensing process as a tool to promote emission mitigation.

Volume II

Volume II, launched in 2013, provides an update on the situation of the national policy and state policies on climate change in Brazil. The study also showed the recent change in the profile of Brazilian emissions. The land use sector is still the main source of emissions in the country. However, it is the only sector that reduced emissions in the last few years. The energy sector showed a significant increase in the same period, mainly due to the drop in the percentage of renewable sources in our energy matrix.

If the trend of growth in these emissions remains steady, by 2020 Brazilian emissions will be going up, which compromises our reduction target set in 2009.

The publication also highlights the subnational experiences of adaptation and mitigation in Brazil, including:

- *Programa Capixaba de Adaptação às Mudanças Climáticas* (Espírito Santo's State Adaptation to Climate Change Program) – Highlights one subnational adaptation initiative that can provide support for the National Adaptation Plan, whose completion is due in 2015;
- Minas Gerais State Energy and Climate Change Management – In 2013, the state government launched the Minas Gerais State Renewable Energy Program, which provides for tax incentives and special credit lines to expand the use of renewable sources. In addition, the State Policy to Encourage the Use of Solar Energy was adopted with the purpose of increasing the share of this source in the State's energy matrix;
- State of Mato Grosso's Act no. 9878/2013, which establishes the Reducing Emissions from Deforestation and Degradation System (REDD+) – a pioneering REDD+ regulatory framework.

These and other policies can be accessed by the study and also by our Climate Change Public Policy Observatory. Continuous and updated monitoring of each one can be made through the Public Policy Observatory at: <http://forumempresarialpeloclima.org.br/observatorio-de-politicas-publicas-de-mudancas-climaticas/>

Climate Change

Public Policy Observatory

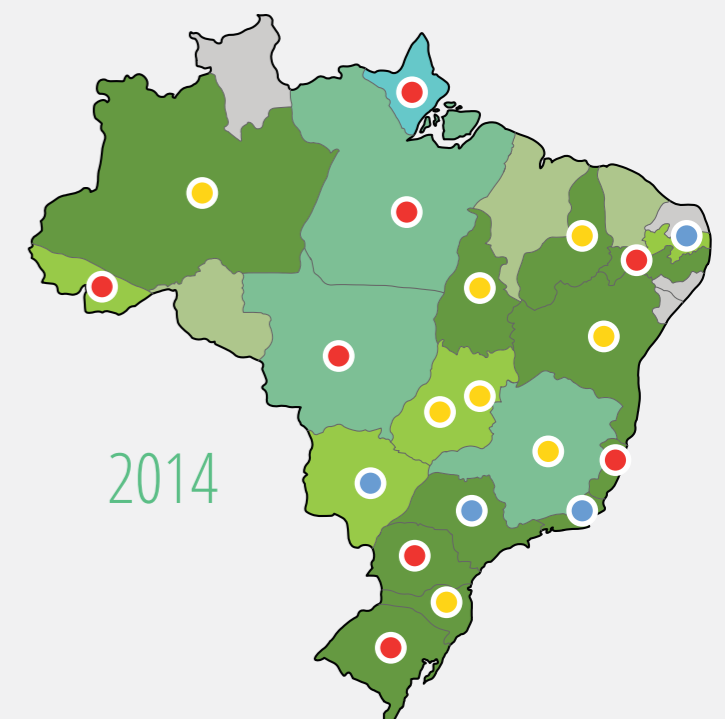
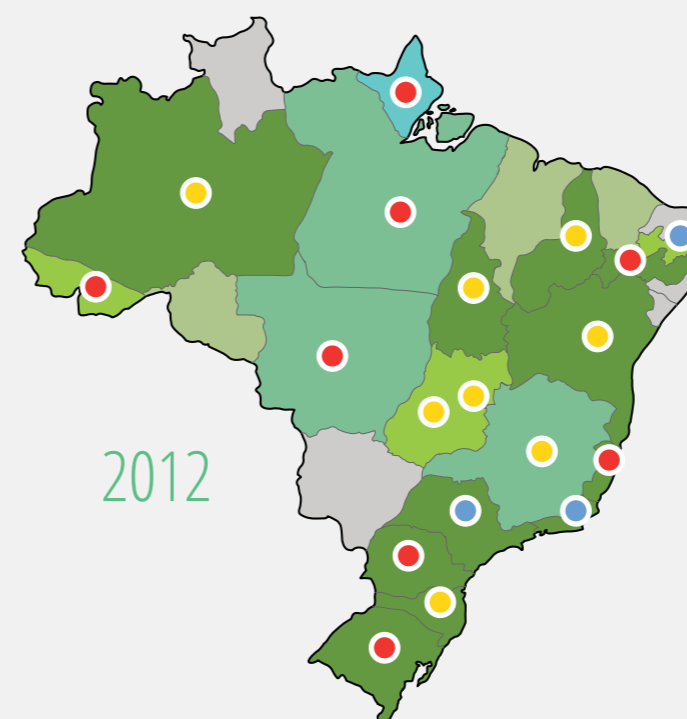
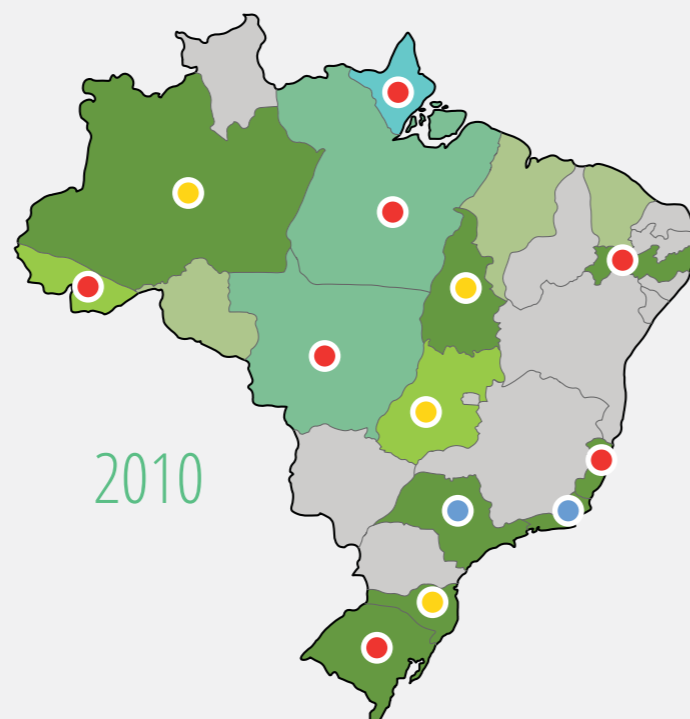
Launched in 2012 during the 3rd National Climate Forum Seminar, the Observatory follows the study on the challenge of harmonization and updates the information as new regulations are created by the states and the federal government.

For that purpose, Climate Forum has a partnership with Nesa-USP, responsible for the ongoing contact with climate agenda's focal points of the states.

As a supplement to the Observatory, Climate Forum supports the production of monthly news related to public policy and climate change, highlighting the most current and relevant news related to climate change mitigation and adaptation.

PROGRESS OF CLIMATE CHANGE POLICIES IN BRAZIL

- EMISSIONS REDUCTION TARGET DEFINED
 - EMISSIONS REDUCTION TARGET STILL BEING DEFINED
 - THERE IS AN INTENTION TO ESTABLISH OR REDUCE GHG BUT THERE ARE NO CONCRETE TARGETS
-
- THERE IS A CLIMATE LEGISLATION AND FORUM
 - THERE IS ONLY CLIMATE LEGISLATION/NO FORUM
 - THERE IS A BILL AND FORUM
 - THERE IS ONLY FORUM/NO BILL
 - THERE IS ONLY BILL/NO FORUM
 - THERE IS NEITHER LEGISLATION, NOR BILL NOR FORUM



Climate Forum

publicity activities

Since its foundation, Climate Forum has been invited to publicize its activities in events attended by public and private sector representatives. In 2012, the group presented the first volume of the harmonization study in a meeting of the Climate Change Executive Group (GEx) and established a partnership with the Ministry of the Environment (MMA) to support it in the works aimed at harmonizing the climate change public policies. GEx, which reports to the Interministerial Climate Change Committee (CIM) and is coordinated by the MMA, is in charge of developing, implementing, monitoring and assessing the National Plan on Climate Change. In the same year, Climate Forum presented the study on harmonization at the conference “Ecological Economics and Rio+20: Challenges and Contributions for

a Green Economy”. In 2013, in a meeting of the Center for Federative Alliance Building for Climate (NAFC) attended by several representatives of the states, MMA and the Office of the Chief of Staff, the second volume of the study was launched. Besides, during 2013 Climate Forum Seminar, second volume was presented by USP researcher Juliana Speranza in a panel mediated by Tasso Azevedo comprised by the Secretary of Environment and Sustainable Development of Amazonas, Kamila Botelho do Amaral, energy and climate change manager of Minas Gerais State Environment Foundation, Felipe Nunes, climate change coordinator of Paraná State Environment and Water Resources, Carlos Renato Garcez, and Pernambuco’s State Environment Secretary, Sérgio Xavier.

Methodological Guide

for GHG Emissions Inventory in the Engineering and Construction Sector

Climate Forum's Engineering and Construction Working Group

The Engineering and Construction WG was set up within the Climate Forum and is formed by its four construction companies: Andrade Gutierrez, Camargo Corrêa, OAS and Odebrecht. The development of the guide aimed at providing the sector with a significant advance in preparing inventories and managing emissions; fostering discussion and building consensus on concepts and methodologies to allow better comparability and clarity in corporate inventories; and assist Climate Forum's participating companies in identifying and monitoring appropriate indicators to guide their emissions management programs.

Fostering

discussion on the energy sector

Boosted by change trends in the profile of Brazilian emissions, Climate Forum promoted in 2013 and 2014 important debates about the energy sector. In 2013, the group held a meeting with José Goldemberg (professor at University of São Paulo and member of the Brazilian Academy of Sciences), Claudio Sales (president of Acende Brasil Institute) and Ricardo Baitelo (Greenpeace coordinator) to improve its knowledge about the share of the Brazilian electricity matrix on GHG emissions. The debate raised issues related to the PNMC and its reduction target by 2020, and about the existence of instruments and incentives for the use of alternative electricity generation sources.

In April 2014, the Seminar on Trends of the Brazilian Electricity Matrix had guest panelists such as Marco Siqueira (director of PSR Consultoria), Philippe Joubert (Global Electricity Initiative) and Sergio Leitão (director of Greenpeace), who discussed the opportunities and challenges for promotion of alternative energy sources in the electricity matrix. The second panel of the event focused on the promotion of energy efficiency projects, with panelists Álvaro Leite (Cenergel) and Fernando Bacellar (AES Eletropaulo), and mediator Adriano Nunes (Camargo Corrêa Group's InterCement). For energy subsectors, the Forum also had a workshop on the Brazilian energy matrix and its emissions, given by Tasso Azevedo and Carlos Rittl (executive secretary of the Climate Observatory) and André Ferreira (director-president of the Energy and Environment Institute).

Monitoring

commitments and business practices

Climate Forum has monitored the compliance with commitments made by companies in the *Open Letter* through periodical monitoring based on methodology developed in partnership with PricewaterhouseCoopers (PwC). Therefore, the publication *Climate Forum Assessment of Actions* was launched in 2012, presenting the first results obtained. To be published biennially, the publication is in its second edition, which provides updates on the activities supporting the points set out in the letter.

