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## **Profile**

Braskem operates in the chemical and petrochemical sectors, which play a significant role in countless production chains and are essential to development. In this context, chemicals and plastic products contribute to creating sustainable solutions to improve the lives of individuals in diverse segments such as healthcare, housing, food, and transportation, among others.





## Message from the Business Leader

**CARLOS FADIGAS Business Leader** 

#### GRI G4-1 | GRI G4-3 | GLOBAL COMPACT - PRINCIPLE 1

2014 has proven challenging for Brazil's chemical and petrochemical industries, as well as for other production sectors in the country. The lack of competitiveness due to higher feedstock and energy costs, infrastructure issues and the increased tax burden, among other factors, led to a record deficit of US\$109 billion in the country's manufactured goods trade balance. The industry witnessed shrinkage of its participation in the Brazilian economy. According to data from the Ministry of Development, Industry and Foreign Trade (MDIC), Brazil's manufacturing industry now accounts for less than 14% of its GDP, down from 25% in 1985.

At the international level, the recovery in the U.S. economy and the solid performance of other developed markets had a positive effect on the global economy in 2014. Nevertheless, world GDP growth still fell short of initial forecasts, reflecting the weaker performance of emerging countries, such as China and Eurozone countries.

Within this context, Brazilian thermoplastic resin demand came to 5.3 million tons in 2014, down 1% on the previous year, which also led to a drop in Braskem's sales. In the United States and Europe, Braskem's performance was positive, with sales growing 4% on the previous year.

Despite the adverse domestic scenario, Braskem improved its main financial indicators. Gross revenue of R\$ 53 billion and net revenue of R\$46 billion represented increases of 11% and 13%, respectively, compared to

2013. Consolidated EBITDA amounted to R\$5.6 billion, up 17% on the previous year. Certain factors contributed to this performance, such as the recovery in international petrochemical spreads and the depreciation of the Brazilian real against the U.S. dollar. Net profit amounted to R\$726 million. Braskem's 2014 results also were supported by the Group's culture, the Odebrecht Entrepreneurial Technology (TEO), which is based on the fundamental pillars of decentralized management, a Client-focused approach and entrepreneurship.

Based on its commitment to developing the plastics chain and willingness to serve its Clients. Braskem went forward with the Incentive Plan for the Plastic Chain (PICPlast) in partnership with the Brazilian Association of the Plastics Industry (ABIPLAST) and the transformation industry. This plan works to incentive competitiveness and innovation in the sector, promote exports of plastic manufactured products and publicize the benefits of using plastics.

In 2014, Braskem invested R\$ 2.5 billion, with approximately 60% allocated to modernizing and maintaining its assets and 25% to the construction of the petrochemical complex in Mexico. This project will play a crucial role in Braskem's strategy to further diversify its feedstock profile and ensure growth in the Americas. Developed in partnership with the Mexican group Idesa, the project's construction reached 88% completion by the end of 2014. The startup of the project, which focuses on meeting Mexico's growing demand for thermoplastic resins, is scheduled for the end of 2015.

Another important highlight was the conclusion of the project to expand and convert one of Braskem's polyethylene lines in Camaçari, Bahia for the production of metallocene-based LLDPE. With this additional offer, we will be able to better meet our Clients' need for industrial films, technical spools, and special films.

In terms of projects focused on growth in Brazil, Braskem concluded studies to define the scope of the petrochemical company Comperi and determined that the most attractive alternative is the expansion of its existing production unit at the Duque de Caxias site in the state of Rio de Janeiro. Braskem continues to focus on investments that add value to the gas produced in Brazil's pre-salt deposits, contributing to the country's industrialization process. Nevertheless, progress will now depend on the signing of a long-term feedstock supply agreement with Petrobras.

In the United States, studies for the ASCENT project for the integrated production of polyethylene from shale gas have moved forward and new scenarios are being added to the analysis, given the new reality of global energy markets. Still on the international front, Braskem announced a project to produce ultra-high weight molecular polyethylene at one of its plants in Texas, USA. Known commercially as UTEC, the resin uses 100% Brazilian technology developed by Braskem. UTEC can be applied to different industries, such as oil drilling, military and construction. The project is scheduled to begin operations in 2016.

It is important to point out that the negative ruling from Brazil's Administrative Council for Economic Defense (CADE) created an obstacle for Braskem's acquisition of the company Solvay Indupa. Our understanding was that the PVC and caustic soda market is international, in line with CADE's consolidated jurisprudence for thermoplastic resins. However, we respected the decision by the regulatory agency.

A significant part of our contribution to society is through sustainable products and solutions drawing on chemicals and plastics, developed to improve people's lives. In this sense, innovation is a decisive factor in Braskem's growth strategy, receiving investments of approximately R\$ 250 million in 2014. In 2014, 11 new resin grades were added to Braskem's portfolio, the product of its innovation, research and development efforts.

Braskem's focus on innovation was recognized internationally when it was chosen in February 2014 as one of the World's 50 Most Innovative Companies, according to the annual ranking sponsored by Fast Company, a business magazine published by a major U.S. media publication.

As for its commitment to sustainable development, Braskem, which is a party to the UN Global Compact, recorded important achievements in 2014. In the area of workplace safety, the recordable and lost-time injury frequency rate for both Team Members and contractors – was one accident per million hours worked. The result was the company's best ever and was due to the commitment of all teams. Leaders and Team Members to meeting our goals to protect lives, which is a top priority.

Braskem's environmental indicators also reflected the efforts made throughout 2014. During a year marked by drought in Brazil's Southeast, when we saw certain companies cutting back on their operations due to water shortages, Braskem saved 19 billion liters of water withdrawn from bodies of water, thanks to its water reuse projects.

"Despite the adverse domestic scenario, Braskem improved its main financial indicators. Gross revenue of R\$ 53 billion and net revenue of R\$46 billion represented increases of 11% and 13%, respectively, compared to 2013. Consolidated EBITDA amounted to R\$5.6 billion, up 17% on the previous year."

Enough to supply a city with approximately 500,000 inhabitants, this volume was achieved through projects such as Água Viva at the Camaçari Complex in Bahia, and Aguapolo, which supplies the ABC Region Petrochemical Complex in São Paulo. This represents 28% of all the water consumed by the company. Braskem also works in partnership with its Clients to optimize the use of water resources in the agroindustry and sanitation by innovating new plastics. These are some of Braskem's initiatives with the aim of improving people's lives.

### Outlook for 2015

The global scenario in 2015 urges caution, in view of the slower growth expected in emerging economies in general and in some developed markets, and a stronger dollar, among other factors.

In Brazil, the economy is marked by rising interest rates and weaker growth, combined with tax hikes implemented by the government and the possibility for energy rationing depending on the country's reservoir levels. There is an urgent need for responses and initiatives to help Brazil's manufacturing industry regain its competitiveness.

In the petrochemical industry, the downward move in international oil and naphtha prices observed in 2014 is already reflected in petrochemical prices, which have followed the trend. We believe that stronger economic growth in the United States and European countries will positively influence demand and profitability in the petrochemical industry.

Braskem will maintain the principles that have strengthened its businesses, and which have brought us good results over recent years. Our operations will be focused on boosting the productivity of the raw material matrix, reducing its cost and promoting its diversification. At the same time, we will continue to strengthen our relations with Clients, support the development of the Brazilian petrochemical and plastics chain and maintain the permanent search for operational efficiency. All of this without forgetting to maintain the Company's financial health and cost management discipline.

Finally, we would like to express our gratitude to the Braskem teams for their dedication and competency, to the Shareholders for supporting the implementation of strategic projects for the Company, and to our Clients with whom we reinforce a partnership that has lasted for many years so that we can strengthen the chemical and plastic production chain – inspiration that reinvigorates and motivates us to face today's challenges.

# Odebrecht **Entrepreneurial Technology**

### GRI G4-56 | GLOBAL COMPACT - PRINCIPLE 10

The Odebrecht Entrepreneurial Technology (TEO) is the set of beliefs and values practiced by the Odebrecht Group, or in other words, its philosophical concepts. Made up of the Principles, Concepts, and Criteria that arose from practices adopted by the Group's founder Norberto Odebrecht, it has been systematized to provide unified thinking and consistent actions the Team Members require to work with at the different businesses, countries and cultural contexts where the Group is present. In this way, it is possible to meet the Clients' needs, add value to the Shareholders´ equity, reinvest the achieved results and grow on different fronts while generating wealth for the different parties involved.

The essence of TEO is the ethos of service. To serve with humility, discipline, responsibility and hard work, to win over Clients and establish a trusting relationship with them. As a company of the Odebrecht Group, Braskem follows these principles.

For more information about TEO and the principles and values that guide Braskem, visit:

Odebrecht / TEO

Braskem / Principles and Values

# portal

In order for Team Members to learn more about the Odebrecht Entrepreneurial Technology, Braskem provides a number of actions and resources. These include the TEO Portal, launched on the Group's corporate intranet some years ago, being accessed by nearly 10,000 people in 2014, while some 6,000 visitors returned to the portal more than once. During that same period, a distance learning course on organizational culture was offered on this platform and attended by 732 users. Last year, the Company also launched a series of actions to support Leaders in the process of education of their Team Members on organizational culture. These actions included: Shared Readings on TEO, and Cultural Dialogues and Meetings to discuss the PA Cycle.

The books titled *Sobreviver*, *Crescer e Perpetuar* (translated into English as Survival, Growth, and Perpetuity), written by Norberto Odebrecht, outline the principles of TEO and provide important points of reference to understand the Group's culture. Already available in Portuguese, English and Spanish, the set of volumes was also translated to German in 2014. thus allowing all Team Members to access the points of reference about the Group's culture in their own languages.



# Chemical and **Petrochemical Industry**

### GRI G4-2

The chemical and petrochemical sector in which Braskem operates is an important part of the global economy. This industry produces inputs for a wide range of other producers that meet the need of individuals in various fields, including healthcare, food, transportation, housing, and clothing.

The chemical and petrochemical chain is comprised of first-generation companies – producers of basic petrochemicals (ethylene, propylene, butadiene, chlorine, among others) and aromatics (benzene, toluene, xylenes, etc.), second-generation units – producers of intermediate chemicals and thermoplastic resins (PE, PP, and PVC) and third-generation producers, including converters.

Throughout the 1990s, the global chemical and petrochemical industry underwent a consolidation process through mergers and acquisitions, producing the large conglomerates of the sector. Competition in the sector became global in scale, and a decade later, Braskem spearheaded the

process of consolidation in the Brazilian chemical and petrochemical industry, establishing an integrated business model. By combining first- and second-generation operations, large economies of scale have been achieved in production and operational efficiency.

These are some of the factors that affect competition in the chemical and petrochemical industry, in addition to the high availability of raw materials, technology, the ease of access to consumer markets. capital costs, and others. In this regard, Asia and the Middle East enjoy an advantage over other production regions. Asia, due to its huge consumer market and the Middle East, due to the high availability of fossil-based raw materials.

More recently, the United States has shifted this balance as a result of the industrialization of shale gas, a competitive raw material for production of ethylene and ethylene derivatives, representing a significant challenge for naphtha-based petrochemicals.

### **INDUSTRY CYCLES**

Another notable characteristic of the petrochemical industry is its profitability cycles. In the so-called high phase, important investments are made to expand production capacity in order to meet increased demand, and sometime after assets become operational (generally between three and four years in general), there is excessive supply and a subsequent drop in margins, referred to as the low phase.

In 2014, global ethylene production capacity was approximately 160 million tons. Several companies announced plans to build new plants, primarily in Asia, the Middle East and North America, which would total, on average, 32 million tons between 2014 and 2018. However, the introduction of new ethylene capabilities is frequently subject to delays, and it is impossible to accurately predict when the planned additional capacity will be activated.

During the same period, the global production of thermoplastic resins (PE, PP, and PVC) was approximately 230 million tons. Braskem was responsible for 3.5% of global production of resins, meeting, on average, 70% of Brazilian domestic demand, on average.

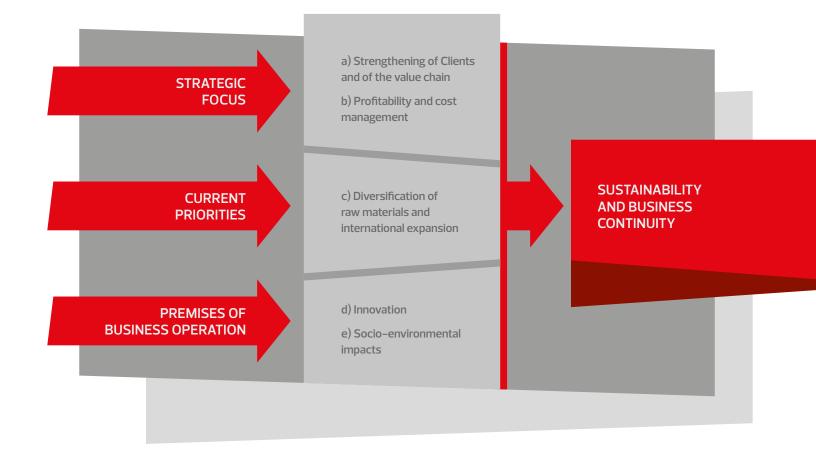


## **Business strategy**

### GRI G4-EC8

Braskem operates with a focus on building close partnerships with its Clients, strengthening the entire petrochemical chain (first, second, and third generations), increasing the profitability of operations, and on managing costs. The international expansion of operations and diversification of the raw materials matrix are also priorities at present, with investments focused primarily on expansion.

A commitment to the health and safety of Team Members and of the Communities where the Company has industrial operations, respect for the environment and control of the impacts of the Company's activities on the environment, and innovation and development of technologies are all basic premises of action that help us to ensure the continued sustainable growth and success of our business.



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Some of the main developments on these strategic issues include:

a) Partnerships established with Clients comprise not only development of new products and solutions, but also installation of conversion units near the Company's industrial complexes, offering gains (especially in terms of logistics) for both parties, in addition to generating income, jobs, and tax revenue for the regions where these projects were launched. Strengthening of the plastics chain through the Incentive Plan, created by Braskem (PICPlast), which helps to build demand for the Company's products, decreasing the need for imports in Brazil. Learn more in Strengthening Clients.

b) Braskem continues to optimize current businesses, with investments in innovation, technology, and improvements on processes and productivity. Braskem is also continuing with projects to add value to crackers chains, extracting from them co-products, such as derivatives of C4 (butadiene) and C5 (CDPD, PIPS, isoprene) that can only be obtained from naphtha cracking. Due to the common use of gas-based industrial plants, these products are increasingly scarce in the Americas and are expected to appreciate in international markets.

In the strategic agenda for 2014, negotiations relating to appreciation of naphtha prices and renewal of electricity supply contracts for the Alagoas and Bahia complexes were standouts. Negotiations for reviewing the naphtha agreement (a main feedstock for petrochemicals) have been carried out since mid–2014, and will probably be continued in 2015.

For Braskem, the manufacture of PVC and chlor-alkali in Alagoas and Bahia requires competitive energy costs due to the intensive energy consumption this type of production uses. The Company will continue to seek a solution that ensures competitive energy costs, especially for its operations in the Brazilian Northeast region.

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c) The chemical and petrochemical industry is under increasing pressure on matters of competition, due to the industrialization of shale gas, especially prominent in the United States, which is impacting producers of naphtha-based resins. In this context, the Company seeks to diversify the sources of the raw materials used in its international expansion projects, which also supports the Company's growth objectives. In the long term, the target is for at least 50% of the Company's earnings to come from international operations and 50% from gas operations.

In Mexico, the construction of the Braskem Idesa petrochemical complex, which will use natural gas, is at an advanced stage of project construction. In the United States, Braskem is carrying out a feasibility analysis of a shale gas project called ASCENT. In Brazil, expansion of the Duque de Caxias complex (RJ) offers the best alternative of growth, though there have been some difficulties concerning negotiations for raw materials. Learn more in New Fronts.

- d) Innovation is a fundamental issue for Braskem. Activities range from investments in process improvements to new products, with a focus on the renewables line. Learn more in Innovation.
- e) Management of socio-environmental impacts is a priority in all Company actions and operations. In order to clarify its contributions towards achieving sustainable development and continuous trans-

formational changes, ten macro-objectives were defined for the year 2020. Learn more in Sustainable Development. To review results on health, safety, and environment, see Social and Environmental Management.

Based on its financial capacity and business opportunities, Braskem will continue to prioritize projects that add value to its products to improve the lives of people, meet the demand of Clients, and increase the Company's market share.

For more information on the industry and on Braskem, its history, production chain, and challenges, see the other external Company reports (Administration Report, Financial Statements, Reference Form¹ and 20F Form) at:

Braskem / Petrochemical Industry

A brief contents description of the external reports is contained in About this Report.

1 – The 2014 version of this report will be available beginning on May 30, 2015.

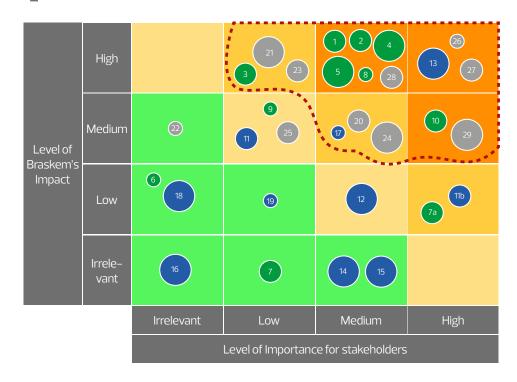
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### Sustainable development

### GRI G4-18 | GRI G4-19 | GRI G4-20 | GRI G4-24 GRI G4-25 | GRI G4-26 | GRI G4-27

For Braskem, the concept of sustainable development relates to economic, social, and environmental issues as they relate to the activities of the Company and of its chain, including the ethical commitment to current and future generations, the rational use of natural resources, and the health of our planet. This commitment permeates the Company's strategies and operations.

It is extremely important for Braskem to minimize the possible negative impacts of its industrial activities and to maximize the positive ones, and to become part of a solution to improve lives through its products and its actions. As a result of this vision, based on an understanding of the Company's growth opportunities for growth in the coming years, Braskem defined ten macro-objectives for sustainability, which relate to material issues for the Company and its stakeholders. The list of material issues is contained in the matrix below.



# **MATERIALITY CRITICAL** LOW

### LEVEL OF BRASKEM'S CONTROL OR INFLUENCE OVER THE ASPECT

HIGH MINIMAL LOW MEDIUM

MATERIAL ASPECTS

To learn more about the process of inquiry and analysis conducted to identify the material issues for the Company and its stakeholders, visit

http://www.braskem.com.br/site.aspx/sustainabilitymateriality-usa

### **ENVIRONMENTAL**

- (1) Non-renewable resources
- (2) Water
- (3) Climate change and energy
- (4) Air
- (5) Waste
- (6) Transportation
- (7) Biodiversity
- (7a) Biodiversity Mexico
- (8) Post-consumption
- (9) Suppliers environmental management
- (10) Product development environmental

### **SOCIAL**

- (11) Jobs
- (11b) Jobs USA
- (12) Freedom of association
- (13) Health and safety
- (14) Training and career
- (15) Equal opportunities
- (16) Company security guards
- (17) Safe use of Braskem's products
- (18) Grievance mechanisms
- (19) Suppliers social management

### **ECONOMY AND GOVERNANCE**

- (20) Economic performance
- (21) Community investments and relationships
- (22) Receipt of government assistance
- (23) Local suppliers
- (24) Free competition
- (25) Fraud and corruption
- (26) Contribution to public policy
- (27) Product development social
- (28) Labor from Local Communities
- (29) Transparency and integrity

### **STAKEHOLDERS**

Braskem uses different methods and means to interact with its stakeholders, maintaining streamlined and transparent channels of communication. The mapping of the Company's stakeholders is conducted in accordance with the criteria from the Odebrecht Group's Communications Policy. Groups that connect directly with the Company's operations are categorized as priority stakeholders because:

- they are mobilized to make operations viable (Team Members, suppliers, etc.);
- they are impacted by operations (particularly the Communities that neighbor industrial operations);
- they are Clients or are otherwise benefitted by operations;
- they can exercise influence over operations, results, and the image of the Company (government authorities, media, business and class entity leaders, NGOs, etc.).

Engagement activities are conducted both company-wide (for example, through reputation surveys and sustainability inquiries) and by the various teams responsible for relations with these groups, during meetings (with investors, association representatives, etc.) and negotiations (with Clients, suppliers, etc.).

Below we identify the stakeholders that are relevant to our business sustainability and the main methods of engagement used by the Company when interacting with these groups.

CATEGORY OF STAKEHO	LDERS WITH WHOM BRASKEM INTERACTS	Means of engagement
	POLITICAL/STRATEGIC: TRADE UNIONS, REGULATORY AGENCIES, CLASS ENTITIES, EXECUTIVE BRANCH, LEGISLATIVE BRANCH, PUBLIC PROSECUTOR'S OFFICE, ENVIRONMENTAL AGENCIES, PUBLIC/REGIONAL OPINION, NGOS, FINANCIAL MARKET ANALYSTS, AUDITORS	Meetings, Reputation Survey <sup>1</sup>
OPINION MAKERS	INDUSTRY: COMPETITORS, TRADE ASSOCIATIONS	Industry Shows, Participation in Industry Meetings
	MEDIA: COLUMNISTS, SPECIALIZED MEDIA, GENERAL MEDIA, SOCIAL NETWORKS/VIRTUAL ENVIRONMENT	Press Releases, Meetings, Interviews, Reputation Survey <sup>1</sup>
	ACADEMIA: RESEARCH CENTERS, SCHOOLS, RESEARCHERS, UNIVERSITIES, TECHNICAL SCHOOLS	Meetings, Reputation Survey <sup>1</sup> , Partnering Projects
	SUPPLIERS: RAW MATERIALS, PETROBRAS, INDIRECT MATERIALS, SERVICES, TECHNOLOGY	Meetings, E-Mails, Internet Channel with Exclusive Access, Reputation Survey <sup>1</sup>
FACILITATORS	FINANCIAL MARKET: CONTROLLING SHAREHOLDER, MINORITY SHAREHOLDER, BOARD OF DIRECTORS, FINANCIAL INSTITUTIONS, DEBT PROVIDER, BANKS	Meetings, "Investor Relations" Website, Reports and Earnings Conference Call
	E-Mails, Inte TEAM MEMBERS: Destaque A TEAM MEMBERS , THIRD PARTIES Reputation:	E-Mails, Internal Campaigns, Newsletters, Safety Dialogues, Destaque Award (Braskem Excellence Award), Intranet, Reputation Survey <sup>1</sup> , Work Climate Survey (every two years), Communication Survey (every two years)
IMPACT MAKERS	COMMUNITIES: RESIDENTS, LOCAL LEADERSHIP, PARTNERS IN INITIATIVES	Projects, Direct Relationships with Local Representatives from the Institutional Relations Area, Reputation Survey <sup>1</sup>
	SOCIETY: CLASS ABC 18+/ NATIONAL, FAMILIES OF TEAM MEMBERS	Reputation Survey
BENEFICIARIES	CLIENTS: CLIENTS OF OUR CLIENTS, END CONSUMERS, DISTRIBUTORS, CLIENTS OF OUR BUSINESS UNITS (BASIC PETROCHEMICALS, POLYMERS & VINYLS, AND INTERNATIONAL UNITS)	Meetings, Visits to Facilities, Technical and Relationship Events, Industry Shows, Sponsorship, Internet Channel with Exclusive Access, Trade Support Service by Account Mana- gers, Technical Development Agenda, Reputation Survey <sup>1</sup> .

### MACRO-OBJECTIVES OF SUSTAINABLE DEVELOPMENT

The ten macro-objectives relate transversally to the three pillars of Braskem's sustainability strategy: (1) increasingly sustainable operations and resources; (2) increasingly sustainable product portfolio; and (3) solutions for an increasingly sustainable life.

Strategic goals for 2020 were defined for each macro-objective, as well as intermediate actions to achieve these goals during the coming years. The macro-objectives for 2020, and the material aspects addressed by each are shown in the diagram "Pillars of Braskem's Sustainability Strategy."

Braskem aims to be a leader in sustainable development and so its continued presence in sustainable investment indexes is of great relevance. It is listed on the Dow Jones Sustainability Index (DJSI) for Emerging Markets, which selects the best companies in each sector evaluated<sup>1</sup>, on the São Paulo Stock Exchange (BM&FBovespa) Corporate Sustainability Index (ISE) and in leadership indexes of the CDP's Carbon Program, which is endorsed by 722 signatories who hold US\$ 87 trillion in assets. To learn more about other awards and distinctions received by the Company, see About this Report, Distinctions.

The results for 2014 and Braskem's future perspectives for each macro-objective are detailed throughout this report (see index from the diagram), and are summarized in the chapter titled Sustainable Development Macro-Objectives.

1 - The companies in the top 10% of each sector are selected. In Braskem's sector, where there are 20 eligible companies, this means that only 2 are listed.

In order to disseminate the macro-objectives and encourage the elaboration of goals relating to sustainable development in all areas of the Company, an on-site, peer-led module, the Leader Workshop for Sustainable Development was developed. In 2014, more than 900 people participated, including 90% of Leaders in Brazil and 80% of Leaders from other countries in which the Company is present. The five main topics selected by the Leaders as a priority for their own actions were post-consumption, energy efficiency, strengthening practices, water efficiency, and dissemination of knowledge acquired in the Workshop among their team members. In 2015, this initiative will continue in the United States and Mexico, seeking to reach at least 90% of the Leaders in each country.

### PILLARS OF BRASKEM'S SUSTAINABILITY STRATEGY

Increasingly sustainable operations and resources	Increasingly sustainable product portfolio	Solutions for an increasingly sustainable life.		ENVIRONMENTAL  ECONOMIC AND GOVERNANCE  SOCIAL
MACRO-	-OBJECTIVES AND GOALS FOR 202	20	MATERIAL ASPECTS	PERFORMANCE IN 2014
SAFETY Be recognized as a reference in chemical, occupational and process safety in the global chemical industry.		5. Waste		
		13. Health and safety 17. Safe use of products	Waste	
<b>ECONOMIC/FINANCIAL RESULTS</b> Be among the three largest producers of thermoplastic resins in the world, guaranteeing profitability that supports the continuity of the business, maintaining "Investment Grade" classification in the 3 main international agencies.		20. Economic performance	Economic management	
POST-CONSUMPTION  Be recognized as an important agent that contributes to the recycling of plastics		8. Post-consumption	Government; Communities	
RENEWABLE RESOURCES  Be recognized as a leader in the producti materials, continuing to be the world's lar			1. Non-renewable resources	Innovation; Renewables; Energy
<b>WATER EFFICIENCY</b> Continue as a reference in the use of wat reuse greater than 40%.	ter resources in the global chemical in	dustry and achieve a rate of	2. Water	Water

MACRO-OBJECTIVES AND GOALS FOR 2020	MATERIAL ASPECTS	PERFORMANCE IN 2014	
CLIMATE CHANGE Be among the best large chemical companies in the world in terms of greenhouse gas emissions (GHG) intensity and a major player in carbon capture and storage, as a result of the use of renewable raw materials.	3. Climate change and energy	Energy and climate change	
ENERGY EFFICIENCY Be among the world's best large chemical companies in terms of energy consumption intensity and a major user of renewable energy.	3. Climate change and energy	Energy	
LOCAL DEVELOPMENT  Be recognized by the communities surrounding our operational sites and by society in general for our contribution to the improvement of human development, as shown by achieving the reputation level of "excellent" in the Citizenship Dimension of our Reputation Survey (RepTrak™ Pulse).	21. Community investments and relationships 23. Local Suppliers 28. Labor from Local Communities	Communities	
<b>DEVELOPMENT OF SOLUTIONS</b> Be recognized as a company that supports its Clients in the development of environmental and social	10. Product development — environmental		
solutions; contribute to the perception of plastic as a solution to sustainable development due to its potential to improve people's lives.	27. Product Development – social	Products	
STRENGTHENING OF PRACTICES  Be recognized as a corporate leader in Brazil, as well as a global leader in the chemical industry, for our contribution to sustainable development.	24. Free competition 26. Contribution to public policy 29. Transparency and integrity	Corporate governance; Government; Collaborative initiative	
		ENVIDONMENTAL	

Theme 4 – Air was considered a material issue due to the importance attributed to it by the Local Communities and due to the potential impact of the Company. It was not indexed to any macro-objective given that it is tightly regulated and well managed by the Company, without any real impacts being verified. To learn more about the Company's performance, consult the Social and Environmental Management, Environment, Energy, and Climate Change sections.

## **Global company**

#### GRI G4-3 | GRI G4-4 | GRI G4-6 | GRI G4-7 | GRI G4-8 | GRI G4-9

Formed in August 2002 by integrating six companies from the Odebrecht Group and from the Mariani Group, Braskem is now a leader in the Americas in terms of thermoplastic resins, focusing on polyethylene, polypropylene, and PVC, and a global leader in the production of biopolymers.<sup>1</sup>.

Initial growth occurred through consolidation of the sector in Brazil, while the current expansion strategy includes international expansion efforts made through acquisitions and construction of new petrochemical complexes.

 $^{\mbox{\scriptsize $1$}}$  – The installed capacities of the companies were used as a reference, not their annual production.

 $Source: http://www.cmaiglobal.com/marketreports/globalplastics\_polymers.aspx.$ 

Installed capacity<sup>1</sup> exceeding

16 million tons per year

Workforce of **8,126 Team Members** in Brazil, the United States, Mexico, Germany, and 12 international offices.

**Two innovation centers**, one in Brazil and another in the United States, supporting the development of innovative sustainable solutions using chemicals and plastics to improve people's lives.

Clients in over
70 countries, in every
continent and industry,
such as health, housing,
transport, automotive,
packaging, construction,
infrastructure, etc.

Publicly-owned company,

with shares traded on the São Paulo (BM&F Bovespa), New York, and Madrid stock exchanges

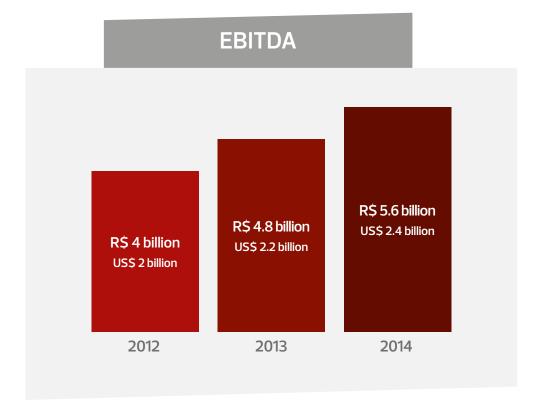
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For more information on the Company's presence and operations around the world, visit:

Braskem / Profile

Braskem / Our Business

Braskem / Global Presence

### Four business units

which run with autonomy their which run with autonomy their industrial, commercial, marketing, human resources, planning and controllership activities, giving it more agility in making decisions.

### Latin America Unit

Braskem-Idesa project in Mexico, where polyethylenes will be produced from natural gas, and studies for other projects in Latin America.

### United States and Europe Unit

Polypropylene and ultra-high- \* molecular-weight polyethylene (UTEC) produced in the United States and Europe.

### Polyolefins, Renewables and Vinyls Unit

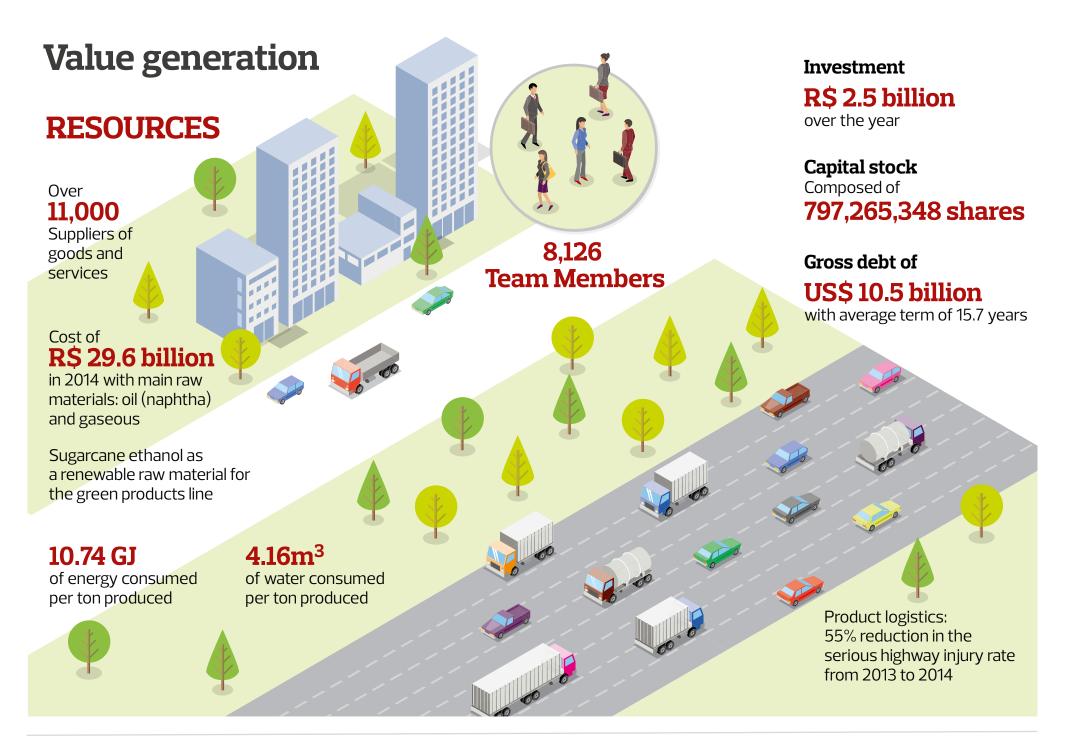
Polyethylenes (low density, linear low density, high density and green polyethylene), polypropylene, PVC, and chlor-alkali, produced in Brazil.

### Basic Petrochemicals Unit

Approximately 30 products, the main ones being ethylene, green ethylene, propylene, and chemical and aromatic intermediates, intermediates.

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### **OPERATIONS AND RESULTS**

### First generation

production of basic petrochemicals and aromatics in gaseous or liquid form

3.2 million tons

of ethylene

1.3 million tons

of propylene

1 million tons

of BTX (benzene, toluene, para-xylene, ortho-xylene) 374.8 tons

of butadiene



Production of intermediates and plastic resins in solid form, plastic pallets or powder

2.4 million tons

of PEs

3.4 million ton

448 ktons

of PPs

12% above the previous year

**RESULTS** 

Net revenue of R\$ 46 billion

Net profit of R\$ 726 million

635 ktons of PVC

of liquid soda



### **VALUE CREATION**

Products used as raw materials in the manufacture of consumer and industrial goods, which are essential to various fields, including healthcare, food, transportation, housing, technology, clothing, etc

Over 40,000 indirect jobs created, promoting socio-environmental development through chemical and plastics.

Knock-on benefits to the effectiveness of sectors served, by means of continuous innovation in product offer and programs of cooperation for effectiveness



Maxio<sup>®</sup> Line: reduced need for Client's energy and raw materials

Visio Program served 50 Clients, supporting their productivity and competitiveness

**PICPlast** 

An investment of RS 42 million in PICPlast, an incentive plan for the plastic chain with the participation of 45 clients and sales of 35,000 tons

Negative impacts related to the use of non-renewable natural resources mitigated through efficiency improvements and the development of renewable raw materials, fostering the future availability of resources.