Results for 2014

Applying the monitoring methodology - 2014

The 14 companies that comprise the Climate Forum operate in different sectors, as shown below:

COMPANY	SECTORS
ALCOA, CBMM and CSN	Steel works and metallurgy
ANDRADE GUTIERREZ, CAMARGO CORRÊA, OAS and ODEBRECHT	Construction
CPFL ENERGIA	Energy
NATURA	Cosmetics/personal hygiene
POLIMIX	Concrete services/cement
SANTANDER	Financial
SAMARCO MINERAÇÃO and VALE	Mining
WALMART	Retail

To systematize the commitments of the *Open Letter*, voluntarily signed by the 14 companies, a monitoring methodology was developed. Five dimensions were defined, one for each commitment – Communication, Governance, Emissions Management, Value Chain and Shared Responsibility –, as illustrated below. Comprising a set of sustainability indicators broken down into quantitative and qualitative questions, the five dimensions enable monitoring the company's performance, which allows for self-analysis of the company's continuous improvement.



For further details on the methodology and its premises, please access the publication *Metodologia de Monitoramento dos Compromissos (Monitoring Methodology)*, available at: http://forumempresarialpeloclima.org.br/wp-content/uploads/2012/10/FC_Metodologia_Monitoramento_02.pdf

After reporting on the indicators, companies reach a score based on three possible scenarios:

- 1** “Not implemented” status: for an average score between 1 and 1.9;
- 2** “Under implementation” status: for an average score between 2 and 2.9;
- 3** “Implemented” status: for an average score between 2.9 and 3.

The chart below summarizes the presentation of results, using as example the indicator “Inventory’s publication and transparency”

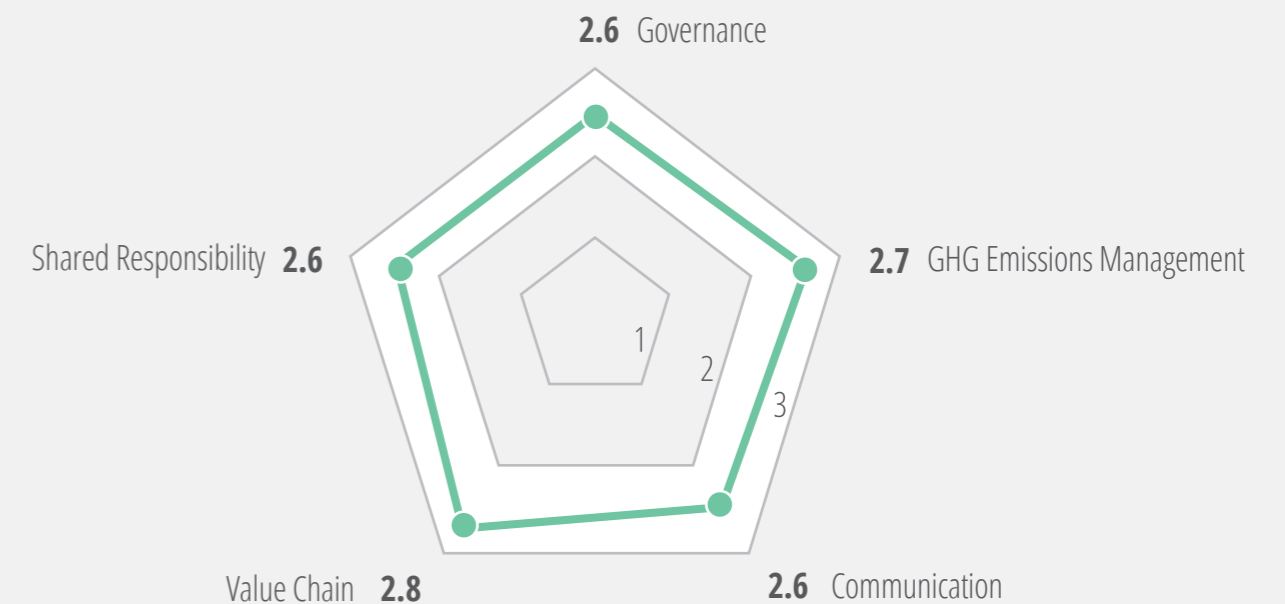
DIMENSION			
COMMUNICATION			
INDICATOR	SCENARIOS		
Inventory’s publication and transparency	1	2	3
INDICATOR’S NAME	The inventory is being prepared and/or the company does not disclose its results	Inventory results are only disclosed internally (inside the company or group)	Inventory results are disclosed both internally and externally
INDICATOR’S DESCRIPTION	SCORE AND DESCRIPTION OF SCENARIOS		
Assesses means and practices used by the company for the annual publication of the GHG inventory aimed at internal and external stakeholders	NOT IMPLEMENTED	UNDER IMPLEMENTATION	IMPLEMENTED

Since 2012 refers to the first year this monitoring tool was used, the first comparative analysis was made based on results published in 2012 and 2014.

To apply the methodology in 2014, results were obtained from 2013 data. The dimensions with the highest scores were GHG Emissions Management and Value Chain. The annual average for all commitments was 2.7, as shown in the table below.

ASSESSMENT OF COMPLIANCE WITH COMMITMENTS

Dimensions of Open Letter Commitments	Score
GOVERNANCE	2.6
GHG EMISSIONS MANAGEMENT	2.7
COMMUNICATION	2.6
VALUE CHAIN	2.8
SHARED RESPONSIBILITY	2.6
ANNUAL AVERAGE	2.7



The following table shows detailed results compiled for all dimensions, with the percentage of companies that scored in the “Not implemented”, “Under implementation” and “Implemented” scenarios.

COMMITMENTS OF THE OPEN LETTER

STATUS OF COMMITMENTS MADE

		Not Implemented	Under Implementation	Implemented
GOVERNANCE	Inclusion of GHG emissions management polices, procedures, parameters and/or guidelines into the company's decision making	14.3%	7.1%	78.6%
GHG INVENTORY	Annual publication of greenhouse gas (GHG) inventory	7.1%	-	92.9%
	Company's GHG inventory based on recognized and consistent methodologies and on the GHG accounting and reporting principles*	-	14.3%	85.7%
ACTIONS TO REDUCE GHG EMISSIONS	Annual disclosure of GHG mitigation and offsetting actions	28.6%	-	71.4%
	Changes in the production and/or operational process (e.g. energy efficiency, fuel substitution, etc.)	7.1%	-	92.9%
	Emissions offset through the acquisition of carbon credits	78.6%	-	21.4%
	Investment in carbon capture and sequestration projects	64.3%	-	35.7%
GHG EMISSIONS MANAGEMENT PLAN	Climate change adaptation studies or actions	50.0%	-	50.0%
	Plan/program aimed at GHG emissions reduction actions, as well as the continuity and scope of implementation of such actions	14.3%	14.3%	71.4%
	Internal reduction/emission targets	28.6%	-	71.4%
	Performance and monitoring indicators on GHG emissions management	28.6%	-	71.4%
	Achievement of a reduction in the company's Scope 1 GHG emissions	35.7%	-	64.3%
	Achievement of a reduction in the company's Scope 2 GHG emissions	7.1%	-	92.9%
	Achievement of a reduction in the company's Scope 3 GHG emissions	50.0%	-	50.0%
VALUE CHAIN	Supplier engagement procedures/practices regarding climate change and emissions management	-	21.4%	78.6%
	Customer engagement procedures/practices regarding climate change and emissions management	-	28.6%	71.4%
SHARED RESPONSIBILITY	Company's social practices aimed at understanding and working on climate change impacts on areas where it operates	14.3%	50.0%	35.7%
	Company's participation in sectoral and/or intersectoral discussion forums to help the government create public on climate change	-	14.3%	85.7%
TOTAL		4.3%	32.9%	62.9%

* The GHG accounting and reporting principles address the following topics: setting organizational and operational boundaries, analysis of the most relevant emissions sources, tracking emissions over time, measurement and estimation uncertainty for GHG emissions and exclusion of sources, and procedures for improving emission data accuracy.

As can be seen, most indicators show companies in the "Implemented" status, and in the following indicators companies reached over 80% of the maximum score:

- 1 The two indicators related to "GHG inventory";
- 2 Indicator "Changes in the production and/or operational process (e.g. energy efficiency, fuel substitution, etc.)" under dimension "Actions to Reduce GHG Emissions";
- 3 Indicator "Achievement of a reduction in the company's Scope 2 GHG emissions" under dimension "GHG Emissions Management Plan", and;
- 4 Indicator "Company's participation in sectoral and/or intersectoral discussion forums to help the government create public policy on climate change" under dimension "Shared responsibility".

The indicators that require the most attention of the group in order to lower the percentage of companies within the scenarios "Under implementation" or "Implemented" are "Emissions offset through the acquisition of carbon credits" and "Investment in carbon capture and sequestration projects" under dimension "Actions to Reduce GHG Emissions". In both cases, at least 50% of the companies fall under the status "Not implemented".

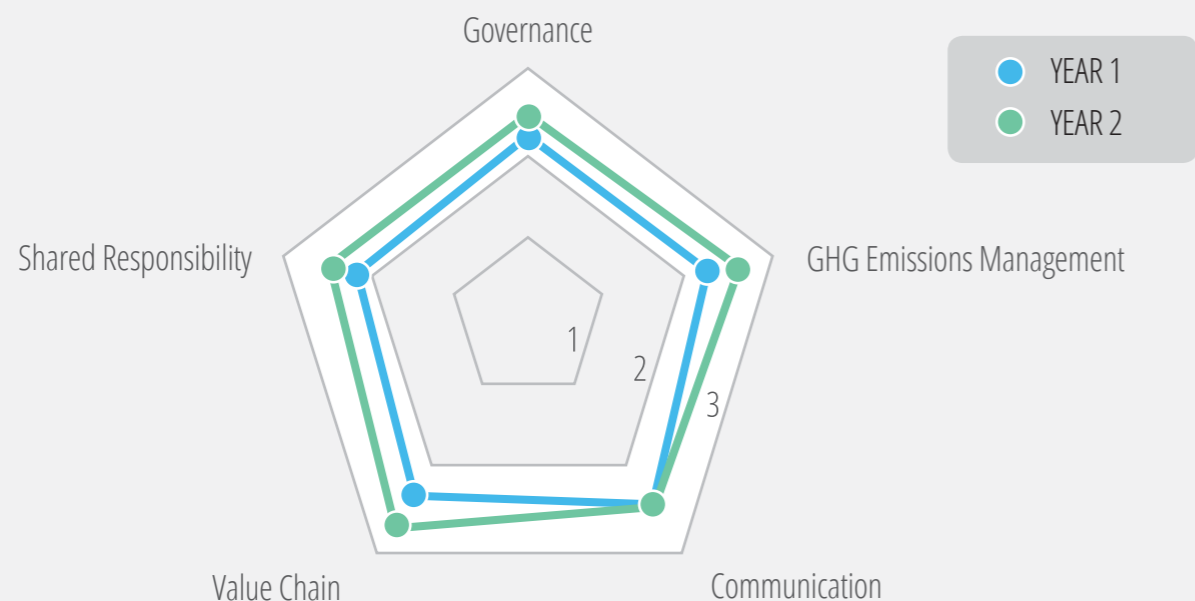
As for adaptation, 50% of the Climate Forum companies fall under the status "Not implemented" for indicator "Climate change adaptation studies or actions" under dimension "GHG Emissions Management Plan". The adaptation theme is currently a priority as climate events and their effects become more frequent and more intense. Besides, at country level, private sector participation is critical for the full development of the National Adaptation Plan (PNA), currently being drafted to be launched in 2015 by the federal government. Results achieved by applying the methodology have been important for Climate Forum to define its focus for the work plan to be executed in 2015 regarding business practices.

Between the two years of application, Climate Forum shows improvement in its indicators, as shown in the table and chart below. Except for dimension “Communication”, all the others show companies with a higher score in 2014 as compared to 2012.

Dimensions of the Open Letter Commitments

	Year 1	Year 2
GOVERNANCE	2.3	2.6
GHG EMISSIONS MANAGEMENT	2.5	2.7
COMMUNICATION	2.6	2.6
VALUE CHAIN	2.5	2.8
SHARED RESPONSIBILITY	2.2	2.6
ANNUAL AVERAGE	2.4	2.7

Annual Monitoring of the Climate Forum Commitments



The methodology to apply the indicators also allows accessing data separately for each company. However, the main objective of this monitoring is not comparing Climate Forum companies, but to follow their improvement over time regarding their actions to face climate change. According to their reports, among themes and types of project implemented, the following stand out: energy efficiency, fuel switch, adaptation, value chain, use of low carbon materials / reduction in the use of materials, power plant retrofit, research and development (R&D), conservation / forestry actions, waste treatment, use of B20 in place of conventional diesel, and logistics optimization / more efficient fleet.

In the next chapter, we will present the report of each one of Climate Forum companies about their main climate change-related initiatives, going into some of these projects in more detail.

Companies'

best practices

Alcoa

The 2020-2030 Global Sustainability Strategy has become a guide for business and a way to integrate all sustainability aspects into Alcoa's operational routine. This model provides medium- and long-term greenhouse gas (GHG) reduction targets that go through frequent revisions – the most recent made in 2012 – to make sure they are always challenging. Based on 2005 figures, Alcoa's target is to reduce by 30% the total intensity of (direct and indirect) carbon dioxide equivalent (CO₂e) emissions in the Global Primary Products business by 2020 and 35% by 2030.

In 2012, the company reached a 24% reduction in emissions intensity (emissions by metric ton of product) in the Primary Products business unit (Refinery and Smelter) against the 30% target set for 2020.

Other advances include:

- PFC emissions (greenhouse gases emitted in the Smelting process) decreased by nearly 30% at Alumar as compared to the previous two years and by approximately 43% in Poços de Caldas against 2011;
- At Alumar, in partnership with Liquigás, the anode baking furnaces were converted from diesel to Flex Gas, a R\$ 30 million investment that will bring down emissions by nearly 12 thousand tons of carbon dioxide (CO₂);
- In the boilers and burners of Poços de Caldas, the oil fuel was replaced with natural gas, which ensured a reduction by 80 thousand tCO₂ a year and practically eliminated SO₂ (sulfur dioxide) emissions in bauxite refining.

In 2013, due to the rise in thermal sources in the National Integrated System, which also feed Alcoa's operations, there was an increase in the greenhouse gas emission factor due to electricity consumption as compared to the previous year. Even so, by comparing to base year 2005, Alcoa reached a 5% reduction in the intensity of emissions per metric ton of product in the Primary Products division (Refinery and Smelter). This result was obtained thanks to the efforts of workers and the improvement in production processes.

Energy is a critical input for Alcoa's business. Considering the limited availability of natural resources (such as water) and the impacts of fossil fuel use, it is necessary to find new technologies and sources of energy resources. The company has a share in four hydroelectric plants, which ensure the supply of 70% of the energy used in the production of aluminum. It also had a share in two consortiums of plants undergoing environmental licensing: Santa Isabel (on January 31, 2014 the decision of giving the Santa Isabel power plant back to the government was published in the *Official Gazette*) and Pai Querê.

In order to reduce production costs, Alcoa seeks to innovate in energy efficiency solutions. One example is the Poços de Caldas plant, which in 2013 cut down production to lower energy costs, but increased efficiency by redesigning the unit's casting furnace and replacing fossil fuel with natural gas. Overall, the natural gas project had R\$ 6.12 million in investments and estimated reduction of 6 thousand tons of CO₂e. In Tubarão, the company also replaced LPG (liquefied petroleum gas) in the plant's thermal treatment furnaces with piped natural gas, which is more efficient, more ecological and will extend the equipment's life cycle.

In its relationship with (internal and external) communities, it is worth mentioning the Save the Planet project, an initiative to mobilize society for conscious consumption by raising awareness about the power and impacts of consumers on natural resources in daily activities and giving tips on how to minimize these impacts, besides providing a carbon footprint calculator. The program was launched at Poços de Caldas unit and then to external stakeholders. Alcoa now seeks to promote awareness-raising activities for workers in the other units of the company in Brazil.

Andrade Gutierrez

With a strong presence in infrastructure development, Andrade Gutierrez's operations include the construction of highways, railways, subways, airports, irrigation, sanitation and hydroelectric works, ports and sports complexes, among others.

Since 1948, the number of engineering projects carried out in nearly 40 countries amount to 900. In 2013 there were changes in the business structure, with the creation of the Consulting Board and the independent operation of eight business units to better address each issue and/or location: Construction, Structured Business, Private E&C, Industrial, Energy, Brazil, Latin America and Europe, Africa & Asia.

In December 2013, a R\$ 32.9 bn backlog was reported, 11.2% up on 2012. The objective is to have more autonomy and quickness, leveraging quality and profitability of operations.

Andrade Gutierrez has a strong corporate culture based on 12 core principles and, in 2014, revised its Code of Ethics and Conduct so as to achieve more

solid growth and ensure its perpetuity in a responsible manner. The company supports sustainable use of natural resources and encourages its employees and partner to seek solutions for their activities with the lowest environmental impact.

The new corporate governance, aware of the gains and the importance of the emissions management theme for the continuity of business, ratified the company's commitments made in the *Open Letter to Brazil on Climate Change*.

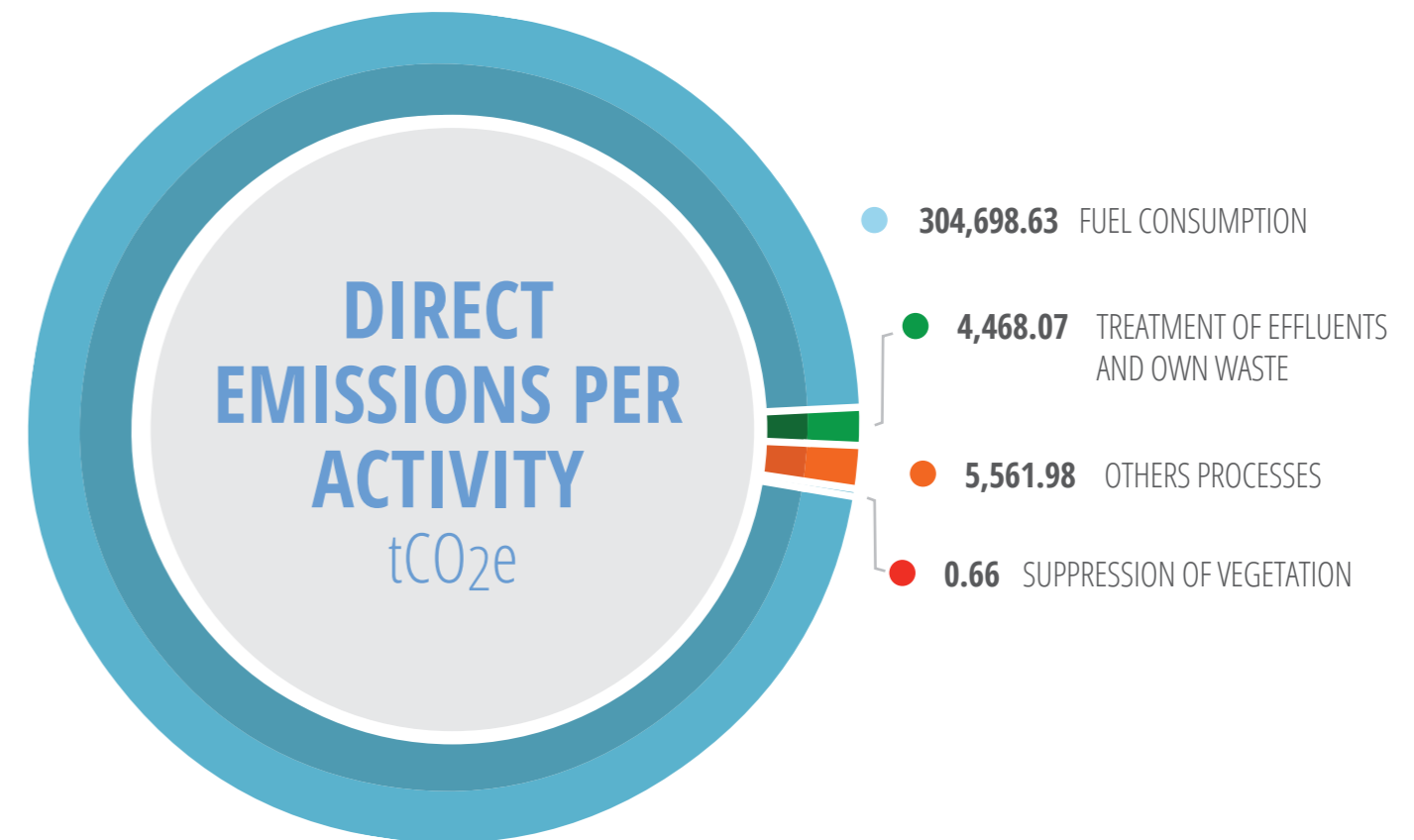
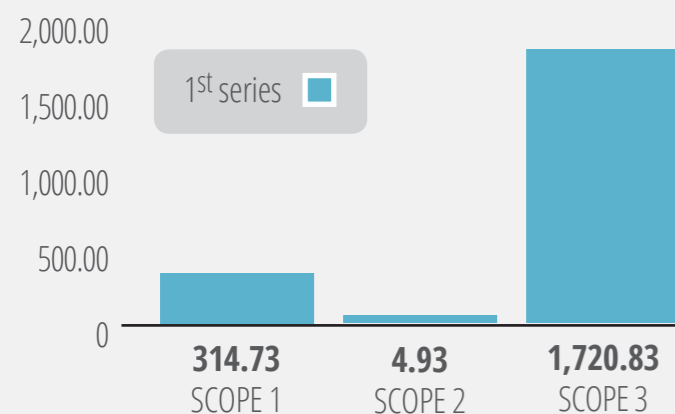
As for emissions accounting, the company kept the high reliability of reported information, taking into account that the GHG Inventory of AG's operations was awarded for the fourth time in a row the Brazilian GHG Protocol Program Gold Standard, a prize received in 2014 regarding 2013 emissions.

To keep the quality level achieved by the inventory, the company relies on an Integrated Management System, which allows for information control and traceability. In addition, Andrade Gutierrez has a system that integrates all input purchasing and application data and processes comprising the main emission sources of the inventory. The automated information, i.e., arising from computerized systems, total over 97% of all direct emissions of inventoried operations, which means more safety and reliability of reported information.

Since there are different types of works, with diversified activities, services and materials used, the construction sector has a valid exception when it comes to absolute GHG emissions regarding the heterogeneity of projects executed within the reporting period of the inventory. When inventoried, projects may be in different phases of execution – the mobilization, peak and demobilization, for example, are very different in the

EMISSIONS BY SCOPE

tCO₂e (thousand)



projects, which impacts on final results, once inventories are calculated on an annual basis, from January to December.

As far as the carbon footprint is concerned, an innovative program based on the lean production of the Toyota Production System is being implemented in all works of AG. Called Lean Construction, its implementation comprises the adoption of principles, behaviors and tools aimed at productivity improvement and value creation by waste reduction. By identifying and counteracting them in the various steps of the construction process, it is possible to eliminate unnecessary activities and revise processes that integrate the workflow and should be more productive. Consequently, there is a return on GHG emission reduc-

tion, improving the use of resources with the optimization of processes. All ongoing works of AG and new works are submitted to this concept of continuous improvement.