Cooperation agreement to develop a renewable isoprene production technology

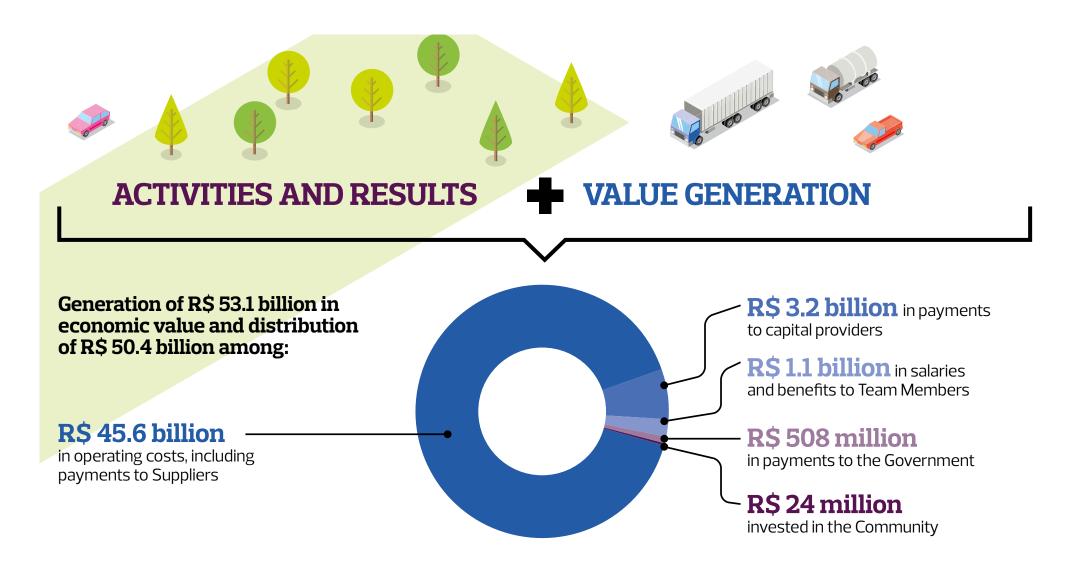
Use of green LDPE in all Tetra Pak® packages in Brazil



Clients reduced their energy demand up to 46% with the use of Maxio<sup>®</sup> resins

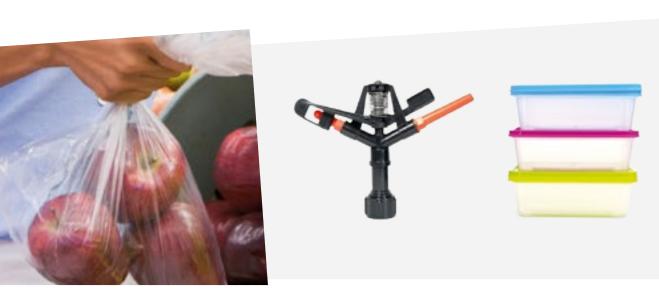






Financiers • Team Members • Shareholders • Communities • Academia • Government

## **Chemicals and plastics:** essential for a better life



### IN THE AREA OF FOOD, CHEMICALS AND PLAS-TICS BRING MORE VARIETY TO THE TABLE.

Chemicals and plastics are present during the different phases of food production. They are a direct part of our daily life each time we sit down for a meal.

The import role of plastics already begins with planting of foods, when seedlings are stored in plastic bags before being transferred to the site where they will be planted. Chemicals are essential in the production of fertilizers and pesticides, responsible for pest control, as well as in preservatives, which keep food in the proper conditions for its growth until it can be consumed.

Plastics are found in irrigation tubes, the packaging that protects and increases the durability of foods. It is estimated that plastics recover or prevent losses of at least 20–30% of the food produced worldwide.

### IN THE AREA OF TRANSPORTATION, CHEMICALS AND PLASTICS ARE SAFER PATHS.

The use of plastics in different modes of transportation represents a major improvement in terms of safety, resistance, weight and cost. Furthermore, because they are more flexible materials, plastics better absorb impact in cases of collision, helping to protect the lives of those inside the vehicles.

We also find plastics in ships, making them lighter and more resistant. In other modes of transport, plastics can be found in a range of different components, including seats, doors, wires and cables, among others.

Chemicals are present in paint solvents that color all types of transport, as well as tires, fuels and other vehicle components.





### JOSÉ CARLOS COSTA DA SILVA PINTO



Head Professor of the Chemical Engineering program at the Federal University of Rio de Janeiro (UFRJ), COPPE Institute. Permanent member of the Graduate Program in Chemistry at the Military Engineering Institute in Rio de Janeiro (RJ) since 2011. Silva Pinto graduated in Chemical Engineering, and earned a Doctorate degree from the Chemical Engineering Program at the COPPE Institute. During his doctorate studies, he had the opportunity to develop part of his investigative work at the University of Wisconsin, USA. His doctorate thesis was in the generic area of Dynamics of Polymerization Systems.

### **VANUSCA DALOSTO JAHNO**



Professor and researcher at Feevale University in Rio Grande do Sul, Brazil. Her teaching focus is the master's degree program in Industrial Material and Process Technologies and the master's degree program in Environmental Quality. Jahno earned a graduate degree in Industrial Chemical and in Chemistry from the Pontifical Catholic University of Rio Grande do Sul (PUC-RS) in 2003, a master's degree in Mine Engineering, Metallurgy and Materials from the Federal University of Rio Grande do Sul (UFRGS) in 2005 and a doctorate in Medicine and Health Sciences at PUC-RS in 2009. She works in the area of biodegradable polymers, nanotechnologies, polymer biomaterials for the medical/dental/veterinarian area. material degradation and recycling.



### IN THE AREA OF HEALTH, CHEMICALS AND PLASTICS RE-PRESENT A NEW CHANCE.

One of the main benefits plastics offers for the health area is the safety of its use. It is a leak proof material that reduces the risk of infections and contamination. A good portion of the materials used in treatments have some type of plastic as their base. Plastic is widely used in serum and blood bags, packaging of medicines, surgical gloves, syringes, ampoules, and other materials that are essential for ensuring the safety of both physician and patient.

Another important application for plastic is its use in prostheses, since it makes them more lightweight and resistant. Its use in the human body grows each day, making it a crucial raw material for the advancement of medicine. Plastic materials can also be used in artificial organs and to regenerate parts of organs, such as the heart, lungs and bladder.

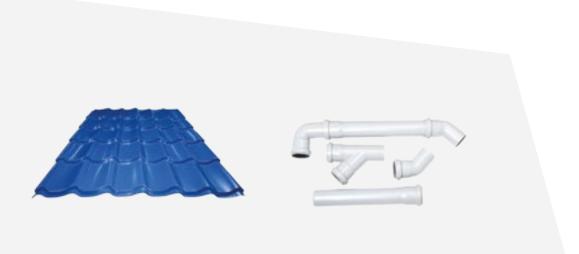
Additionally, it could be said that medicine and hospital administration would not exist as we know them today if it were not for chemicals. Through chemicals, we develop vaccines, medications and different products that are used to manage the hospital environment, such as those designed for sanitization and bacteria removal.

### IN THE AREA OF HOUSING, CHEMICALS AND PLASTICS GENERATE MORE COMFORT AND SAFETY.

Plastic is present during all phases of the construction process. They are used in the manufacture of piping, thermal and acoustic insulation, roofing, chutes, frames, liners, cisterns, water tanks, and more recently, in PVC concrete - one of the materials widely used in construction that has most helped improve people's quality of life. Plastics are corrosion-resistant materials, offer plasticity and also help reduce time and costs. They are an efficient solution in the quest to reduce the country's housing deficit.

Attributes such as light weight, recyclability, the possibility of reuse and improved durability when compared to traditional materials help boost construction productivity and reduce the need for maintenance during the operation phase.

It is also important to note that plastics and chemicals are used inside our homes as well. Plastics are present in household utensils, packaging and furniture, among others. Chemicals are part of cleaning products, adhesives and wallpapers, all essential for our daily life.



### **CLEBIO BATISTA FILHO**



Team Member of the Odebrecht Group since August 2005. Contracts Director at Odebrecht Infrastructure for the project to build 51 teaching units in the municipality of Belo Horizonte (PPP Schools). Graduate degree in Production and Civil Engineering. Certificate program with specialization in Controllership and Corporate Finance from the Accounting, Actuarial and Financial Research Institute Foundation (FIPECAFI). Currently completing his degree in Civil Engineering at the Federal Technological Education Center of Minas Gerais (CEFET/MG).



## **Corporate Governance**

### GRI G4-56

Braskem operates in accordance with the good practices on corporate governance and the public commitment assumed in 2002, the year of the Company's foundation (http://www.braskem.com/Portal/Principal/Arquivos/ Download/Upload/Compromisso\_Publico\_Ingles\_74. pdf). This document defines corporate practices, such as transparency, accountability, and respect for Shareholders, Team Members, Clients, suppliers, and Society in general, as well as the Company's commitment to the principles of sustainable development.

As a publicly-held company, Braskem is listed as Level 1 corporate governance on the São Paulo Stock Exchange (BM&F Bovespa) since 2003 (http://www.bmfbovespa. com.br/en-us/markets/equities/companies/corporate-governance.aspx?ldioma=en-us). In addition, it meets other requirements from Bovespa and Novo Mercado Level 2 corporate governance (a special segment of companies listed on BM&F Bovespa), including:

• Disclosure in English of financial statements in accordance with international standards (IFRS):

- Board of Directors with at least five members and unified term of up to two years, allowing for reelection, and with at least 20% independent directors;
- Tag along for 100% of shares in case of any changes in equity control.

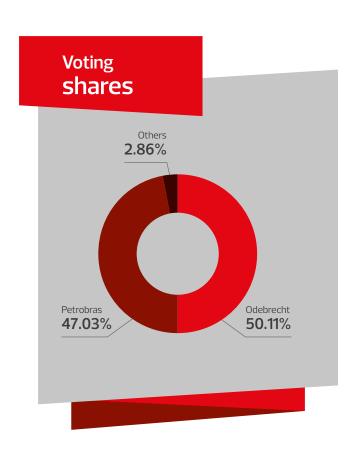
Outside Brazil, Braskem's stock is also listed both on the New York Stock Exchange (NYSE) and with Latibex — the Latin American section of Madrid Stock Exchange, and for this reason, it is subject to the requirements of the respective regulatory agencies, namely the Securities & Exchange Commission (SEC) in the United States, and Bolsas y Mercados Españoles (BME), in Spain. In 2005, Braskem became one of the first Foreign Private Issuers (FPIs) in South America to meet the requirements of sections 404 and 302 of the Sarbanes-Oxley Act (SOX).

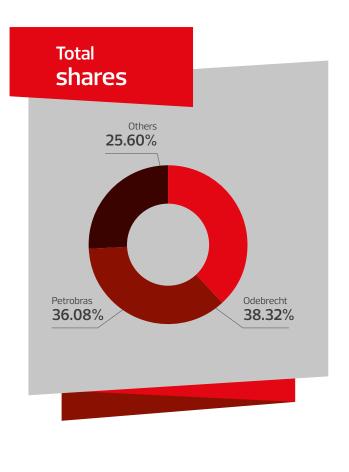
For more information, visit:

Braskem / Corporate Governance

### SHAREHOLDERS' STRUCTURE

Braskem's capital stock is controlled by Odebrecht S.A., a holding company of the Odebrecht Group, with major shareholder participation by Petrobras. As of December 31, 2014, the shareholders' structure of Braskem was:





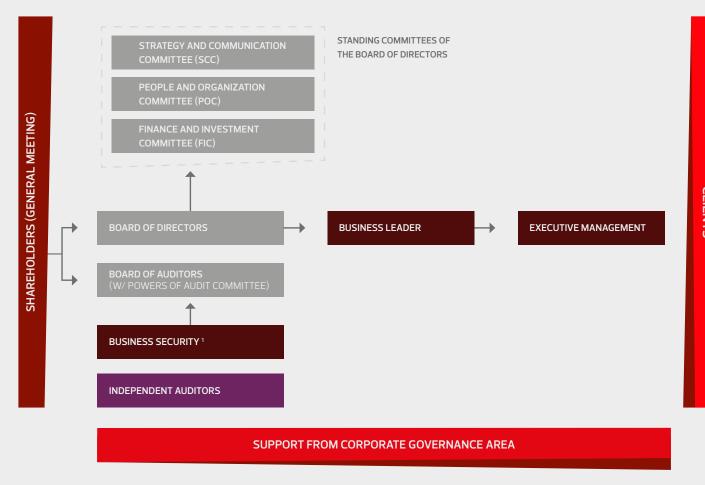
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### **GOVERNANCE MODEL**

### GRI G4-34 | GRI G4-39

The corporate governance model of Braskem is consistent with the objectives of creating value for Shareholders and Clients being structured as follows: The General Shareholders' Meeting, the Board of Directors, the Board of Auditors, the Standing Committees of the Board of Directors, the Business Leader, the Executive Management, and the Independent Auditors.

These bodies interact through the Corporate Governance area of Braskem, with the support of the Business Security area, which is responsible for conducting internal audit and compliance, pursuant to the illustrated scheme below.



1 – area responsible for internal audit and compliance

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### The General Shareholders' Meeting

is the sovereign body, with powers to decide upon all matters relating to the corporate purpose of the Company and to make resolutions as it deems appropriate for the Company's defense and development. Its competences, forms, and functions are governed by the Stock Corporation Law (Law No. 6,404) and subsequent amendments thereto.

### The Board of Directors

is a collegiate body that is regulated by current legislation, by the Company Bylaws, and by its own Rules of Procedure. It is accountable to the Shareholders, other stakeholders, and to society in general with respect to the tangible and intangible assets used to conduct the Company's business. Its main responsibilities are: (a) to guide the Company's business; (b) to monitor its operation and administration; (c) to decide on strategic questions; (d) to advise the Directors on relevant topics; (e) to approve resolutions of general application policies of the Company; and (f) to decide on Investments within its authority, in addition to others set forth in the Company Bylaws.

It is comprised of 11 Directors and their respective substitutes, who can be elected or removed at any time by the General Shareholders' Meeting. Two of the Directors are independent from the Controlling Shareholder, in accordance with the good practices on corporate governance indicated by Bovespa and the guidelines from the Sarbanes–Oxley Act. None of the members of the Board of Directors perform any executive function at Braskem.

### As of December 31, 2014, the Board of Directors of Braskem was comprised as follows:

### **MEMBERS**

- Marcelo Bahia Odebrecht Chairman of the Board of Directors
- José Carlos Cosenza Vice Chairman of the Board of Directors
- Alfredo Lisboa Ribeiro Tellechea
- Almir Guilherme Barbassa
- Álvaro Fernandes da Cunha Filho
- José Alcides Santoro Martins
- Daniel Bezerra Villar
- Marcela Aparecida Drehmer
- Newton Sérgio de Souza
- Patrick Horbach Fairon
- Roberto Zurli Machado

#### **SUBSTITUTES**

- Claudio Melo Filho
- Antônio Aparecida de Oliveira
- Luiz de Mendonça
- Gustavo Tardin Barbosa
- Paulo Oliveira Lacerda de Melo
- Arão Dias Tisser
- Jairo Elias Flor
- Mauro Motta Figueira
- Mauricio Roberto de Carvalho Ferro
- Andrea Damiani Maia
- José de Freitas Mascarenhas

# Actions of the Board of Directors

The main issues addressed by the Board of Directors in 2014 included operational and strategic investment projects (Braskem/Idesa in Mexico, ASCENT in the US, acquisition of Solvay Indupa, and development of COMPERJ Petroquímico), supply of raw materials and energy supply, economic/financial results monitoring, competitiveness, profitability, fixed expenses, approval of the Action Plan of the Business Leader. Pursuant to plans, 12 meetings of the Board of Directors were held in 2014, as well as five meetings of the Board, three of the POC, five of the FIC, and five of the SCC.

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The Board of Directors also has three Standing Committees (as indicated below), set forth in the Company Bylaws and Shareholders' Agreement, which form part of the Corporate Governance structure, and whose objective is to assist and advise the Board on pre-established matters. They are comprised of four members each.

- People and Organization Committee (POC): monitors policies and programs relating to People and Organization (P&O), such as: compensation, Code of Conduct, health, safety, and environment, and private pension plans. In addition, the POC analyzes significant changes in the macrostructure, as well as the replacement and succession of executives in key positions. The POC consists of the following members: José Carlos Cosenza Coordinator; Álvaro Fernandes da Cunha Filho: Jairo Elias Flor: and Daniel Bezerra Villar.
- Finance and Investment Committee (FIC): monitors policies relating to financial matters, insurance and bonds, financial risk management, annual and quarterly earnings, and the alliance agreement; it evaluates and monitors investment projects approved by the Board of Directors, as well as it contributes to preparation of the Action Program (PA) of the Business Leader to be proposed to the Board of Directors, among other matters. The FIC consists of the following members: Marcela Aparecida Drehmer Coordinator; Almir Guilherme Barbassa; Mauro Motta Figueira; and Roberto Zurli Machado.

• Strategy and Communication Committee (SCC): regarding matters of strategic orientation, the SCC evaluates definitions for planning and preparation of the Action Plan for the Business Leader. Regarding communication issues, the CEC monitors new policies and programs on institutional image, sustainability, social responsibility, and communications with capital market. The committee consists of the following members: Newton Sérgio de Souza — Coordinator; Alfredo Lisboa Ribeiro Tellechea; José Alcides Santoro Martins; and Patrick Horbach Fairon.

The Standing Board of Auditors executes activities governed by Law 6,404, the Company Bylaws of Braskem and its Rules of Procedure, and, on matters consistent with Brazilian law, by the United States Sarbanes-Oxley Act (SOX). Pursuant to the requirements set forth under SOX, the Board of Auditors had its activities expanded in 2005, taking on duties of an Audit Committee. Its main responsibilities are: (a) to oversee the actions of the Administration, in order to ensure compliance with their legal and regulatory duties, by issuing opinions and providing information to Shareholders; (b) to monitor the annual and quarterly financial results of the Company; (c) to endorse the annual list of preapproved services that can be provided by the independent auditors; (d) to monitor internal and external audit works; (e) to analyze the recommendations prepared by the independent auditors, as well as the audit reports on internal controls containing issues that could affect the Company's financial statements; and (f) to analyze and make recommendations to the Board of Directors regarding procurement of independent auditors.

The Standing Board of Auditors is comprised of five Members and their respective substitutes, who can be elected or removed at any time by the General Meeting, for one-year tenure. As of December 31, 2014, the Board of Auditors of Braskem was comprised as follows:

### **MEMBERS**

- Maria Alice Ferreira Deschamps Cavalcanti Chairwoman of the Board of Auditors;
- Aluízio da Rocha Coelho Neto
- Ismael Campos de Abreu
- Luiz Gonzaga do Monte Teixeira Manoel Mota Fonseca

#### SUBSTITUTES

- Carlos Alberto Siqueira Gomes
- Tatiana Macedo Costa Rego Tourinho
- Afonso Celso Florentino de Oliveira
- Miqueías Bezerra Simões
- Ana Patrícia Soares Nogueira

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Business Leader and Executive Management Board – actions of the Executive Management Board of Braskem are governed by law and by the Company Bylaws, and include management of the businesses and operational areas of the Company, as well as implementation of general guidelines and policies established periodically by the Board of Directors.

As defined in the Company Bylaws, the Executive Board is a permanent entity at the Company, and must consist of at least four and at most ten Team Members: a President and CEO. Investor Relations Director and the other Directors without any specific designation, elected by the Board of Directors.

The President and CEO, in carrying out the role of Business Leader, is responsible for creating the conditions necessary for the Survival and Growth of Braskem and for the creation and consolidation of the bases for the Perpetuity of the Company, as defined by TEO.

The Company Administration, with the support of the Business Security area, assessed the effectiveness of internal controls of Financial Statements, in compliance with criteria established in the Internal Control – Integrated Framework standard – issued by the Committee of Sponsoring Organizations of the Treadway Commission, and, based on these criteria, it concluded that the Company's internal controls of financial statements are effective.

### The Executive Management Board of Braskem consists of the following individual:

- Carlos Fadigas President and CEO<sup>1</sup>
- Décio Fabrício Oddone da Costa<sup>1</sup>
- Edmundo José Correia Aires¹
- Fernando Musa
- Gustavo Valverde<sup>1</sup>
- Luciano Nitrini Guidolin<sup>1</sup>
- Marcelo Arantes
- Marcelo Lyra do Amaral
- Marcelo de Oliveira Cerqueira<sup>1</sup>
- Mário Augusto da Silva<sup>1</sup> Director of Finance and Investor Relations
- Roberto Bischoff
- 1 Statutory directors.

Business Security – this area is responsible for assessing processes relating to risk management and internal controls effectiveness and their compliance with internal policies and instructions and market regulations, independently and by means of systematic and disciplined approach, with the objective of improving the effectiveness of the operations and adding value to the business.

**Independent Auditors –** responsible for issuing reports concerning the Financial Statements independently and in compliance with the law in force. The company providing auditing services is replaced every five years, at the latest, as determined by CVM Instruction No. 308/09.

#### COMMUNICATION AND TRANSPARENCY

In accordance with legal requirements, Braskem regularly submits information to the Securities Commission (CVM) and to the São Paulo and New York Stock Exchanges, including annual information, standardized Financial Statements, quarterly earnings reports, 20–F Forms (annual report on earnings and performance of the Company, pursuant to standards specified by the SEC), memorandums, acts, notices and significant events. These documents are available on the Company's Investor Relations website – <a href="http://www.braskem-ri.com.br/home-en">http://www.braskem-ri.com.br/home-en</a>.

Members of the Board of Directors and the Board of Auditors have an exclusive information channel that can be accessed through Braskem's internet portal, which provides security, transparency, equity, and speed in the communication process.

Through the Investor Relations (IR) area, the Company maintains a space for constant dialogue on its portal, through which Shareholders, the financial community, and

the general public can review Braskem's Annual Report, Administration Report (annual), quarterly earnings reports, summary of teleconferences pertaining to disclosure of earnings, the agenda of corporate and IR events, Bylaws and policies, industry news and updates, price quotations, charts, and other information.

For internal audiences, the preferred communication channel is Braskem View (intranet), which is available in three versions (Brazil, U.S., and Mexico), and has been used to publish and share national and regional Company's news, corporate and business information, product information, campaigns, and internal processes and distinctions. Braskem View also allows access to systems and personal data of Team Members and has been used for their evaluations. In addition to the intranet, there is an additional channel of communication, the Corporate TV, to share abridged quarterly information and results presented by the Business Leader.

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### **Ethics and Integrity**

### GRI G4-56 | GRI G4-57 | GRI G4-58 | GRI G4-S05 | GRI G4-HR3 GLOBAL COMPACT: PRINCIPLES 1, 2, 6 AND 10

Odebrecht Entrepreneurial Technology (TEO) is the common cultural and ethical reference for Team Members of the companies of the Odebrecht Group, including Braskem. The values, principles, and practices of Corporate Culture are also contained in the Group's Code of Conduct.

Braskem provides to each Team Member, when they are hired, the printed version of the Code of Conduct, in the language of each country in which the Company is active, and explains the values and principles of the Code, as part of the Company's Introduction to the Braskem Culture Program. The Code of Conduct is also available on the corporate intranet and on the Company's website - http://www.braskem.com/site.aspx/braskem-internacional

The Code was revised in 2014 in order to keep it consistent with new laws, including updated content on corruption and practices to improve Corporate Governance. The revised document was distributed among all Braskem Team Members, who participated in a dissemination program, which included the application of a questionnaire to measure assimilation and an electronic signature to confirm receipt and acceptance of the guidelines and requirements from the Code.

**ETHICS HOTLINE CHANNEL** 

Braskem offers the Ethics Hotline channel so that Team Members, suppliers, third parties, Clients and other collaborators can safely and responsibly contribute with information to help the Company maintain a safe, ethical, transparent, and productive corporate environment. This channel can be accessed via internet or toll-free phone call in the language of the countries in which Braskem operates.

All the information received through this channel is analyzed while respecting confidentiality and independence, guaranteeing the anonymity of the reporting parties and secure verification. The results of the respective analyses are presented and discussed by the Ethics Committee, which consists of the Heads of Legal, Business Security, People and Organization, Finance, and Institutional Relations. No form of retaliation is tolerated against any person who reports, in good faith, any concern regarding any conduct, illegal or otherwise, pursuant to the guidelines established in the Code of Conduct.



1 - Registered on the Ethics Hotline.

### Cases of corruption and conflicts of interest<sup>1</sup> GRI G4-S05 GLOBAL COMPACT - PRINCIPLE 10

Year	Confirmed cases	Nature of cases	Actions taken
2013	No case involving any public figures; one case of conflict of interest	A Team Member sought to gain personal benefits in relations with a supplier	The Team Member was terminated and the supplier was blocked and no longer provides services to the Company
2014	No case involving any public figures; one case of conflict of interest	Team Member sought to gain personal benefits in relations with a supplier	The Team Member was terminated and the supplier was blocked

1 – Registered on the Ethics Hotline.

Note: no legal action or proceedings relating to corruption were brought against the Company or its Team Members during the year.

### For more information, visit:

- ♂ Braskem / Corporate Governance
- Braskem / Code of Conduct
- Braskem / Ethics Line





#### nnovation serves the purpose of boosting the Company's competitiveness and meeting its Clients' expectation

## **New fronts**

Braskem is making progress on various fronts of expansion: increasing its lines of production, building new industrial plants, entering into new markets and launching new products, always innovating to boost productivity and meet its Clients' expectations.

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### Markets and production

#### GRIG4-EC8

The investment agenda for expansion of the production capacity of Braskem prioritizes diversification of the raw materials matrix, whether by acquisition of other companies or through the construction of new projects. The main projects underway or under study are identified in the infographic.

#### **UNITED STATES**

The ASCENT project studies for the integrated production of polyethylene from shale gas moved forward and new scenarios have been added to the analysis given the new reality of the global energy market.

#### **MEXICO**

The Braskem Idesa Project is in the final stages of construction. The complex includes a cracker for ethylene produced from natural gas ethane, integrated with three polymerization plants, in addition to the utility plants (energy, water, and steam). Supply of natural gas as a raw material is guaranteed under a 20-year contract with Pemex (stateowned oil and gas company). Learn more in Braskem Idesa.

#### **VENEZUELA / PERU**

Braskem continues to assess opportunities for expansion in these countries.



# BAHIA **RIO DE JANEIRO** IO GRANDE DO SUL Note: attempts to acquire the PVC and liquid soda units of Solvay Indupa - the Administrative Council on Economic Defense (CADE) rejected Braskem's proposal, despite all the Company's efforts.

#### **BAHIA**

In order to expand production capacity of linear low-density polyethylene (LLDPE) to 120,000 tons per year, Braskem completed an investment of some R\$ 50 million at one of its factories in Bahia. The initiative will supply nearly all of domestic demand for this product, which previously relied on imports. Of the total production already underway, 100,000 tons are part of the Braskem Flexus® family, a metallocene-based polyethylene used in packaging that requires characteristics such as increased strength, gloss, transparency, and sealing power. Since 2004, Braskem has been the leader in the Latin American market in the supply of metallocene-based polyethylene, which represents nearly 20% of the LLDPE market, and is growing at above–average rates in this market.

Braskem will be the supplier of propylene, sodium hydroxide, and utilities, in addition to investing in hookups to supply raw resources and utilities needed for the BASF acrylics plant in Camaçari (BA), with launch expected in 2015. The acrylics complex will meet the needs of several industry segments, including paints, adhesives, diapers, mining, textiles, paper, civil construction, and petroleum extraction. A positive impact on the Brazilian balance of trade is estimated in the order of US\$ 200 million in import substitution and US\$ 100 million in increased exports. Nearly 2,000 people were employed during construction, while 230 direct jobs and 600 indirect jobs will be created when it starts operations.

#### **RIO DE JANEIRO**

Studies for the COMPERJ Petrochemical Project (Petrochemical Complex of Rio de Janeiro) were completed, and the most attractive option identified was the project for expansion of Braskem production at the Duque de Caxias complex (RJ). Moving forward, progress will depend on the viability of a long-term contract for supply of raw materials from Petrobras. Braskem remains committed to making this important strategic project a viable reality.

#### RIO GRANDE DO SUL

Launch of low-density green polyethylene (LDPE) line, with annual production capacity of 30,000 tons. LDPE is used in the production of packaging and films, and the main Client for green resin is Tetrapak®, which in 2014 began using this resin in its packaging produced in Brazil.

### **BRASKEM IDESA: PROGRESS**

GRI G4-EC8 | GRI G4-EN14 | GRI G4-SO1 | GRI G4-SO2 | GLOBAL COMPACT - PRINCIPLES 7 AND 8

The most important action towards achieving the Company's strategic objectives of growth, international expansion, and diversification of raw materials is the complex being constructed in Mexico in partnership with local petrochemical company Idesa. Construction is in final stages and is 88% complete in terms of physical structures.

### Profile and economic impact of the project

The complex includes a cracker for ethylene produced from natural gas ethane, a competitive raw material, for which the project enjoys guaranteed supply under a 20-year contract with Pemex (state-owned oil and gas company), integrated with three polymerization plants, in addition to utility plants (energy, water, and steam). The strong partnership between Braskem, Idesa and Pemex helped contribute to the development of the Mexican petrochemical industry.

Annual production capacity of the complex will be 1.05 million tons of high—and low—density polyethylene, equivalent to approximately two—thirds of the total PE imported by the country. On average, Mexico consumes 1.8 million tons/year of imported polyethylene, an amount which will be significantly reduced once Braskem Idesa comes into operation, which should occur in the fourth quarter of 2015.

A positive impact on the country's balance of trade is estimated in the order of US\$ 1.5 billion to US\$ 2 billion annually. In addition, during the construction phase, the project acquired US\$ 1.345 billion in services and materials from Mexican suppliers, 54% of the total.

In addition to the large domestic consumer market, Mexico has free trade agreements with more than 40 countries, which will facilitate the access of Braskem to those markets.

Of the US\$ 3.2 billion obtained to finance construction in 2012, funded by a multinational pool of seven leading banks and lending agencies (three development banks, two export agencies, and two multilateral agencies), as well as ten commercial banks, 90% of that total had been disbursed as of December 2014.

IMPACT ON MEXICAN TRADE BALANCE

US\$ 1.5 billion to US\$ 2 billion estimated per year

### USS 1.345 billion

in services and materials from Mexican suppliers, 54% of the total

**1.05 million tons** of high- and low-density polyethylene

**1.8 million tons** of polyethylene per year

### Communication and engagement

In keeping with the principles of social responsibility and transparency, the subsidiary keeps local Communities informed as to the progress and impacts of the project through its Public Participation Program. The Communities closest to the complex are regularly contacted by a dedicated team that conducts regular visits.

For the cities within the complex's area of influence. Casas Abiertas events are held not only to provide information but also allow people to voice their concerns and suggestions regarding the project. In 2014, four events were held: two in Coatzacoalcos and two in Nanchital, with the attendance of 419 people, totaling 1,591 individuals since the program's first activity. All evaluations received were positive and of the 420 comments recorded, 75 were suggestions to improve the event or the social aspect of the project. All other comments reflected people's satisfaction with the quality of communication and with the environmental and social impact of the Braskem Idesa complex.

### **Recruitment and training**

Hiring has continued for professionals to work at the Mexican petrochemical complex. By the end of 2014, a total of 588 professionals had been hired, and once the plant is in operation, it will employ nearly 3,000 professionals, including Team Members and contract workers.

In 2014. 187 Mexican Team Members were trained in Brazil using the Education Through and For Work process. Trainees visited various Braskem plants so as to develop technical skills centered on Company operations and processes.



CASAS ABIERTAS

**1,591** people

registered since the program's first activity

### Youths' opinion

The sixth edition of the "Empresa de los sueños de los jóvenes" survey ranked Braskem Idesa as the fifth most desirable company for Mexican recent graduates. Reasons: constant challenges, opportunities for professional development and possibility to work at a company that invests in innovation. The survey was conducted by Cia de Talentos and Nextview People in 2014.

### Local development

Nearly 16,500 people were involved in the project in 2014, including direct and indirect hires, most of them (nearly 90%) are from the surrounding Communities. As a result of the conclusion of certain stages, approximately 4,800 people had been demobilized at the end of the year.

This process of demobilization will continue in 2015 until conclusion of works, posing a challenge for Braskem Idesa as it continues to include local Communities in its value chain and to encourage local development.

With this objective, the subsidiary developed a Strategic Social Investment Program that includes three stages. The first stage is the development of Production Projects, identifying regional vocations and training people to serve as suppliers for the complex and for other companies in the

16,500 people WERE INVOLVED IN THE PROJECT most of them (nearly 90%) are from the surrounding Communities

### THE FIVE PRODUCTION PROJECTS



Raising of tilapia



**Cleaning products** 



Supply of uniforms



Recycling of materials provided by Braskem Idesa for production of handicrafts, for instance



Raising of chickens

region. After extensive consultation with potential participants (during which a variety of options were presented), five production projects were selected by the majority.

The next two stages of the Strategic Plan include: training to allow individuals to gain employment in the industries that will provide necessary support services for Braskem Idesa (such as transportation, food, security, logistics, etc.), and development of a local industrial complex, centered on the transformation industry, with the aim of generating more jobs, government revenue, and local investments.

#### 93% are women 200 participants

The participants are receiving courses on administrative organization, technical training, and skill building. The next steps include legal incorporation of the companies, the elaboration of business plan, and launch of production, expected to take place in June 2015.



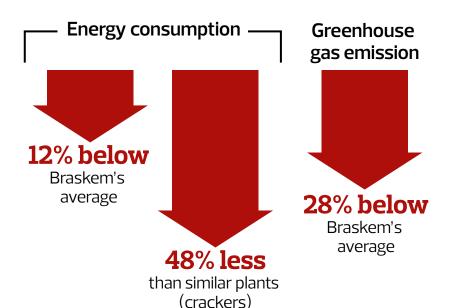
### **Environmental impact**

The environmental impacts inherent to a project of this size and scope have been reduced by mitigation actions, including creation of an environmental protection area, which will receive species at risk of extinction found around the periphery of the project and offer space for the growth and multiplication of new individuals of such species, and the use of the latest technologies.

Future environmental impacts of operation were included in the cost / benefit assessment of equipment, in order to select the best possible technologies. For example, it is estimated that energy consumption will be 12% less than Braskem's average. When compared directly to similar plants (crackers) the reduction is nearly 48%. This reduction will also be reflected in the intensity of greenhouse gas emissions, which will be 28% less than Braskem's average. With regards to water consumption, nearly US\$ 40 million were invested in water reuse installations, which will provide a reuse rate of approximately 20%. The complex will begin operations in compliance with the water quality requirements established for the region for 2018.

In response to one of the local population's most frequent concerns expressed through the Public Participation Program, relating to environmental quality, participative environmental monitoring is underway to establish baseline local conditions. Community Representatives were trained to take measurements of contaminants in the air and water as well as levels of dust and noise. These individuals accompany specialists hired to record conditions throughout the year. Monitoring will continue after the commissioning of the petrochemical complex, allowing the Company to identify the impact and maintain current levels of environmental quality.

In 2014, approximately US\$ 600,000 were invested in reforestation activities, environmental monitoring, waste disposal, and preservation of biodiversity at the complex.



# **U\$ 600,000**

was invested in reforestation activities. environmental monitoring, waste disposal, and preservation of biodiversity at the complex, in 2014.

### Clients and commercial strategy

Pre-marketing activities were intensified in 2014. Since 2012, the sales team at Braskem Idesa has been mapping out the Mexican market for polyethylene and contacting local transformers, in order to develop a portfolio of Clients. By the end of 2014, there were 305 Clients, exceeding the target of 230 established for the period.