Besides these initiatives, in the 2013 cycle Andrade Gutierrez participated in the development and publication of the *Methodological Guide for GHG Emissions Inventory in the Construction Sector*, which represents a sectoral consolidation in the development of GHG inventories, with unified concepts and allowing for benchmarking among companies of the sector. There was also the participation in the simulation of carbon market Companies for Climate Platform (EPC) of the Center for Sustainability Studies – Getulio Vargas Foundation (GVCes).

Camargo Corrêa

Camargo Corrêa Group is one of the largest private business groups in Brazil, present in key economic sectors, such as: engineering & construction; cement; energy, transport & urban mobility concessions; shipbuilding & offshore; apparel and footwear, real estate development and denim. It operates in 20 Brazilian states and 22 countries. It ended 2013 with nearly 65 thousand employees and net revenues totaling R\$ 25.8 bn.

In 2009, Camargo Corrêa Group set its own Climate Agenda, comprising nine voluntary commitments that lead its companies to a low carbon economy, one of the key sustainability topics addressed by the group. These commitments establish the insertion of the carbon variable into strategic planning and management of each company; measurement and establishment of targets to reduce air emissions; rational use of resources and adoption of sustainable input; investment in reforestation; search for partnerships aimed at innovation; conscious consumption and influence over customers and suppliers to adopt sustainable practices.

Climate Agenda's nine guidelines are as follows:

- Including alternatives that minimize GHGs emissions and capture business opportunities in our strategic plan and in business and investment decisions;
- Continuously seeking the reduction of specific emissions (by unit of product) in our processes, products and services through the rationalization of resources and the use of sustainable inputs (energy and raw materials);
- Investing in carbon storage and reutilization initiatives;
- Conducting periodic inventories of emissions and disclosing their results, establishing reduction targets;
- Investing in reforestation activities and the use of sustainable forest resources and supporting actions for reducing deforestation and degradation, supporting standing forests;
- Participating in initiatives in partnership with civil society, research centers and public and private sectors that aim at sustainable innovation to overcome the challenges of mitigating and adapting to climate change;
- Increasing internal stakeholders' awareness to adopt conscious consumption, and training them to capture business opportunities and manage risks associated with climate change;
- Promoting the carbon variable in the value chain as a competitive edge in the purchase of inputs and sale of products and services, influencing clients and suppliers;
- Contributing towards the creation of legal frameworks and standards at the federal, state, municipal, sectoral and other levels.

In 2014, InterCement – the Group's cement holding – developed water management and pollutant emissions reduction plans for all its production units.

In addition, the company has targets to reduce CO₂, particulate matter, NO_x, SO_x, among other typical pollutants in this sector. For the third time in a row, InterCement was awarded the Brazilian GHG Protocol Program Gold Standard.

Construtora Camargo Corrêa, company that originated the group and operates in the heavy construction sector in Brazil and abroad, pioneered the Carbon Management Plan in the sector, which set the target of 37% GHG emissions reduction by 2020. In 2013, emissions decreased 13% compared to the previous year. Since the beginning of the plan, in 2009, the company has cut its CO₂ emissions by 500 thousand tons.

Also aiming at reducing emissions, the construction company develops its wood suppliers and implements a sustainable forest management model through a partnership with The Forest Trust (TFT), in charge of suppliers' capacity-building in activities related to forest management and environmental conservation.

CBMM

CBMM, based in Araxá (State of Minas Gerais), is a world leader in development, mining, manufacturing and sale of niobium-based products. With nearly 300 customers in 50 countries, CBMM develops applications for its products through technological partnerships with universities, research centers, direct customers and end users.

CBMM significantly influences the reduction in greenhouse gases emissions (GHG). Niobium use in the automotive industry results in lighter cars, which allow for reduction in emissions and fuel consumption. Niobium-containing steels used in pipelines, ships, bridges and buildings reduce by up to 60% the total amount of material needed. CBMM, for example, takes advantage of the use of dump trucks and metallic structures of buildings made of niobium micro-alloyed steels. In the gas transport industry, the niobium technology increases toughness in

steels for gas pipelines, resulting in higher safety and economy in associated operations. Additions of this metal to nickel superalloys result in greater power generation efficiency in land-based turbines and improved performance of aircraft turbines.

In 2013, the company joined the Brazilian GHG Protocol Program, making its inventory available for reference in the Public Registry. The calculations, whose base year is 2008, cover Scopes 1, 2 and 3*, that is, CBMM considers the emissions related to its production and its energy consumption, besides the emissions of its main service providers.

Indicators show that the company emitted 0.55 tCO₂e/t of niobium products (direct emissions) or 1.03 tCO₂e/t of niobium products (total emissions) in 2013. Approximately 25% of CBMM's emissions derive from biomass.

The company started in 2013 the operation of a new ore blending system. Stacking, blending and recapture of ores, which used to demand intense equipment handling, are now performed by electrically driven equipment, which will enable a reduction by nearly 3,000 tons of carbon dioxide equivalent per year, considering the current maximum capacity of the conveyor belt.

Soon CBMM will intensify in its industrial complex the use of electrically driven conveyor belts also to handle intermediate products. It intends to make other logistics improvements in the Industrial Park, besides replacing or reducing fossil fuels. Solar energy-driven electric scooters, for example, are already being used. Ongoing programs include encouragement of use of public transportation by employees, increased efficiency in the use of fuels and use of charcoal in the Sintering II Unit.

DIRECT AND INDIRECT GHG EMISSIONS BY SOURCE IN 2013

tCO₂e

DIRECT EMISSIONS: ELECTRICITY, HEAT OR STEAM GENERATION	27,256
HANDLING OF MATERIALS, PRODUCTS AND WASTE	13,368
INDIRECT EMISSIONS	35,860
TOTAL EMISSIONS (DIRECT + INDIRECT)	76,754
NEUTRAL EMISSIONS (FROM RENEWABLE SOURCES)	27,396

*Scope 1: direct emissions; Scope 2: indirect emissions from purchased power; Scope 3: indirect GHG emissions from outsourced services (business travel/commuting, handling of products and raw materials, in addition to specific emissions from regular waste).

CPFL ENERGIA

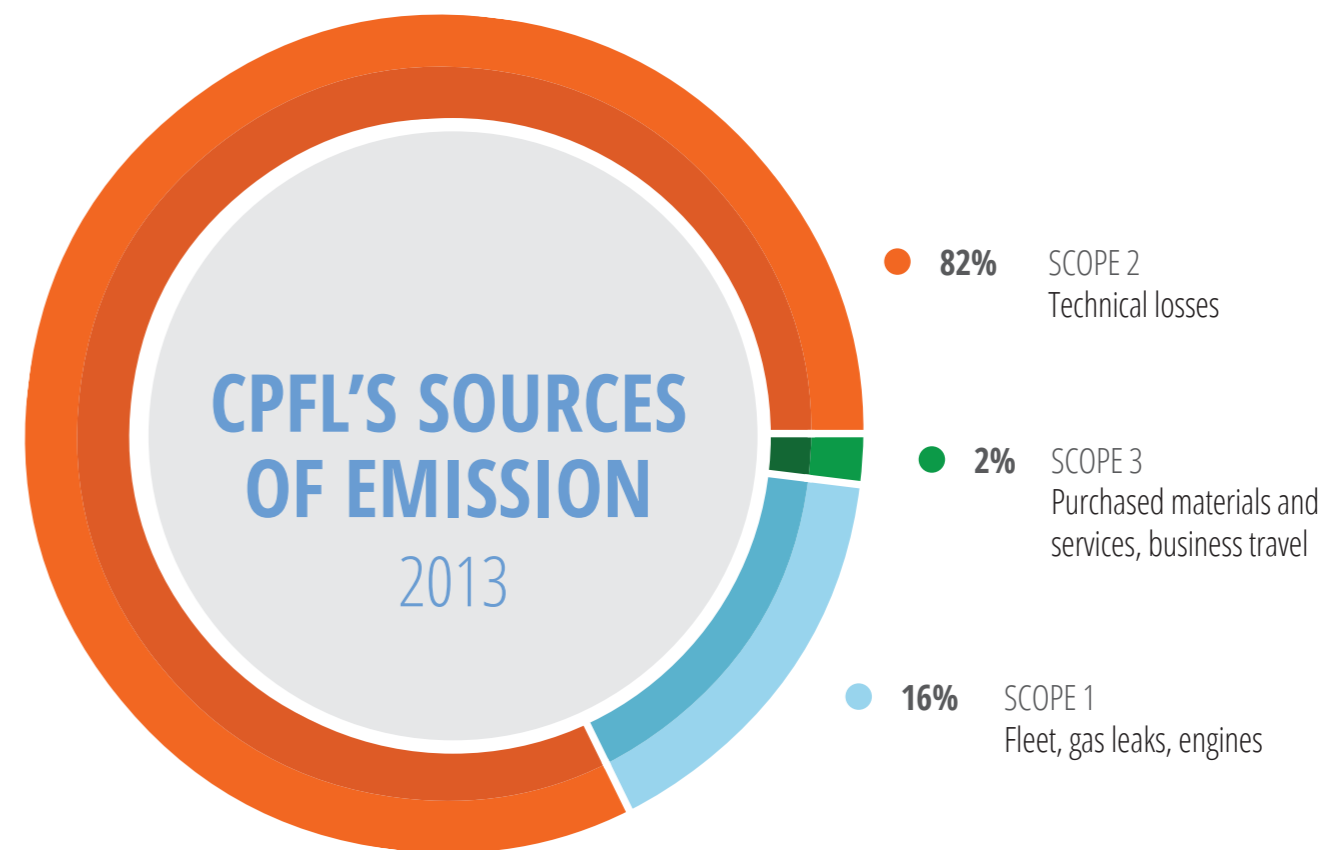
With its head office in the City of Campinas, State of São Paulo, and over 100 years of history, the holding CPFL Energia operates through its subsidiaries in the business of generation, distribution and sale of electric power and added value services in Brazil both in the free and regulated markets. In 2013, it opened up CPFL Telecom, offering broad fiber optical structure to telephone carriers for data transmission. The group's companies have nearly 8 thousand employees and supply energy to nearly 8 million consumers.

CPFL Energia's mission is to provide sustainable energy solutions with excellence and competitiveness, operating in an integrated manner with the community. In 2013, the company invested in several actions aligned with its commitment to integrating good practices into its daily activities, joining development and environmental responsibility. Among the initiatives implemented, the following can be highlighted:

- Development of the Sustainability Platform, which allowed the definition of material themes for its growth strategy and their respective goals and indicators for all business units. The Platform consolidation process pervades the company, including sustainability not only in its principles and values, but also in its strategic planning as a value driver.
- Performance of the Sustainability Committee, responsible for incorporating the sustainability theme into the business strategy, besides monitoring sustainability practices and performance within the group's companies.
- Growth strategy based on renewable resources, focused on technological alternatives that provide lower risk to the business and greater opportunities to contribute to a low carbon economy. The company has a 58.8% share in CPFL

Renováveis, leader in the Brazilian sector of generation from renewable sources – wind farms, small hydroelectric power plants (PCHs), solar energy and biomass. Investments made allowed CPFL Renováveis to close 2013 with 1,284 MW distributed among four sources: PCHs (327 MW), wind (586 MW), biomass (370 MW) and solar (1 MW). Moreover, 503 MW of additional wind source is under construction.