The focus has been placed on small and medium-sized companies, given that the availability of polyethylene is still limited to pre-marketing sales. The objective for 2015 is to expand geographic coverage to other regions in the country and to begin contacting larger transformers in order to guarantee a solid Client portfolio for the opening of the center. In order to conduct these pre-marketing actions, Braskem Idesa has acquired polyethylene from distributors and has also received product from Brazil.

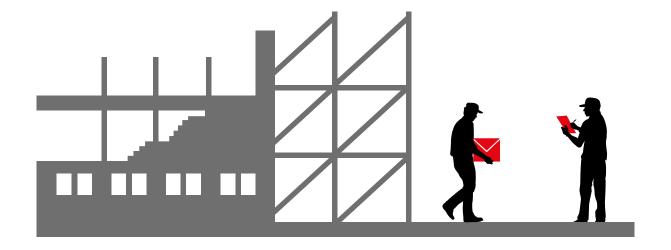




### Preservation of cultural heritage

The petrochemical complex construction works were monitored by a team of specialists from the National Institute of Anthropology and History (INAH, Mexico) to ensure that any archeological remains were properly identified and recovered.

The pieces found are currently part of the INAH-Veracruz collection. In those cases in which important and significant findings were made, the works of the new project were altered to ensure the preservation of the local culture. The findings were documented in a specific publication -Hallazgos Argueológicos en la Cuenca Baja del Coatzacoalcos – in partnership with INAH.





Located in the State of Veracruz, along the coast of the Gulf of Mexico, it is the largest private investment in the country. Braskem's stake is 75%, and Idesa's is 25%. **O** 2008

the Mexican Government launches international tender for installation of a PE-producing petrochemical complex in the State of Veracruz.

**2009** 

the **Braskem Idesa** partnership (Idesa being a Mexican business group with a history in petrochemicals) is awarded contract.

Shareholding



**O** 2010

the two companies create a joint venture, **Braskem Idesa** and establish a contract with Pemex for guaranteed supply of ethane for 20 years.

**2011** 

construction consortium contracted for EPC (Engineering, Procurement and Construction) for total execution of the project. The engineering and procurement stage involved companies from Mexico, the United States, Europe, South America, and Asia.

**O** 2012

signing of contracts totaling US\$ 3.2 billion for the construction and operation of the petrochemical complex.

**O** 2013

58% of the project completed

**O** 2014

88% progress on the project's physical structures

### **Products**

#### GRI G4-EC8 | GRI G4-EN7 | GRI G4-EN27 GLOBAL COMPACT - PRINCIPLES 7, 8 E 9

In order to continue to innovate and serve our Clients with the utmost quality standards, thereby improving the lives of people, Braskem's teams seek solutions in the segments in which they operate, investing resources and creative efforts to expand the use of plastics in society. Eleven new products were presented in 2014. Learn more about some of the highlights and examples of improvements offered by the products launched during recent years.

#### PE

Technologies for agribusiness: a solution developed in partnership with the Client Electro Plastic, Black and White Mulching is specific to citrus farming. The solution consists of a polyethylene film with special additives, the purpose of which is to cover the soil to control weeds, maintain humidity and temperature, and improve root development, with lower water consumption. After two years of product testing, plant growth was proven to be improved with 14% greater height and up to 54% more productivity.

Innovation in rotational molding: a new hexane-based linear middle-density polyethylene for technical, agricultural, and automobile parts, with better

performance in mechanical properties. Mechanical strength is the fundamental characteristic for parts that are used over long periods of time. The most common applications of rotational molding are water reservoirs, tanks, and cisterns, as this plastic provides greater installation speed. durability, and waterproofing than other materials.

Pipes and water mains: a new polyethylene resin intended for application in water and natural gas pipes and water mains, offering improved durability to guarantee all segment standards are met (ISO, DIN, EN, and NBR). This product is more durable; for example, it can reach 100 years of use for pressurized pipes (50% longer than the resin used previously). The growing demand for this kind of resin is related to large infrastructure works and the federal government program called Saneamento para Todos (Sanitation for All, in English) which seeks to offer better health conditions for the population. The Clients using this product include: Tigre, FGS, Kanaflex, Majestic, Polierg, and PolyEasy.

**Acoustic insulation cover:** sales of this product remain on an upward trend, as a result of the approval of ABNT 15575

Construction Performance Standard, in effect since June 2013, which establishes. among other provisions, the reduction of impact noise using slabs between floors in new buildings. Developed by Multinova in partnership with Braskem, these expanded polyethylene covers have been proven to guarantee acoustic insulation between apartments in studies measuring impact noise, mechanical stiffness, and compression fluency on the subfloor. This solution offers the best cost/benefit tradeoff in the market, with a reduction of up to 50% in investment per m<sup>2</sup> as compared to other solutions offering the same level of acoustic insulation.

Flexus7200XP: a new linear low-density polyethylene resin produced with a metallocene catalyst and developed for stretch film extrusion using a cast film. It is highly resistant to impact and puncture and has good load retention and provides more transparency. This product also provides the Client with greater productivity, as it keeps the cast film clear longer, decreasing the frequency of machine shutdowns. This new resin is the result of work performed in partnership with Clients over the course of a year.

#### PP

#### Odebrecht Braskem Design Challenge:

In addition to Odebrecht Properties and Braskem, the second edition of the Design Challenge was conducted in partnership with Tramontina, a Braskem Client, and the design agency Mais Packing. The aim of this edition was to encourage creativity among university students in the creation of plastic furniture for primary/secondary school settings, as it provides greater durability at a lower cost. The initiative involved the participation of 18 students from six universities in São Paulo. The students attended lectures and technical training on plastic applications and versatility, as well as on current design trends. The winning items will be produced and sold by Tramontina.

Maxio® Line: composed of various products that provide Clients with social and environmental improvements, such as reduced energy and/or raw material use, and greater productivity, e.g., reduced processing time. In 2014, , the year the seal was launched, two new grades were launched and sales increased by 27% over 2012 totaling 121,282 tons, distributed in nine items that comprise the portfolio for this line.

Updates to the Maxio<sup>®</sup> line in 2014 include:

- KM 6150HC Grade (polypropylene): launched in April 2014 for use in injection molding of plastic furniture. During market testing, it showed an increase of 25% in impact strength and 6% in stiffness as compared to its predecessor, the KM 6150. The new grade guarantees increased performance in the plastic furniture segment, especially for monoblock chairs (produced in a single stage using the injection process). In addition to safety benefits, this product provides up to a 12% reduction in weight of the monoblock chairs with increased quality and performance.
- RP 149 Grade (polypropylene): seeks to meet market demand for resins with improved fluidity (87g/10 min). This new grade provides increased ease in filling molds for large parts (for example, organization boxes and baskets), with reduction in the injection cycle without loss of any mechanical properties. The reduced injection temperature, as compared to grades with increased fluidity, also provides energy savings for plastic transformers.



### Gains from Maxio<sup>®</sup> line in the Clients' production chains

Braskem supports the monitoring of its Clients' gains from the Maxio<sup>®</sup> line, in order to better understand these products' contributions. Below are some examples of Clients who have achieved gains in efficiency and improved environmental performance in 2014:

- SÃO BERNARDO: the use of the Maxio<sup>®</sup> line resulted in a reduction of 21% in the energy consumption of São Bernardo, a company that produces plastic householder items for more than 20 countries. São Bernardo achieved gains beginning with the first tests conducted with the H 105 resin, used in transparent packaging. In addition to energy savings, they were also able to reduce the temperature applied during industrial processing by 12%, and the production cycle time by 3.5%. Reduction in these indicators decreased the Client's environmental impact, allowing it more freedom to supply the market with sophisticated and varied products while providing access to new markets.
- CLIENT FROM ELECTRONICS SEGMENT (1): this company used the Maxio® H201 grade in two items, resulting in an 8.2% increase in productivity in one item and 10% in the other, as well as reductions in electricity consumption of 30% and 12%, respectively.
- CLIENT FROM ELECTRONICS SEGMENT (2): this company used the Maxio® H202HC grade in two items, obtaining estimated reduction of 26% and 46% in electricity consumption in the production processes of both items.
- CLIENT FROM FURNITURE SECTOR: this client used the Maxio<sup>®</sup> KM 6150HC grade in plastic furniture to increase its resistance, allowing for a reduction of 13% in the weight of the chair model manufactured.
- RAFFIA PRODUCER: creating a new formulation for the product, using the Maxio® line, this Client boosted productivity by up to 23% in ribbon forming.

- MINERAL WATER GLASSES PRODUCER: the new formulation for the product, using the Maxio® line, reduced breakages of packaged cups during transit from 15% to zero, also providing productivity gains of 25% in the production of plates for the manufacture of the cups.
- DETERGENT PRODUCER: the use of the Maxio® EP 548S grade in detergent lids reduced loss from 3% to zero.
- PACKAGING PRODUCER: this client replaced a conventional product with the Maxio® HP 427J grade, obtaining a 50% reduction in the number of breaks in film during production and a 15% decrease in thickness variation, in addition to a drop in average processing temperature of 3°C, achieving better mechanical properties in the film produced.

In environmental terms, it is important to note that improvements in energy efficiency and cycle times and reductions in product loss or weight also reduce the use of natural resources, both in energy production and product formulation, also decreasing GHG emissions associated with the manufacture and transportation of these products.

#### **PVC**

PVC roofing tiles: sold by Precon since 2011, increasing sales have brought this segment to include eight manufacturers in Brazil and to incorporate multiple extrusion lines (total of 32), with resin consumption of some 7,000 tons, 40% higher than in 2013.

The Brazilian Association of the PVC Roofing Tile Industry (ABITELHA) has also been instrumental in developing this market, by standardizing the product and disseminating the solution at trade fairs. PVC roofing tiles offer benefits over a conventional system, such as practicality, durability, and a 25% reduction in cost – from the roofing structure to the tile installation. The PVC roofing tile sector is expected to achieve 10% market share within 10 years.

PVC Concrete Construction System: this reflects an important development in the Construction System project, with inclusion of new products and public contracts awarded to Braskem Clients. Global Housing, for example, was awarded the contract for a construction system to build 500 daycares (Leading Childhood Education Centers, abbreviated to CREI in Portuguese) through the Brasil Carinhoso Program of the Federal Government. Use of this solution allows for a reduction in construction time from eighteen months (masonry daycare buildings) to six months. Royal Indústria do Brasil, also a Braskem's Client, won the bid of the Government of Minas Gerais for supplying the construction of eight thousand home sanitary modules, which will initially serve 12 municipalities, with construction time reduced to two days and improved public health conditions, as a result of the replacement of non-septic tanks, which contaminate the water supply, with septic tanks that ensure proper disposal of waste.

### **Life Cycle Assessment**

Since 2005, Braskem has used the Life Cycle Assessment (LCA) methodology to better understand aspects relating to sustainability in its value chain. The LCA is used to study potential environmental (and, in some cases, social) impacts throughout the life of a product or service, from raw material extraction to final disposal. By comparing different products or usage scenarios, the Company is able to conclude which option is the most sustainable and best supports business decisions.

The Company has 58 studies in the LCA pipeline, 20 more than in 2013. Twenty-eight of these studies have been completed (13 of them are in the publication stage), 24 are still in progress, and six are in the exploratory stage. In addition to these studies, Company plants are currently performing inventory, and 65% of the process has been completed for operations in Brazil.

Below are some examples of studies concluded in 2014:

- Manholes (PE): in underground systems (sewage and rainwater runoff pipes), points of access must be created in order to inspect and maintain pipes. These points are known as manholes, and they can be made using reinforced concrete staves or rotomolded PE. This study compared the environmental performance of both solutions, demonstrating that PE is more environmentally sustainable due to various factors, including a 60% reduction in water consumption during the entire life cycle..
- Surgical kits: a comparative study of surgical kits (four surgical fields and two aprons) used during surgical procedures. They can be made of woven cotton (reusable) or from nonwoven polypropylene

(disposable). Considering that after six uses, the cotton option loses its barrier properties and no longer offers effective protection, the nonwoven option offers better environmental performance, for instance by reducing water consumption by at least 80%.

• Vitopaper® (plastic-based paper): study that compares, from an environmental point of view, the use of biooriented polypropylene film (BOPP) to coated paper for the printing of the Braskem's Annual Report. In addition to the differences in production of these two materials, there are also differences in the printing processes and types of ink used. This LCA demonstrated that Vitopaper® is environmentally better than coated paper. For example, the impact on climate change of Vitopaper® is 30% lower than that of coated paper.

The sustainability of plastic as a solution to improve lives is a strategic issue for the Company and of interest to its stakeholders, especially Clients. The concept of the life cycle is increasingly acknowledged and applied at the Company thanks to the growing involvement of its business units in these studies.

LCA studies available for consultation will be listed on http://www.braskem.com.br/site.aspx/Life-Cycle-Assessment-USA

beginning in May 2015 and may be requested by e-mail to acv@braskem.com.

#### For more information, visit:

Braskem / Life Cycle Assessment (LCA)

### **LCA** network

Braskem assumed the chairmanship of the Brazilian Business Network of Life Cycle Assessment in July 2014, for a period of two years. One of the objectives of the Network is to disseminate the use of LCA technique, encouraging cooperation among Brazilian companies interested in the issue.

Activities performed by the Network in 2014 include training of professionals on life cycle management and launching an incentive for creation of a national database that has inventory from various economic sectors.

Through the end of 2014, twenty companies have joined the Brazilian LCA Network: BASF, Braskem, Boticário, Danone, Duratex, Embraer, Embrapa, GE, Klabin, Natura, Odebrecht, Oxiteno, Pepsico, Petrobras, Raízen, Tetra Pak, Vale, Volkswagen, Votorantim Cimentos, and 3M.

Here it bears mention that the Brazilian Business Council for Sustainable Development (CEBDS) assumed coordination of the Brazilian I CA Network in 2014.

### **Innovation**

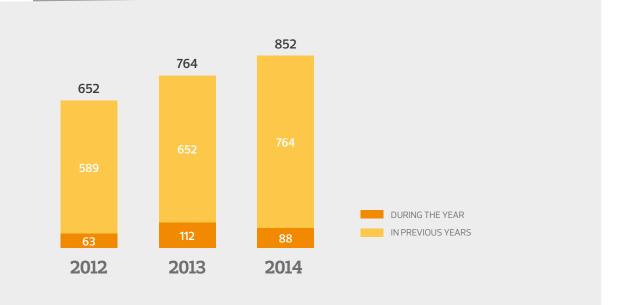
Innovation is an essential part of Braskem's corporate strategy and is fundamental for meeting the Company's sustainable development macro-objectives. Innovation leads to competitive advantages and growth, allowing the Company to survive and thrive as better solutions are created to meet the demands of Clients and of society.

Braskem has a team of 312 specialized professionals dedicated exclusively to researching and developing products, processes, and applications, two Innovation and Technology (I&T) Centers, one in Triunfo (RS) and the other in Pittsburgh (Pennsylvania), 23 laboratories, and seven pilot plants<sup>1</sup>, where testing is conducted and improvements are made. We also conduct several innovation projects in collaboration with partners, such as companies, universities, and research centers.

In 2014, the Company opened its new Renewable Chemicals Laboratory in Campinas. That space is dedicated to biotechnology projects and chemical processes using renewable resources, strengthening Braskem's commitment to sustainable technological alternatives, which constitutes one of the Company's sustainable development macro-objectives. The laboratory employs 28 researchers and uses high performance equipment such as High Throughput Screening (robotic equipment that allows execution of various simultaneous experiments significantly boosting productivity) and high sensitivity chromatography for chemical analysis, which is able to separate mixtures in liquid phase and held to identify compounds.

1 - In 2013, Braskem had 24 laboratories and eight pilot plants. In 2014, one laboratory and one pilot plant were deactivated, both in Camaçari (BA), as they were linked to the FIO DE UTEC project (or UTEC THREAD, in English) that was completed in the period.

### **Submitted Patents**



### **Innovative** company

#### GLOBAL COMPACT - PRINCIPLE 9

In February 2014, Braskem was included in the list of the 50 most innovative companies in the world, according to the annual ranking published by the economics and business magazine Fast Company, earning distinction for its research work in products of a renewable origin, such as Green PE. Fast Company is one of the largest media publications in the United States and it evaluates thousands of companies around the world, considering the impact of their innovations on society.

With an annual budget of approximately R\$ 30 million, this new laboratory also received support and funding from the Brazilian Government Innovation Agency (FINEP) -Innovation and Research and backing from Investe SP, an investment promotion agency of the State Government of São Paulo under the Secretary of Economic Development, Science, Technology and Innovation, to select the best location for the opening of the laboratory.

A piece of equipment was also purchased known as the gel permeation chromatograph, at a price of R\$1 million, for the I&T Center in Triunfo, which will be used to evaluate the size and alterations of the polymer chains being researched at the laboratories, both which are important characteristics in the transformation and application of the plastic resins developed by the Company. The expected results include increased productivity, reduced consumption of solvents, and reduced quantity of waste, which will make the process more economically and environmentally sustainable.

Also in 2014, Braskem signed an agreement with the Brazilian Government Innovation Agency (FINEP) to use nanotechnology in the development of plastic packaging with a high barrier to gas, steam, and chemical solvents, which can help, for example, increase the preservation of foods. The improvement of resin properties is possible thanks to the addition of miniscule particles from other nanometric materials (for purposes of comparison, a nanometer is nearly 50,000 times smaller than the thickness of a strand of hair).

Research will be conducted at the I&T Center in Triunfo (RS) and the goal is to complete the project by the end of 2016. FINEP will supply an amount of R\$ 2.97 million in the form of a government grant, and Braskem will provide funding totaling R\$ 1.66 million.



#### **MANAGEMENT**

The research teams utilize a single system for project control, with comparable metrics and parameters, which facilitates the consolidation of data by number of projects under way, resources employed, researchers involved, innovation by business area, among other information. The system adopted facilitates reporting to public agencies and financiers.

Monitoring of technological trends in the global chemical industry represents another important area activity, and is fundamental to identifying what is going on in the sector, as well as opportunities, challenges, and threats for the Company's product portfolio. Monitoring also includes renewable material-based chemical products, polymers, and fuels.

In order to assess the innovation portfolio's adherence to Braskem's sustainability strategy, in 2014 development of an assessment tool was completed, with pilot projects and inclusion in management systems being carried out. Indicators based on Braskem's ten sustainability macro-objectives for 2020 - safety, water efficiency, energy efficiency, climate change, renewable resources, post-consumption, economic and financial results, local development, development of solutions, and strengthening of practices - are evaluated.

Once the questionnaire, which is made available through the Company's project management system (Clarity), is completed, the results are displayed in a dashboard that shows the overall sustainability score of the project, the results in each sustainability dimension (environmental, economic, and social), and the score for each macro-objective. These indicators offer a useful tool to identify the project's strengths and improvement points. The dashboard also allows users to compare projects and have a general overview of the innovation portfolio, assessing its adherence to the Company's sustainability strategy, while also evaluating how innovation at Braskem is evolving over time on issues of sustainable development.

### **Highlights** in 2014

- Expenditures of about R\$ 230 million, 15% more than in 2013.
- 15% of the sales generated by the Polyolefins Unit (Brazil) were based on products developed in the last three years.
- 490 Clients were supported by the Innovation and Technology Center in Triunfo (RS), through 14,000 support analyses.
- More than 50 Clients were supported by the Innovation and Technology Center in the United States.
- 261 projects are in the Company's Innovation and Technology pipeline to meet the needs of the various business areas.
- 88 new patent applications were made, making a total of 852 patent documents filed in countries such as Brazil and the United States, as well as in Europe and Asia, and the majority of new applications are related to technologies that use renewable resources.

#### **PARTNERSHIP**

In addition to its internal team, Braskem operates through partnerships with Brazilian and international universities, companies, and external research centers, which help to streamline access to trends and opportunities in petrochemical- or renewable-based chemicals and polymers, through an exchange of experience and knowledge. One such partnership exists between Braskem and the São Paulo State Research Support Foundation (FAPESP) in conducting the FAPESP-Braskem Call for Bids. Thus far, three public calls for projects have been made, and the costs of each are divided equally between FAPESP and Braskem. Five projects have already been completed and another is underway. For more information on public calls for projects, visit www.fapesp.br/8262 (available only in Portuguese).

### Green **ISOPRENE**

#### GRI G4-EN27 | GLOBAL COMPACT - PRINCIPLE 9

In continuing its research on raw materials obtained from renewable sources, Braskem signed a technological cooperation agreement with American company Amyris and the French firm Michelin, in order to develop a technology for production of isoprene (a chemical input used by the tire industry and in other rubber products) using vegetable sugars, such as those found in sugar cane and in cellulose inputs.

This partnership is expected to meet the long-term needs of the tire industry to supply the market with chemical products from renewable sources. The initiative is also aligned with one of Braskem's sustainable development macro-objectives, which is to be recognized as a company that supports its Clients in the development of solutions that generate social and environmental benefits, helping to increase the perception of chemical products and plastics as a solution for sustainable development due to its potential to improve people's lives.



### Ethylene: new technology

#### GLOBAL COMPACT - PRINCIPLE 9

In keeping with its Innovation-based investment strategy, Braskem signed a collaboration agreement with the American firm Siluria Technologies for direct conversion of natural gas to ethylene, which is the main raw material used in the petrochemical industry. Siluria is a technology development company that focuses on production of fuels and chemical products made from natural gas. The technology, called oxidative coupling of methane (OCM), seeks to eliminate the initial naphtha cracking process (i.e., the breaking down of molecules to obtain ethylene), offering potential savings in investment and production costs.

Together, both companies will conduct a study to identify the commercial perspectives of this technology at the Company's ethylene-based plants. The contract provides for the following:

- installation by Siluria of a 300 ton/year demonstration unit at the Braskem industrial site in La Porte. Texas:
- operational support and supply of utilities by Braskem for the demonstration unit;
- favorable licensing options for use of the Siluria technology on a commercial scale by Braskem.

### Green butadiene

#### GRI G4-EN27 | GLOBAL COMPACT - PRINCIPLE 9

Braskem continued to develop a new technology for the production of butadiene from renewable sources (sugarcane, in this case), in partnership with Genomatica, an American biotech firm. The agreement was signed in 2013 and seeks to develop competitive routes in terms of production costs. Based on the agreement, if the results are successful, Braskem and Genomatica will build a pilot plant and demo plant in the coming years. Above all, the purpose is to meet the demand of the synthetic rubber market, which has been met primarily with naphtha-based butadiene.

# **Strengthening Clients**

In keeping with its commitment to strengthening its Clients, Braskem implemented a series of initiatives through the Incentive Plan for the Plastic Chain (PICPlast) and the Visio Program, in addition to various actions aimed at boosting relations.

Braskem launched a communication platform to publicize the advantages of using plastics in packaging for its Clients in Brazil. With the name "Let's Talk Packaging", the new platform presents as its main channel a portal that combines trends, innovations and market design. The idea is to share ideas with Clients and other players in the production chain, and to foster new partnerships for packaging development. The website is www. letstalkpackaging.com.br (available only in Portuguese). There is also an email channel for receipt of newsletters - packaging@braskem.com.

### **Publicity**

In order to support Clients in publicizing their products, Braskem participates in trade shows and events, in partnership with the Brazilian Association of the Plastics Industry (ABIPLAST). Some highlights from 2014 include:

- Agrishow an international trade fair on agricultural technologies, during which innovative technologies and solutions were presented for the agribusiness sector, an important sector for the plastics industry as a main driver of growth in Brazil. The possibilities for plastic applications in this sector are wide-ranging, including things like silo bags, geosynthetic membranes, bulk containers, packaging for fertilizers and seed, and raffia sacks. In regions where water is scarce, plastic can be used to cover reservoirs or irrigation channels, reducing water loss and contamination.
- Concrete Show a global civil construction event. The products presented included both products already consolidated in the market, such as PVC tubes and fittings and PE water tanks, as well as new technologies, such as PE acoustic covers and PVC window frames, among others.
- Interpack a trade fair that brings together packaging producers from around the world, held in Düsseldorf, Germany. The Company's presentation focused on Green PE, which offers solutions for rigid and flexible packaging applications, lids, bags, and other packaging items.

### **PICPlast**

In 2014, the Incentive Plan for the Plastic Chain (PICPlast) broadened its scope of action and obtained its first results. Launched last year in partnership with the Brazilian Plastics Industry Association (ABIPLAST), the program was designed to support the development of the entire sector through actions that encourage an entrepreneurial and innovative culture in the transformation industry.

The plan is centered on three major themes: (1) promoting exports of PE and PP transformation products; (2) encouraging competition and innovation in the industry; and (3) publicizing the advantages of plastics. Priorities and actions were defined jointly by Braskem, ABIPLAST, and the Clients involved, while funding for initiatives is provided by Braskem and its Clients.

### Testimonials on the importance and impact of the Incentive Plan for Competitiveness and Innovation.

#### Business development

"Our industry needs to consolidate in order to be competitive. Increasingly we need initiatives that incentivize corporate management and knowledge of policies on negotiation, costs, innovation, and sustainability." – Edilson Deitos, Director of Zandei Plásticos, a packaging manufacturer, and President of the Plastic Material Industries Trade Union of Rio Grande do Sul (SINPLAST).

### Training on costs and profitability

"A complete spreadsheet system was presented to us for recording of costs. Excellent tool that allows the entrepreneur to clearly and quickly analyze his/her business and product portfolio in a clear and efficient way, aimed at increasing profitability and earnings." - Olympio Abrão, Director of Grafigel, a packaging sector company, and President of the Plastic Material Industries Trade Union of the State of Goiás (SIMPLAGO).

#### Management and support for Innovation

"We brought together our associates from various areas and States to conduct an in-depth analysis of the development of new products. I believe that this advisory will help us to create a systematic process to seek new market and innovation opportunities." – Pedro Penna, Industrial Director of Atex.

#### **PROMOTING EXPORT OF** TRANSFORMATION PRODUCTS

- Braskem offers incentives for purchase of resin by exporters, in order to make them more competitive in export markets. The initiative determined that the best way forward is to offer training for exporters.
- Forty-five Clients joined the program, which invested RS 42 million and sold 35.000 tons in 2014.
- Seven export training events were conducted, with participation of 141 companies. Technical aspects concerning exports and access to export markets are among the topics addressed during training.
- Company training goals for 2015: 380 on exports in 14 Brazilian states 72 on business development 400 on cost control and profitability 100 on managerial development 30 on management and support for innovation

#### INCENTIVE FOR COMPETITIVENESS **AND INNOVATION**

- Training for entrepreneurs, with a focus on management. Six-course program: logistics and supply chains, strategy and business competitiveness, process management, costs and finance, governance and succession, innovation and management. Thirty-six companies trained by the end of 2014. Courses taught by the Dom Cabral Founda-
- Pilot training on costs and profitability, in partnership with Advisia OC&C Strategy Consultants.
- Lectures and advisory from the Brazilian Support Service for Small and Micro Businesses (SEBRAE) on the development and growth of microbusinesses.
- Advisory on the process of developing innovation projects and support for personnel training. Partnership with Inventta – advisory on innovation.
- Support for Clients to participate in industry trade shows that promote the use of plastics in markets such as agribusiness and civil
- Assessment of strengths and challenges in the transformation sector, aimed at planning strategies and actions to strengthen the business operations of participating transformers.

#### PROMOTION OF THE **BENEFITS OF PLASTICS**

- Promotion of the benefits of plastics as a solution to improve people's lives. Braskem/ABIPLAST Partnership.
- Survey of the image of plastics.
- Creation of an industry fund involving all of the links on the supply chain and managed by a mixed committee (producers and transformers). Launched in December, the fund will receive financial contributions from producers of resins and from the transformation chain (Clients who have joined the program), which will be allocated to actions for plastics promotion, environmental education, promotion of responsible consumption, and support to expand plastic recycling in Brazil.



#### MORE ON THE INDUSTRY FUND

For the companies who have joined the Fund, a contribution of R\$ 1.00 will be added to invoices per ton of resin purchased from participating providers in the Brazilian market. Resin providers will contribute R\$ 2.00 per ton purchased in the same transaction.

The Fund will be managed by a Management Committee comprised of six members (elected for a two-year tenure), three to be appointed by the producers and three by the transformer group. This group will be responsible for managing the fund and deciding on the actions to be performed during their term on the Committee.

To ensure good governance of the Fund, the Management Committee will enjoy autonomy in contracting an independent auditor to provide support on matters relating to funds, contributions, and other needs.

### **Visio**

The Visio program conducts actions for personalized service and the sharing of experience and knowledge with Clients, seeking to strengthen relations.

These actions are intended to support productivity and competitiveness, as in the case of technical advisory, and to help generate new business through the development of new markets, among other activities.

In 2014, more than 64 initiatives were conducted with more than 50 Clients from all of Braskem's businesses, according to records from Braskem's CRM tool (Customer Relationship Management). The following are some examples:

- Clients from the flexible films, rigid packaging and specialization segments in Rio de Janeiro were invited to participate in a seminar on domestic and international market packaging trends and reflections on improvements in the production of transformers:
- Support for Bimbo, a global leader in the bakery segment, for use of Green PE in packaging of new products from the Eureka! line of organic bakery products in the United States. The action

strengthens the presence of green plastic in the US, within a segment of significant potential for the product;

- Participation in the 2014 Harvest Rally (Rally da Safra, in Portuguese), a Brazilian agribusiness event, together with Pacifil, a producer of silo bags. Representatives from both companies traveled to the main production centers for soy and corn in order to follow the routine in the field. During this process, they participated in meetings with producers and presented silo bags as an alternative for grains storage;
- Braskem helped to improve inventory management at Danone, a PE and sodium hydroxide Client that was seeking a solution to reduce costs in these operations. The solution presented was telemetry, a system that automatically scans inventory, improving its control.

Through the development of the Visio program, Braskem redoubles its commitment to the strengthening of chemical and petrochemical industry in Brazil, with the knowledge that plastics and chemicals make people's lives better.



# **Economic** and financial results

#### GRI G4-9 | GRI G4-EC1

The recovery of the US economy and good performance of other developed markets, such as the UK, had a positive effect on the global economy in 2014. Just the same, global growth was below initial forecasts, resulting in smaller growth in emerging countries and the Euro zone.

Chinese GDP grew by 7.4% in 2014, below the 7.5% targeted by the government, however still ahead of the expectations of market analysts, who predicted a 7.2% growth. This lower rate of growth reflects a change in the growth policy established by the Chinese government, placing greater emphasis on domestic consumption and on sustainability.

In the case of the Brazilian economy, the GDP grew by 0.1% in 2014 as a result of expectations of energy rationing throughout the year, the number of non-working days during the World Cup, the shrinkage of industrial production and the increase in interest rates. In this context, the Brazilian thermoplastic resins market reached 5.3 million tons in 2014, reflecting a drop of 1% from the previous year.

Even in this challenging setting, Braskem, in keeping with its commitment to the development of the plastics chain and to the ethos of service towards its Clients, together with the Brazilian Plastics Industry Association (ABIPLAST) and the transformation industry, continued to make progress with the Incentive Plan for the Plastic Chain (PICPlast). This plan comprises a structuring initiative in the industry, seeking to encourage competitiveness and innovation in the sector, to promote exports of plastic manufactured products, and to publicize the benefits of using plastic.

Regarding Braskem's main financial indicators, gross revenue in 2014 was R\$ 53 billion and net revenue was R\$ 46 billion, reflecting growth of 11% and 12%, respectively, over 2013, explained by the depreciation of the Brazilian real, recovery of resin prices globally, and increased sales of PP from the US and Europe Business Unit.

The Company's consolidated EBITDA totaled R\$ 5.6 billion, representing a 17% increase over the previous year. Petrochemical spreads in export markets and the depreciation of the real both contributed to this performance. This result also includes net positive effect of R\$ 218 million, explained primarily by the sale of non-strategic assets (Water Treatment Unit at the Triunfo complex, RS) and full and final settlement of the installment plan under Law 11,941/09 on Tax Amnesty Program (REFIS).

In this context, net profit totaled R\$ 726 million. A noteworthy event was the adoption of hedge accounting for the project from Mexico during the last guarter of 2014.

The results from 2014 are also a reflection of Odebrecht Group's culture – the Odebrecht Entrepreneurial Technology (TEO), for which decentralization, Client-centered approach, and entrepreneurship are fundamental pillars.

### Structured debt

As of December 31, 2014, Braskem's net debt was US\$ 6,229 million (3% less than in 2013), excluding the portion corresponding to the Company's stake in the Braskem Idesa project in Mexico. Net debt tied to the dollar was 74%.

The Company's structured debt profile is quite long, with average term of 15.7 years, similar to the average term of 15.5 years recorded on December 31, 2013. Considering only the portion of debt in dollars, the average term is 21.4 years.

Highlights: during the course of one year, there was a reduction in the Company's financial leverage, measured as the ratio of net debt/ EBITDA, in dollars, from 2.87 times to 2.58 times. also excluding the Mexican project.

Reflecting this decreased leverage and the improved petrochemicals spreads in export markets, Braskem maintained investment grade ratings with the three major global rating agencies. Fitch Ratings reviewed the rating perspective from negative to stable, and Standard & Poor's and Moody's maintained the "stable" and "negative" perspective, respectively.

### Direct economic value generated and distributed (in R\$ millions) GRI G4-EC1

	2014	2013	2012
(+) Direct economic value generated	53,121	47,981	43,897
a) Revenues	53,121	47,981	43,897
(-) Economic value distributed	50,450	45,006	43,698
b) Operating costs, including payments to suppliers	45,632	40,048	37,331
c) Wages and benefits to Team Members	1,096	861	808
d) Payments to capital providers	3,190	2,525	4,391
e) Payments to the Government	508 <sup>1</sup>	1,573	1,156
f) Investments in the Community	23.5 <sup>2</sup>	17.5	13
(=)Economic value retained	2,672	2,975	199

<sup>1 -</sup> As compared to 2013, the reduction was due to: 1) income tax offsetting on payroll with PIS and COFINS taxes began in 2014; 2) optimization of controls for calculation of taxes for offsetting, and no more disbursement of that which is permitted for offsetting (monetization).

<sup>2 –</sup> Global value using the annual average of exchange rates to convert investments and donations made in the United States and Mexico (MX\$13.3113 to US\$ 1 and R\$2.3547 to US\$ 1). Source: Note 2.2c, Financial Statements of 2014, Braskem). Including: donations made by Team Members. Not including: donations to political parties (see index GRI G4-S06).

#### **INVESTMENTS**

Braskem invested R\$ 2.5 billion in 2014. Of this total, nearly 60% was allocated to improvement and maintenance of assets (maintenance and replacement).

Approximately 25% of investments were allocated to the building of the new petrochemical complex in Mexico, which plays a fundamental role in the Company's strategy of diversification and competitiveness of raw materials. The remainder corresponds to investments for some improvements to productivity, Health, Environment and Safety (HES), and other ongoing projects, such as (1) investments for UTEC production in La Porte, in the US, and (2) expansion and conversion of one of the polyethylene production lines in Bahia for metallocene–based LLDPE.

### Gains of scale

In 2014, Company financial operations were centralized in Salvador (BA), which includes accounting records, accounts payable, accounts receivable, payroll and lending. Financial offices were also maintained in each of the countries in which the Company operates. Restructuring will bring tangible gains of scale in terms of added efficiency and synergy, as well as intangible gains in terms of uniformity of processes and practices and business security.