- Consolidation of the Transformation Program, based on the pillars of valuing people, continuous search for excellence, adoption of best management and governance practices, and sustainable value creation.
- Development of the Conscious Consumption Program, including awareness-raising initiatives for employees at the head office and regional offices, aimed at reducing energy consumption by 34% and monitoring water consumption. As a result, there was a reduction by 26% and 14% in water and energy consumption, respectively.
- Reduction by nearly 25% in the use of materials such as concrete lamp posts, cables and meters, recovery of 19% of meters and of 37% of transformers, reducing the use of new materials and waste generation at the group's distributors.
- Investment of R\$ 29.5 million in technological and scientific R&D projects, of which R\$ 11.5 million aimed at renewable sources of electric power generation.
- Tauron Program, a smart grid initiative aimed at reducing the events in the electricity grid and the time to serve customers in case of power outage, besides op-



timizing the service logistics. This R\$ 215 million program will, by the end of 2014, have installed 25 thousand intelligent meters in Group A consumer units (major energy consumers), aimed at services automation, remote management, consumer interface, interruptions management, income protection and cost reduction.

- Emissions inventories of all companies of the group since 2008, according to the GHG Protocol methodology. In 2013, CPFL Energia reached the GHG Gold Standard and, since then has adopted GHG reduction targets:
- Scope 1 – The target is to reduce, by the end of 2016 1.4% GHG emissions per MWh (in tCO₂e/MWh), taking 2012 as baseline, also assuming, intermediate annual reduction targets for 2013, 2014 and 2015, of 0.35%, 0.70% and 1.05%, respectively;

- Scope 2 – The target is to reduce the technical loss/distributed energy ratio by 0.47%, thus decreasing GHG indirect emissions related to technical loss per MWh distributed (in tCO₂e/MWh) by the end of 2013, taking 2012 as baseline.

- Recognition by the Carbon Disclosure Program (CDP) as one of the top ten companies in transparency about GHG emissions and best Utilities company among 100 Brazilian organizations assessed.

It is worth mentioning, however, that 2013 was particularly tough for the electric sector, due to unfavorable hydrologic events and the continuous use of thermoelectric plants, which increased by 46.97% the emission factor of the National Integrated System (SIN).

CSN

Concerned with global trends and climate change-related risks, CSN has developed several activities and initiatives on the theme. The company believes that in order to ensure business sustainability, this process must move on by identifying vulnerabilities, assessing risks and planning actions to manage potential impacts derived from climate change.

Since 2010, the company has been compiling an inventory of its greenhouse gas emissions in all Brazilian units, including steel making, mining, logistics and cement based on GHG Protocol criteria. From these inventories, it was able to identify not only its emissions' sources and intensity but also its exposure to climate change-related risks and opportunities. The company has used this data in sustainable management, including policies and procedures aimed at maximizing opportunities and improving processes, thus reducing emissions.

Currently, CSN also answers CDP's questionnaires on water, climate change and supply chain, and discloses information on management and governance, risks and opportunities, as well as strategies, targets and reductions related to these themes.

It is also worth noting the company's contribution to the development of sector-specific policies and plans through the participation in associations, technical committees, discussion forums and public consultations, such as CNI, Fiesp, IABr, WSA, Alacero, GVces and Ethos Institute's Climate Forum. In Rio de Janeiro, for

instance, CSN partnered with the State government in the study of potential GHG reductions at the Presidente Vargas Plant (UPV) aimed at the creation of a State carbon market.

In the Global Sustainability Program developed by FGV's Center for Sustainability Studies (GVces), the company is working on a pilot project aimed at assessing climate change risks and impacts and devising the necessary plans to minimize risks and maximize opportunities. It is important to integrate climate change into CSN's risk management process to ensure its impacts are assessed and duly taken care of in all its units. In this first stage, an adaptation strategy is being assessed and developed so that its most important steel making unit – Presidente Vargas Plant, located in Volta Redonda (RJ) – be prepared to manage risks derived from climate change and from the increase in the demand for public water supply, aimed at keeping its industrial operations harmonized with other uses of the Paraíba do Sul River Basin.

In addition, the company participates in two consortiums for hydroelectric energy production, the Igarapava and Itá Plants, which produce approximately 1.62 million MWh/year of 'carbon neutral' electricity. This energy, consumed in the company's operations, results in reduced carbon footprint for our customers. Another measure aimed at carbon footprint reduction is the use at the Presidente Vargas Plant of byproducts for tar and solvent production at the carbochemical plant and the use of blast furnace slags for cement production.

In 2013, nearly 45% of CSN's energy consumption derived from renewable sources (including Itá and Igarapava Hydroelectric Power Plants) and 55% from the company's central thermoelectric plant, located at the Presidente Vargas Plant, where process gases are reused, thus reducing fossil fuel or electricity grid consumption.

Another initiative showing the company's concern about climate change was the development of the Value Program, a partnership between the commercial and industrial production areas aimed at customers. CSN's technical staff visits these companies and raises their needs for differentiated raw materials or new products, draws a strategic plan and presents innovative solutions always taking into account environmental and social aspects and impacts which are becoming an edge to major companies in the global market. Customer loyalty is key in a market where the company sold 6.1 million tons of steel in 2013 alone.

In addition, CSN invests in energy efficiency and R&D projects, which indirectly impact on GHG emissions mitigation, and is considering investing in clean technologies. Furthermore, the company is engaged with its customers in supplying products in line with energy efficiency objectives, such as special steels for electric engines, which increase energy efficiency in refrigerators and washing machines.

At the Presidente Vargas Plant, for example, projects based on energy efficiency studies have been developed and also enabled GHG emissions reduction. Another project, in partnership with a customer from the automotive sector, resulted in lighter steel (*Dual Phase Steel*), which reduced GHG emissions in the product use phase.

Another front where CSN is engaged in is fostering innovation among its employees, mainly during the Technological Seminar (Setec). Projects developed and presented must show improved productivity, energy efficiency, safety, environmental concern and quality. They may result, directly or indirectly, in raw materials and energy savings, thus bringing reduction in the GHG emissions rate for the unit.

Finally, it is important to highlight the CSN Sustainability Council, created to devise strategies, foster discussion, plan and assess the company's performance regarding social, environmental and economic issues, including climate change-related ones. The Council evaluates new projects, issues opinions and counts on the participation of the Chairman of the Board of Directors, Benjamin Steinbruch, besides experts Fabio Feldmann, Beto Veríssimo, Ricardo Abramovay and Tasso Azevedo.

Natura

Since 2007, Natura has been a carbon neutral company. This means that all greenhouse gases (GHG) emitted in the manufacture of our products, including throughout the value chain, are offset. The company has also publicly committed to a 33% reduction in its relative emissions between 2006 and 2013. As reported in the last publication, by the end of 2011 it had reached a 25.4% reduction. By the end of 2013, the company had superseded the target set, with a 33.2% reduction in CO₂ relative emissions in the atmosphere.

In 2006, for each kilogram of product billed by Natura, an equivalent to 4.18 kg of CO₂ was emitted. In 2013, this rate dropped by 33.2%, reaching 2.79 kg of CO₂e/kg of billed product. Therefore, the company fulfilled its public commitment

taking into account the product life-cycle – from the extraction of raw materials used in manufacturing to final product disposal. This is an example of how an environmental challenge can be met when sustainability is a strategic driver and when environmental themes are considered in the company's decision-making process.

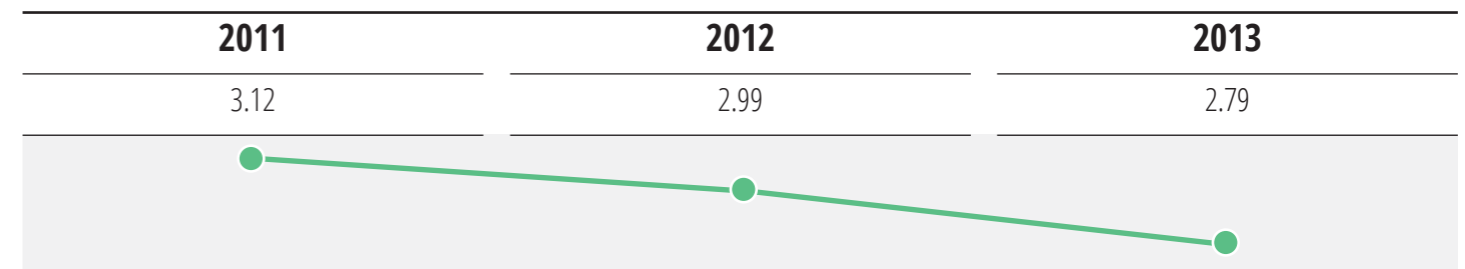
Several improvements made throughout the business chain currently pervade all processes to develop, sell and distribute products. As for products, Natura has increased the green rate of formulations and reduced both the amount and the environmental impact of their packaging by using recycled PET and biopolymers such as green PE. In addition, the conventional alcohol used in its toiletry has been replaced by organic alcohol.

GHG EMISSIONS by Scope (based on GHG Protocol)

	Un.	2011	2012	2013
Direct GHG emissions (Scope 1) ¹	t	6,062	3,435	2,164
Direct biogenic emissions (from burning or biodegradation of biomass)		3,512	6,762	9,318
Indirect GHG and energy emissions (Scope 2) ²		1,865	3,426	5,374
Other indirect GHG emissions (Scope 3) ³		257,089	273,170	305,580
Indirect biogenic CO₂ emissions in metric tons of CO₂		5,344	8,387	10,389
Total		265,015	280,031 ⁴	313,119

¹ Source: Intergovernmental Panel on Climate Change (IPCC). ² Source: Brazilian energy grid factor: Ministry of Science and Technology - and IO countries' electrical power grid factor: US Energy. ³ Source: Intergovernmental Panel on Climate Change (IPCC). ⁴ The absolute emissions for 2012 published in the last annual report was 280,209 tCO₂e. Due to the alteration of the SIN (Sistema Interligado Nacional) emission factor in November 2012 (from 0.1636 to 0.1247 tCO₂e/MWh), this indicator was altered to 280,031 tCO₂e.

RELATIVE EMISSIONS (KG CO₂E/KG PRODUCT INVOICED) AND EMISSIONS INTENSITY



On the logistics side, the company has implemented important actions. By opening new distribution centers, it decentralized the separation of consultants' orders, thus reducing delivery time and GHG emissions through the optimization of road transportation. In order to supply the international operations carried out in the main Latin America countries, Natura encouraged the sea transportation. As a result of international expansion, it started counting on larger local production and stopped importing part of the production from Brazil. It has also replaced all the car fleet of the sales force and since 2012 has provided a card that limits fuel consumption to ethanol for hybrid cars.

Among other sustainable initiatives, there is the smaller size of boxes for product distribution, which allows more room in cars and trucks; reducing by 6% the Natura magazine paper use, and replacing PLG with ethanol in the plant boiler in Cajamar (SP), which will also be done in the Eco-park, in Benevides (PA).

To offset the 2013 emissions, Natura bought for the first time indigenous carbon credits from the Suruí Forest Carbon Project. The project promotes the maintenance of carbon present in the

standing forest, being the first in the world to be classified as REDD+ in indigenous lands. In addition to forest conservation, the community work generates income with the sale of credits. The plan aims to improve the quality of life of indigenous people and improve Forest conservation and management practices.

Natura continues to pursue significant CO₂ emissions reductions throughout its value chain (Scopes 1, 2 and 3). Its ambition for 2020 is reducing over 33% relative carbon emissions (as compared to 2012). Therefore, Natura renews its commitment to the environment, seeking to influence even its relationship and partnership networks in the transformations desired by society as a whole to guarantee its future as well as that of future generations. All the company's initiatives assert its determination to participate in the construction of a more sustainable world through concrete actions to reduce and offset its emissions, which are also improvement and reflection drivers towards a new economic development model from the understanding that challenges must be faced in order to adjust the business so as to guarantee its perpetuity as well as the planet's life and resources.