### **Perspectives**

The International Monetary Fund (IMF) lowered its expected global GDP growth to 3.5% in 2015, which still reflects an improvement over 2014. This review reflects slower growth experienced both in emerging and developed markets, the strong dollar, and higher interest rates in emerging economies. The exception was the outlook for the American economy, for which the IMF is forecasting GDP growth of 3.6%.

In the case of Brazil, given higher interest rates, the fiscal adjustments to be implemented by the Government, the impact of China's economic slowdown and low growth in commodity exports, GDP is expected to remain stagnant, according to Focus, the bulletin published by the Central Bank. Added to this situation is the potential need for energy rationing due to low reservoir levels of the country's hydroelectric power plants, which are the main source of electricity in Brazil.

Detailed information on the progress of the Company's performance in 2014 is available to the public in the quarterly reports and in the Administration Report, which can be accessed from the Investor Relations website at <a href="http://www.braskem-ri.com.br/home-en">http://www.braskem-ri.com.br/home-en</a>

# **Operational Results**

2014 was even more challenging than 2013, both for Braskem and for the overall plastic transformation chain, as a result of the decreased growth of the Brazilian economy, loss of competitiveness in domestic industry, and international competition. The chemical and petrochemical chain continued to rely on two important incentives of the Federal Government for chemical industry: the REIQ and the REIN-TEGRA (more information in the chapter on Government), both isolated instruments are insufficient to recover reduced competitiveness, which requires structural changes in the country, such as investments in the electricity, logistics, and infrastructure sectors.

At the start of 2014, the country's economy was expected to grow between 2.5% and 3%, which did not occur and inhibited investments that had been planned across all levels of the production chain.

Certain segments such as civil construction, the automobile industry and durable goods experienced declines in performance during this period, negatively impacting the demand for resins, especially polypropylene and PVC. Only polyethylene sales remained stable as compared to 2013, given that 70% of these products are used by the retail packaging industry (especially foods and beverages), which was not affected by the weaker economy. The rotomolding sector, which produces PE water tanks and cisterns, continued to grow at the same pace as the last three years, with annual average growth of 20%.

Regarding polyethylenes, there is expected to be increased competition with the product being manufactured in the US from shale gas, which is a more competitive raw material

than the naphtha or refinery gas used by Braskem. In this regard, the petrochemical project in Mexico now in its final completion stages, and the ASCENT project in the United States, currently under review, are important for the future of the Company. For more information, view the chapter on New Fronts.

In 2014, Braskem's share in the Brazilian thermoplastic resin market (PE, PP and PVC), which corresponds to 5.3 million tons, was 67%, representing a 1% reduction compared to the previous year. This share represents 3.6 million tons in sales in this segment.

In order to increase plastic's contribution to improving people's lives, the Company has invested in the development of new applications for the transformation industry, in partnership with Clients. These are specific market platforms that offer solutions for civil construction, agribusiness, logistics, retail, and other sectors. Some examples of recently launched products are included in the chapter on Products.

2015 is expected to be one of adjustments in the Brazilian economy, possibly with a slow return to growth, but either way, a challenging year for the business community. For Braskem, the objective is to continue focusing on greater internal efficiency and efficacy, reduced production costs, and identification of opportunities for collaboration and synergy. As to the market, the Company intends to continue to develop new partnerships with its Clients and to proceed in implementation of PICPlast, in order to strengthen the plastics production chain in a lasting and structural manner.

### **Basic Petrochemicals**

On the international petrochemical stage, two external factors are being closely watched by Braskem. Over the short term, certain ethane-based plants will begin operating in the United States in 2015, which means increased competition. Also in the United States, investments are being made to migrate naphtha-based plants to ethane/propane, in addition to the construction of port terminals along the coast for export of these raw materials.

Crackers in Asia, most of which operate with naphtha, especially in China, are investing in additional capacity for various petrochemicals, including so-called co-products (butadiene, isoprene, and others), which continue to fetch higher prices, as they are produced exclusively as derivatives of the naphtha-based process. These industries, which were previously importers of co-products, are now becoming exporters. Therefore, they are competing in a market in which Braskem also participates, and in which it hopes to become stronger.

The other factor, which is more medium to long-term, comes from Europe. The regional complex is undergoing a radical transformation, as a result of the closing of small uncompetitive crackers in Italy, France, Germany, and other countries, while larger facilities closer to the coast have announced their intention to change their raw materials matrix to American ethane/propane (shale gas-based), which must be imported.



Since the fourth guarter of 2014, with sharper falls in oil prices (supply being the main factor), the stage has become volatile and uncertain. Many petrochemical companies have decided to reassess their projects, whether to postpone them to gain a clearer understanding of the direction of the market, or to reverse their strategies altogether.

Results in 2014 for Braskem's Basic Petrochemical Unit (UNIB) were affected by the slowdown in the domestic economy and by the sharp increase in naphtha prices in foreign markets during the second quarter. As the base for the plastics transformation chain, the UNIB noticed reactions in certain segments, such as that of purchasers of orthoxylene, which is used in the production of plasticizers for PVC derivatives, which in turn are used in civil construction, a sector that experienced a significant reduction in activity during 2014. For aromatics, used in production of products such as dyes and adhesives, an export-led approach allowed for offsetting of the retraction in domestic demand.

### Braskem+'s 10th anniversary

Indirect impact was also felt as a result of the water crisis, which caused production shutdowns of Braskem Clients in the region of Paulínia, in the interior of São Paulo, due to the water shortage and to the increased cost of electricity, resulting from the use of thermoelectric plants.

However, the water crisis did not directly impact the Company's operations in the regions most affected by the drought. Such is the case of the Capuava site, in the ABC Paulista region of Greater São Paulo, which reuse water from the Aquapolo project (information from the chapter on Social and environmental management / HES / Environment. Now in its second year, Aquapolo offers a very successful example of water recycling for industrial use, an initiative of Odebrecht Environmental and the SABESP, of which Braskem is a main user.

In 2014, the crackers operated at an average use rate of 86% (89% in 2013). Ethylene production was 3.2 million tons, 4% less than in 2013. This decline in production volume is explained by (1) the scheduled maintenance shutdown of one of the lines in the Triunfo cracker (RS), (2) the scheduled shutdown of cracker in ABC (SP) and (3) raw material supply problems affecting the Rio de Janeiro complex throughout the first two quarters.

Despite this decrease in production, total sales of ethylene and propylene reached 957,000 tons in 2014, a 4% increase over the previous year, explained by the increased availability of products for third parties, due to scheduled shutdowns in the second generation, and by opportunities in foreign markets.

There were no injuries with lost time recorded during the scheduled maintenance shutdowns at the Triunfo and ABC Paulista complexes. Improvements were also implemented in energy efficiency and process security, as well as modernizations for gains in competitiveness and efficiency.

Indicators that measure industrial excellence had a positive turn as a result of improvements implemented as the year progressed, with regard to inputs and catalysts, automation, reliability in production processes, and initiatives focused on Health, Environment and Safety (HES). In total, these projects, developed by the UNIB, received investments on the order of R\$ 357.6 million, allocated as follows:

The production system called Braskem+ completed its tenth year in 2014. Headed by the UNIB and conceived to leverage processes based on best international practices, Braskem+ has captured nearly R\$ 1.5 billion since its creation, reducing production losses and improving plant efficiency.

In terms of intangible gains, Braskem+ has encouraged greater synergy between areas, the sharing of knowledge, greater operational discipline, and a strengthened culture of entrepreneurship and constant improvement. In 2014, 275 verification criteria and indicators were established based on international standards, including system improvements and constant upgrades to Braskem's industrial performance.

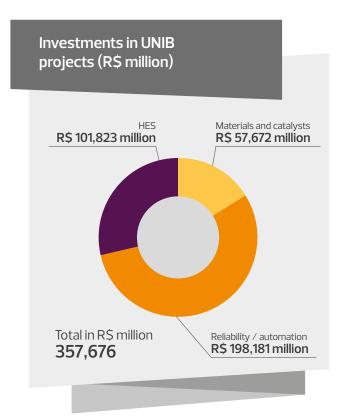
Record production was achieved at the following petrochemical units:

- UNIB 1 (Camaçari): ethylene and paraxylene
- UNIB 2 (Triunfo): marketable petrochemicals
- UNIB 3 (ABC): polyisobutylene and cyclohexane
- UNIB 4 (Duque de Caxias): propylene

Another important event was the conclusion of the supervisory system which guarantees the stability and reliability of the Camaçari (BA) cracker in case of interruptions in energy supply, a common occurrence in the Brazilian Northeast. The supervisory system maintains the main functions of the plant during blackouts, avoiding significant production losses that occurred during the past three years. In addition to Camaçari, there is a similar project underway at the Duque de Caxias (RJ) complex, in partnership with Petrobras.

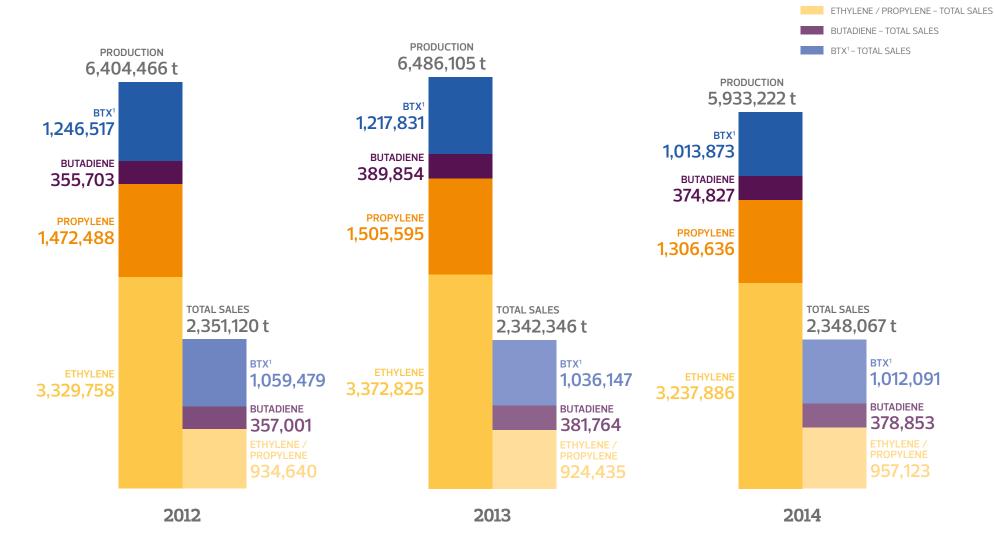
Also in Camaçari, Braskem completed infrastructure works on pipelines to supply materials and utilities to the acrylic unit built by BASF, a Client of the Company, which will begin operations in 2015.

Investments were made for the Triunfo cracker to increase extraction of the C5 current, which is exported and transformed into isoprene in the US, adding value to the product. The Company continues in negotiations with potential partners for the construction of the new elastomers plant in Rio Grande do Sul for the tire industry.



Partnership with German firm Styrolution was also furthered to assess the viability of a project for productions of ABS and SAN (materials used in the automotive. appliances, and electronics industries) in Brazil, in order to substitute imports. The project was approved by the Administrative Council of Economic Defense (CADE) in March, and studies are underway to determine the value of the investment to be made. This will be the only industry of its kind in Latin America.

# Basic Petrochemicals main products



<sup>1 –</sup> BTX: benzene, toluene, paraxylene and orthoxylene.

Note: Sales of ethylene and propylene are significantly lower than production, because a large part of these products are used by the second generation units of Braskem.

ETHYLENE - PRODUCTION

PROPYLENE - PRODUCTION

BUTADIENE - PRODUCTION

BTX1 - PRODUCTION

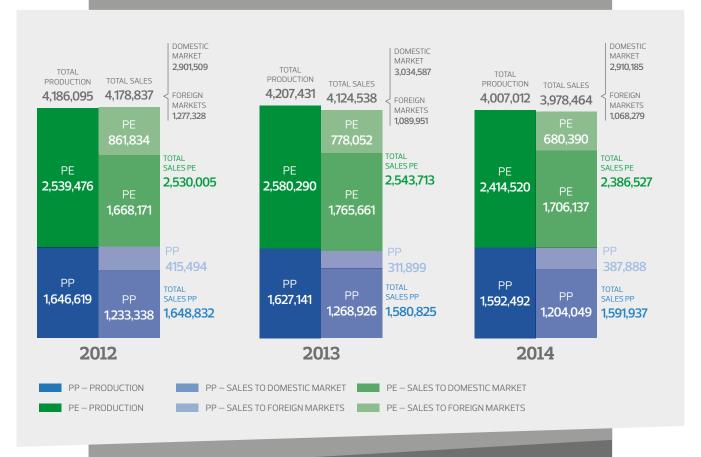
# Polyolefins (PE and PP) – Brazil

The Brazilian estimates for polyolefins (PE and PP) demand was approximately 4.1 million tons in 2014, a decline of 1% from 2013. Braskem's sales volume, in turn, fell by 4%, totaling 2.91 million tons, and its market share was 71% for the year.

In foreign markets, the Company's sales totaled 1,068 million tons. The fall in PE export volume, influenced by lower production volume, was partially offset by the growth in PP sales, due to opportunities in other Latin American countries and in other continents.

During the year, production totaled 4 million tons, representing a 5% drop from the previous year, explained by the scheduled and unscheduled maintenance shutdowns.

### Performance (t) – Polyolefins



#### **POLYETHYLENE**

Sales of polyethylenes were driven by segments specializing in films used in food packaging and the rotomolding sector. The segment for large pipelines, such as those used in pool drainage systems, despite not having grown in 2014, did see an increase in new international manufacturers that invest in Brazil.

The 2014 operation highlights in PE include: shutdowns for maintenance and upgrades; implementation of a structural program to reduce costs, extended to PP, with a significant contribution from the Logistics area, through efficiency programs; optimization of the production mix, with a reduction in resin grade transfers between production lines; and monthly production records at the PE5 SPH, PE8 CUB, and PE9 DCX plants.

Regarding investments, R\$ 50 million were allocated to convert the PE1 line in Camaçari, which was producing high-density polyethylene (HDPE), and now manufactures linear low-density polyethylene (LLDPE), expanding capacity by 120,000 tons annually. Of this total, 100,000 tons

form part of the Braskem Flexus® family, Braskem's metallocene-based polyethylene brand, which produces resin with the latest technology for use in the plastic film transformation industry. Operations were expected to launch in March 2015, but began early in December 2014. With this investment, Braskem will be able to meet the growing demand in the Brazilian market during the coming years.

During the course of the year, PE sales were slightly lower than in 2013, while revenue was higher, as a result of exchange variations and in international resin prices. The same occurred with polypropylene.

#### **POLYPROPYLENE**

With regards to polypropylene production, the operating efficiency of the industrial units improved in 2014, although Braskem opted to reduce production by as much as 6% compared to 2013, in order to adjust inventory levels to the decreased demand.

Highlights in PP: record in global production at the two Triunfo unit plants, PP2 and PP5, and one in Paulínia – PP3. The

same units recorded the best rate of days worked without personal injuries: PP2, four years injury–free and CAP, SAF, and PP3, two and a half years.

Braskem conducted a study to compare the productivity of its own polypropylene units with that of one hundred manufacturers from other countries. Among the Company's five units, three are ranked in the top quartile, and two in the second quartile, indicating that they are in the top 25% and 50% of in the sector, respectively. This comparison was conducted based on indicators of cost, raw material consumption, process losses, etc.

The most important PP investments include: Off Liquid at PP4 ABC, which allows the plant to operate more efficiently in recovery of monomers, and replacement of the Digital Distributed Control System (DDCS) of PP5 DCX, in order to update plant technology and improve operability. In the logistics sector, investments were made in telemetry for the trucks that ship propylene, in order to monitor suppliers and truck drivers, so as to make gains in the security of product shipping.

The telemetry system performs remote monitoring of all trucks used in operations, in order to identify carriers that are not meeting the required standards, especially in terms of speed.

In the commercial area, even with the market retraction in 2014, there were important developments in new solutions and in the strengthening of the Maxio® family. More information is available in the chapter on Products.

Service for Clients abroad based on the unification of actions between Brazil, the US, and Europe was another highlight for PP. A service approach geared more closely to specific regional characteristics includes technological developments, operational improvements, and more efficient procurement. There are sales initiatives underway focused on bringing exclusive products from the US and European units to Brazil, together with solutions such as those developed in Brazil for the Maxio® family.

### Renewables

GRI G4-EC2 | GRI G4-EN27



Braskem continued with its strategy to invest in products derived from renewable resources, in order to better meet the demand of its Clients. In 2014, the Company signed a technological cooperation agreement with the American company Amyris and the French firm Michelin to develop technology geared towards the production of renewable-source isoprene, a chemical material used by the tire industry and for other rubber products. For more information, view the chapter on Innovation.

Investments in research and technology are aimed at consolidating Brazil as a strategic country for the renewable chemical industry, using technologies that make Brazilian renewable-source raw materials and derivatives a viable option for consumers.

In terms of Client partnerships, the green plastic portfolio grew with the launch of the low-density polyethylene (LDPE) to strengthen the product's applications in packaging and films, a segment which already used high-density polyethylene (HDPE) and linear low-density polyethylene (LLDPE).

Tetra Pak<sup>®</sup>, which has used green plastic in its cardboard packaging lids since 2011, began using LDPE in all of its packaging produced in Brazil starting in 2014. There will be an average of 13 billion units per year, consisting of 82% material of a renewable source. Tetra Pak® was the first company in the world to use biopolymers in cartons for food packaging, and it serves more than 150 Clients in Brazil.

Braskem expanded the presence of renewable resources in Latin America and brought green plastic to the Argentinean market for the first time through its participation in Agenplas, an international plastics trade fair. During the event, the Company presented application of Green PE in the packaging of Sussex Tendencia, a premium line of the leading brand of paper towel in Argentina.

The expansion of the line of green products reinforces the Company's commitment to its stakeholders, who increasingly more, want solutions and practices that help reduce greenhouse gas emissions, one of the characteristics of products made from sugarcane ethane.

### **Green PE**

The following are some of the market highlights in 2014:

- Nobelpack, a manufacturer of plastic bags, reached a milestone of 30 Clients that use the product in their promotional bags. These include stores such as Marisa, Cacau Show, Centauro, Tok&Stok, Ofner, World Tennis, and the packaging for the Natura magazine.
- Wine bottle corks: called Select® Bio, these corks are 100% recyclable and have the same oxygen control performance as the conventional line. Green plastic has been used to replace the cork, a material that comes from trees grown specifically for this purpose and which can take decades to grow. Select® Bio corks are manufactured by Nomacorc, a global leader in this segment.
- Cosmetics packaging: Surya Brasil, a global leader in natural and organic cosmetics, uses Green PE for packaging of new products from the Sapien Women line (shampoo, conditioner, combing cream, and point repair treatments). The packaging was produced in partnership with C-Pack, a leading company in Latin America in the production of flexible plastic tubes.
- Packaging of breads: green plastic in used in the packaging of the new line of whole-wheat breads produced by Wickbold.
- Packaging of automotive products: used in the new line of windshield wipers, wheel cleaners, all-purpose cleaners, express wax, and tire shine of Central Sur Química, a manufacturer of automotive products. This new line began sales at supermarkets, auto part stores, and gas stations in Brazil. Beginning in 2015, these products will be sold in other countries in South America. Central America, and Africa.

The I'm green™ polyethylene, known as green plastic, is produced from ethylene obtained from sugarcane ethanol. Its main differential is its contribution towards reducing greenhouse gas (GHG) emissions in the atmosphere.

Green polyethylene is a type of biopolymer, a category which includes renewable-source and/ or biodegradable materials. More specifically, green polyethylene is made using a renewable source raw material, sugarcane, and at the end of its lifecycle, it can be recycled using the same chain that exists for traditional polyethylene, without causing contamination.

Braskem's biopolymer captures 2.15 kilograms of CO<sub>3</sub> for each kilogram of product produced, according to its Life Cycle Assessment (LCA), a study conducted by the Company with the support of specialized consultants, which followed the ABNT ISO 14040 guideline and was validated by global specialists.

A single tree is capable of absorbing nearly 160 kilograms of CO<sub>2</sub> in its first 20 years. As such, each ton of green polyethylene produced is equal to the carbon sequestration of 33 trees. Braskem's production capacity is 200,000 tons/year of green plastic.

The results of the green plastic LCA were published in early 2014, completing the product assessment stage, an important factor for Braskem and its Clients, More complete information is available on the website at: http://www.braskem. com.br/site.aspx/plastic-green.

Green polyethylene has the same characteristics and properties as traditional polyethylene, it does not require machinery adaptations, and it can also be recycled. In order to help consumers recognize green plastic, Braskem created the "I'm green™'' seal, which guarantees the renewable origin of the packaging.



# Vinyls

In 2014, there was a 3.8% drop in the demand for PVC (polyvinyl chloride) due to the decline in civil construction and infrastructure segments, both priority sectors for the use of resin. With regards to sodium hydroxide, there was an increase of 3% in apparent consumption (including the aluminum market) in Brazil, according to the report by the Brazilian Alkali, Chlorine and derivatives Manufacturers Association (ABICLOR). This increase was a result of the growth in segments such as paper and cellulose, soap and detergents, distribution, and others.

Braskem's sales exceeded levels from 2013 in PVC (3.6%), representing a 3 p.p increase in market share, while sales in liquid soda dropped (-1.8%). Because initial expectations and production planning were consistent with the growth from previous years, maintaining higher levels of inventory posed a challenge, as they imply additional costs for the Company. During 2014, the Company began exporting liquid soda to reduce inventory. Even with sales below expected levels, Braskem was able to expand its base of Clients for PVC by 5%.

The operating results for Vinyls were better than in 2013, thanks to the efforts made to develop and train personnel, especially in the industrial area, using "education through work" programs (such as Factories of Knowledge) and the transmission and sharing of knowledge based on the experience of professionals and the individual teams.

Braskem units in Alagoas reached a PVC production record in June when they manufactured 1,425 tons of raw material in a single day. With an estimated production capacity of 1,350 tons in 24 hours, the additional 75 tons resulted from operational improvements.

The chlor–alkali plant in Camaçari (BA) received the "Safety Complex" award, granted by the complex management body, Camaçari Industrial Development Committee (COFIC), due to its performance on matters of HES (three and a half years without any injuries, with or without lost time) and the safety of its processes, eliminating all high–risk situations at the plant.

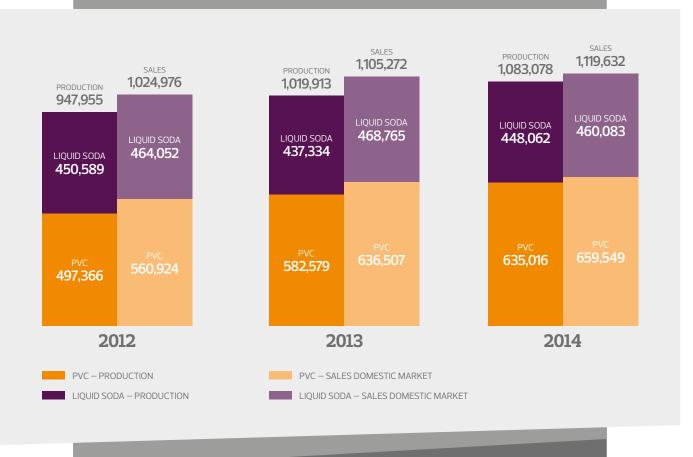
# PVC liners **specification**

In 2014. Braskem was an active participant in discussions regarding the review of ABNT NBR 14285, published last year, which pertains to PVC liners. One of the issues that the Company successfully implemented, together with the Brazilian Association of Civil Construction **PVC Profile Manufacturers** (AFAP), was the prohibition of the use of lead-based thermal stabilizers in these PVC products, similar to the same prohibition successfully implemented by the Company for PVC pipes.

Another highlight from 2014 was the progress of the project to substitute the technology of asbestos diaphragm cells with synthetic diaphragm cells in the chlorine and liquid soda production process, meeting regulatory requirements related to progressive transition. Two-thirds of planned conversions are now completed. The project continues in the pipeline, and is expected to be completed by the second semester of 2015.

The PVC and chlor-alkali Unit in Alagoas, in partnership with the local government of Maceió, is developing a sanitation project for the neighborhood of Pontal da Barra, a community that neighbors Braskem's industrial plant. It was the Company's responsibility to conduct a health assessment of the region, strictly relating to sanitation, and especially with regard to infant mortality. The state Government will assume responsibility for sanitation works planned to begin in 2015.

### Performance (t) – Vinyls



# United States and Europe

The results of business in the United States and Europe showed positive developments in 2014. In both regions, favorable conditions in the petrochemical market, combined with improvements in internal operations, helped ensure performance that exceeded expectations.

In the United States, Braskem's operations focused efforts on improving sales and raw material planning processes, product portfolio management and asset reliability. The results included a reduction in inventory levels, improved service level, increased production and improved eco-indicators. The plant in Seadrift, Texas, broke the annual production record for the second year in a row, and the plants in Marcus Hook, Pennsylvania and La Porte, Texas both achieved monthly records.

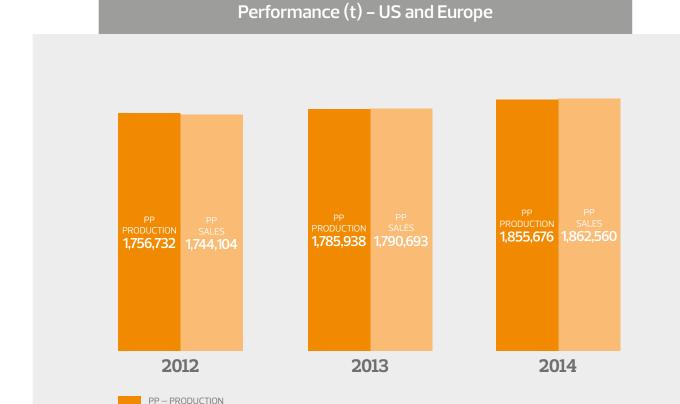
In the Innovation and Technology area, there were also important developments towards improving products and processes, the main results being production and commercialization of new resins to better serve Clients. Examples include the use of "phthalate-free" catalysts in Seadrift and Marcus Hook and the "Inspire 6000" series in Marcus Hook. These results help Braskem to maintain its leadership in the PP market.

In the United States, earnings were higher than in 2013, as a result of improved qualification of sales (relative increase in the most profitable segments) and a significantly increased profitability in the raw material matrix.

Similarly, Braskem's 2014 operation in Europe generated positive results, primarily due to improvements in product management strategies, portfolio adjustments based on priority segments and Clients, and a focus on servicing regions closest to the industrial plants, which allowed for increased production and sales, as well as improved margins.

While the German economy still faces challenges to return to pre-crisis growth levels, within the context of Europe, Germany stands out for its economic growth above the Euro zone average. With two industrial plants and one office in the country, Braskem has a logistical advantage in serving Clients in this market. The local team has focused its efforts on adjusting the line of products and on seeking greater market share in the markets closest to the two units, which has contributed to the improvements in results.

For 2015, it is expected that operations in the United States and Europe will continue to optimize the product and Client portfolios, and will begin to capture the added value from various operational improvements conducted in 2013 and 2014. The ASCENT project studies for integrated polyethylene production from shale gas in the US moved forward and new scenarios have been added to the analysis given the new reality of the global energy market.



### UTEC

In March, Braskem announced a project for the construction of a new ultra high molecular weight polyethylene plant in the city of La Porte, Texas. In October, ground was broken for the new unit, at an event that included participation by Clients and local authorities. Known commercially as UTEC, this resin uses technology that is 100% Brazilian.

The new plant will begin operating during the first half of 2016 and will complement the production capacity of the UTEC line already existing in Brazil, located at the Camaçari petrochemical complex in Bahia. In addition, the Camaçari unit will be responsible for production of the catalyst to be used at the new unit. A significant portion of UTEC production in Brazil has been exported to the United States for more than 10 years, which was one of the motivating factors that lead to the decision to build the plant in La Porte. The new unit will have the added benefits of access to competitive raw materials, reduced complexity and logistical costs to service the American market, increased flexibility, and reduced risk for Clients, as the Company will now have UTEC production at two locations. The American market for resins has been growing at between 5% and 8% in recent years.

With a molecular weight nearly 10 times greater than high-density polyethylene (HDPE) resins, UTEC stands out for its mechanical properties, showing strong resistance to abrasion, impact strength, lighter weight, and a low coefficient of friction. The material is self-lubricating and is applied to semi-finished products in the following sectors: agriculture, automotive, textiles, paper and cellulose, coal and mining, high performance fibers, and waste water treatment.

PP - SALES

# **Suppliers**

#### GRI G4-9 | GRI G4-12 | GRI G4-EC9

Braskem expects its suppliers to employ ethical and professional behavior that is consistent with the principles of the Company. In 2014, the Code of Conduct for Suppliers was revised and is now in the process of being arranged with all active suppliers. Another initiative developed in 2014 was the mapping out of purchasing categories with respect to their importance to business and their social and environmental risks. This criticality matrix will serve as the basis for the review of processes, seeking to develop actions appropriate for the level of criticality of each category, mitigating risks and driving investment in improvements.

Suppliers have access to the Ethics Hotline Channel, so that they can contribute with information to reinforce the transparency and confidence that should exist in such relationships. On the Braskem website there is an entire page dedicate to this topic.

Due to the Company's decentralized structure, supplier management follows

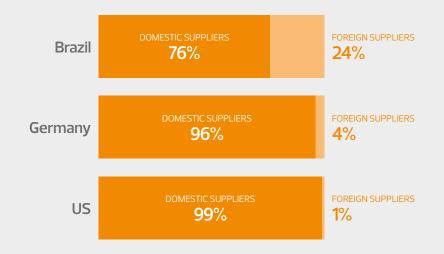
the same pattern, meaning that each area is responsible for its own expense analysis, quality of products and services purchased, adherence to codes of ethics and conduct, legal regulations and requirements relating to Health, Environment and Safety (HES). With regard to this topic in particular, the Company has a robust HES culture, which permeates relationships with suppliers, and which is supported by the Sustainable Development area.

According to Braskem's purchasing practices, Suppliers must demonstrate strong economic and financial health in order to be contracted. Moreover, they must be in compliance with regulatory and tax obligations and have proven technical and administrative qualifications.

Braskem's supply chain can be better understood through the following diagram<sup>1</sup>. The company has slightly over 12,000 suppliers, broken down in the diagram into most significant purchasing groups for the Company.

#### 1 - Percentages were calculated based on purchasing data recorded in 2013. As the purchasing profile of the Company did not change significantly, the same data was used.

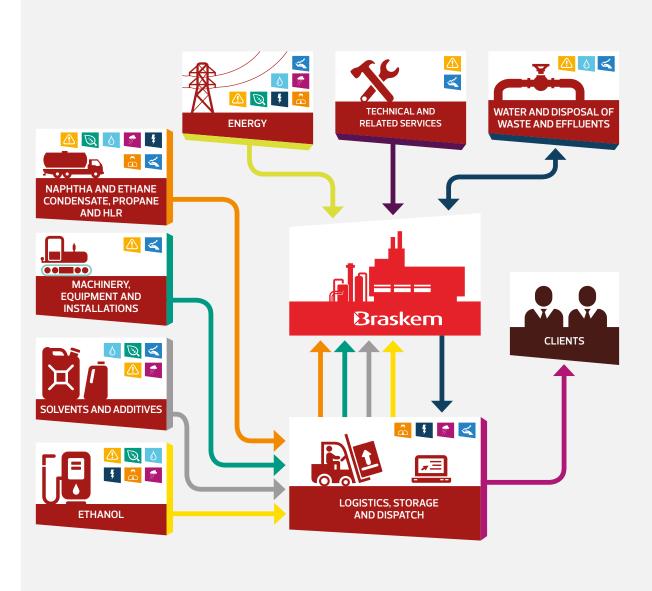
### Percentage of domestic supplier purchases by country



### **Global synergies**

Considering Braskem's presence in the US, Europe, and Mexico, 2014, the Global Procurement Committee working group was formed, comprised of representatives from all regions and coordinated by the Procurement Area in Brazil, with periodic meetings to identify and leverage global synergies. These meetings produced its first results by means of global tenders and determination of international partners.

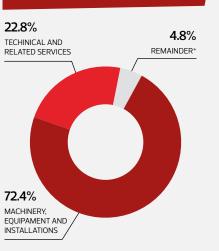
## **Supply Chain**



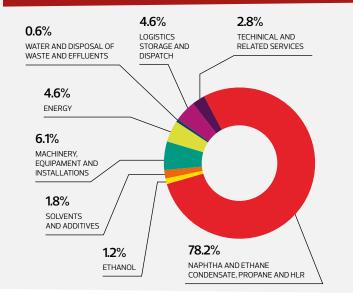
### CORRELATION WITH MACRO OBJECTIVES

- ∴ Safety
- Renewable resources
- Climate change
- Finergy efficiency
- Local development
- Strengthening of susteinable development practices

### **SUPPLIER NUMBERS**



### **RESOURCES SPENT**



# Management of main supplier categories

#### GLOBAL COMPACT - PRINCIPLES 1, 2, 4 AND 5

Below, the main types of suppliers are shown and the management actions of the Company are described:

#### FOSSIL-BASED FEEDSTOCK

The acquisition of fossil-based raw materials (naphtha, condensate, ethane, propane, and light hydrocarbons) is the item with greatest impact on the cost of goods sold by Braskem. The main naphtha supplier is Petrobras, a Braskem Shareholder. To minimize potential supply risks, the Company has entered into contracts for all its strategic raw materials.

### **ETHANOL**

Braskem has developed a robust management approach for contractual ethanol suppliers, which are responsible for more than 90% of Company purchases, in order to guarantee that the Company's and its Clients' expectations are met.

Supplier management begins with selection, then continues with registry and renewal, and once a supplier is contracted, it is subject to an ongoing audit program.

The audit program monitors and guarantees compliance with the Code of Conduct for Ethanol Suppliers, which provides guidelines on prevention of deforestation and burning, protection of biodiversity, respect for human rights and labor relations, and monitoring of social and environmental indicators.

Learn more about the management process for these suppliers in the attachment and Code of Conduct.

In 2014, 99.7% of ethanol purchased by Braskem was supplied by plants that have adhered to the Code of Conduct for Ethanol Suppliers, exceeding the target of 90%, and the previous year's total of 98%. The remainder (0.3%) was purchased through the commodities exchange in order to meet immediate demands. The target for 2015 will continue to be 90%, as it is important for the Company to maintain some access to new suppliers and certain flexibility with regards to its suppliers.

Regarding the auditing program, plants supplying 95.7% of the ethanol purchased from July 2012 to June 2014 have been audited, exceeding the target of 80% for the year and the previous year's total of 85%. This result is due to the fact that some of the audited plants correspond to higher purchasing volumes.

In general, the audits verified a high level of compliance with the Code of Conduct. Below is a general overview of the observations made during auditing.

### Positive highlights at all audited plants:

- mechanization targets are met;
- use of sugarcane bagasse to generate energy, an important factor for the level of carbon sequestration of green plastic;
- all human rights and labor requirements met.

### Areas of improvement (percentages refer to all audited plants):

- at 25% of audited plants, opportunities for improvement were detected in the prevention of accidental burning;
- at another 25%, the mapping of riparian buffer zones in areas under lease could be improved.

The target for future years it to maintain the rate of audited plants at 80% (by volume supplied), which is considered challenging, as nearly 10% to 20% of total volume comes from plants with small volumes from the same groups, which considerably increases the number of audits of those same supplier groups.

#### LOGISTICS

The Logistics teams count on the support of HES professionals to manage the social and environmental issues critical to these operations, including protection of human rights. The supplier must demonstrate commitment and ability to manage HES, Quality and Productivity requirements, which are monitored and assessed using Braskem's performance analysis of suppliers and ABIQUIM's Assessment System for Health, Environment, Safety and Quality (HESQ). The Company holds monthly meetings to obtain feedback and conducts periodical audits and annual campaigns to raise awareness.

Each team has its own assessment methods based on its specific needs. In propene logistics, the Injury Prevention Index (IPI) is used, as is the Service Level Agreement (SLA) – a tool that is also employed by the chlor–alkali team. In Basic Petrochemicals, participation in programs such as Olho Vivo na Estrada, Transportadora da Vida, and Na Mão Certa is encouraged, and the Responsible Contractor program is also implemented, consisting of periodic meetings aimed at sharing good practices on HES among freight companies, assessing and correcting problems and deviations, etc.

For the Resin Logistics providers who submit indicators below the target Supplier Performance Index (SPI), monthly review meetings and planning of corrective actions are scheduled. Providers of transportation services that fail to meet the target indicator for three consecutive months

are removed from the Company's list of freight companies. Other programs that are encouraged in connection with this area Olho Vivo na Estrada, Transportadora da Vida, and Na Mão Certa, which deal with driver awareness and accident prevention. Annual audits are held by Braskem teams at the freight companies' offices, in addition to ABIQUIM's biennial audit on all freight companies that have the Assessment System for HESQ certificate.

Braskem enjoys partnerships with the main risk management firms in Brazil, and most of its ground shipping services for resin (a non-hazardous product) is contracted with a GPS or electronic tracker. For hazardous products, requirements are more stringent: for chlor-alkali, 100% of shipments are tracked and use the carrier's internal fleet, while for propylene, 100% of shipments are tracked and use telemetry on-board the vehicles.

For the transport of dangerous goods, Braskem has a contract with the leading company in chemical and environmental emergencies in Brazilian road transportation (SUA-TRANS), and performs audits at the service headquarters and simulations on major cargo trucking routes. This way, full compliance is guaranteed in emergency situations of shipment of hazardous goods, in accordance with the Brazilian Regulatory Standards, thereby strengthening the Company's operations in the social and environmental fields.

This level of care is reflected in careful monitoring of events around cargo shipping, as well as in the tracking of the following indicators: Transit Injury Frequency Rate (per number of trips) and Severity of Accidents (see Social and Environmental Management, HES, Safety to view the results obtained).

Another important management tool is the Braskem Policy for Internal Handling of Transit Accidents, which provides for the following actions, based on the severity of the event: communication forum, assessment of accident impact (people, community, environment, financial, and company image), and time and deadline to complete investigation.

Braskem continues to seek opportunities for improvement, such as the strengthening of methods to analyze and assess transit accidents and their causes, and systematic handling of transit incidents as a mechanism of prevention.

Our concern for the environment is also a topic of importance in dealings with our suppliers. The Company is constantly seeking to operate with more sustainable means of transport, and in 2014 we began a process of engaging with suppliers to conduct voluntary monitoring of greenhouse gas emissions and opportunities to reduce these emissions.

### INDIRECT MATERIALS, FEEDSTOCK **AND SERVICES**

The year 2014 posed significant challenges, given the state of the economy, under pressure from inflation and the strong dollar. This scenario brought the Braskem even closer to its indirect material, feedstock and service suppliers in Brazil, favoring the partnership proven through an increase in the total purchases through contracts, which grew from 57% in 2013 to 71% in 2014.

In everyday relations with suppliers, various indicators are used to manage performance of services or supply of materials. The Supplier Performance Index (SPI) is one of these indicators, selecting and evaluating critical suppliers from the vantage point of Braskem users. Based on this evaluation, supplier deviations can be identified and managed using the action plan, which involves the user areas, suppliers and Procurement area.

Another challenge this past year was to ensure the procurement of two Company scheduled shutdowns, one at the Triunfo Petrochemical Complex and the other at

the Petrochemical Complex in the ABC Paulista region of greater São Paulo, given Brazil's economic situation. Also in 2014, purchasing categories were mapped out together with the Sustainable Development area and with the support of specialized consultants. This work redefined the area's analysis of criticality in purchasing categories based on aspects that are most important to the Company, as well as social and environmental criteria, creating a criticality matrix. This matrix will serve as the basis for future risk evaluations and management in the Procurement Area.

In terms of sustainability, in addition to the mapping project, work continued on the CDP Supply Chain program, through which suppliers are invited by Braskem to report on management of atmospheric emission and their environmental impacts, mapping out the main impacts of the Company's supply chain. In total, twenty suppliers of the segment responded to the questionnaire and underwent evaluation, resulting in reports on identified opportunities.

#### For more information, see:

Voluntary Commitments / Na Mão Certa Program

Na Mão Certa Program

Olho Vivo na Estrada Program (available only in Portuguese) Transportadora da Vida Program (available only in Portuguese)

## Government



#### GRI G4-EC4

Braskem is committed to taking a proactive stance to influence the creation of public policies aimed at achieving sustainable development. In order to influence the debate on environmental issues as urgent as climate change, a classic and very present example, we must also consider the economic and social aspects that relate directly to these issues.

It is Braskem's understanding that sustainable development towards a better and more just society is a principle that is considered and respected by all actors involved in its activities and demands.

In this context, the Company has expanded its institutional field of action to influence public policy and industry policy, and to contribute to society, performing the role of responsible corporate citizenship, proposing solutions for the main challenges that are related to the business sector.

Braskem participates in this debate together with various forums, such as:

- Brazilian Chemical Manufacturers Association (ABIQUIM), on matters relating to chemicals and petrochemicals;
- Brazilian Association of the Plastics Industry (ABIPLAST), on matters relating to the transformation industry;
- National Confederation of Industry (CNI):
- Brazilian Business Council for Sustainable Development (CEBDS), among others, both domestic and internationally. For more information, see Collaborative Initiative.

Together with the CEBDS, for example, Braskem participated in the elaboration of a document that contains proposals to strengthen the Brazilian competitiveness and improve people's quality of life, which was submitted to candidates for more than 1,500 public offices in both the Executive and Legislative branches of government during the 2014 elections. This document reflects companies' and professionals' view on certain issues. such as education, healthcare, sanitation, transportation, food supply, water, and clean energy. It can be accessed at the Council's website (available only in Portuguese).

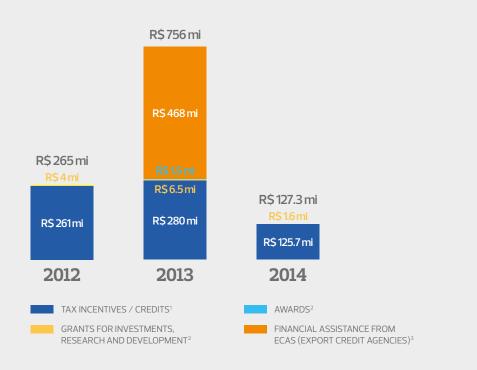
In 2014, Braskem continued its active participation to defend competitiveness in the chemical and plastics production chain, especially on challenges concerning logistics, infrastructure, and energy in Brazil, all topics related to industrial policy.

The Special Chemical Industry Regime (REIQ), the proposal approved by the Brazilian Federal Government in 2013, remained on the agenda of the petrochemical sector as one of the pillars of the industry's competitiveness recovery program in the country. In 2015, the Company will make this issue a priority, seeking to keep this measure in full effect for the coming years.

REIQ provides for the exemption of the PIS-COFINS tax for the purchase of raw materials for the first and second generation of petrochemicals, benefiting about 50 companies, including Braskem.

Another incentive program which was very well received by the productive sector was Special Regime for Reinstatement of Tax Values for Export Companies (REIN-TEGRA), enacted in mid-2014, which returns to exporters of manufactured goods a percentage of revenue from export sales, offset by indirect taxes. When it was created in 2011, REINTEGRA had a rate of 3%, but it was only a temporary mechanism. Beginning in 2014, it was made permanent by order of the Federal Government, with adjustable rates, which can range up to 5% of company revenue from exports, against proof of these transactions. The company tax credit rate in effect from March 1, 2015 through December 31, 2016 will be 1%. In 2017, the rate will increase to 2%, and in 2018 it will again increase to 3%.

### **Governmental incentives** GRI G4-EC4



- 1 Tax incentives/credits: refund of federal taxes through the REINTEGRA program and ICMS state tax incentives granted by the Government of Alagoas through the Alagoas State Integrated Development Program (PRODESIN).
- 2 Grants for investment, research and development: awards and funding given by the Brazilian Government Innovation Agency (FINEP) for innovation projects.
- 2 Awards: awards and funding granted by the Brazilian Government Innovation Agency (FINEP) for innovation projects.
- 3 Financial assistance from ECAs (export and credit agencies): risk insurance transaction carried out with Nippon Export and Investment Insurance (NEXI, a Japanese agency) for investment in maintenance and also in the butadiene project.

Also with a focus on industrial policy, the Brazilian National Development Bank (BNDES) released a study in November on potential investments and bottlenecks in the chemical and petrochemical industries. This study represents the conclusion of the activities and analysis conducted within the Chemical and Petrochemical Industry Chamber as part of the federal Government's economic incentive plan known as Brasil Major, for industrial, technology, and foreign trade policy. Sixty-six Brazilian chemical segments were identified with potential to reduce the industry's balance of trade, which was estimated at US\$ 31.2 billion in 2014 (source: ABIQUIM). That number represents a decline of 2.4% from 2013, when the chemical products deficit was US\$ 32 billion, the largest recorded deficit since the industry's balance of trade has been monitored.

Another issue on the institutional agenda, resolved in 2014, was the approval by Chamber of Foreign Trade of the Ministry of Development (CAMEX) of the anti-dumping measure for polypropylene imported from South Africa, India, and South Korea, and renewal of a similar measure for PVC imported from China and South Korea. In 2015, Braskem will begin work to renew anti-dumping regulations applied to imports of polypropylene from

the United States and imports of PVC from the United States and Mexico.

Brazilian domestic issues of interest to Braskem (and for which the Company has entered into public debate) include measures to incentivize the development of renewable chemicals, partnerships with the National Program of Access to Vocational Education and Employment (PRONATEC) to develop qualified labor, the ramifications of the Brazilian National Solid Waste Policy (PNRS), which remains in debate, and others.

The PNRS topic that most directly affects the plastics production chain is reverse logistics, a mechanism whereby consumers, businesses, and municipalities must contribute to the collection and recycling of packaging materials and ensure proper disposal of waste.

With this approach, Braskem integrates the Business Commitment to Recycling (CEMPRE). In the context of the CEMPRE, a group called Business Coalition was formed with the purpose of elaborating a proposal for an industry agreement on non-hazardous packaging for general use. Twenty-one associations participate in the Coalition group, representing 75% of the packaging market in Brazil. Braskem is represented

in the Coalition by the Social and Environmental Institute for Plastics (PLASTIVIDA).

In March, the CEMPRE delivered reviews of the industry agreement proposal prepared the prior year, focusing on non-hazardous packaging, which comprises the dry portion of solid urban waste. The proposal was submitted for closed public consultation in November. At present, the Ministry of the Environment is evaluating the proposal and consolidating the comments received. This process will be continued in 2015.

On the global stage, Braskem is participating in debates on climate change, also through the associations and forums of which it forms part. At the Climate Summit held in New York in September, the Company announced it was joining two initiatives that seek to mitigate the effects of climate change through reduction of carbon gas emissions. The documents were proposed by the World Bank and by the Global Compact, focused on the adoption of carbon pricing mechanisms. The Climate Summit was part of a series of meetings convened by the United Nations (UN), including representatives of countries, companies, and other organizations. It is expected that the 2015 UN Conference on Climate will offer a stage for commitments to be finalized by participating nations.

### Carbon on the agenda

Braskem is conducting a pilot project to implement a virtual cost for carbon as part of its investment decision-making methodology, so as to more objectively identify the positive or negative effects of projects.

In addition, another four projects relating to carbon credits are being reviewed, and the Company participates in the Emissions Trade Simulation (abbreviated to SCE. in Portuguese) of the Companies for the Climate Platform, a tool launched in 2014 that offers companies a constructive experience on the carbon market.

For more information on Braskem's climate change management, see the chapter on Social and environmental management / HES / Environment.





## **Team Members**

Braskem puts people at the center of its strategy. The policies and practices oriented toward its relationship with Team Members follow the principles of TEO, which are based on trust and the appreciation of the human being and his or her desire to grow through professional challenges and reach new horizons in his or her life and career.

In this context, people management is focused on education and development, on the strengthening of organizational culture and the appreciation of teams, which support the Company's expansion.

The main challenges of the support areas of people management are: (1) to contribute to Braskem's survival, growth and perpetuity; (2) to strengthen, through practical actions, the purpose of the chemical and petrochemical industry as a creator of sustainable solutions to improve people's lives; (3) to increase effectiveness in the identification, development, integration and appraisal of Team Members.

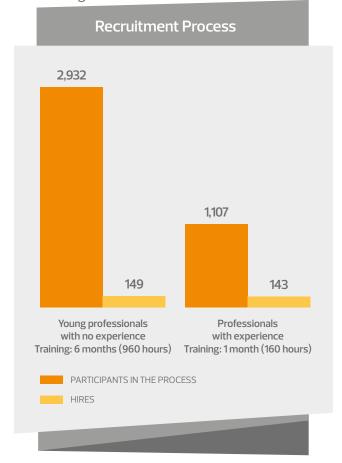
# Recruitment and selection

Braskem has a number of programs oriented toward the early stages of one's career. These include the Associate Program (www.jovemparceiro.com.br; available only in Portuguese), implemented in 2014 in partnership with the Odebrecht Group with job openings in São Paulo, Rio de Janeiro, Alagoas, Bahia, and Rio Grande do Sul, states where the Company operates. The Associate program replaced the former trainee program and became part of the internship program, that is, the intern can become an Associate, depending on his or her performance and the needs of the area or corporate department. Newly trained Associates represent approximately 10% of all young professionals who joined the Company through university internship programs. There were 17 of them in 2013 and 15 in 2014.

In line with Braskem's global growth strategy, three American Associates carried out a short-term project in Brazil, in order to obtain specific information about their fields of work and to become familiar with the Company's sphere of operation in the country.

In 2014, over 70,000 recent graduates contacted Braskem through interaction with teaching institutions, which resulted in 41,000 applications for internship programs in general. The result was 605 interns were hired, of which 559 in Brazil, 14 in the United States, two in Germany and 30 in Mexico.

Still focusing on the beginning of careers, the Young Apprentice and Young Operator programs engage and train technicians for the Company in Brazil and Mexico. In this country for instance, where Braskem is completing the construction of a petrochemical complex, a recruitment process was implemented to train industrial workers, with the following results:



With the aim of strengthening the value chain in the Brazilian petrochemical industry, Braskem established a program in partnership with the Federal Government in 2014 through the Vocational Education Access and Employment Program (Pronatec), which is fully financed by Government funds. Four hundred forty–nine positions were offered for training new industrial workers and 1,345 positions for specific technical training, also extended to the supply and services provider chain, representing a total of R\$ 3.2 million invested by Pronatec.

#### **NEW HIRES AND TURNOVER**

#### GRI G4-LA1 GLOBAL COMPACT - PRINCIPLE 6

Braskem hired 790 people in 2014 in the countries in which it operates. Given that 751 people left the company, 39 new jobs were created, most of them in Mexico, in preparation for the start-up of the new plant in 2015. The global turnover rate was 10.5% for women (9.4% in 2013) and 8.9% for men (7.8% in 2013). The global rate of new hires was 13.7% for women (16.8% in 2013) and 8.6% for men (12.6% in 2013). The decrease in these rates is due to the slowdown of new hires in Mexico, which in 2014 came closer to the necessary number of Team Members for its operation.

New hires and turnover figures broken down by region and gender following the GRI standard may be found in the attachments.

The main management indicator used by the Company is the voluntary layoff rate, which was 2.3% in Brazil in 2014, following the downward trend of recent years (2013: 2.5%; 2012: 2.6%). Team Members stated as their main reasons for leaving: the search for a new challenge (38%) and personal reasons (29%).

# **Training and development**

#### GLOBAL COMPACT - PRINCIPLE 3

Training programs are structured according to the principles of people management, which aim to develop teams in line with business needs and the strategic objectives of the Company, and are planned for the different moments of a Team Member career. The development process is acknowledged as a succession of challenges of growing complexity without necessarily being characterized by hierarchical promotion.

All Braskem Team Members create an Individual Development Plan, in which they specify actions involving education for work to be carried out throughout the year, as participation in courses and seminars. A number of other training programs are regularly conducted by Braskem, which invested R\$ 25 million in people education throughout 2014. The main programs include:

# Local **Development**

Braskem established strong ties with vocational and technical learning institutions in neighboring regions where it operates in Brazil, aiming to attract young professionals to the Young Operator and Young Apprentice Training Programs. Visits, job fairs and lectures were organized, especially at SENAI (National Industrial Training Service).

- Technical Competencies Development Program in
   Equipment and Industrial Processes: two teams of 65
   senior and specialist industrial operators were created.
   With 120-hour duration, the program is a continuing
   education course for technical improvement, carried
   out in partnership with teaching institutions, which aims
   to improve the degree of reliability of operations and to
   optimize productive processes.
- Development of young engineers / Petrobras University: activity carried out by CENPEQ and CEMANT. The CENPEQ – Petrochemical Processing Engineering Program, with a 400-hour attendance, aims to train recent graduate professionals of Processes and Production, so as to complement university education emphasizing the conduction of petrochemical processes. Likewise, CEMANT – Course Specialization in Maintenance Engineering – aims to train engineers who work as a support specialist in the Maintenance area. Both programs, with a two-year duration, are carried out in partnership with Petrobras University. In 2014, 33 young professionals completed CEMANT and 37 completed CENPEQ.
- Scientist Development Program: conducted in partnership with CNPq – National Council for Scientific and Technological Development – and learning institutions in Brazil and abroad for scholarship programs for researchers.

- Learning Paths: to promote sharing of technical knowledge between generations of professionals, over 1,400 Team Members were involved in development actions, which included technical seminars. With six virtual courses (e-learning), around 670 industrial workers were trained. Available in a virtual environment, the Learning Paths of Equipment and Industrial Systems offer a structured learning script that supports the development plan for the process of certification of Operation teams.
- Braskem-Idesa Training: four training teams were organized to train Braskem Idesa professionals on the topics: HDPE high-density polyethylene (43 participants), LDPE low-density polyethylene (31), Cracker (75), Services (19), Processes (7), Laboratory (3) and Maintenance (9), with a total participation of 187 Mexican Team Members trained in Brazil by the process of Education through and for Work. Meetings were held in various Braskem plants in order to develop technical skills centered on the Company's operations and processes. Mexican Team Members were able to live and learn with Brazilian teams.

## **Award for** Sustainable Development

• Leader Programs: according to TEO, the Leader plays two essential roles, the Educational Leader and the Entrepreneur Leader. The Leader training is provided by Education through Work, which means that it is based on practical experiences. To support this process, Braskem has Leadership Paths, a set of structured programs based on challenges and competencies for the development stages of the participating Leader. In 2014, the Team Leader Development and the Area Leader Development programs were organized, both focusing on the role of the Educational Leader. Thirty-one Area Leaders and 116 Team Leaders were trained.

In addition, Braskem invested in other programs for Leaders. They are:

• Entrepreneur Development Program: carried out in partnership with industrial companies of the Odebrecht Group (Odebrecht Oil & Gas, Odebrecht Agroindustrial and Enseada Indústria Naval). This is a global program, which had 10 Brazilian, two German and five American Team Members in 2014, and in which Leaders of the whole Group interacted and shared their knowledge and experience with the new entrepreneurs;

- Shift Leaders: training with 109 participants (81 in the US and Europe / 28 in Mexico) to support the development of Leaders with their various challenges;
- Leader Development Program: done for Team Members, to prepare them for leadership roles, in Germany and the U.S., with a total of 57 participants;
- Leader Workshop for Sustainable Development: aimed to train Team Members about the topic and engage them with the implementation of the Company's strategy. Eighty percent of the Company's Leaders were trained, including 822 people in Brazil, 58 in Mexico and 42 in the United States. This program will continue in Mexico and the United States in 2015, seeking to train 90% of the Leaders from those two countries.
- Leader Training Program: focus on labor and union matters, action and prevention of conflict management and aspects of law. Three hundred and twenty Team Members were trained in 2014. 160 in 2013 and 103 in 2012.

The Odebrecht Award for Sustainable Development, designed to recognize and encourage university students to think about engineering, architecture and agronomy from a sustainable perspective and create knowledge on the topic and disseminate these new ideas among the academic community and society as a whole. Among the five winning university projects of the seventh Brazilian edition, which took place in 2014, two projects related to the chemical industry business stood out:

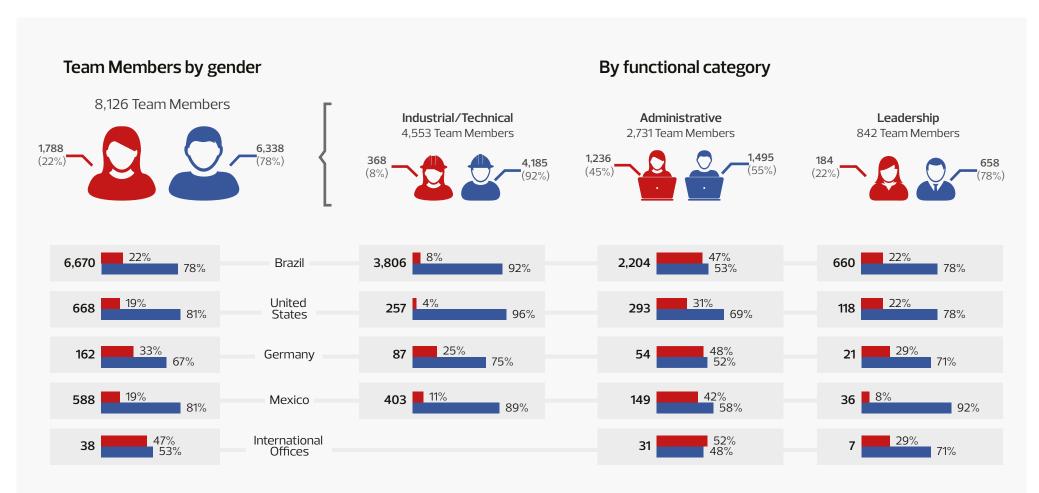
- Vale do Rio dos Sinos University (UNISINOS): "Recycling of expanded polystyrene through a paint manufacture"
- Catholic University of Pernambuco (UNICAP): "Use of low-cost bio-detergent to remove oil derivate in soil"

### **Team Members' Profile**

#### GRI G4-10 | GRI G4-11 | GRI G4-LA12 | GLOBAL COMPACT - PRINCIPLE 6

At the end of 2014, Braskem had a total of 8,126 Team Members. Of this total, 6,6701 were working at industrial units and offices located in five Brazilian states, 668 in the United States, 588 in Mexico, 162 in Germany, and 38 in international commercial offices.

1-Including quantiQ, the Brazilian distributor of chemical and petrochemical products controlled by Braskem.



Notes: (2) There are only 33 Team Members on temporary contracts. The others are hired for a permanent period. The vast majority of Team Members work full-time, with only 13 Team Members working part-time. (3) 98.8% of Team Members in Brazil, 47.3% in Mexico, 24.1% in Germany, and 9.4% in the US are covered by collective bargaining agreements.

### Remuneration

#### GRI G4-EC5 | GLOBAL COMPACT - PRINCIPLE 6

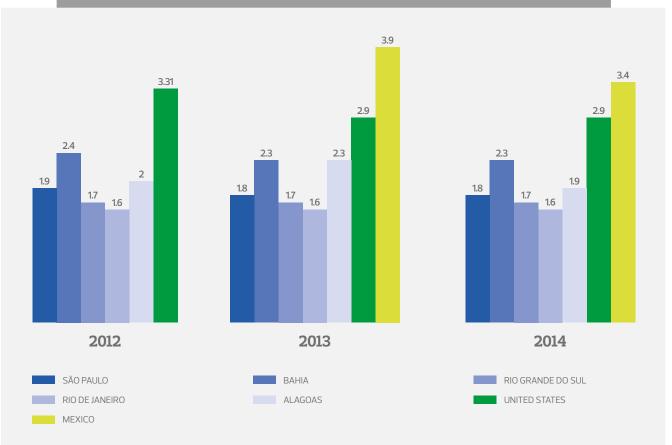
In order to ensure the competitiveness of its compensation policy as well as to attract and retain qualified professionals, Braskem conducts market research, with the help of specialized consulting, aiming to be updated and competitive in regard to market references, without any distinction as to gender, race or other personal characteristics.

The remuneration strategy is linked to factors and assumptions that make it more equitable (pay proportionally according to skills, job training and impact on results), competitive (in line with market standards), efficient (in terms of cost to the Company) and safe (committed to business continuity).

Results deriving from compliance with short-, mediumand long-term targets are rewarded by the total compensation, which is composed of: fixed remuneration and benefits (short term), variable remuneration (medium term) and, if applicable, long-term incentives. This cycle helps the Company grow and develop in the guest for its perpetuity.

Braskem contributes to job creation and to the growth and development of Communities in locations where it operates. See, in the chart below, the comparison between the lowest wage paid by the Company and the minimum wage in the areas where it does business.

### Comparative data: relationship between the lowest starting wage at Braskem and the local minimum wage



Notes: (1) does not include data from Germany, because there is no minimum wage in that country; (2) Brazil's minimum wage = wage floor for the category based on the trade union agreement; (3) minimum wage in the U.S. and Mexico = national minimum wage.

### **GENDER EQUALITY**

Braskem is committed to principles of equal opportunities for everyone and non-discrimination. However, in the chemical industry, a certain type of profile is observed, in which most senior positions are held by men, as a result of the historical deficit of women in technical and engineering courses. As such, it is believed that the differences observed in the comparative chart of average remuneration are mostly a consequence of this profile, in which positions that require greater experience are held by men. As for women, who entered the industry more recently, they hold positions of less seniority, therefore receiving lower wages.

The Company's processes of promotion and compensation are based on the definition of goals and performance assessment, which do not take into account aspects such as gender and race. Market references of compensation are equal for a certain wage level, regardless of personal attributes. To validate this analysis, the ratio between the simple average of compensation by gender and the market reference for each wage level of the Company in Brazil was calculated, without taking into account the number of Team Members at each level. It was found that men and women reach the same percentage of relativity<sup>1</sup>, that is, they have the same wages at each level, with no wage differences due to gender being observed.

With the change in Team Members' profile due to the increasing participation of women in the chemical industry, it is expected that the averages in broader categories will start to even out.

### Mathematical ratio of salary and compensation between women and men, broken down by functional category and significant operating units<sup>2</sup> GRI G4-LA13

	Germany	United States	Mexico	Brazil	
RATIO OF AVERAGE BASE WAGE FOR WOMEN AS COMPARED TO MEN					
Industrial/technical	0.85	0.95	0.87	0.80	
Administrative	0.80	0.72	0.55	0.82	
Leadership	0.70	0.65	0.86	0.99	
RATIO OF AVERAGE COMPENSATION FOR WOMEN AS COMPARED TO MEN					
Industrial/technical	0.88	0.93	0.82	0.81	
Administrative	0.79	0.66	0.49	0.80	
Leadership	0.67	0.59	0.85	0.95	

<sup>1 -</sup> This information is commercially sensitive, and therefore, cannot be publicly disclosed.

<sup>2 -</sup> Figures calculated in local currency

# Performance and career management

#### **GRI G4-LA11**

Performance and career management at Braskem is based on the relationship between Leader and Team Members, who plan and define, by mutual consent, the target results to be achieved in the year, in an Action Program (PA). Throughout this period, the evolution of results is monitored and, if necessary, new targets are established. The assessment takes place at the end of the year, when the Leader decides on the next steps for the Team Member. This is the PFAJ cycle (Planning, Follow-up, Assessment and Judgment). The process is carried out at Braskem's operating units in Brazil, the United States and Germany.

All Team Members have an individual PA, which is a requirement for variable compensation and is linked to the rate of achievement of goals and to the alignment to the Company's values (TEO).

### **Diversity Program**

GLOBAL COMPACT - PRINCIPLE 6

The Diversity Program was first implemented in 2014, initially centered on strengthening diversity within the Company. In October, the first Braskem Women's Forum was held in São Paulo, with the presence of 50 Leaders to discuss various aspects related to the topic.

### **Destague Award**

As an activity designed to encourage creativity, the ethos of service and the pursuit of knowledge, the *Destague* Award (Braskem Excellence Award) is also a recognition action open to all Team Members. In 2014, the event was merged with the Odebrecht Group, resulting in a single award, aiming to broaden and strengthen synergy with all other companies belonging to the Group, thus disseminating the best practices to all businesses. The Braskem Excellence Award has been held by Odebrecht since 1992.

In the 2014 edition, 692 projects were registered, of which 271 were Braskem's. Registrations are made by category: Innovation, Associate, Environment, Community Relations, Knowledge Reuse and Occupational Health and Safety. Braskem took first place in the category 'Knowledge Reuse,' with the project "Revision of the Regulatory Norm #13", in

which Team Members from the Basic Petrochemicals Unit (UNIB) took part.

The April 1994 version of the Regulatory Norm #13 - Boilers and Pressure Vessels of the Ministry of Labor and Employment (MTE) – was technically obsolete and had a series of burdensome requirements for institutions that did not improve the safety for workers or facilities. The results achieved by the project were to have the Government review the Norm, on a tripartite model, with the participation of Braskem Team Members on the revision team. Also to have the Government interact with technical and corporate communities in order to leverage and give technical support to decisions of changes in economically significant requirements, without having a negative effect on safety for workers and industrial facilities.

# **HES** Management

Braskem manages Health, Environment and Safety (HES) on an integrated basis by means of the Integrated Health, Environment and Safety System (SEMPRE), which defines the path of excellence on these topics. The strategy mobilizes Leaders and their teams and integrates the care of people and the environment into the Company's routine.

Started off in 2005, SEMPRE was improved in 2012 and is currently composed of 16 Strategic Elements that strengthen the culture, establish goals and present guidelines and requirements for the establishment and compliance with norms, procedures and responsibilities in HES.

#### **EXCELLENCE IN HES**

In order to achieve and maintain the desired excellence in HES, Braskem expects continuous progress in the five stages of the implementation of SEMPRE for the purpose of preventing and minimizing risks, as well as personal, environmental and material losses. The system focuses on workplace and process safety, logistics, the environment, chemical safety, occupational health and hygiene and the quality of life.

### **SEMPRE Stages**



# **Evolution of plants throughout SEMPRE stages** 10% 50% 100% 90% 2013 2014 2015 2016 2017 STAGE 3 STAGE 1 STAGE 2 STAGE 4 STAGE 5 **UNDER ANALYSIS**

According to the operation's profile and respective risks involved, the progression through these stages in each plant was defined, with the establishment of annual goals. Beyond this evolution based on risk levels, all units plan to achieve stage 5, which corresponds to the most advanced stage, by 2017<sup>1</sup>.

To enhance implementation at a global level, the Business Units' Leaders established a process with annual audits, conducted since 2012, including the following points: Strategic Elements: Guidelines and Procedures

of SEMPRE in line with Quality and Productivity; and Barrier Inspection for process safety risk scenarios, thus named as they identify elements implemented with a focus on the mitigation and prevention of accidents.

In 2014, the SEMPRE audits were conducted at 30 Braskem units. See the different improvements achieved and goals for the coming years.

At Braskem Idesa, in Mexico, the implementation of SEMPRE is underway.

# Highlights

- All units audited in 2014 reached the established goals for SEMPRE progression.
- The systemic implementation of SEMPRE requirements, operational discipline and Leaders' commitment served as a foundation for Braskem to maintain positive results of Workplace and Process Safety, Health, the Environment, Product Safety, and Logistics Process, obtained in 2014.

## Strategic Elements

### **SEMPRE**

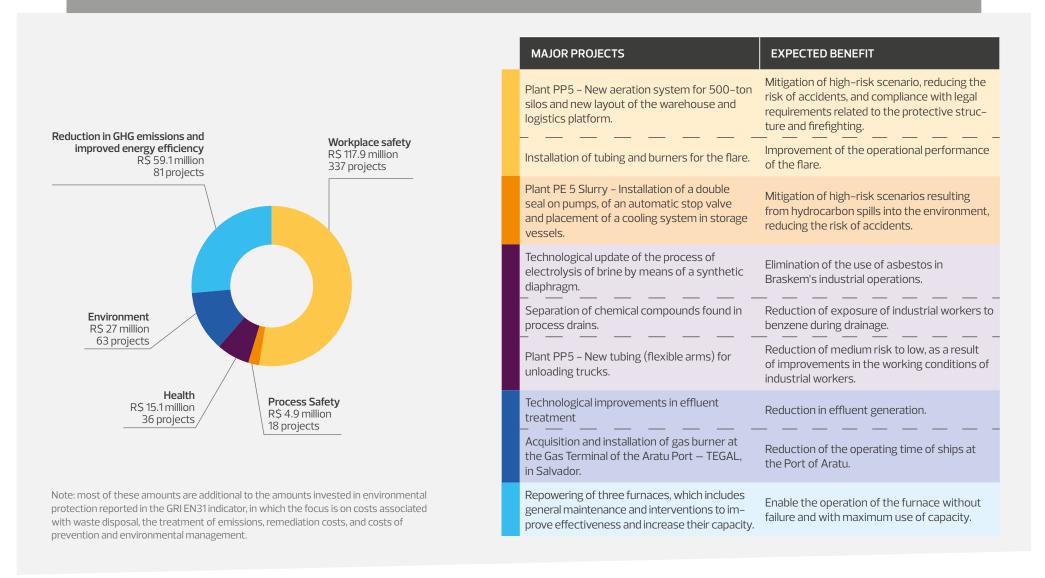
- SE-01 Commitment and leadership
- SE-02 Governance and organizational synergy
- SE-03 Identification of HES impact and risk analysis
- SE-04 Standards and procedures
- SE-05 Product and process information
- SE-06 Cultural and behavioral development
- SE-07 Management of competencies and skills
- SE-08 Management of service providers (contractors)
- SE-09 Effective communication and consultation
- SE-10 Projects and undertakings
- SE-11 Integrity of facilities and equipment
- SE-12 Management of product impacts and aspects
- SE-13 Management of change
- SE-14 Emergency and crisis management
- SE-15 Event reporting, investigation and enterprise learning
- SE-16 HES verification

<sup>1 -</sup> The prior estimate was that this implementation level would be reached in 2018. Over the past three years of implementation, there was a significant evolution, allowing the goal for Stage 5 to be anticipated for 2017.

#### INVESTMENTS AND FINANCIAL GAINS IN HES

To promote a continuous improvement in the operation, Braskem invested R\$ 224 million in 535 maintenance and HES projects that will positively impact the Company's HES results. The graphic below highlights investments and major projects by topic.

#### Investments



#### **ECONOMIC GAINS**

Braskem also monitors economic gains that result from projects that impact the HES area, seeking to contribute toward the Company's economic sustainability. In 2014, the Company obtained an economic gain of approximately R\$ 431.4 million in its operations in Brazil, the United States and Germany, as a result of these investments. The table below details these gains by topic.