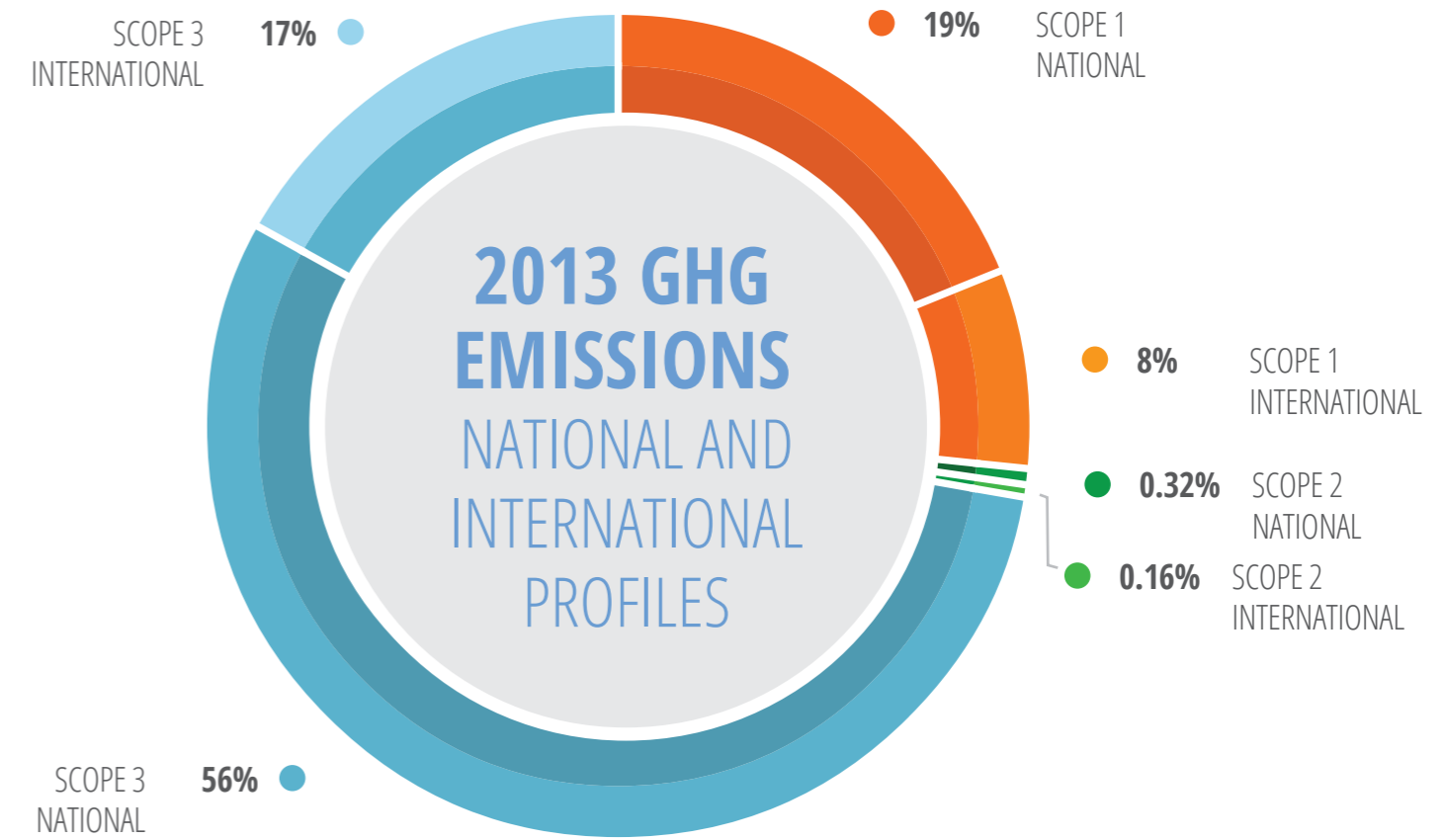
OAS

Operating since 1976 in the engineering and infrastructure sector, OAS is today a Brazilian privately owned multinational conglomerate, which gathers companies both in Brazil and in approximately 20 countries, totaling around 100 thousand employees. OAS Engenharia S.A. is in charge of the heavy construction works in the public and private sectors such as roads, airports, hydroelectric plants, dams and ports; OAS Investimentos S.A. is in charge of investments in infrastructure, sanitation, multiple-use stadiums, oil, gas, urban roads concessions, highways, subways and airports.

OAS believes in meeting challenges to build an edge and set a benchmark in its sector, consolidating its brand as a sustainable company. With respect to climate change issues, since signing the *Open Letter to Brazil on Climate Change* in

2009, its strategic planning has involved actions to identify opportunities that can effectively reduce greenhouse gas (GHG) emissions. Such actions include development of GHG inventories in all units, research and internal diagnosis of actions carried out in the worksites, as well as assessment of solutions and technologies available in the market.

After five years of measurement, OAS's emission profile shows the need to reduce fuel consumption, which accounts for 73.50% of the company's emissions for Scope 1 and 8.76% for Scope 3. For this end, the Equipment Department has an online system to monitor efficiency and performance standards of its fleet and seeks technologies and equipment to support this reduction.



The refitting of the heavy equipment park decreased by 20% equipment average age, from 2011 to 2013, bringing fuel consumption reduction down by 10% - 15%. In addition, fleet renewal guarantees far better performance regarding GHG emissions. As of 2009, despite an almost 100% increase in the equipment park, there has been an average reduction in the emission of pollutants by 60%.

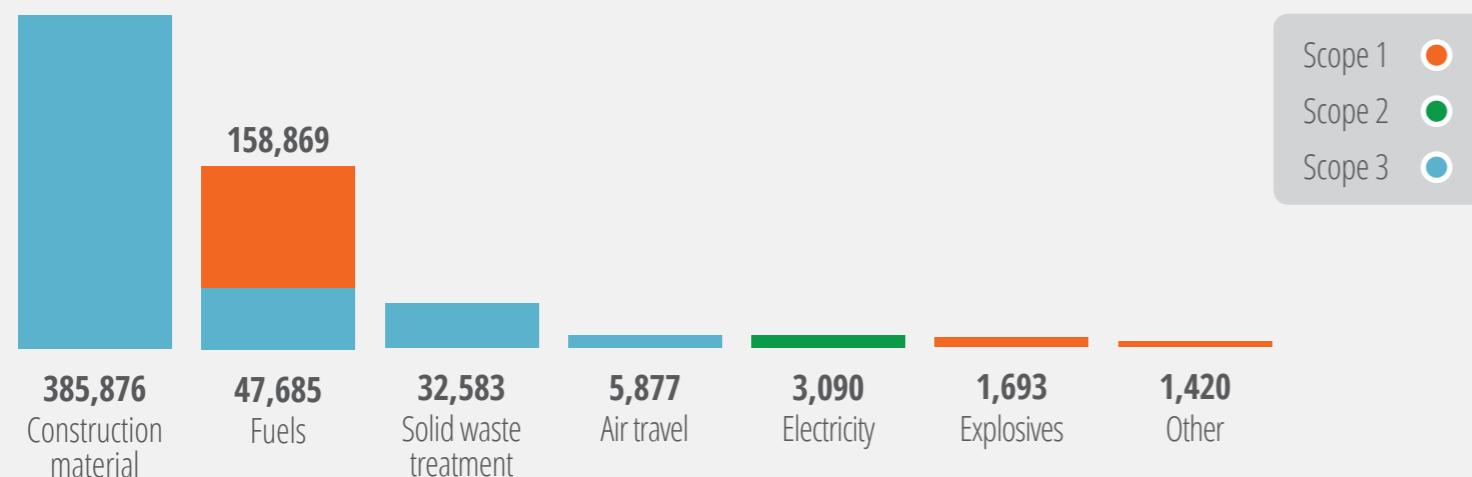
Voluntary sustainable actions implemented until 2011 in all worksites of the company, among other actions, became part of the corporate guidelines in 2012, with the creation of the Sustainable Worksite Manual, which takes into account concepts of reuse, natural resources consumption reduction and energy efficiency. Likewise, the corporate indicator "Sustainable Actions in Worksites" has the target since 2012 of implementing one new sustainable action per half year in each worksite. In this way, sustainable solutions have been systemically incorporated in OAS's worksites. Between 2012 and 2013, the following results can be highlighted:

- 560 sustainable actions implemented;
- 173 actions considered significant and comprehensive;
- 50% of actions were related to solid waste reuse;
- 30% of actions were related to water reuse and water consumption reduction;
- 10% of actions were related to purchase of sustainable inputs;
- Total of 6,382 tCO₂e avoided emissions in 2013.

As concepts and actions aimed at emissions reduction become more internalized, worksite teams are currently testing new alternatives and possibilities, besides forecasting and projecting emissions trends from adopted solutions. In this way, in 2014 the OAS worksites inventory started being calculated and validated monthly through a tool used by the units to inform their consumption and visualize their emissions. This data allows assessing the worksite emissions trend, besides making simulations such as emissions reductions through fossil fuel switch, for instance.

GHG EMISSIONS BY SOURCES IN 2012

tCO₂e



Odebrecht

In 2014, Odebrecht carried out its fourth annual greenhouse gas (GHG) inventory in the engineering and construction operations regarding 2013. 165 worksites were included, throughout 17 countries in four continents, following the Methodological Guide for GHG Emissions Inventory in the Construction Sector, developed by the Climate Forum Engineering and Construction Working Group.