### Details on gains by topic

Size	Topic	Savings / avoided costs in 2014 (R\$ million)
Safety	Workplace safety <sup>1</sup>	0.6
	Process Safety <sup>2</sup>	7.9
Health	Occupational Health <sup>3</sup>	37.1
Environment	Waste Generation	53.7
	Water use and effluent generation	1.9
	Energy Consumption	307.6
	GHG Emission	4.5
HES	Common Impact	14
	Management	4.1
TOTAL		431.4

 $<sup>1-</sup> A voided cost of US\$\,200,\!000, as a result of the difference in the number of reported injuries. There were ten$ more injuries without lost time (US\$ 10,000) and ten fewer injuries with lost time (US\$ 30,000). (Source for avoided cost due to injuries: US National Safety Council)

<sup>2 –</sup> Difference from 29 to four Tier 1 process safety events. (Source: internal calculation of Braskem's Corporate HES area)

<sup>3 –</sup> Cost avoided with amounts disbursed for the payment of convictions in health and safety labor lawsuits related to the amounts involved. (Source: internal calculation of the Braskem's Corporate Legal area)



# Safety

Safety is a fundamental value for Braskem and is considered the most important sustainable development macro-objective for the Company when assessing all of its stakeholders. For Braskem, safety includes not only workplace and process safety, but also the safe use of its products and the generation of waste, given that the Company produces hazardous waste.

# **Health and Safety at Work**

#### G4-LA5 | G4-LA6

Health and Safety at Braskem is underpinned by strong governance, which covers the entire operation managed at the various hierarchical levels, involving managers and representatives of operational teams in formal committees.

One of the prevention tools used is the Behavioral Dialogues, in which Leaders discuss actions with their teams intended to minimize risks and reinforce important points of safety procedures. In 2014, approximately 155,000 Behavioral Dialogues were held, or in other words, one per Leader every three minutes. Only 36.5% of these dialogues, which are focused on prevention, were related to an observed deviation.

### PARTICIPATIVE GOVERNANCE OF THE TEAM MEMBERS' HEALTH AND SAFETY

Occupational health and safety related issues affecting Team Members in Brazil are monitored by committees consisting of managers and representatives from their teams and by the Internal Accident Prevention Commissions (CIPAs), as determined by law. In addition to these entities, the corporate HES area also coordinates a third committee exclusively designed for such topics as chemical safety, impacts and risks, which includes the participation of representatives from the Brazilian units.

At the units located in the United States, although there are no legal requirements in this regard, committees are formed by Team Members who work to improve HES conditions, based on Braskem's Integrated Health, Environment and Safety System (SEMPRE) and Braskem+ guidelines. The local plants are registered and certified as part of the Voluntary Protection Program (VPP), supported by the Occupational Safety and Health Administration (OSHA), U.S. government agency that regulates safety and health. With regard to VPP, Braskem has formed a committee of Team Members that works on programs to improve HES conditions.

In Germany, there is a specific committee that deals with HES matters, which are also handled in a decentralized manner. The results are guaranteed through local unit management.

In Mexico, there is a HES Steering Committee that consists of unit Leaders, the Head of Management, a Legal Workplace Safety Committee, consisting of Company representatives appointed by the Leadership and by Team Members who volunteer to represent their colleagues, in line with the requirements of the country's Department of Labor and Social Security. This Legal Committee reviews the Company's procedures and suggests improvements, and also monitors and evaluates the Company's performance, aiming to prevent accidents and improve occupational health conditions.

Accordingly, 100% of the Company Team Members are represented on formal health and safety committees formed by different hierarchical levels, who help monitor and orient the workplace health and safety programs.

#### WORK-RELATED ACCIDENTS

#### GRIG4-LA6

Braskem monitors and reports the injury rates of Team Members and Contractors in an integrated way, emphasizing that no distinction is made in the importance of accidents involving its own workforce or third-party professionals. All accidents are treated with the same level of seriousness and analyzed to ensure that they do not occur again. In 2014, the Company invested R\$ 117.9 million in workplace safety improvement projects, eliminating potentially high-risk scenarios to reduce the chance that serious accidents will occur.

Accumulating a 90% decrease from 2002 to 2014, the injury rate both with and without lost time was 1.00 injuries per million hours worked for Team Members and Contractors (1.04 in 2012 and 2013). Even though the goal has yet to be reached, results for the year showed progress when compared to the previous two years, since the Company had already achieved its best track record ever. The goal was 0.80, which is considered highly challenging, given

ON AVERAGE, THE FREQUENCY OF INJURIES WITH AND WITHOUT LOST TIME AT BRASKEM IS 1.5 TIMES LOWER THAN AVERAGE FOR THE CHEMICAL INDUSTRY IN BRAZIL, ACCORDING TO DATA PUBLISHED BY THE BRAZILIAN ASSOCIATION OF THE CHEMICAL INDUSTRY (ABIQUIM) FOR THE MEMBER CHEMICAL COMPANIES (2013).

that it is below average for the chemical industry in Brazil.

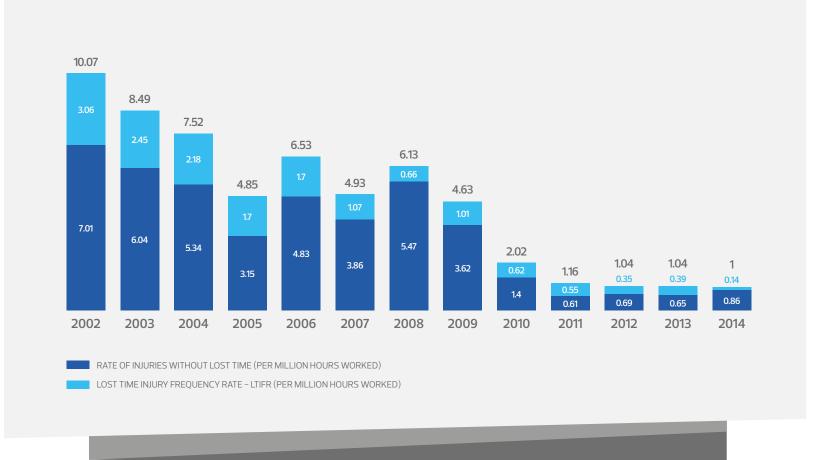
Analyzing the most serious accidents, in which the involved individual required work leave, the evolution was even more positive. The lost-time injury frequency rate, considering Team Members and contractors per million hours-worked, was 0.14, representing a decrease of 64% as compared to 2013 and an accumulated decrease from 2002 to 2014 of approximately 95%. It is a significant result, considering that the average rate for the domestic chemical industry is 1.81 (Source: ABIQUIM, 2013) and the average rate for the global chemical industry is 3.56 (Source: International Council of Chemical Associations – ICCA, 2010). The severity rate of injuries with lost time that evaluates the seriousness of accidents based on the number of days that the injured person misses work, was 10.80 per million hours- worked by Team Members and Contractors, representing a 76% improvement as compared to 2013 and an accumulated improvement from 2002 to 2014 of about 96%. This indicates that, even though significant accidents continue to occur, they are increasingly less serious.

Sixty-three percent of the industrial plants did not record personal accidents with mandatory leave for more than two years. This was the fourth year without any fatal accidents at the Company, in line with its continuous zero-fatality goal.

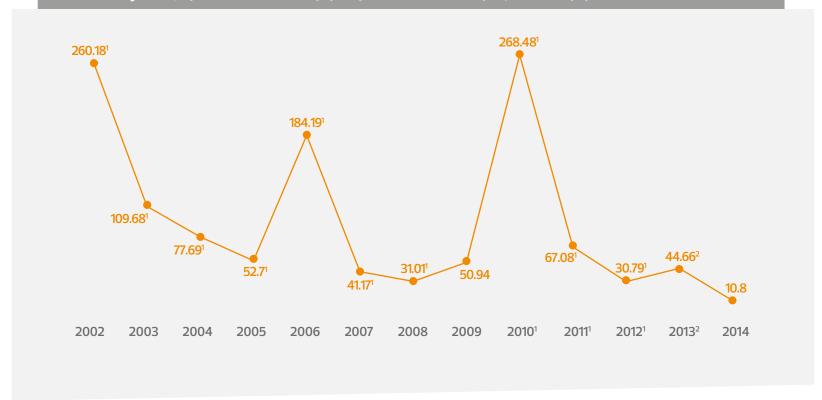
The reduction in the number of injuries represented an avoided cost of approximately R\$ 600,000 as compared to 2013. The cost avoided with amounts disbursed for payment of convictions in health and safety labor lawsuits has already represented approximately R\$37 million. Besides this, due to the reduced number of work-related accidents and occupational diseases at the Company between 2012 and 2013, the Brazilian Federal Government defined and published Braskem's new accident prevention factor (FAP), a measure that will generate savings of approximately R\$ 800,000 in 2015.

In terms of occupational medicine and health management, the Company achieved the record of zero new cases of occupational disease among Team Members, the result of improvements and awareness raising actions focused on disease prevention and the quality of life. Braskem invested R\$ 15 million in occupational medicine and health improvement projects in 2014.





### Severity rate (Days of work leave due to injury + days debited due to casualty or permanent injury x 1,000,000 / hours worked.)



- 1 The severity rates were recalculated for 2010, 2011, and 2012 in compliance with national and international technical standards (ABNT / NBR - 14280 and OSHA, respectively).
- 2 The severity rate for 2013 was reviewed considering the return of a Team Member who was on work leave. There is still a Partner on leave due to an accident in 2013, which will eventually cause a change in this rate.

#### LOGISTICS SAFETY

Due to Braskem's accelerated growth over recent years, the risks inherent to logistics activities, which include operations at port terminals, warehouses, and ground and sea transport, have become more relevant.

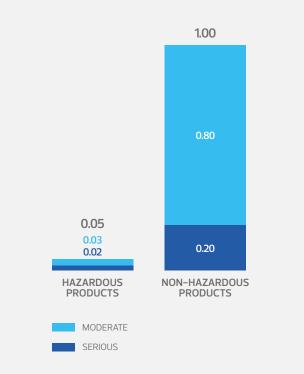
In 2014, there was a great focus on improving Health, Environmental and Safety management in these activities, which are mostly carried out by service providers and third parties, to ensure they follow the same standard of safety training that is offered to chemical industry professionals.

To this end, a diagnosis was performed on all of Braskem's logistics operations: the contracted transporters, terminals used and location of the warehouses that receive products from the Company. The mapping will serve as the basis for organizing and standardizing activities and processes that will increase safety for service providers, for the Communities in which trucks transporting chemical products circulate and for Clients.

#### 2014 HIGHLIGHTS

- Selection of suppliers: the criteria adopted for contracting highway transport logistics service include the Health, Environment, Safety and Quality Assessment System (HESQAS) certification granted by ABIQUIM.
- Accident prevention: there was a 55% reduction in the serious highway injury rate as compared to 2013.
- Greenhouse gas emissions (Braskem Scope 3): a pilot study was initiated with a Logistics supplier, with the aim of testing a tool for deciding on the best mode of transport, route and equipment from an economic perspective and to reduce these emissions. Additionally, the Libra Group – one of Braskem's logistics suppliers - was recognized as one of the highlights in the 2014 CDP Supply Chain for its strategy, risk analysis and opportunities associated with climate change and greenhouse gas emission management.
- Emergency simulations: there are annual emergency simulations held for the maritime and highway transport modes, involving the participation of civil defense, the environmental agency, the fire department and others.
- Social Responsibility along the value chain: continued support for the 'Na Mão Certa' program designed to eradicate the sexual exploitation of children and adolescents along Brazilian highways.

Highway injury rate in 2014 (No.  $\times$  10,000/trip volume<sup>1</sup>)



1-During 2014, the first year of monitoring, the rate includes highway transportation of Finished Products, Propylene, PE -Raw Material and waste. Other raw materials and data from the United States and Europe Business Units will be included at a later date.

Number of trips: 59,595 for hazardous products and 405,752 for non-hazardous products. This volume is an estimate yet to be validated.

# **Process Safety**

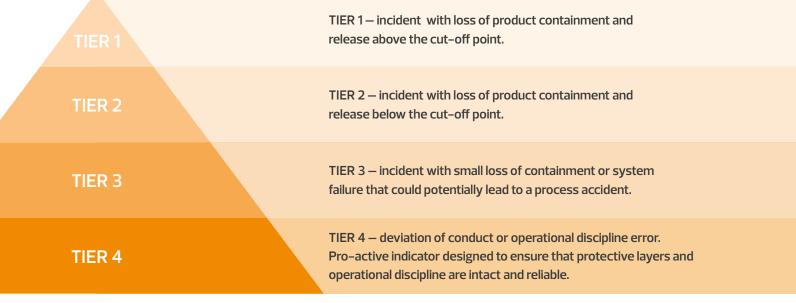
#### GRI G4-S02 | GLOBAL COMPACT - PRINCIPLE 1

The focus on process safety is reflected in the management of risks inherent to the processes and the reliability of industrial plants. The main mechanisms used include prior knowledge of scenarios and establishment of protection barriers for mitigating risks. The management system cycle closes with the barrier audits, which examine compliance with the work to mitigate and prevent risky incidents.

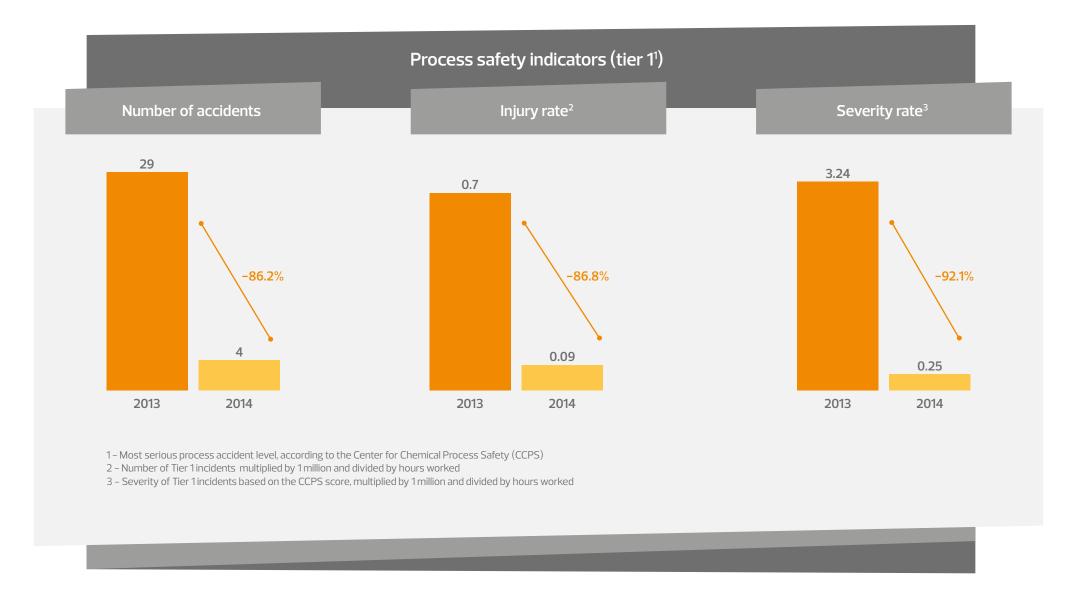
This set of actions allows Team Members to identify the main opportunities for improvement related to management and the short-, medium- and long-term results.

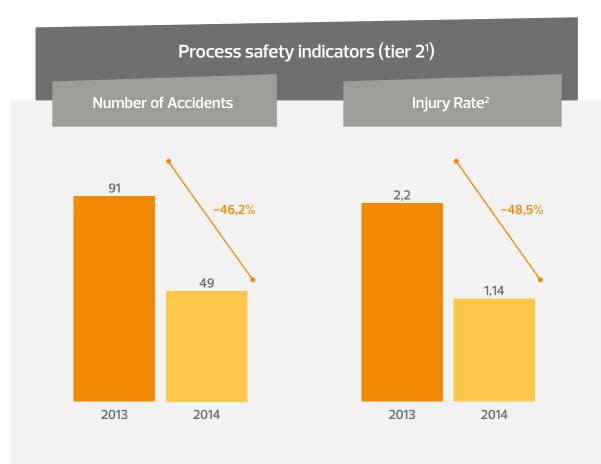
The HES teams have worked to strengthen the process safety pyramid base, or in other words, the analysis and prevention of small risks, together with the definition of corrective and preventive actions to minimize the likelihood that an incident of greater proportions will occur.

In 2014, there were four Tier 1 incidents, and at the base of the pyramid, 2,000 'small leak search' incidents were recorded, designed to ensure strengthened operational discipline. The greater number of pro-active incidents compared with serious incidents indicates the Team Members' commitment to increasingly mitigating the conditions that may cause the incidents themselves, with the expectation of eliminating the occurrence of these serious incidents.



In 2014, process safety risk management at the Braskem industrial units recorded the following results.





<sup>1 –</sup> Events of safety processes similar to Tier 1, with loss of primary containment but less significant, that is, with less strict criteria, such as: amount of chemical products released into the atmosphere (10% of Tier 1); injury without lost time; costs of material losses related to fires/explosions (10% of Tier 1), according to Center for Chemical Process Safety (CCPS)

3 – Average of the top six companies in the field of process safety, based on the American Chemistry Council (ACC) ranking.

A total of R\$ 4.9 million was invested in process safety improvement projects, which should help reduce the occurrence of serious incidents. The reduced number of process–related injuries in 2014 represented an avoided cost of approximately R\$ 7.9 million compared to 2013. The perspective for 2015 is for continuous improvement, by reinforcing discipline in key aspects of process safety, such as change management, accident investigation and risk analysis; monitoring small leaks and process safety deviations; reinforcement of learning and coverage of process–related injuries and incidents. The frequency rate goal for Tier 1 incidents for 2015 and for following years, set at 0.22 per million hours worked, is designed to ensure that Braskem remains below the international reference, which is 0.243.

# **Risk Rating**

The average risk rating for Braskem plants improved during the 2013–2014 period, due to the efforts associated with improving risk management for installations and production processes, together with training, internal safety audits and Leaders' direct participation in prevention actions. In 2014, 100% of the Braskem plants were classified above the international 'standard' rating.

The Company's goal was to achieve an average of 90 points, with all of the plants classified as 'above standard' (the second-highest performance level).

<sup>2 –</sup> Number of Tier 2 incidents multiplied by 1 million and divided by hours worked

# **Product safety**

#### GRI G4-PR1 | GRI G4-PR2 | GRI G4-PR3 | GRI G4-PR4

Braskem adopts a series of measures to guarantee the safety of its products. These include a rigorous control of the documentation issued, safe handling practices and measures taken when sending information to Clients.

Impacts on health and safety caused by all of Braskem's products (due to such aspects as flammability, toxicity and corrosiveness) are evaluated during every phase of the product life cycle. These impacts are managed through actions such as the use of process technologies that reduce gas emissions, the monitoring of resource consumption rates, waste generation and the proper treatment and disposal of effluents and waste. Specific risk analysis tools are used, with the adoption of the necessary measures for mitigating the risks detected.

The Brazilian Chemical Product Safety Data Sheet (FISPQs) and Braskem's product labeling are prepared pursuant to Brazilian Standards NBR 14725. All of the FISPQs for products manufactured and marketed by the Company are updated and available online for public access at: http://www.braskem.com.br/site.aspx/Products-Usa-Eng<sup>1</sup>.

The information recorded in the sheets includes instructions for product transport, handling and disposal. Inspection, internal and external auditing, SEMPRE auditing programs and the respective action plans which were created based on diagnoses of the audits are designed to guarantee the implementation of data contained in the sheets. In Brazil, in addition to FISPQs, there are internal guidelines and procedures which establish the practices to be applied.

No information on outsourcing or component origin is included, since no substances with a potentially significant socio-environmental impact are used (for example, no minerals from conflict zones are used, that is, from regions where human rights are disrespected with regard to mining, transport or the sale of minerals) and there are no legal reguirements concerning the disclosure of such information.

In the United States, the Material Safety Data Sheet (MSDS) is used and in Europe, the Safety Data Sheet (SDS) is used. Both are items required by the regulatory agency in the United States (OSHA) and by the relevant guideline of the European Union (REACH), based on the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), created by the UN.

These sheets were reviewed and evaluated as related to international references in 2014, validating their structure and content. The Product Stewardship procedure (product management together with the Client) was also improved through an evaluation of the international requirements of the Responsible Care and Global Product Strategy (GPS) programs, promoted by the International Council of Chemical Associations (ICCA). This procedure establishes communication with stakeholders, including Clients, clearly defining roles and responsibilities.

In 2014, there were no cases of non-conformity with regulations associated with impacts on health and safety during the Braskem product lifecycle, including issues related to product sheets and labeling.

# Braskem's participation in the **National Benzene Commission:**

Tripartite body (representatives of Government, employers and workers) created by the Federal Government to deal with matters related to benzene, a dangerous product, in order to search for solutions agreed between parties for the implementation of the Benzene National Agreement, which aims to prevent occupational exposure to that substance. The commission has visited companies that work with or produce benzene, as is the case for Braskem. UNIB 1, in Camaçari, was one of the companies visited. There were no reported events, while improvements to the management system were observed.

1 – In order to access the sheets, you must choose a product and navigate to the bottom of its page, selecting the 'Safety Sheet' tab.

# **Environment**



Water treatment plant in Santo André (SP)

#### GLOBAL COMPACT - PRINCIPLES 7, 8 AND 9

Environmental management at Braskem integrates the entire operation in order to manage risks to ensure business sustainability and promote its growth, while respecting environmental assets, through the rational use of natural resources and minimizing the impacts of consumption and waste disposal.

Besides its own industrial operation processes for the development of products and services, Braskem continuously seeks to develop innovative solutions that allow it to generate a lower environmental impact during the use of products by its Clients.

In 2014, Braskem continued to invest and implement initiatives to reduce the generation of effluents and waste, and also to cut the use of energy, use of water and intensity of greenhouse gas (GHG) emissions. Braskem invested R\$ 27 million in environmental improvement projects, in addition to approximately R\$ 60 million in products designed to reduce GHGs. The Company achieved savings and avoided costs of approximately R\$ 385.8 million in 2014, as the result of process improvement projects with impacts on environmental and energy efficiency indicators.

The main results for the year are presented in the following pages. Learn more about the relevance of each one of the environmental aspects associated with business sustainability at:

Braskem / Materiality

Find out more about Braskem's environmental initiatives at:

Braskem / Environment

# Waste

#### GRI G4-EN23

The minimization and correct disposal of waste is part of Braskem's Safety macro- objective, due to the potential negative impact on people's health and the environment.

Waste generation at Braskem is primarily affected more by seasonal and non-seasonal events than by the production itself. Some examples of such events include shutdowns, both scheduled and unexpected ones.

Unexpected shutdowns may occur due to power outages or some significant accident, for example. Scheduled shutdowns are designed for maintenance and efficiency improvements at the plants and lead to the establishment of goals associated with curbing the increase in waste generation intensity, considering that there has been significant growth in the same. During the shutdowns, the equipment is opened and cleaned and workers perform construction, demolition and organization activities. During these events, the teams work to reduce waste generation and generate added value for the waste which is generated.

After identifying the types of waste generated, Braskem seeks solutions for those that may be reused through composting, reuse, recycling or recovery, turning certain industrial waste into business opportunities.

For waste that is not reusable, Braskem ensures its proper disposal, complying with local environmental law, considering the municipal, state and federal spheres, without failing to continue evaluating other possibilities for adding value to the material.

Braskem monitors its waste generation using the waste generation eco-indicator, which correlates the generation with the amount of tradable products manufactured. The chart on the side shows the historical data for the eco-indicator, together with short- and long-term goals.

In 2014, 36.8 million kg of solid, liquid and viscous waste were generated at the Braskem plants – 2.3 kg per ton of tradable product produced – a result 4.5% higher than that achieved in 2013, but 7.3% better than the goal established for the period of 2.48 kg/t.

The increase, both in terms of generation as well as the goal set for 2014 was due to the identification of a plastic waste that was being considered a byproduct instead of a waste. The continuous evaluation of the operational and corporate areas relative to environmental issues allowed Braskem to identify the deviation and correct it starting in 2014, when this waste began to be included in the indicator. Furthermore, the remediation of the contaminated areas resulted in contaminated soil for treatment. Maintenance shutdowns at three large plants also influenced the indicator. Since 2002, however, the generated volume has presented an accumulated reduction of 60%, resulting from an intensification of measures focused on preventing waste generation, based on the example of reverse logistics.

As the result of investments and improvement actions in the area of waste generation, the Company made a savings of approximately R\$ 53.7 million in 2014.

# Waste Generation – Kg/t



2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

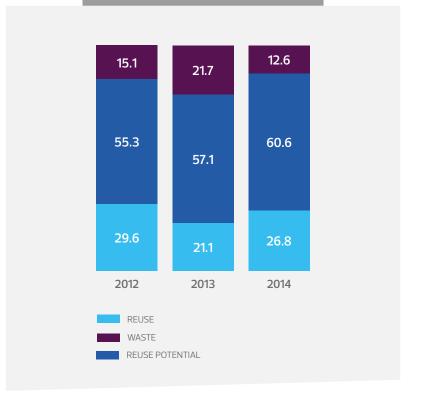
Note: This rate takes into account the generated waste divided by the total production of tradable products, excluding finished products transferred internally within the Vinyls Units. Waste used as fuel materials in boilers or incinerated in Braskem's plants is not accounted for, as the environmental impacts of these materials are different due to the external disposal of waste. Such impacts are accounted for in other ecoindicators of the Company, such as energy intensity or air emissions.

# Disposal of generated waste (%)

ON AVERAGE, BRASKEM'S WASTE GENERATION IS 3.2 TIMES LOWER THAN THE BRAZILIAN CHEMICAL INDUSTRY AVERAGE. WHICH IS 7.3KG/T ACCORDING TO THE DATA PUBLISHED BY ABIQUIM FOR ITS MEMBER COMPANIES (2013).

It is important to emphasize that the Company's current waste indicator measures the generation of waste, part of which is reused, either through reuse itself, composting, energy recovery or recycling.

The following chart shows the waste disposal profile over the past three years.



In 2014, 9.9 million kg of waste from Braskem were reused. In major cities, the average annual waste generation per person is 438 kg<sup>1</sup>. Therefore, the amount of waste reused is equal to the total annual generation of a city with 22,500 inhabitants.

1 - Source: World Bank, from the report "What a Waste, A Global Review of Solid Waste Management". In terms of waste disposal, the 2014 distribution is presented as follows:

# Waste disposal<sup>1</sup> (1,000 kg)

	2014
COMPOSTING	662
REUSE	238
RECYCLING	7,930
RECOVERY (INCLUDING ENERGY)	5,424
INCINERATION	20,508
SANITARY/INDUSTRIAL LANDFILL	21,493
UNDERGROUND INJECTION OF WASTE	7,960
STORAGE ONSITE	748
OTHERS <sup>2</sup>	5
TOTAL	64,968

- 1 There is no direct correlation between the waste generated (eco-indicator basis) and the disposed waste, since a great deal of the waste generated during a one-year period is stored until reaching adequate volume to be sent to the chosen disposal site, which may occur in later years.
- 2 Others: autoclave; thermal vacuum demercuration; co-processing of waste in rotating clinker furnaces for the manufacture of cement; decontamination of soil by thermal desorption.
- 3 These percentages were estimated based on data related to approximately 90% of waste disposed in 2014.

The main destination for hazardous waste is incineration, representing more than 50% of the disposed volume. Industrial landfill, recycling and recovery are the other most frequent disposal types, corresponding to approximately 20% of all hazardous waste.

For non-hazardous waste, the main destinations include recycling, landfill and deep well injection, accounting for more than 80% of this type of waste<sup>3</sup>.

#### **PERSPECTIVES**

Braskem is carrying out several studies to reduce waste generation and also to increase its reuse. In 2014, the Company partnered with a supplier that will recover organic solvents, which should generate an impact already in 2015 by increasing the Company's reuse rate.

The plants also have several initiatives in place to reuse the waste generated and obtain economic gains. These include:

- sales of exhausted catalysts at UNIB 3 ABC with potential gains of approximately R\$ 7.7 million;
- sales of exhausted catalysts at UNIB 1 BA with potential gains of approximately R\$ 1.1 million:
- cleaning of the emergency basin at UNIB 2 RS using technologies that generate less waste and reduce people's exposure, with potential economic gains of approximately R\$ 300,000;
- recycling of polypropylene waste at UNUSE with real gains of approximately R\$ 2.5 million.

The expectation for 2015 is to reduce the waste generation rate to 2.2 kg per ton produced. The long-term goal is to reach 1.91 kg per ton produced with a 35% reuse of the generated waste. These expectations include the impacts estimated with the entry into operation of the new complex in Mexico, although they may change once the real data is collected.

# **Water: Use and Discharge**

#### GRI G4-EN8 | GRI G4-EN10 | GRI G4-EN22

Aligned with the water efficiency-related macro-objective, Braskem is developing several different initiatives at the industrial plants designed to reduce water use. These include structured programs focused on eliminating leaks, awareness raising campaigns about water use, both within the industrial and administrative spheres, industrial cleaning procedure improvements and water reuse.

In 2014, savings were estimated at R\$ 1.9 million due to improvements to water use and discharge. The Braskem units completed their operations without restrictions due to the water availability and discharge in 2014.

#### **WATER USE**

Braskem monitors its water use by means of an indicator that correlates the water consumed with the manufacturing of tradable products. This allows the Company to analyze the process performance as related to water efficiency.

The chart to the side shows the history of the water use rate at Braskem, together with the short- and long-term goals.

In 2014, 4.16 m<sup>3</sup> of water were consumed per ton produced – a result that was 5.9% better than the goal established for the period, of 4.42 m<sup>3</sup>/t, and 3.3% lower than that consumed in 2013.

In absolute terms, Braskem consumed 66.7 million m<sup>3</sup> of water in 2014, 99.9% of which was reserved for its production processes. The Brazilian industrial plants consumed 62.8 million m<sup>3</sup>, and the international plants 3.9 million m<sup>3</sup>.

The water use intensity goal embodied an estimate increase for 2014 compared to 2013 (4.30 m<sup>3</sup>/t in 2013 as compared to the goal of  $4.42 \,\mathrm{m}^3/\mathrm{t}$  in 2014) due primarily to scheduled maintenance shutdowns, necessary for guaranteeing safe and efficient operation of the plants. Since 2002, water use increased by 0.5%, which is above average for the Brazilian chemical industry (2.76 m<sup>3</sup>/t for chemical companies associated to ABIOUIM in 2013). However, Braskem has a water use rate that is significantly lower than the average for the international chemical industry, which was 25.9 m<sup>3</sup>/t in 2010 (Source: ICCA).

# Water Use – m<sup>3</sup>/t 4.23 4.3 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 Note: This rate takes into account the amount of water used for production processes, divided by the total production of tradable products, excluding finished products transferred internally within the Vinyls Units.

## WATER WITHDRAWAL BY SOURCE

#### GRI G4-EN8

Water used by Braskem in its processes comes from different sources. In 2014, the water withdrawal by source showed the following profile:

# Water withdrawal by source

Water Withdrawal	Brazil	United States	Germany	Total
Total volume of ground water withdrawal (m³/year)	289,535	0	0	289,535
Total volume of rainwater directly collected and stored (m³/year)	83,478	0	0	83,478
Total volume of effluents collected from other organizations (m³/year)	82,882	0	0	82,882
Total volume of municipal water supplies or others collected (m³/year)	55,846,037	0	0	55,846,037
Total volume of water collected from the surface, including wetlands, rivers, lakes and ocean (m³/year)	16,019,561	3,500,352	400,685	19,920,598
Steam purchased from sources outside of the company (t) <sup>1</sup>	1,604,039	0	0	1,604,039
Total volume of water withdrawal (all sources) (m³/year) <sup>2</sup>	73,925,531	3,500,352	400,685	77,826,569
Water transferred to other companies (m³/year)	11,131,902	0	0	11,131,902
Total water use (m³/year)³	62,793,629	3,500,352	400,685	66,694,667

<sup>1 –</sup> Reported data was considered in tons of steam.

<sup>2 –</sup> The total withdrawal is the sum of all water brought to the Company's property originated from various sources (surface, underground, rain and public city water supply system) for any use.

<sup>3 –</sup> Not all water collected by the Company is internally consumed, because Braskem sells part of the water it collects.

#### WATER REUSE

#### **GRI G4-EN10**

Seeking production processes that are increasingly sustainable and in order to mitigate situations involving reduced water availability, Braskem develops actions that prioritize water reuse.

The total reuse rate, which considers rainwater, treated household waste and industrial effluents, reached 28% in 2014, 4.7% lower than the previous year. Due to reuse, approximately 18.7 billion liters were saved from being extracted from bodies of water (estuaries, rivers, ground water, etc.), equivalent to 7,000 Olympic swimming pools, which is enough to meet the consumption needs of approximately 500,000 people for one year<sup>1</sup>.

Since 2012, two significant projects have been developed by Braskem, with aims of using effluents for industrial reuse:

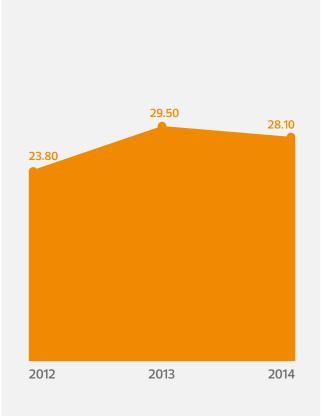
> 1 – BBased on average use of 100 liters of water per person per day established by the World Health Organization (WHO).

- Aguapolo Ambiental: partnership between SABESP (the São Paulo municipal water company) and Odebrecht Ambiental. The implementation of the industrial reuse water project was made possible by Braskem, which is consuming 65% of Aquapolo's capacity, reducing the demand for drinking water in the supply of the Capuava petrochemical complex in Mauá (SP). Nearly all the water used by the Company in this region known for its scarcity originates from reuse water.
- Água Viva: developed through a partnership with Cetrel, which operates in the area of effluents and waste at the Camaçari Complex (BA), the initiative works to facilitate the reuse of storm water runoff and treated effluents. The project faced certain difficulties related to the quality of the water supplied in 2014, but with the implemented improvements, it expects a more reliable future supply.

Besides the difficulties faced by Living Water, the 2014 reuse rate was impacted by the maintenance shutdown of the ABC plants, the biggest contributors to the Braskem reuse rate due to Aquapolo.

By 2020, the Company hopes to reach a reuse rate of 40% through the reuse projects planned for the Mexico Complex and others that, due to the reduced availability of water in Brazil, have become increasingly more feasible.

# Water Reuse Rate % (with relation to the total amount consumed by the Company)



Note: the reuse portion that is inherent to Braskem's operation was calculated based on the 2013 value, considering that this type of reuse is associated with the plants' characteristics. In other words, it is modified due only to structural changes affecting them or the startup of new plants, which did not occur in 2014. The inherent reuse does not consider water recirculation in cooling towers, which is not included because it would generate an extremely high reuse percentage.

## Generation of Wastewater – m<sup>3</sup>/t

#### WATER DISCHARGE

In 2014, the Company generated 1.28 m<sup>3</sup> of effluents per ton produced, 0.8% above the goal established for the period, of 1.27 m<sup>3</sup>/t, and 4.9% above that reached in 2013. In absolute terms, Braskem generated 20.5 million m<sup>3</sup> of effluents, of which 76.5% was organic (organic + sanitary) and 23.5% inorganic. The effluent generation and water use indicators are very closely related. Due to the same reasons for the estimated increase in water use between 2013 and 2014 - maintenance shutdowns - the goal for effluent generation also increased. Since 2002, however, the generated volume had an accumulated reduction of 34%.

The chart to the side shows the history of the effluent generation indicator at Braskem, together with the short- and long-term goals.



2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

Note: this rate takes into account the total of effluents divided by the total production of tradable products, excluding finished products transferred internally within the Vinyls Units. Planned and unplanned discharges of effluents include sanitation sewer, since it is impossible to directly measure and/or estimate it in most industrial plants.

The following are the main initiatives that positively impacted the results:

#### CAMAÇARI – BAHIA

- Increase in number of cycles of concentration in cooling towers, reduction of carbon furnace and reduction in low-pressure steam leaks at UNIB 1;
- Optimization of the cooling tower draining at PE 1 and operational optimization at PE 3;
- Initiative to reduce effluent costs at UNIB 1, which allowed for an avoided cost of R\$ 9,000/year;
- Improved use of water from the hydraulic barrier at PE 2, generating an avoided cost of R\$ 13,500/year.

#### ABC – SÃO PAULO

 Partnership with GE Water & Process Technologies, which allowed for the application of a new water treatment system based on reverse osmosis technology, offered through a mobile fleet inside a container at the Mauá polypropylene unit (PP 4). Through this technology, it will be possible to produce water with a low concentration of dissolved salts, and the demineralized water polishing process will occur in a safer, faster and more reliable manner.

#### TRIUNFO - RIO GRANDE DO SUL

 Reduced use of clarified water for ash transport and low temperatures, reducing evaporation in the cooling towers at UNIB 2, together with the improved reliability of the storm water runoff drainage system and improved surface water monitoring management at the plant.

The main factor that may negatively affect Braskem's water efficiency is its operation below full levels, which occurred at four plants during the year (PP 4 ABC, PE 6 RS, PE 7 ABC and PE 8 CUB).

The other significant occurrences that negatively affected results are shown below:

## CAMAÇARI - BAHIA

- Power outage (blackout) at UNIB 1 on November 24.
- The Água Viva project did not operate between April and May, reducing consumption of reuse water.

#### ABC - SÃO PAULO

- Reduced consumption of reuse water in September and October due to the maintenance shutdown at UNIB 3, Braskem's largest consumer of reuse water.
- Shutdowns and an incident and the consequent need to inventory the cooling tower at PE 8 CUB after the maintenance shutdown.

#### TRIUNFO - RIO GRANDE DO SUL

 Operation of grids (types of resin) with above–average consumption at PP 2 / PE 5.

Braskem's discharge of effluents in 2014 was distributed among its regions of operation, as indicated in the table below. The 2013 information can be viewed in the attachments.

# Effluent discharges

LOCATION	DESTINATION OF EFFLUENT	VOLUME OF EFFLUENT DISCHARGES (M³/YEAR)	TREATMENT METHOD	BIOCHEMICAL OXYGEN DEMAND (KG/YEAR)	TOTAL SUSPENDED SOLIDS (KG/YEAR)	OTHER SIGNIFICANT QUALITY PARAMETERS <sup>1</sup> (KG/ YEAR)
BRAZIL						
Rio de Janeiro	Coelho Canal	583,370	Biological	10,859	16,943	Not Informed <sup>2</sup>
Bahia	CETREL Treatment Plant	7,317,796	Pre-treatment with oil and water separators and biological treatment at CETREL	1.040.618	605.439	2.47 kg of Hg in CS2; 10586.27 kg of EDC in PVC 1
Alagoas	Disposal in the ocean	3.947.450	Neutralization / aerobic process (activated sludge)	468.182	46,382	Oils and greases 28.68 t; Iron 1.73 t; Ammonia 0.68 t; SSD 0.26 t and Chlorine 0.27 t
Rio Grande do Sul	Effluent Treatment Integrated System of the Petrochemical Complex of the South Region – SITEL	4,498,386	Organic effluent: 1) water and oil separator; 2) Biological process with activated sludge in aeration tanks; 3) Decantation; 4) Filtration. Finally, the treated effluent is joined with the inorganic matter and channeled into stabilization lakes in series for final polishing.	471,564	198,728	0&G – 1.25 mg/l at PE4, PP1, PP2, PE6 and at PE5
	Ponte Funda Creek	90,984	Sent for external treatment	Not Informed <sup>2</sup>		
	Sanitation sewage	24,746	Physical treatment	0.19	0.003	Not Informed <sup>2</sup>
São Paulo	Perequê River	291,986	Water and oil separator and biodigestor for primary and aeration treatment, decantation and filtration.	6,184	29	Total oils and greases: 4.115 mg/L
	Tamanduateí River	1,908,163	Water and oil separator, floater, anaerobic biodigestor, neutralization and reverse osmosis.	11,738	68	Total oils and greases: 38.945 mg/L
USA						
La Porte	Houston Navigation channel	193,508	Primary treatment and chlorination	Not informed <sup>2</sup>		
Marcus Hook	Delaware River via POTW	684,106	Primary and biological treatment and chlorination			
Neal	Big Sandy River	333,021	Primary treatment and chlorination			
Seadrift	Victoria Barge Canal	304,149	External treatment			
Oyster Creek	Oyster Creek	71,294	External treatment			
GERMANY						
Wesseling	Saale River	135,231	External treatment	Night information 12		
Schkopau	Rhine River	69,354	Primary and biological treatment	Not informed <sup>2</sup>		

<sup>1 -</sup> These figures do not include the CS1, UNIB1, PE1, PE2, PE3, UNIB2, PP4, UNIB3, UNIB 4, PE9, PP5, PP3 plants, units located in Germany and the United States. These plants monitor different parameters and the prioritization of these indicators will be defined in 2015.

<sup>2 –</sup> Plants that did not report the parameters of Biochemical Demand of Oxygen and Total Suspended Solids correspond to 9% of the total volume of Braskem's effluents.

# Solutions for **Water Efficiency**

#### **PERSPECTIVES**

In 2014, Braskem completed its first CDP Water Disclosure<sup>1</sup>, establishing the baseline to better determine the evolution of water resource management. In 2015, this analysis will be completed with a water risk assessment that will allow the Company to better understand the risks to which it is exposed at a local level.

Braskem's Brazilian plants will tend to reduce their specific water use over the upcoming years. However, the goal for 2019 includes an increase in the intensity of consumption with the entry into operation of the new complex in Mexico, set for 2015. This is due to the expectation that the water supplied will have high chloride concentrations, which will significantly reduce the cooling tower concentration cycles, thereby increasing water use.

Approximately US \$40 million were invested in the Mexican project to guarantee solid water efficiency performance. One of the results is that the cooling tower will have a reuse rate of 65%, which will partially compensate the increase in water use.

The company will continue its strategy of development of projects for effluent reuse, especially in areas where it is exposed to water shortage, so as to mitigate possible supply problems. These projects should also have positive impacts on water indicators.

It is important to note that future goals are reviewed and established each year, since they depend primarily on estimated production and the maintenance shutdown calendar, together with the impact of new acquisitions. The real data obtained after the new complex in Mexico begins operating may result in some significant changes to the goals.

1 - The CDP Water Disclosure compiles critical data related to water use from the world's largest companies. The purpose is to inform the global market about investment risk and commercial opportunities.

Braskem does not limit itself to improving the water footprint of its industrial operations. It also works in partnership with its Clients to develop new products or new applications that help improve water use efficiency among members of society, covering a range of different sectors, such as agriculture, sanitation, etc. The examples include Black and White Mulching, produced in PE and specifically designed for citrus crops and a new resin, also made from PE, although more durable than the existing one, developed for use in water and natural gas distribution network pipes, ore slurry transport, oil transport, sewage networks and water mains. For more information, visit Products.

Between 2011 and October 2014, the Company installed approximately 293,500 high-density polyethylene (HDPE) cisterns, allowing it to reuse rainwater, and it has already benefitted between 1.2 million and 1.5 million Brazilians who live in regions with low- water availability.

# **Energy and Climate Change**

GRI G4-EC2 | GRI G4-EN3 | GRI G4-EN5 | GRI G4-EN6 | GRI G4-EN15 | GRI G4-EN16 | GRI G4-EN17 GRI G4-EN18 | GRI G4-EN19 | GRI G4-EN20 | GRI G4-EN21 | GLOBAL COMPACT - PRINCIPLE 7

As part of Braskem's Sustainable Development strategy, the Energy Efficiency and Climate Change-related macro-objectives transversally support the search for better operational results and the development of increasingly sustainable products and solutions.

That is why the Company develops different initiatives associated with these macro-objectives, aiming to ensure the optimization and efficiency of operational processes through the improved use of resources and fuel, considering the type and quantity, as well strategic projects over the medium and long term.

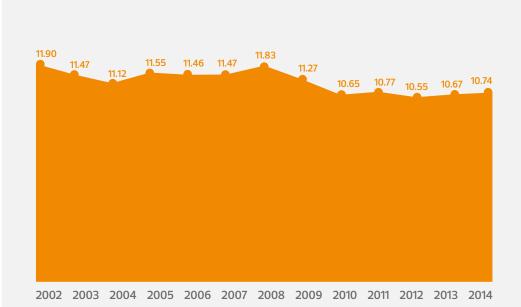
In 2014, the Company invested R\$ 59 million in projects to reduce greenhouse gas (GHG) emissions. The Company estimated savings of R\$ 4.5 million due to projects and initiatives that resulted in the reduction of GHG emissions and R\$ 307.6 million due to energy efficiency projects.

#### **ENERGY**

In 2014, 10.74 GJ of energy were consumed per ton produced – a result 0.9% higher than the goal established for the period, which was 10.64 GJ/t, and 0.7% above the 2013 use. When evaluating the performance since 2002, however, the energy use was reduced by 10%.

The main challenge related to Braskem's energy use is meeting the legal limits for emission at the Company's thermoelectric power plants, its main source of generation. An equated heat balance considers primarily the legal limit of air emissions, as well as the cost associated with the use of each fuel.

# Energy use (GJ/t)



Note: this rate takes into account the energy used for production processes, divided by the total production of tradable products, excluding finished products transferred internally within the Vinyls. Units.

# Energy use (Gj)

The main events that negatively impacted the indicator are described below.

- Production 3% below predicted.
- Dirt in the heat exchangers of some of the crackers, reducing heat exchange efficiency.
- Chlorine soda plant cell blocks, where electrolysis occurs, the base of this production process, with consumption that was higher than estimated during certain months of the year.
- Anticipation and completion of scheduled maintenance shutdowns at three plants.
- Events and deviations that occurred at certain industrial plants generating nonscheduled shutdowns.

The Braskem units completed their operations without restrictions due to the energy availability in 2014.

		2014	2013	2012
NON-RENEWABLE ENERGY SOURCES				
	Coal	6,580,073	6,336,223	6,483,423
Direct	Natural gas	24,884,276	16,958,117	23,293,820
	Fuel distilled from crude oil	137,331,852	145,071,431	142,120,194
Indirect	Electricity	5,945,506	4,168,729	5,521,483
	Steam	3,194,930	4,100,729	5,521,465
Subtotal non-renewable sources		177,936,638	172,534,500	177,418,920
RENEWABLE ENERGY SOURCES				
Direct	Ethanol	512	682,110	879
	Biodiesel	155,758	10,490	1,928
	Hydrogen	80,991	669,663	520,709
Indirect	Electricity	13,532,438	16,145,415	16,479,988
Subtotal renewable sources		13,769,700	17,880,779	17,447,008
TOTAL		191,706,338	190,415,279	194,865,928

Note: the percentage of renewable electricity in Brazil remained the same as the 2013 value, since the government had not yet disclosed 2014 information at the time this report was concluded.

As for the percentage of non-renewable electricity sources acquired, it is important to emphasize that, due to the scenario marked by reduced water availability in Brazil in 2014, there was an increased participation of electricity from the thermoelectric power plants, which mostly consume natural gas.

As can be observed, optimized increase of coal use continues to happen. Nevertheless, it is important to emphasize that this increase occurs in a controlled and planned way, without indicating that emission standards are exceeded, since an energy matrix takes into consideration energy production costs, but above all, it complies with legal air emission reguirements. The increased use of coal is possible due to Company negotiations for a higher quality coal supply, guaranteeing that emissions continue to meet the same standard. Besides this, the SEE Balance® study concluded in 2014 demonstrates that, of all the fuel options available in RS. coal is the most sustainable for UNIB2 RS, which uses this fuel.

The SEE Balance® is an evaluation carried out by the Eco Space Foundation that assesses the impact of a decision on each sustainability pillar – social, environmental and economic. In this case, several different fuels were evaluated to be used at UNIB 2 RS: coal, BTE oil, BPF oil, natural gas and biomass.

There was also verification of a reduction in fuel oil distilled from crude oil, and in counterpart, an increase in natural gas use, a fuel that generates lower greenhouse gases emissions.

Learn some of the highlights of the energy efficiency initiatives developed by Braskem and their respective economic gains.

# **Energy efficiency initiatives**

STANDOUT INITIATIVES	ECONOMIC GAIN (R\$ MILLION/YEAR)	REDUCTION IN ENERGY USE¹ (GJ/YEAR)
Improvements to production processes (except for furnaces) and the sale of electricity <sup>2</sup>	120,722	4,159,493
Furnace optimization	65,219	2,011,421
Reduction in steam consumption	18,478	872,348
Improvements to boilers and turbines	12,668	446,889
Improvements to cooling systems	1,200	39,161
Reduction of losses for flare	4,633	208,706

<sup>1 – 82%</sup> of the reduction in energy use was estimated based on Braskem's average unit cost of energy (R\$/GJ) in 2014.v

<sup>2 –</sup> It was not possible to discriminate the energy sales value of two of these projects.

One of the investments made was the acquisition of equipment that boosts the efficiency of distillation process, increasing the use of naphtha raw material, which demands less energy. The basic petrochemicals plant in Southern Brazil (UNIB2) was the first unit in the country to have the equipment installed, which is used only by three other petrochemical units in the world. With this initiative, the plant has obtained some important results, as by the 4.4 megawatts/hour reduction in energy consumption, equal to the average use of approximately 10,000 families per hour. The demand for steam was also reduced by 22 tons/hour, saving 1.6 tons/hour of fuel oil.

There was also a R\$ 6 million investment on hydrogen recovery at a basic petrochemicals plant in the Brazilian Northeast (UNIB1). Hydrogen, which was previously released into the air by a Client and by Braskem, has now replaced natural gas consumption in the boilers, helping to reduce the GHG emissions of these operations. The project will also generate a direct economic return of R\$ 5 million per year.

In 2014, Braskem worked through the CEBDS' Technical Chamber on Energy and Climate Change to prioritize the project "Unlocking financing funds for energy efficiency in Brazil: financial and non-financial solutions for market agents" for recognizing the key role played by the financial sector and companies when it comes to developing an energy efficiency market in the country. Through this study, it sought to identify obstacles that block or hinder the business sector's access to resources available for sustainability-related financing, with a focus on energy efficiency, in addition to propose changes that can minimize such difficulties.

#### **PERSPECTIVES**

For the future, the Company estimates an approximate 6% reduction in its energy intensity by 2019, due to energy efficiency projects implemented at existing plants and to the entry into operation of the petrochemical complex in Mexico, which will have a better energy performance than the current average for Braskem plants.

The expectation for a greater potential availability of natural gas in Brazil, primarily due to exploration of pre-salt and onshore production, will also lead to increased participation of this energy raw material. Mainly to replace those oil derivatives which have the greatest impact on the environment. Furthermore, the reduced cost of renewable energies, such as wind and biomass, can help boost competitiveness of the energy matrix and increase the participation of renewable sources in Braskem's energy matrix.



# **GREENHOUSE GAS (GHG) EMISSIONS**

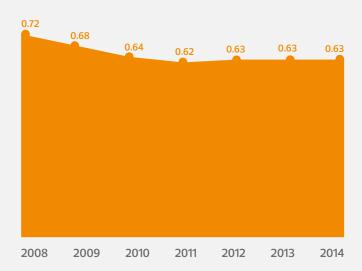
In line with government policies (regional and national) at locations where Braskem operates and with voluntary initiatives - national and international - for a low- carbon economy, the Company developed its activities aiming to consolidate its results in climate change mitigation and adaptation to achieve its objectives for 2020.

In 2009, the Company published the Braskem Climate Change Manifesto (It is Necessary to Mature to be Green), when it defined the objective to reduce emissions intensity (Scope 1 and 2) by 11% for 2012 and 17% for 2020 as compared to the base year of 2008. In 2012, it surpassed the objective established for the period, and in 2014, the cumulative reduction was around 13%.

Working to develop an increasingly sustainable portfolio of products, Braskem launched its green plastic in 2010, which promotes capturing CO<sub>3</sub>e. The Company has developed actions designed to strengthen the application of this type of plastic. In 2012, it launched the Maxio® product line, a portfolio of resins with competitive and environmental differentials. Maxio<sup>®</sup> resin sales recorded a 27% growth compared to 2012, demonstrating the Clients' satisfaction with the product. To find out more about the Maxio® family and learn the results obtained by Braskem Clients with its application, consult **Business Growth**, **Products**.

Due to its light weight and resistant characteristics, plastic has helped reduce fossil fuel consumption, and consequently, reduced the emission of greenhouse gases through solutions that cut down on the weight of packaging and automotive vehicles.

# Greenhouse gas (GHG) emissions intensity



Note: this index divides scopes 1 and 2 GHG emissions by the total production of tradable products, including finished products transferred internally within the Vinyls Units, which are not considered in the rest of the Company's eco-indicators.

# Recognition

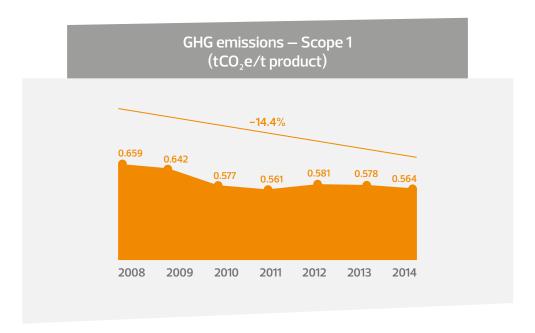
- Braskem's 9th corporate GHG emissions inventory for the base year 2014 included all categories of Scopes 1, 2 and 3 applicable to 100% of the Company's operations. Conducted based on the GHG Protocol methodology and verified by KPMG, the inventory earned the Gold classification for the fourth consecutive year as part of the Brazilian GHG Protocol Program, designed to encourage corporate culture to elaborate and publish GHG inventories, giving participants access to international quality instruments and standards. The program is an initiative of the Center for Sustainability Studies (GVces) at the School of Business Administration of the Getúlio Vargas Foundation (FGV-EAESP).
- For the fourth consecutive year, Braskem made the BM&FBovespa Carbon Efficiency Index (ICO2), which includes stocks from companies that participate in the iBrX-50 index and have adopted transparent practices regarding their GHG emissions.
- Braskem was recognized by the CDP as the best Latin American publicly-held corporation in the field of carbon management. The CDP is an international non-profit organization that has gathered a significant volume of information on climate change, water and forests of the planet, considered highly useful for investors' strategic decision agendas and political decisions.

#### **DIRECT GHG EMISSIONS - SCOPE 1**

#### GRI G4-EN15

The intensity of the GHG emissions, considering only Scope 1 (Braskem's direct management) has decreased over recent years, with a reduction of approximately 14.4% compared to the 2008 base rate, reaching 0.564 tCO<sub>2</sub>e per ton of production. One of the factors that have contributed toward this reduction is the progressive increase in the consumption of natural gas, a less intensive fuel in terms of GHG emissions to replace other more intensive fuels, such as crude oil distillate.

The increased generation of Braskem Scope 1 GHG emissions – fuel emissions – is found at the basic petrochemicals units. The Company has invested in resources to identify initiatives at these units and improve their management, implement and monitor indicators and automate data collection, directing resources toward increasingly more efficient emission reduction actions.

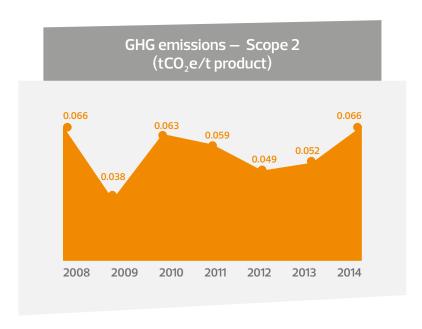


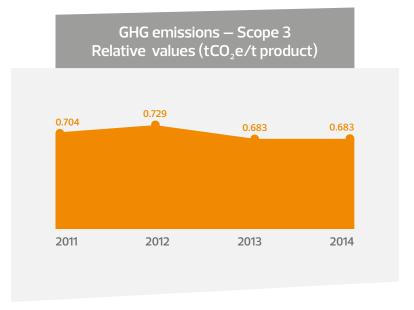
#### **DIRECT GHG EMISSIONS - SCOPE 2**

#### **GRI G4-EN16**

The composition of the Brazilian energy matrix has undergone some modifications over recent years due to water scarcity. The increased action of thermoelectric power plants has increased the factor in the Brazilian grid, while the international units have kept their factors constant. From 2013 to 2014, the Brazilian grid factor increased approximately 40%, constituting the main cause for an increase in Scope 2 GHG emissions at Braskem.

The energy optimization projects that Braskem has underway will positively impact the Company's GHG intensity indicator. Because it does not directly influence the management of the Brazilian grid, Braskem cannot predict the future behavior of the Scope 2 emissions. By any means, the Company has intensified its Scope 1 GHG emission management year after year and has greater control over these. It has also intensified actions in certain Scope 2 categories, over which it has direct action or influence.





## INDIRECT GHG EMISSIONS - SCOPE 3

#### **GRI G4-EN17**

In terms of the Scope 3 GHG emissions, the 2014 result presented an absolute reduction of 182,000 tCO<sub>2</sub>e as compared to the previous year, even with the approximate 300,000 tCO<sub>2</sub>e growth, due to an improvement in the recording and monitoring of the maritime transport emissions in the Brazilian Northeast region.

# Scope 3 GHG emissions per category

Scope 3 (tCO <sub>2</sub> e)	2012	2013	2014	2014 (%)
Cat 1 - Acquired goods and services	6,088,693	6,279,823	5,616,463	-11
Cat 2 – Capital assets	159,997	98,382	95,832	-3
Cat 3 – Activities relating to fuels and energy	494,165	530,280	588,666	11
Cat 4 - Upstream transportation	659,512	321,168	309,366	-4
Cat 5 - Waste generated by operations	71,430	44,202	63,076	43
Cat 6 - Business travel	8,080	4,699	8,525	81
Cat 7 – Employee commuting (to and from work)	7,285	12,042	10,923	-9
Cat 8 - Operation of rented assets	4,482	2,875	3,605	25
Cat 9 – Downstream transportation	766,816	292,875	473,080	62
Cat 10 – Processing of sold products	2,970,324	3,395,802	3,603,712	6
Cat 12 – Final disposal of sold products	531,195	550,794	557,653	1
Cat 15 – Investments	237,855	730	20,538	2713
Total	11,999,834	11,533,672	11,351,439	1

Note: there were no Braskem emissions in the Categories 11, 13 and 14 during the inventoried year, due to the non-existence of emissions originating from the final use of sold goods and services (Category 11) – the Braskem product enters the value chain as opposed to going to the final consumer. The Company also does not have any goods that are being leased to other entities (Category 13) and did not have any franchise operations (Category 14).

#### MANAGING INDIRECT EMISSIONS

Braskem develops several different initiatives designed to promote the voluntary engagement of its suppliers, believing that this helps it achieve more efficient management of risks and opportunities along the value chain.

As for indirect emissions, the biggest contributions come from the GHG emissions related to the acquisition of goods and services (50%), given that this includes emissions related to fossil–based raw materials and those resulting from the processing of sold products (32%). In third place come the energy and fuel supply chain emissions (5%).

For this purpose, Braskem develops supplier engagement and awareness raising activities, working to encourage them to conduct their own GHG emission inventories and identifying risks and opportunities in these operations with its suppliers. These activities have been conducted as part of two initiatives for approximately three years, together with CEBDS and the CDP Supply Chain, and Braskem has increased its engagement each year, both in terms of the number of suppliers, as well as in terms of joining and conducting GHG emission inventories. The representativeness of these suppliers' emissions has also been growing, as can be seen in the chart to the side.

Braskem became a member company of CDP Supply Chain with a strategic posture, one designed to encourage its suppliers to take part in the program, responding to the questionnaire with complete information. The Company uses the results of the answers from these suppliers and the feedback provided to assess the evolution in the

Braskem Scope 3 emissions covered by suppliers engaged in the CDP 9% 0.6% 0.3% 2012 2013 2014

category of GHG emissions and identify opportunities for reducing these emissions. Braskem plans to use this information to improve the relationship with its suppliers and expand the network of companies engaged with sustainability. The professionals responsible for the contracts with suppliers play an important role, interacting with those companies that are still in the process of introducing climate change topics into their management.

In 2014, 84% of the responding suppliers already identified the risks associated with climate change that can impact their operations over the short term, highlight-

ing the risks associated with reputation and changes in the consumption standard. The suppliers also identified opportunities that, after analysis, Braskem evaluates and implements together with them. One of the highlights was the tests on the system that identifies the best transport mode, route and equipment, based on the available options, designed to produce a lower cost and environmental impact for the transport of Braskem products, generating gains for all those involved.

As the categories associated with transport represent a significant part of Scope 3, Braskem has been developing actions to manage them. In the area of Team Members' travels, the Company has implemented actions to encourage the use of videoconference calls, achieving savings of R\$ 4.2 million by reducing airline travel/hotel stays and maximizing videoconference calls (3,211), with a reduction of approximately 1,220 tCO<sub>3</sub>e.

The GHG emission indicator is monitored each month and has prompted the IT team to create an action program that is aligned with the Company's sustainability strategy. One of the initiatives included in the program is the post-consumption of IT equipment, which is donated to entities registered with Braskem. They are computer re-processing centers that promote digital inclusion and the training of low-income youth in situations of social vulnerability, offering workshops, courses, training and other qualification activities, together with environmental awareness raising about electronic device waste. Including everything from desktops, to monitors, laptops, printers and others, 1,372 items were donated to entities in the Brazilian Northeast in 2014 and 1,892 items to others located in the Southern region of the country.

## **TOTAL GHG EMISSIONS**

Braskem's total GHG emissions are set out below.

## Greenhouse gas emissions

Sources of emission	Emissions (tCO <sub>2</sub> e)			
	2014	2013	2012	
Direct Emissions (Scope 1)				
Combustion emissions	8,617,205	3,571,598	3,305,001	
Fugitive emissions	749,701	6,177,130	6,236,106	
Waste disposal and wastewater treatment (internal)	17,606	22,293	23,617	
Total Scope 1	9,384,512	9,771,021	9,564,723	
Indirect Emissions (Scope 2)				
Scope 2 Total (energy purchases)	1,088,371	874,146	770,519	
Other indirect emissions (Scope 3)				
Total Scope 3	11,351,439	11,533,672 <sup>1</sup>	11,999,834	

#### GRI G4-EN19

To learn about the main initiatives that had a positive impact on Braskem's greenhouse gas emissions in 2014, see items 3.3a and 3.3b of the Company's CDP Investor available at € CDP

It is necessary to have a free register to access. Data from 2014 will be available by October.

<sup>1 –</sup> This number was incorrectly stated in the equivalent table of the 2013 Annual Report. However, the correct figure was available in that report in the detailed Scope 3 emissions chart.

#### MANAGEMENT OF RISKS AND OPPORTUNITIES

#### GRI G4-EC2

Braskem continuosly monitors and manages climate change risks and opportunities, both direct, related to physical and reputational impacts, as well as indirect, that is, that affect Clients, the supply chain and final product disposal. The Company controls and monitors the regulatory risks associated with climate change in Brazil through a team of specialists that follow all municipal, regional and national scenarios where the Company maintains operations. For the international units, regulatory risk monitoring takes place through chemical sector associations. Water cycle monitoring takes place routinely and is directly related to plant operation.

In order to systematize climate risk management and guarantee effective coverage of all the risk scenarios, Braskem began implementing the actions described below in 2014, all of which are set to be concluded in 2015.

- Definition of climate risk scenarios, considering physical, regulatory, reputation, supply chain and other risks, in addition to creating corresponding action plans.
- Preparation together with the Brazilian Business Council for Sustainable Development (CEBDS) of training on climate risk management, aiming to integrate it with business risk management.
- The Company will test a pilot tool for the elaboration of a Climate Change Adaptation plan at the Companies for the Climate (EPC), a GVces initiative. It is a permanent corporate platform, focused on mobilizing, motivating

and bringing together corporate leaders for the management and reduction of greenhouse gas (GHG) emissions, management of climate risks and the proposal of public policies and positive incentives within the context of climate change. Braskem is considering researching different scenarios and preparing the adaptation plan to include 100% of its operations in Brazil and in other countries.

#### CARBON PRICING

Braskem reinforced its engagement with the low carbon economy, in line with its strategy of developing increasingly sustainable solutions, joining two global initiatives focused on the low carbon economy, called "Carbon Pricing" and "Business Leadership on Carbon Pricing." Both are initiatives that reinforce the importance of putting a price on greenhouse gas emissions. The goal of both is to encourage investments and the manufacturing of products with lower carbon footprints.

Headed by the World Bank, the "Carbon Pricing" initiative involves the creation of a system that defines the costs for greenhouse gas emissions as a way to limit the rise in the global temperature. The other initiative, known as the "Business Leadership on Carbon Pricing," is jointly promoted by the UN Global Compact, the World Business Council for Sustainable Development, the CDP and The Climate Group. Its mission is to bring together companies willing to defend public policies that favor the establishment of criteria for pricing products with low carbon emissions.

Within the internal sphere, Braskem is conducting a pilot project to implement a virtual cost for carbon as part of its investment decision–making methodology, as a way to anticipate the future regulation associated with this impact and also to identify the positive or negative effects on the projects.

Despite not being required to maintain carbon credit projects, the Company already has four projects with this focus currently in the study phase. In line with its strategy of constantly evolving when it comes to its approach to climate change, the Company will identify actions to identify, record, monitor and follow-up on initiatives that promote the capture and reduction of CO<sub>2</sub> emissions, including with the implementation of a management system, consequently converting certain initiatives into carbon credit projects.

Braskem is participating in the EPC's (Businesses for Climate Platform) Emission Trading System Simulation, which offers companies a constructive experience in the carbon market.

#### **PERSPECTIVES**

In order to advance its environmental mitigation strategy, Braskem will continue identifying and implementing internal initiatives that make its operations more sustainable, and also continue to develop and innovate with products that have a smaller environmental footprint. The internal initiatives are aligned with the climate risk management process and the implementation of the adaptation plan, and seek to integrate business risk management across all of the Company's units.

Also noteworthy are the actions designed to engage suppliers and Clients in the effort to reduce GHG Scope 3 emissions, considering that this scope has been inventoried and monitored for nearly four years. Braskem has developed actions to reduce these indirect emissions, improving the carbon footprint of its products and the entire value chain.

When it begins operating, the Braskem-Idesa petrochemical complex in Mexico will contribute positively to GHG emissions matter, given that it will employ best available technology and practices.

In 2014, the EPC (Businesses for Climate Platform) carried out a simulation of its Emissions Trading System with a group of 20 companies, aiming to engage Brazilian companies in the debate on cap and trade as a mechanism for collective reduction of GHG emissions, and to develop proposals to the Brazilian Government on its use. The rules and parameters were based on the main emissions trading systems operating worldwide. For the simulation completed in 2014, a cap was established aiming for a 10% reduction on prior year of the total emissions of the participating companies. By trading emissions permits (allowances and offsets), the companies met the cap.

#### OTHER AIR EMISSIONS

#### GRI G4-EN20 | GRI G4-EN21

In addition to GHG emissions, Braskem also manages other air emissions it is responsible for, such as substances that deplete the ozone layer, and local pollutants (NOx, SOx, etc). Since they can potentially affect the local community's health, these substances are strictly regulated by means of operational licenses for plants with a potential impact. The limits are established so as to make sure the population will not be affected. Braskem has strict operational controls to ensure these limits are respected. There are no long-term targets for these emissions, as it is understood that when reductions are necessary to keep them at a safe level, they are defined in the renewal process of operational licenses of each plant, which takes place periodically.

# **Emissions of** ozone-depleting substances

2014 (t)	2013 (t)
48.3	175.7
0.3	4.8
	48.3

# Emissions of NOx, SOx and other significant air emissions

Substance <sup>1</sup>	2014 (t)	2013 (t)	2012 (t)
NOx	11,421	12,157	8,756
SOx	11,509	6,582	5,880
Particulate matter	1,225	1,547	1,088
Volatile organic compounds	3,881	2,707	1,756
Carbon monoxide	3,514	3,412	2,076
Total hydrocarbons	2,676	2,696	5,045
Toxic air pollutants	97	549	142
Others	425	0	0

1 - These data include air emissions from stationary sources. Fugitive emissions of UNIB1 process lines and hydrocarbon fugitive emissions of UNIB2, which are managed in accordance with requirements of operational licenses of each plant, are not consolidated at a corporate level.

Braskem is replacing substances that deplete the ozone layer with substances that are not included in Montreal Protocol lists.

The main sources of particulate matter and sulfur dioxide emissions from Braskem are the boilers where coal is burned to generate energy. The Company's current limiting principle for coal use is the concentration of sulfur in the fuel, responsible for forming the sulfur oxides (SOx). The Company has used coal without exceeding its emission limit for this pollutant. Despite the increase in the emissions of SOx, the air quality standards in the region where Braskem uses the fuel are satisfactory. The coal purchased has a lower ash concentration, which also explains the reduction in particulate matter emissions.

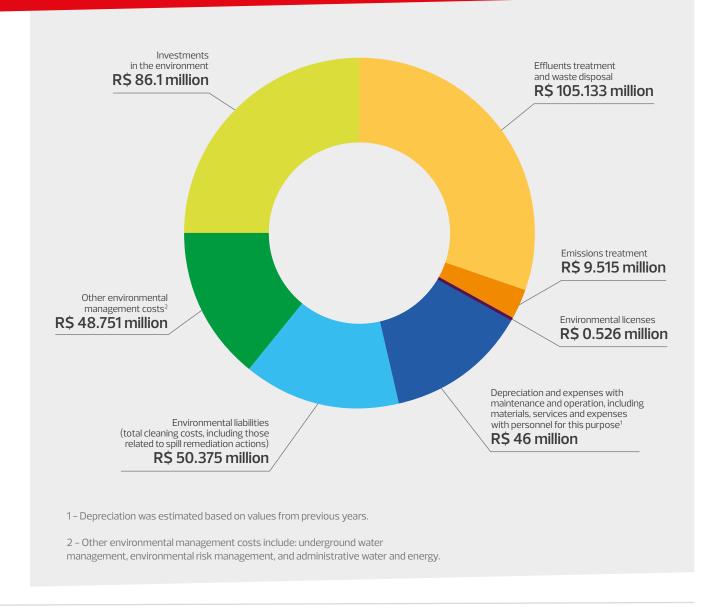
# Investments and expenses with environmental protection

# Social and environmental protection

#### GRI G4-EN31

To control potential environmental impacts, Braskem has a management system designed to comply with all pertinent laws for air emissions, industrial effluent and solid waste. Furthermore, the Company conducts semi-annual ground water, surface water, sediment, air emission and air quality and fauna and flora monitoring activities at the environmental stations adjacent to the complexes in Rio Grande do Sul, Alagoas and Bahia.

Environmental liabilities are treated using specific investments provided by the plants. Braskem works intensively to prevent any environmental damage from occurring.