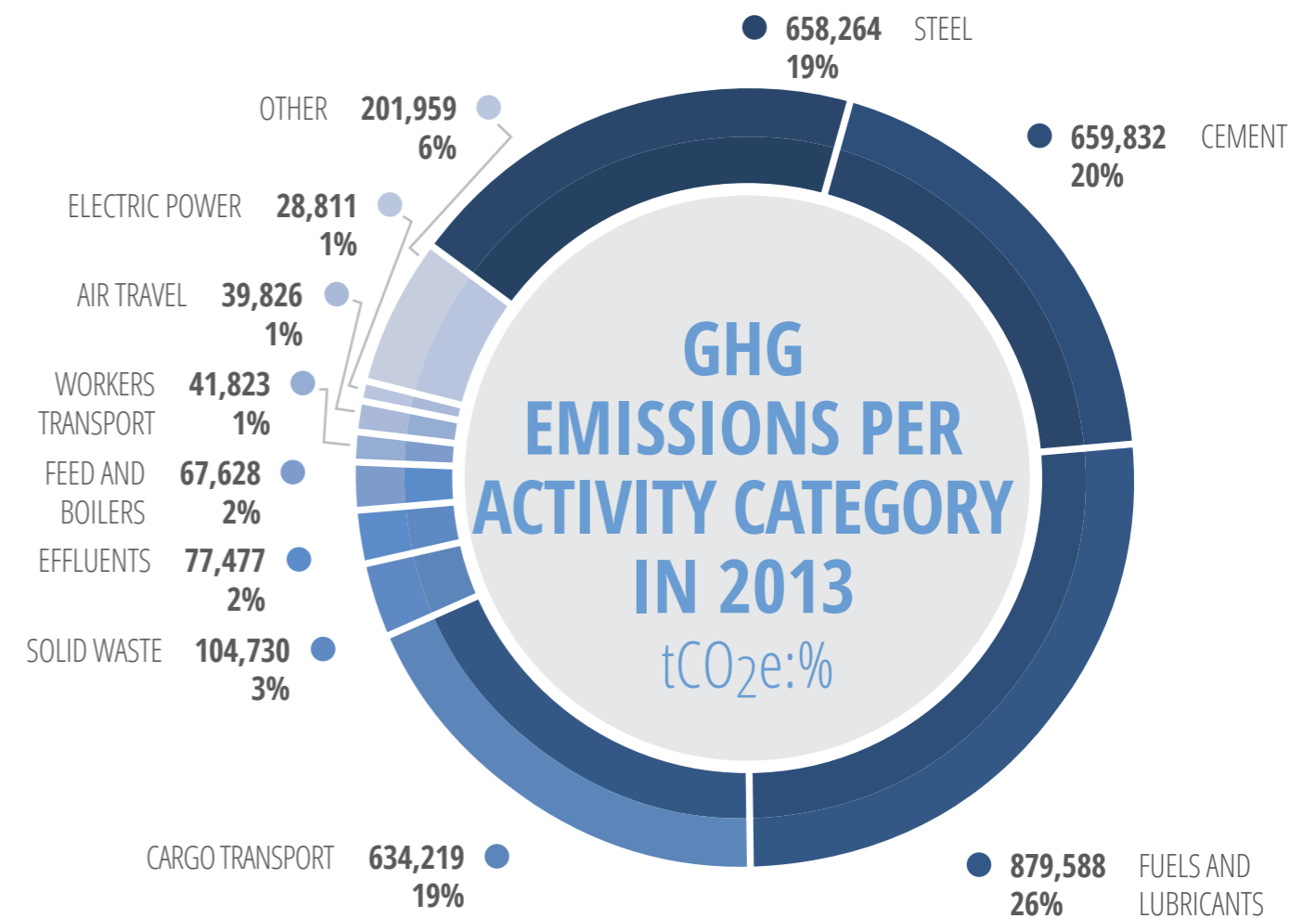
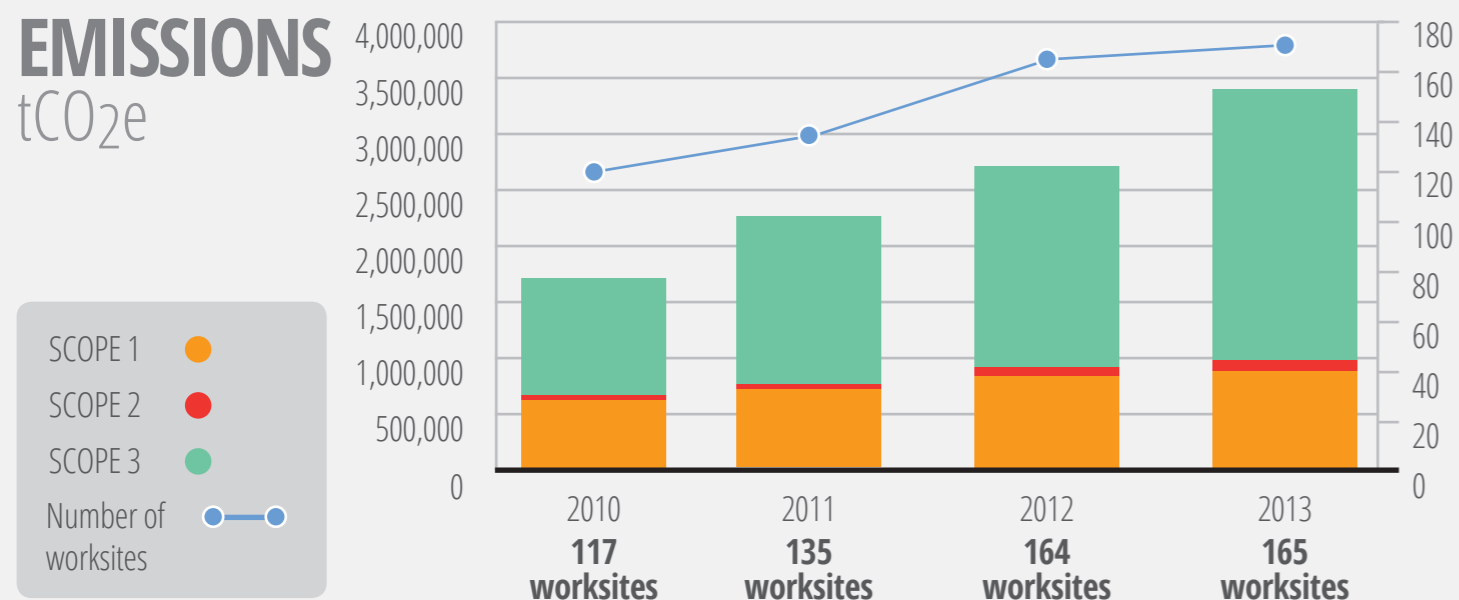
Since 2010, Odebrecht has developed and published 580 annual inventories. The Development Bank of Latin America (CAF) and International Finance Corporation (ICF) has recognized the company as benchmark within the engineering sector regarding inventories development.

Also in 2014, the first verification of all working sites in Brazil was made by an independent third party, through which the Brazilian GHG Protocol Program Gold Standard was received. A good inventory is very important so the company can monitor and guide its actions aimed at control-

ling and reducing emissions intensity. The target is a 25% reduction in the emissions/billing ratio by 2020, taking 2010 as baseline.

The inventory results follow previous years' pattern, confirming the importance of fuel consumption in the company's emissions profile, which accounts for 80% of direct emissions and 26% of total emissions.

In view of these results, Odebrecht strengthened its strategy aimed at improving fuel consumption at its worksites and reducing its carbon footprint. In order to minimize the impact of fossil fuel emissions, a project was put into practice in 2013 to encourage the increase of biofuel consumption in worksites aimed at reducing Scope 1 GHG emissions and reviewing equipment efficiency and performance. The Project is a partnership between Odebrecht Infraestrutura, MAN-Volkswagen, Parker, Ipiranga, CTA Technology and the State University of Rio de Janeiro.



The objective is to assess trucks' performance using B20 instead of the conventional diesel used in the country (B5). The methodology in place assesses six pieces of equipment, four of which fueled by B20 and two by B5. Several variables are being periodically monitored including fuel consumption.

Results so far show that replacing B5 with B20 accounts for over 15% reduction in direct emissions, with no operating or maintenance disad-

vantage. Improved efficiency was also shown in the consumption of equipment fueled by B20. Tests were made in different operating conditions so as to obtain a more accurate picture of opportunities and challenges in a larger scale use of such replacement.

In 2013, Odebrecht registered four Clean Development Mechanism (CDM) projects, totaling 6 million tons of CO₂e per year in potential emission reductions.

Polimix

In the market for almost 40 years, Polimix Concreto is one of the largest concrete services providers in Brazil. It has over 200 plants in Brazil – fixed and mobile – besides another 18 in Latin America (Argentina, Bolivia, Peru, Panamá and Colombia) with capacity to supply 8.8 million cubic meters of concrete per year. With a workforce of 3,800 employees, 2,200 pieces of equipment and a state-of-the-art technology laboratory, Polimix supplies all types of concrete to small, medium and large construction works, always seeking to contribute to the economic, social and environmental development of the communities where it operates.

Social and environmental actions are planned by the Social and Environmental Responsibility area, which offers guidance in goal-setting and has been in charge of the annual greenhouse gas (GHG) inventory since 2009. This information gathering process allows for deep knowledge

of processes that generate emissions and sets standards for improvement. 100% of the Brazilian plants, the parent company and their respective machinery are listed in the inventory.

One of the environmental goals set in Polimix Concreto's strategic planning is the annual fleet renewal. In the past five years, the acquisition of new machinery achieved 80% of the fleet – and 100% is expected by 2015.

Aimed at minimizing the emission of pollutant gases, Polimix Concreto regularly improves its operating and machinery maintenance procedures. Annual training sessions are held with 100% attendance of employees, always together with their leaders, who review the machinery's internal controls and check the fulfillment of preventive actions and goals. Operators who meet the goals set, such as reduction in diesel consumption, receive a half-year profit sharing bonus.

Campaigns aimed at the workforce are periodically carried out through training and newsletters addressing environmental themes such as the use of biofuel in vehicles, energy consumption reduction and conscious water consumption. All actions aim at getting employees to disseminate these themes beyond the organization's boundaries.

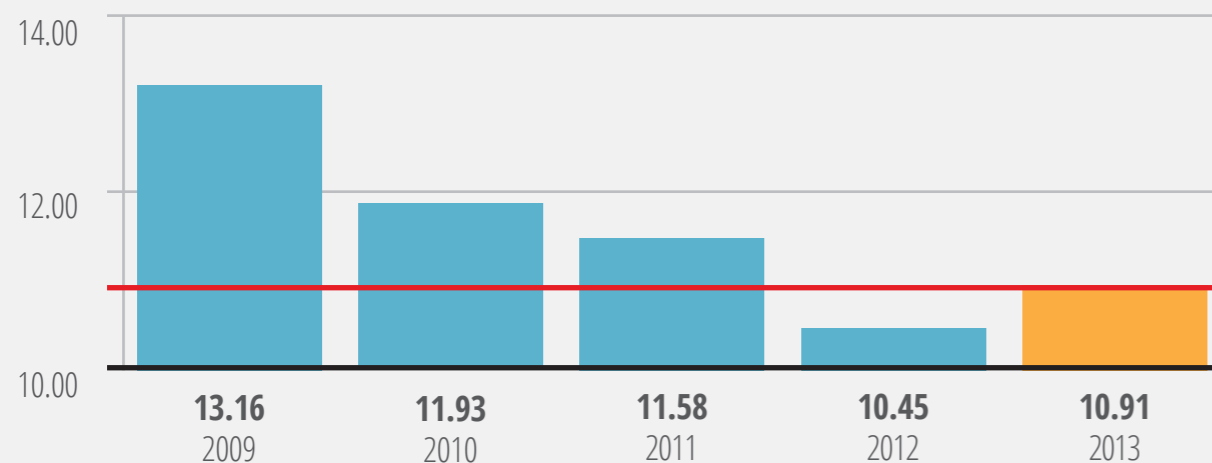
In the green areas planting target, two projects can be highlighted: the Cerca Viva Project, which cultivates green areas in the units' surroundings; and the Viveiro Project, developed in Santana de Parnaíba (SP), with production of fruit trees, Rain Forest native vegetation, *Mimosa caesalpiniaefoli* and flowering trees aimed at environmental offsetting, supplementing protection areas and donation to the community.

Other companies within the Polimix Group also play their role. It is the case of Mizu Cimentos, where out of the 2.6 million tons produced in 2013, around 900 thousand came from adding slags, which dramatically dropped pollutant air emissions, thus contributing to mitigating GHG emissions.

The positive results of such actions have inspired the Polimix to invest in other businesses in the renewable energy area, such as ethanol plants, small hydroelectric plants and wind farms. Projects underway already produce 50 million liters of ethanol per harvest and 54.5 MW/hour of clean energy, with plans for expansion in the coming years.

GHG EMISSIONS*

Kg CO₂e/m³



* Despite the fact that emissions increased in 2013 (being investigated by Polimix), total emissions are 6% smaller compared to average for the last 5 years.

Samarco

Since Samarco submitted its first greenhouse gas (GHG) inventory in 2007, the company has sought to be proactive in issues related to climate change by identifying the main sources of emission and, above all, the opportunities for reduction of these sources.

In 2014, the company completed the first totally carbon neutral expansion Project in Brazil – the Fourth Pellet Project (www.p4psamarco.com). The GHG balance during the construction phase (estimated in 150 thousand tons of CO₂e) was equal to or below zero.

Besides implementing the Lean Six Sigma projects – aimed at reducing the use of GHG-related inputs, such as amine and diesel oil, Samarco replaced LFP oil with natural gas in the pellets production. In this way, specific emissions have decreased by 10% since 2010.

Through agreements with G Ambiental, Amda and Instituto Terra, Samarco funded the planting of rubber trees in Guarapari (ES), the recovery of 15 hectares in the State Park Serra do Rola Moça, in Brumadinho (MG), and of 140 hectares of rain forest in Aimorés (MG). It has

also invested R\$ 1.7 million in neutralizing carbon emissions and R\$ 250 million in environmental actions during its expansion project.

Samarco discloses its GHG emissions in the Brazilian GHG Protocol Program in line with companies of several sectors who disclose their emissions in initiatives such as the Brazilian GHG Protocol Program and the Carbon Disclosure Project (CDP).

Since 2012, the company has also been working to consolidate the inventory of its entire supply chain, from suppliers to customers' premises. For this purpose, we have adopted the new GHG Protocol tools to factor Scope 3 emissions. Based on the information gathered in this study, we have been able to influence the development of the theme throughout the production chain in the places where emissions are really relevant.

Through these and other activities already completed, Samarco Mineração shows its belief that companies should take voluntary actions to mitigate climate change.

Santander

Santander Brazil is the third largest private bank within the National Financial System, with assets totaling R\$ 485.9 bn and 29 million clients. With around 50 thousand employees, the bank comprises approximately 3.5 thousand branches and service centers (PABs) and 17 thousand self-service banking units, scattered countrywide.

Santander's sustainability strategy has three axes: Social and Financial Inclusion; Education; and Sustainable Business. In 2013, the organization made and consolidated major advances in these three themes. It reached over R\$ 2 bn in microcredit granting; it superseded 47 thousand scholarships through Santander Universidades; it allocated around R\$ 2 bn in socioenvironmental funding. These results made Santander receive, in 2013, the FT/IFC Awards – at that time the highest global recognition for sustainability practices in the financial services sector.

The bank prioritizes critical themes in the country's development agenda and integrates sustainability into business in virtually all its activities. From the understanding that climate change is one of the major global challenges for society and, therefore, for large corporations,

since 2010 Santander has chosen low carbon economy as one of its sustainability focuses. Among the main advances is the adoption of a climate governance model based on five pillars: inventory, reduction, offsetting, carbon business and alliance building, and transparency.

Since 2008, the bank has made a full emissions inventory according to the Brazilian GHG Protocol Program. This tool has helped pursuing the Group's global target of a 20% emissions reduction by 2015, taking 2011 as baseline.

From 2009 to 2013, Santander offset its Scope 1 and 2 emissions by native trees reforestation and, as of 2014, aiming to strengthen the environmental assets market in Brazil, started buying carbon credits in the voluntary market. For this end, a methodology was developed to select projects based on sustainability criteria that "go beyond carbon".

Also in 2014, Santander invested to engage society on climate change issues. Through the Reduce and Offset CO₂ Program, an online platform was developed to calculate and offset individual emissions by using the same methodology and projects adopted by the bank.

By linking its business to the theme, Santander offers products and services that support the transition to a low carbon economy, including credit lines and socioenvironmental investments, besides management of funds that invest in projects that promote emissions reductions, such as renewable sources of energy.

Managed by Santander Financiamentos, the Reduce and Offset Program has benefited 370 thousand clients that took out a car loan at Santander and had the bank's support to offset CO₂ emissions regarding the first thousand kilometers. In 2013, the aggregate of Santander's institutional offsetting plus the cars initiative totaled 104 thousand tons of carbon.

All these actions are described in the BM&FBovespa's Efficient Carbon Index (ICO₂), in the Santander Annual Report, in the Carbon Disclosure Project (CDP), and in the Brazilian GHG Protocol Program Registry of Emissions.

Vale

Greenhouse gas emissions (GHG) reduction remains a priority in Vale's sustainability agenda, implemented by the Vale Carbon Target, whose commitment is to reduce by 5% the company's estimated emissions for 2020. For its fulfillment, energy management is fundamental, mainly the Sustainability Action Plan (PAS), which defines reduction targets for fuel and electricity consumption in the operations. Vale also counts on the support of operating areas and their research centers in the search for innovative solutions, such as carbon capture and diversification of the energy matrix from renewable sources.

Nowadays, Vale is the mining company with the lowest emission intensity per gross revenue in the market, mostly because its operation sites are located in countries with predominantly renewable energy matrix and to the quality of its mineral reserves. Leader in carbon management transparency, it was included in the Climate Disclosure Leadership Index (CDLI) for the fourth time and for the fourth year in a row, Vale's Greenhouse Gas Emissions Inventory was awarded the Brazilian GHG Protocol Program Gold Standard.

Ensuring energy supply to its operations is one of Vale's priorities and the energy self-production reaches 60%, mainly from renewable sources, energy efficiency and technology. In 2013, investments allocated to renewable energy projects totaled US\$ 196.9 million, broken down into biomass, wind farms, solar and water energy; and investments in energy efficiency projects totaled US\$ 2.3 million, including engineering services in operations and capital projects.

Out of the 27 projects identified in company's portfolio, the seven most attractive ones were prioritized. Together, they account for expected annual savings of US\$ 2 million, reduc-

ing annual diesel consumption by 1.7 million liters and electricity consumption by 7 thousand MWh, equivalent to the consumption of approximately 45 thousand households. The projects also contribute to reducing GHG emissions by around 5.2 thousand tCO₂e (4.5 thousand tCO₂e of direct emissions and 670 tCO₂e of indirect emissions).

In the coal mine Integra Underground Coal, in Australia, a carbon capture project resulted in a 100 thousand tCO₂e decrease. The initiative is similar to that in place in Carborough Downs, in the same country, where methane from the coal mine is drained and burned. Other actions have been implemented in the Voisey's Bay, Clydach, and Integra Underground units, and in the Minas Centrais, Mariana and Carajás Complexes. Most of them are related to specific consumption reduction in equipment used in operations, replacement with more efficient models, decrease in average transport distances (DMT) for ore and improvement in maintenance activities. As a result, fuel savings and a reduction by around 20 thousand tCO₂e of GHG were achieved.

Considering all reduction initiatives and energy efficiency projects, it was possible to decrease the emissions volume in 2013 by 1.1 million tCO₂e.

Vale also seeks to influence suppliers in climate change-related themes. Since 2011, 182 suppliers were engaged in training on GHG inventories. Aiming to share good practices and discuss challenges, Vale held the Second Forum on GHG Management for suppliers. It also included in its standard agreement a voluntary provision about disclosure of emissions inventories.

Regarding R&D, the Vale Institute of Technology (ITV) invests in several climate change-related research projects including: impacts of

climate change on rainfall which affect operations in Eastern Amazon and in the Southeast Region; climate change forecast; characterization of seasonal rain regime in operation areas located in the North and Southeast Regions; mapping of carbon stocks in the Amazon Forest and measuring carbon flow in the ocean.

Vale protects or helps protect 12.4 thousand km² of natural areas, some of which are home to operating units, like the Tapirapé-Aquiri National Forest and the Carajás National Forest. Currently, nearly 97% of the Carajás National Forest is protected and less than 3% is occupied by the company's operations. There are also cases of own or partnered protected areas located near operations, like the Private Reserves of the Natural Heritage (RPPN) and the State Conservation Units located in the Minas Gerais's Quadrilátero Ferrífero (Iron Quadrangle), as well as the Forêt Nord Natural Reserve in New Caledonia. The 17 RPPNs in Minas Gerais and the Vale Natural Reserve (RNV) in Linhares (ES) stock 3.5 million tCO₂ and 9.3 million tCO₂, respectively. This volume is equivalent to over half of the company's annual GHG emissions.

For 35 years, through annual investments of US\$ 3.3 million, Vale has kept 23 thousand hectares of the RNV, one of the last remnant areas of the endangered *Floresta de Tabuleiro* (Tableland Forest) and Advanced Post of the Atlantic Forest Biosphere Reserve. A study on total economic value (TEV) carried out by the Vale Natural Reserve in partnership with the Lawrence Berkeley Laboratory, University of California, aimed at identifying financial values derived from environmental resources, estimated the total intangible value of the reserve in US\$ 1.1 bn. This amount can be attributed to three main items: around US\$ 1 bi attributed to the economic benefit of the reserve's existing bio-

diversity; US\$ 77 million regarding the value of direct use, derived from carbon stocks, carbon sequestration related to sapling production and recreational activities; and around US\$ 25 million associated to the value of indirect use, derived from pollination, water supply and air, water and soil regulation.

The Espírito Santo Hydrometeorological Monitoring Centre (CCMH), a partnership between Vale and the Espírito Santo state government, will enable improved forecasts and monitoring of weather and tidal conditions off the coast of Espírito Santo to allow preventive measures to be taken in case the State is hit by extreme climate conditions, such as storms. Completed in 2013, with an investment above US\$ 18.6 million, it is one of the most advanced and efficient monitoring centers in Latin America. Besides bringing benefits for the local population, CCMH will ensure that Tubarão Port operations and berthing and unberthing maneuvers of ships in the terminal follow safety procedures.

CCMH's structure includes a climate monitoring system with long-range radars and 25 automatic weather stations, which measure temperature, pressure, rainfall, wind speed and direction integrated to a system of satellites for uninterrupted operation. The mathematical processing of climate variables entered into the system will be performed by a computer called supercluster, considered one of the most powerful in the Southern Hemisphere.

For Vale, participation in the initiative is essential to bring more safety and reliability to its operations in the state, in addition to supporting the company's strategic guideline to monitor risks and opportunities arising from climate change and contributing to the dissemination of knowledge on climate change.

Walmart

Aiming to incorporate sustainability into its business strategies, Walmart Brasil developed a system comprising eight multidisciplinary platforms. They consist of working groups that receive guidance and targets to carry out initiatives aimed at meeting corporate commitments and guidelines related to the global pillars Climate & Energy, Sustainable Products and Waste Management.

As for the Climate & Energy pillar, the company has a global target of achieving a 100% use of energy from renewable sources, taking 2011 as baseline. With this objective in mind, in 2012 49 units switched from the captive electricity market to the free market and, in 2013, another 35, ending the year with 84 of its units using this electricity supply model. In 2014, the aim is to raise the total number of stores that have switched over to the so-called free electricity market to 96. The units that switched over to the free market use power that comes from small hydroelectric power plants, biomass plants, as well as other renewable energy sources. This switchover has resulted in a cost reduction by 11.45%, enabling generators to be turned off at peak hours, with a resulting saving in diesel oil and a reduction in greenhouse gas emissions.

In 2013, Walmart met the global target of reducing its GHG emissions by 20%, taking 2005 as baseline. The objective was met ahead of schedule. Being a retail chain without its own fleet, one of the main sources of emissions for Walmart Brasil is energy consumption.

Also in 2013, Walmart Brasil pioneered in the country the first hypermarket 100% lit by LED lamps, in Indaiatuba (SP). It was a challenging project which required identifying the supplier best suited to develop custom-made lights and systems for the unit, which has a total built up area of 7,900 square meters. The exclusive use of LED lighting saves over 27% in illumination costs, while also reducing maintenance costs due to product longer service life. By the end of 2014, Walmart will have another 15 stores in its chain that will be undergoing remodeling and which will be fitted with this type of lighting in their respective sales areas.

In addition, since 2011 Walmart has adopted LED lighting in parking areas and cold chambers in some stores. In Indaiatuba, this type of lamp is used in all departments, including refrigerators and freezers in the sales areas. This store in the

state of São Paulo was one of the ten eco-efficient units opened by the company in 2013. Currently, Walmart has 42 eco-efficient stores and one distribution center of this kind. The energy efficiency project comprises units whose construction and structure adopt sustainable initiatives, such as the introduction of energy-saving light bulbs and intelligent lighting systems, and the use of energy-saving refrigeration and air-conditioning systems free from harmful gases.

Walmart is also committed to its value chain, focusing on reducing product life cycle emissions. In 2013, it launched 18 products together with some of its major suppliers which resulted in reductions of 1,120 tCO₂*.

* Reductions achieved for measurable indicators of participating companies are presented in absolute numbers, based on a predefined amount: estimated annual sales of product in the Walmart Brasil chain.

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