## **OPERATIONS' IMPACT** ON LOCAL COMMUNITIES

#### GRI G4-S02

The main potential impacts on the Communities located near the industrial units are linked to the consumption of natural resources, generation of effluent and waste, air emissions and the transport and use of the final product. Within the local sphere, the Company has a pro-active monitoring program to guarantee compliance with legal requirements, remaining within the limits established in its environmental operating permits. All potentially impacted natural resources, such as air, water (surface and underground) and soil, are monitored. Deviations found during any of the monitoring result in immediate actions.

One situation common to all production plants is the operation of flares, an important safety device, used as a last line of defense for the emergency release of gases at the industrial units. Their function is to thermally destroy, in a safe and controlled way, any gases generated in the production process during emergency situations, preventing their release directly into the atmosphere or their reaching nearby persons or equipment. As a result of the burning, however, certain products, such as carbon monoxide, hydrogen or particulate matter, may be formed, depending on the control of the process and the load placed on the equipment. Accordingly, the flame may appear visually high and may release black smoke.

In all, 29 of the 36 Braskem units have a green belt – a green area around them with plants that offer yet another level of protection, preventing people from coming close and reducing the exposure to risks. The green belt also protects species of the local fauna and flora and traps particulate matter from the industry, helping to improve air quality.

In 2014, no relevant impacts were recorded in Communities neighboring the Braskem operations resulting from industrial activities or transport of chemical products.

# **Communities**

#### GRI G4-2 | GRI G4-S01 | GRI G4-EC7 | GRI G4-EC8 | GRI G4-EN28

Braskem's business philosophy is focused on enhancing the capacity of human beings through education and work, based on the premises of a willingness to serve, desire and capacity to evolve and the need to surpass results. The scope of action extends beyond the limits of the Company to include the Communities neighboring its industrial operations.

In 2014, the Company developed a new strategy for its social activities, defining two social causes: To drive human development and promote social and environmental development through chemicals and plastics, used as the basis for organizing projects in Brazil as indicated in the following infographic.



#### TO DRIVE HUMAN DEVELOPMENT

Designed to encourage personal growth, mostly through projects with support from tax incentives.

## TO PROMOTE SOCIAL AND ENVIRONMENTAL DEVELOPMENT THROUGH CHEMICALS AND PLASTICS

Designed to strengthen the connection between Braskem's business and society, by demonstrating the social and environmental contributions of the Company's main products throughout their life cycles.

# **PROGRAMS**

ERATION

OPE

ЬO

LINES

## COMMUNITIES **OF INTEREST**

In Communities with a strong influence on Braskem's reputation, the cultural promotion programs aim to enhance critical thinking by means of lectures, theatrical events and performing arts training courses.

## **NEIGHBORING** COMMUNITIES

In the communities around Braskem's plants, programs seek to contribute to the development of local residents through cultural, athletics, environmental and professional training activities.

## **CHEMICAL AND** PLASTIC VALUE CHAIN

Programs that cover consumption and post-consumption of plastic products, that is, from purchase, use and responsible disposal up to recycling.

## CHEMICALS AND **PLASTICS AS A SOLUTION**

Programs that seek to encourage the development and implementation of new solutions based on chemicals and plastics that affect people's daily routines, making real change and providing solutions to urgent societal problems.

#### CULTURE

Braskem Theater Award:

#### **SPORTS**

#### CULTURE

Neojibá Plastic Orchestra

## **PROFESSIONAL AND HUMAN EDUCATION**

#### CONSUMPTION

## **POST-CONSUMPTION**

## **INNOVATIVE SOLUTIONS**

focusing on new ideas.

#### **MAJOR SOLUTIONS**

This framework currently applies to the social projects carried out in Brazil only.

# **Investment**

#### GRI G4-EC7

In 2014, Braskem and its Team Members invested R\$ 23.5 million in social projects globally. A total of R\$ 21.3 million were invested in social and environmental, cultural and athletics projects in Brazil, divided across three fronts:

- Corporate Community Investment (CCI): R\$ 6.2 million;
- Sponsorship programs with support from tax incentives (public interest projects): R\$ 7.4 million in tax incentives, together with a R\$ 1.2-million¹ counterpart payment made with direct funds;
- Odebrecht Foundation: R\$ 7 million.

In the United States, philanthropic donations of approximately US\$ 64,000<sup>2</sup> were made to 20 institutions, and in Mexico, a total of MX \$5 million<sup>3</sup> were invested in production projects (learn more at Braskem Idesa).

In addition to the direct investment made by Braskem, the CCI projects in Brazil raised more than R\$ 9 million in 2014, from several different partners, including AMBEV, Bunge, Gerdau, Porto Alegre Local Government and the Brazilian Support Service for Micro and Small Companies (SEBRAE), benefitting approximately 100,000 people.

Through the Odebrecht Foundation, the Company supports the Program for Development and Growth Integrated with Sustainability of the Bahia Southern Lowlands Environmental Protection Area Mosaic (PDCIS). This program is designed to transform a rural area with extensive environmental assets into a prosperous, dynamic and sustainable region by helping rural youth get established there through social and production inclusion initiatives.

The Company developed actions involving 350 Communities from the region, directly benefiting more than 36,000 people and

indirectly, another 285,000. These actions include the support for the (1) Presidente Tancredo Neves Rural Family Home and the Bahia Southern Lowlands Waters Family Home, which benefitted some 130 students during the school year through the Technical Professional Education courses integrated with High Schools in Agriculture and Qualification Course in Aquaculture; (2) the Youth House High School, which benefitted over 900 children, youth and adults who enrolled during the school year; and (3) the Land Conservation Organization, which closed 2014 with 6,500 acres of conserved area, 500 families trained and 60 water sources either conserved or recovered.

Braskem Team Members also support the foundation through the Tribute to the Future Program, which collected more than R\$ 1.2 million in donations. The program is based on income tax-deductible contributions to social projects implemented by the institutions that are part of the PDCIS Governance Compact and which contribute toward the social transformation of children and adolescents, based on Brazil's Child and Adolescent Statute, Law 8.069/90. The contributions were made by 924 Team Members and nine partner companies.

- 1 Of these direct funds of R\$ 1.2 million, R\$ 500,000 refer to investments already accounted for in the total value of CCI.
- 2 Equivalent to R\$ 0.15 million, calculated by using annual exchange rates average of R\$2.3547 for US\$1. Source: Note 2.2c, Financial Statements 2014, Braskem. 3 Equivalent to R\$ 0.88 million, calculated by using annual exchange rates
- average of MX\$13,3113 and R\$2.3547 for US\$1, respectively. Source: Note 2.2c, Financial Statements 2014, Braskem.

To learn more about the Foundation's projects, visit the website Odebrecht Foundation

# **Projects**

#### **GRI G4-EN28**

The following are some of the highlights from the Corporate Community Investments supported by Braskem in 2014:

## 'SER + REALIZADOR'

Through investments in equipment and infrastructure at the participating screening units, training and personalized consulting, 'ser + realizador" works to promote the social and economic insertion of recyclable material laborers as entrepreneurs. In this way, it can help drive human development and contribute with efficient post-consumption waste management in the regions of São Paulo, Rio de Janeiro, Alagoas, Bahia, and Rio Grande do Sul.

The work developed with recyclable material cooperatives is designed to establish a sustainable business model focused on boosting the productivity and income of the cooperative members, in addition to mobilizing network operations and promoting environmental education actions.

Braskem also supports the Porto Alegre and Salvador local governments for the development and implementation of a municipal strategy for post-consumption waste management, expanding its operations in this field.

Coordinated by the Company, the program became a business collaboration initiative (Braskem, Ambev, Bunge, Gerdau and SEBRAE), recognized with the Odebrecht Excellence Awards (2nd place in the Community Relations category) and also the Getúlio Vargas Foundation, which selected 'ser + realizador' project as a 'Reference of Success" in Local Development Innovation.

In 2014, the initiative expanded its operations into 14 new municipalities with 54 cooperatives / associations and 2,132 benefitted recyclable material workers or cooperative member. Two of these cooperatives received new screening warehouses and 21 received free advisory (with support of consulting firms and monthly monitoring) and guaranteed the delivery of approximately 8,500 tons of waste for recycling (approximately 23% of this total refers to plastic waste).

In the area of human development, 710 recyclable material workers or cooperative members were trained for a new professional activity (always with monthly monitoring after they begin working) or for work at a screening center. At the cooperatives, the preference is for practical consulting, given that 78% of the cooperative members who received advisory each month increased their income above inflation for the year. Beside this, more than 5,000 people engaged on the importance of recycling. The integration between the state, civil society and private sector is crucial for the success of the initiative and allowed for an investment of more than R\$ 7.7 million in other organizations.

# Perspectives

In 2015, the 'ser + realizador' project will be strengthened as a business collaboration initiative through the establishment of new partnerships and expansion of its operations into other municipalities. With such an expansion, a higher number of recyclable material laborers will receive advisory services, allowing them to increase their income above the annual inflation rate.



#### Bahia:

#### AWARDED RECYCLING

Braskem and AMBFV held "Awarded Recycling" to celebrate International Recycling Day, with the support of the Salvador local government Sustainable City Department. The action included an exchange station at Parque da Cidade, in Salvador, where participants received a 2-liter Guaraná Antártica soft drink for each 15 plastic containers delivered. At the end of a three-day period, organizers collected approximately 70,000 plastic packaging items (461% above the established goal) and, as a reward, the city of Salvador gained a new Voluntary Delivery Point (PEV), which is open to receive recyclable materials 24 hours per day.

The solid waste and used cooking oil delivered to the PEV will be collected and sold for recycling by Canore, a cooperative supported by the 'ser + realizador' project which receives technical advisory from the Support Service for Micro and Small Companies (SEBRAE). It is expected that the space will receive 200 tons of materials during its first year of operations.

#### Rio Grande do Sul:

#### **COOPERATIVE SUPPORTING COOPERATIVE**

Braskem established a partnership with the company AMBEV to promote operations in the cooperative network in the region of Vale dos Sinos. The Cooperativa Dois Irmãos, cooperative supported by Braskem since 2010, is one of the highlights of 'ser + realizador', and accordingly, became a support point for the development of another two cooperatives.

Since 2014, the most experienced cooperative members have been orienting the screening activity. Result of the action: improved earnings, both for Cooperativa Dois Irmãos (14%) as well as for the other two supported by it (24% and 5%).

With the acquisition of a binder machine to transform PP and PE packaging into flakes, donated by AMBEV, Cooperativa Dois Irmãos gained more production capacity through the purchase of bales from cooperatives of other municipalities, with permission of the local government. The agreement includes the purchase of these materials for prices higher than those practiced in the market, since the less developed cooperatives do not have sufficient cash flow to wait for the processing of the material and its sale.

In 2015, one of the lower production capacity binder machines that Cooperativa Dois Irmãos no longer needs will be remodeled and sent to another cooperative from the network, together with other mechanical recycling equipment. Technical advisory and training will also be offered for the use of equipment and maintenance.

#### **TODOS SOMOS PORTO ALEGRE**

Since 2010, Braskem has supported the Porto Alegre Local Government together with Cooperativa Mãos Verdes to develop the *Todos Somos* Porto Alegre Program. The program was designed and implemented to meet social demands created by Law 10.531, which prohibits circulation of human and animal–drawn vehicles in the city until 2016.

This initiative is designed to promote the social inclusion of 1,200 wagon builders and 600 recyclable material laborers from the Screening Units and should impact a total of 5,400 people (participants and their families). To achieve this goal, the private sector, civil society and the government joined forces.

Somos Todos Porto Alegre begins with an interview conducted by social educators to identify the needs of the participants and their families. Issues falling outside the program scope, such as housing, are sent to the appropriate government sectors. Once they join, the beneficiaries are compensated (a single time) for turning in their wagons and draft animals, which are sent for treatment and adoption. They are then offered training, scholarships and professional referrals based on the skills and aspirations of each one, continuing with the monitoring by social educators during the course of the program. Those who want to continue recycling receive specialized training. The Screening Units where the cooperatives operate are undergoing a physical and administrative restructuring process. Another focus of Somos Todos Porto Alegre is environmental education, designed to raise awareness of the Porto Alegre society about the importance of recycling.

With this set of actions, the expectation for the end of the program is to improve the recyclable waste reuse rate in the municipality from 18% to 45%.

In 2014, 303 beneficiaries completed the qualification courses offered and 73 are yet in formation. Eleven Screening Units are yet being restructured and received more than R\$ 350,000 for emergency improvements, and another was recently built to receive a new group, formed only by recyclable material laborers.

In the program's environmental education line of work, 255 teachers and students participated in the 'Caminhos da Reciclagem' project, designed to produce knowledge about recycling production chain and the benefits it generates for society in the economic, social and environmental spheres. The future environmental awareness raising actions of Somos Todos Porto Alegre will address correct solid waste separation and disposal methods, guaranteeing that the recycling warehouses receive better quality material. These initiatives will help Porto Alegre become a city of reference in terms of economic inclusion and social and environmental protection.

#### **EDUKATU**

Edukatu is the first Brazilian Online Learning Network that encourages the exchange of knowledge and practices about conscious consumption and sustainability among elementary school teachers and students in the country. This initiative helps consumers become more conscious and informed about the positive and negative impacts resulting from consumption, allowing them to opt for more responsible purchases, uses and disposal.

On the network website, www.edukatu.org.br (available only in Portuguese), there are learning circuits for students, and exclusive content (videos, articles, lesson plans, activities and games), together with a virtual community for students from different schools to exchange ideas. Edukatu is promoted by the Akatu Institute, together with Braskem. Among those that support the initiative are the company Cargill, Brazilian Ministry of Education and Ministry of the Environment.

Perspectives

The goal for 2015 is to double the number of Edukatu participants, engaging more teachers and students through learning and mobilization efforts, with positive impacts on society. Braskem has supported the development, dissemination and expansion of Edukatu's reach, making conscientious consumption and sustainability permanent topics covered by Brazilian school teachers.

In full operation for slightly over one year, Edukatu is already part of the educational policy plan that orients the work of teachers in Salvador (BA) and it has established partnerships with the Department of Education of Vila Velha (ES) and Department of Education of Roraima (RR), where it offered training workshops for the use of the platform as an educational resource by local teachers, including indigenous teachers.

At the end of 2014, Edukatu had approximately 9,000 participants from 1,461 schools in 27 Brazilian states and from 464 universities, NGOs and Municipal Departments. Of these participants, over 2,900 became directly involved with intervention projects in their school communities, mobilizing over 18,000 people to adopt conscientious consumption (learn more about the 25 de Julho Municipal Elementary School initiative in Campo Bom/RS, at http://edukatu.org.br/cats/5/posts/1151 available only in Portuguese). Also in 2014, the initiative launched two mobilization campaigns and a new learning circuit focused on healthy eating.

Edukatu was highlighted due to its innovative character and was presented as a structuring project in the sustainability area in the guide "Design Thinking for Educators" and at the Open Education, Technology and Society International Seminar.

### Network expansion

After several different practical experiences, Edukatu refined its strategy to increase the number of participants. During the first half of 2014, the average growth rate for the total number of candidates was 15% per month. During the second half of the year, this rate increased to 37%. The same trend is true for the majority of the project indicators. The implemented changes include:

- Focus on teachers
   Given the strategic role that teachers play when it
   comes to the school community's effective engagement
   with Edukatu, one of the priorities defined was their
   mobilization and training to use this educational tool.
   Furthermore, the teachers' mobilization effort was
   recognized with multi-thematic awards (culture,
   sustainable development and technology) of their interest.
- Mobilization of regional presence
   With an aim to accelerate the process to engage interested professionals, the developed partnerships (Lagoa Viva Institute in Alagoas and a consulting firm in Bahia, rec-

ommended by the Municipal Department of Education) for on–site mobilization and training. These partnerships included visits to schools and workshops in two regions of interest for the project – Bahia and Alagoas.

Furthermore, in São Paulo, the Edukatu team itself began an on-site visitation program to the schools of three Regional Education Boards (DRE) in the municipality (DRE Campo Limpo, DRE Capela do Socorro and DRE Jaçanã / Tremembé). These visits are part of a pilot implementation of the project, previously agreed upon with the Municipal Department of Education with aims of officially establishing a partnership with the institution.

• "Gamification" of the platform

With an eye to habits and preferences of children and youth, Edukatu changed its online environment in 2014 to make it fully interactive, encouraging users to meet their goal using a game logic. For this purpose, it used resources such as the awarding of medals to highlight participants based on the challenges they beat, fostering healthy and educational competition among elementary school students. This made the network more fun, consequently increasing the engagement of its users as well.

### FÁBRICA DE FLORESTAS INSTITUTE

The Fábrica de Florestas Institute (IFF) helps build socially–environmentally responsible Communities by expanding, recovering and maintaining green areas with integrated environmental education. The organization is maintained by Braskem, CETREL –Odebrecht Ambiental and the Camaçari Industrial Development Committee (COFIC). With the encouragement of Braskem, the institute began operating on a national level and is present in Camaçari/BA, the Sauípe Ecopark/BA, Santo André/SP, Paulínia/SP and Duque de Caxias/RJ.

The work is developed together with the Community, which is trained to collect seeds, produce and plant native seedlings and also maintain the planted areas. This involvement has contributed toward a significant increase in the conservation of planted areas, given that the Community itself has begun protecting them.

Also focused on conservation, IFF develops the Environmental Education Program, which offers training to teachers and guided tours to its School Nurseries, free of charge for public school students. During these tours, those professionals responsible for the nurseries and the forest engineers who work there explain the forest formation process, its benefits and how each person can help preserve the environment.

In 2014, more than 165,000 seedlings were produced and, of these, 83,000 reached the ideal stage for planting and were planted and monitored. One of the areas recovered includes two water sources in Paulínia (SP), which should help mitigate the scenario of drought stress in the region. From a financial perspective, the institute has been able

to balance its production and planting activities in Bahia, where the 3rd Braskem Environmental Station was inaugurated with the participation of environmentalist and oceanographer Jean–Michel Cousteau, at the Sauípe Ecopark, which adopted the title of "Atlantic Forest Biosphere Reserve" granted by UNESCO.

The space has 750m² of built-up area using plastic solutions, distributed into three modules dedicated to promoting environmental education. Using a fun approach, it presents topics such as the plastic lifecycle, water, energy, waste and forests. The new Environmental Station leveraged the national result of 17,000 people who visited the environmental education spaces and were impacted by the awareness raising efforts (54% more than recorded in 2013).

In addition to this, 883 people were trained. Part of the training took place through seminars held in partnership with the Santo André (SP) and Paulínia (SP) local governments, which contracted well–known specialists and public managers to discuss topics of great local relevance, such as the water crisis faced by the state and sustainable cities.

### Rio de Janeiro

Rural workers from the *Terra Prometida* settlement, located between the Rio de Janeiro municipalities of Nova Iguaçu and Duque de Caxias, are receiving açai palm berry seedlings (seeds were donated by the State Environmental Institute (INEA) and Atlantic Forest species from the *Fábrica de Florestas* Institute to plant as part of a consortium agreement on the terrains donated by the Rio de Janeiro State Institute of Lands and Cartography. The planted seedlings will be maintained by the settlers themselves,

and their fruits will serve as a source of both income and food. The planted and maintained area will also help recover the Iguaçu River riparian buffer zone and the forest that lines the Bandeira Channel.

<sup>1</sup> The produced seedlings include plants still in the maturing stage for planting.

## Perspectives

Expectations for 2015 are to maintain the production, planning and maintenance volume of degraded areas, which will be adjusted based on local demand, with special attention given to the riparian buffer zone located near the water sources and to water preservation, an initiative that will deserve special effort.

Over the long term, the institution hopes to achieve a financial balance of its production, planting and maintenance activities in Brazil's Southeastern region. For this purpose, one of the strategies is to help companies meet their legal reforestation commitments, similarly to what has already happened in Bahia.

# HIGHLIGHTS OF LOCAL INITIATIVES IN BRAZIL IN 2014

**Neojibá Plastic Orchestra (Bahia):** the project aims to develop and disseminate an innovative social technology: the creation of symphony string instruments using PVC plastic. The initiative also trains Bahia youth in the trade of lutherie (handmade production of musical string instruments), promoting social–production inclusion through music. In 2014, 46 instruments were made, six youth were trained and 2,100 people watched the performances of the Neojibá Plastic Orchestra, which consists of 18 musicians.

Strengthening of the Performing Arts (Bahia): platform focused on the promotion of culture and art, whose main attraction is the Braskem Theater Award (PBT), an event that has recognized and awarded the state's best theater productions for the past 22 years. The Theater Center — Bahia Rural Theater Festival, held in the municipalities of Camaçari and Dias D'Ávila, is a recent action promoted by the platform, which selects local shows to compete for the new category of the PBT, called "Rural Show." In 2014, 46 theater shows competed and eight were awarded. The platform also has the Cultural Mediation program, focused on training people of all ages in the performing arts, which benefitted more than 5,000 students and educators during the period.

Porto Alegre on the scene (Rio Grande Do Sul): for the ninth consecutive year, Braskem has sponsored Porto Alegre on the Scene, one of Latin America's largest performing arts festivals, which in its 21st edition, benefitted a total public of 26,923 people with free or subsidized tickets. The Braskem on the Scene Award took place during the festival, which, during its new edition held in September, had 2,907 spectators who watched 20 performances by 10 competing shows. The closing event, attended by 450 people, awarded a total of six

categories, innovating with the award for Best Show by the People's Jury. Besides adding to the professional experience of the recipients, Braskem on the Scene also debuted the initiatives Training and Saturday on the Scene, which guaranteed presentations of a street theater performance to 420 people from Triunfo, Nova Santa Rita and Montenegro, together with Saturdays Behind–the–Scenes in Theater, featuring professionals, for 45 children of recycling material workers supported by the 'ser + realizador' project.

### **COMMUNITIES IN MEXICO**

#### GRI G4-S02

In line with the Odebrecht Entrepreneurial Technology (TEO) culture of supporting local Communities, Braskem-Idesa structured the Community Investment Program in 2014 and elaborated a plan for human and social development in nine Communities located near the Mexican petrochemical complex. The objectives include: (1) to define a future legacy for Braskem Idesa in the region, with social inclusion, environmental education and cultural initiatives; (2) to guarantee the transition from the center's construction phase to operation in a more balanced way for Communities; (3) to build political and strategic alliances through social projects. For more information, consult the chapter on Braskem Idesa.

To learn more about Braskem's other social projects, please visit ❷ Braskem / Society



## **Collaborative action** and voluntary commitments

### GRI G4-15 GRI G4-16

Braskem participates in initiatives that are aligned with the business sector's contribution to sustainable development and also issues considered relevant to its stakeholders. The Company defined those associations it considers strategic to its participation in 2013, and moving forward with its structured operation management process at these organizations, in 2014 it implemented actions designed to strengthen the role of each when orienting society about sustainable development.

Global Sustainability Program (CDP): initiative created by an international NGO that was launched during the year 2000 with aims of collecting and publishing data on greenhouse gas (GHG) emissions with companies in more than 60 countries. Braskem has supported the initiative since the year it was first launched and, in 2006, began to report its GHG emissions. In 2014, the Company was the standout of the CDP Brazil carbon management project, with a 97% transparency level and Result Level B. CDP is one of the world's most respected sustainability analysis indicators for the capital market. All reported information can be consulted at www.cdp.net.

Brazilian Business Council for Sustainable Development (CEBDS): Braskem is one of the founding companies. The Company is part of the Climate Technical Chamber, the Carbon Management in the Value Chain Program since 2013, and also heads two thematic chambers: Social and the LCA Network. In 2014, Braskem supported the preparation and launch of the "Sustainable Purchase Manual" and "CEBDS Agenda for a Sustainable Country," which lists 22 initiatives for the government to adopt sustainable development principles in partnership with the business community. This publication was signed by several different CEOs, including Carlos Fadigas from Braskem.

### Corporate Commitment to Recycling (CEMPRE):

non-profit association dedicated to promoting recycling, with a focus on integrated waste management. Created in 1992 and maintained by private companies from several different sectors, including Braskem, CEMPRE conducts technical research and holds seminars, distributes publications and organizes databases on the reduction, reuse and recycling of waste. The activities undertaken in 2014 included debates to define the role of business in the implementation of the Brazilian National Solid Waste Policy (PNRS) and the coordination work between 21 associations, called the Corporate Coalition, to approve the reverse logistics packaging proposal, one of the topics taken up by PNRS and considered relevant to Braskem.

International Declaration on Cleaner Production: part of the United Nations Environment Program (UNEP) designed to disseminate policies for environmentally clean production and for more sustainable production and consumption practices. Braskem was the first Brazilian company to sign the declaration in 2004.

Getúlio Vargas Foundation — Companies for the Climate: standing corporate platform focused on mobilizing, motivating and joining together members of corporate leadership to help manage and reduce greenhouse gases (GHG) emissions, manage climate risks and propose public policies within the context of climate change. The initiative was launched by the Center for Sustainability Studies of the Getúlio Vargas Foundation in 2009, with the support of private companies. Braskem joined in 2012.

Global Compact: Braskem has been a signatory party to the United Nations (UN) Global Compact since 2007, and in 2014, for the second consecutive year, it earned the highest status in communication of progress by adopting its ten Principles. Since 2008, the Company has been a member of the Global Compact Network Brazil, which assumed presidency of the committee during 2013 – 2014. In September of 2014, Braskem participated in a meeting at the UN headquarters in New York that was attended by more than 1,000 executives from some 100 countries, for the launch of the two commitments for carbon pricing, which reinforce the engagement of the business community to help mitigate climate change. To learn more about these commitments, see Energy and Climate Change / Carbon Pricing. Learn more about the actions undertaken by Braskem in 2014 relating to the ten principles of the Global Compact, in the chapter About this Report / Global Compact.

International Council of Chemical Associations (ICCA):
Braskem is part of an executive leadership group and participates in work groups focused on the areas of energy, climate change and chemical safety. It also occupies a chair at internal Communication and Energy & Climate

Change groups. Through the Brazilian Association of the Chemical Industry (ABIQUIM) and the American Chemistry Council (ACC), Braskem participates in the following ICCA initiatives:

- Responsible Care: a voluntary initiative created by the global chemistry industry through the ICCA. Responsible Care seeks to improve the environmental management of chemical companies and their value chain. In Brazil, the program was officially adopted by the Brazilian Association of the Chemical Industry (ABIQUIM) in April of 1992. Braskem has been a signatory of the document since that date.
- Global Product Strategy (GPS): together with ABIQUIM, the Company leads the implementation of the program in Brazil and in other Latin American countries, designed to promote the recognition and dissemination of information on possible risks to workers, consumers and the environment, stemming from the production, handling and sale of chemical products.

**Akatu Institute:** non-profit NGO that works together with society to promote conscientious consumption. Braskem supports the institute and sponsors the Edukatu program, an initiative focused on sustainability-related education. More information about the Edukatu program can be found at **Communities**.

**Trata Brasil Institute:** Public-Interest Civil Society Organization, Trata Brasil has the mission of coordinating national information and mobilization initiatives so that Brazil can gain universal access to sanitation, without which there is no health, rivers are polluted and childhood and human

development are at risk. Braskem was one of the founders of Trata Brasil Institute in 2007, together with the companies Solvay Indupa, Tigre and Amanco, among others, and is a member of its Board.

**Social and Environmental Institute for Plastics (Plastivida):** entity that institutionally represents the sector's value chain to disseminate the importance of plastics in modern life and promote their environmentally-correct use, as well as prioritize social responsibility initiatives.

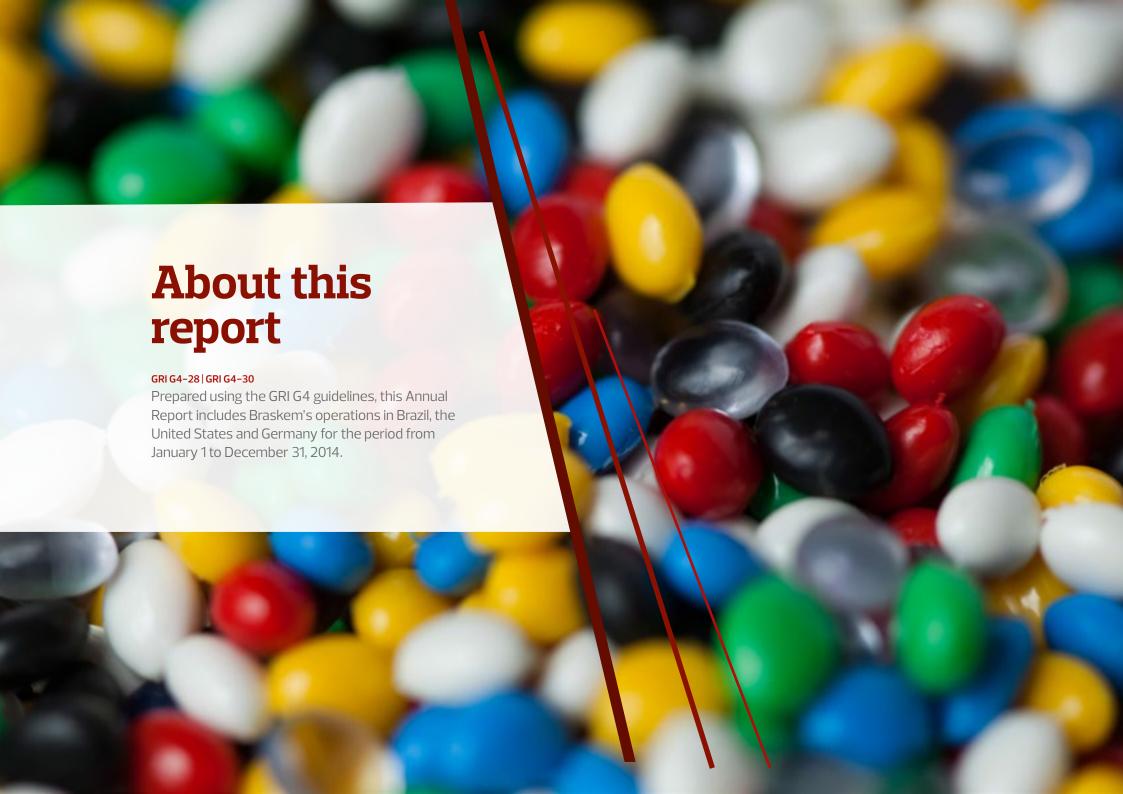
Brazilian Business Network for Lifecycle Assessment: this network was officially launched in October 2013 to disseminate the practice of Lifecycle Assessment (LCA), promote training in Lifecycle Management so that consumers can make more sustainable choices and also drive the creation of a Brazilian lifecycle inventory database. The project currently has 20 companies that participate: BASF, Braskem, Boticário, Danone, Duratex, Embraer, Embrapa, GE, Klabin, Natura, Odebrecht, Oxiteno, Pepsico, Petrobras, Raízen, Tetra Pak, Vale, Volkswagen, Votorantim Cimentos and 3M. In 2014, the LCA Network became part of CEBDS as a thematic chamber.

**Green Industry Platform:** Braskem is the first Brazilian company to join this initiative of the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Program. The platform is designed to encourage and disseminate environmental, climate and social programs associated with the company's operations on a global level.

## **Forums and Associations**

Braskem also participates, in a highly engaged and strategic way, in the following forums and associations (in alphabetical order):

- ABICLOR Brazilian Association of Chlorine Industries
- ABIQUIM Brazilian Association of the Chemical Industry
- ABRACE Brazilian Association of Large Industrial Consumers of Energy
- ABRE Brazilian Association of Packaging
- ABTP Brazilian Terminal and Port Association
- ACC American Chemistry Council
- AFPM American Fuel & Petrochemical Manufacturers
- ANPEI National Research and Development Association of Innovative Companies
- ASEMEXBRA Mexican Commercial Association
- Asfamas Brazilian Association of Manufacturers of Sanitation Materials
- Bioplastics Council
- CCPS Center for Chemical Process Safety
- CNI National Confederation of Industry
- INP Brazilian Plastics Institute
- Ethos Institute
- PVC Institute
- Plastivida Social and Environmental Institute for Plastics
- Think Plastic Brazil



# Base and scope

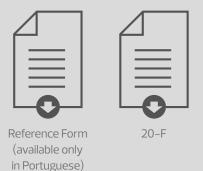
### GRI G4-17 | GRI G4-23 | GRI G4-28 | GRI G4-30 | GRI G4-31

For the second consecutive year, this Braskem Annual Report was prepared in accordance with the Core level of the Global Reporting Initiative (GRI) G4 guidelines. Information about consultations with the Company's stakeholders and identification of relevant topics for publication are described in the introduction of this document.

In order to increasingly integrate the information published by the Company and minimize duplication, here is a brief description of the content that can be found in other Braskem external reports:

### Reference Form and 20-F:

Documents with content in line with best global accountability practices to ensure uniformity between the information regularly provided and that which is disclosed on the occasion of a seasoned equity offering. The first is required by law of publicly-traded companies in Brazil, and the second, by companies listed on the New York Stock Exchange.



### **Management Report** and Financial Statements

Accounting information about the Company's results and a complete list of positions adopted and the management's performance when managing and allocating the resources entrusted to it.





Report

Financial Statements

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## Complementary information and the corresponding position in the reports published by Braskem

	Reference Form	20-F	Financial Statements
Risk factors that may impact business continuity and management	items 4.1 and 5.1 to 5.4	Items 3 (p. 4 to 17), 5 (p. 45 to 57) and 11 (p. 119 to 122)	Item 4 and its subitems and item 16
Company's expectations regarding risks and their potential impact	items 4.2 to 4.8	Items 3 (p. 4 to 17), 5 (p. 45 to 57), 7 (p. 92, 95 and 96) and 11 (p. 119 to 122)	item 4 and its subitems and item to
Information about the Company's debt	items 3.4 to 3.6	Items 8 (p. 98 to 100) and 13 (p. 123)	Item 14 and its subitems and item 15
Policies and practices related to distributable and retained profits	items 3.7 to 3.9		Item 24 (e1 and e2) and item 25
Presentation of the Company's structure and subsidiaries	items 6.1 to 6.6, 8.1 to 8.4		Item 1.a to 2.1 (acquisitions in the period) and 2.1.1 (list of subsidiaries that composes the result)
Detailed results and profile of each business unit	items 7.1 to 7.3 and 7.8	Item 4	Item 31
Effects of regulations to which the business is subject in the countries where it operates	items 7.5 and 7.7		
Description of tangible assets	9.1.a and 9.1.c		Items 3.3 and 3.4
Description of intangible assets	9.1.b		Item 3.4 and 13 and its sub-items
Governance structure with responsibilities and composition of entities and their main policies and practices	items 12.1 to 12.12	Item 6 (p. 81 to 91) and 16g (p. 125 to 127)	
Composition of executive compensation	items 13.1, 13.4, 13.7, 13.8, 13.10 and 13.13 and their compensation over the last three years item 13.2 to 13.3		Items 3.5 and 4.3
Shareholders' rights	items 18.1 to 18.3		Item 24 (b to e)
Full financial and accounting results			Page 2 to 8
Company's inventory status			Item 8
Retirement plan for Team Members			Item 21 and its sub-items
Company's main liabilities			Item 23
Tax incentives received			Item 27

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# CONSIDERATIONS ABOUT THE CONTENT OF THIS REPORT:

- The data published refers to Braskem's operations located in Brazil, the United States and Germany for the period from January 1 to December 31, 2014.
- The data referring to the Ethylene XXI project (Braskem-Idesa) in Mexico was included in the indicators of social investments/ Team Members, since the number of Team Members is significant, and also in the biodiversity data, an issue defined as material only in that country. Other material results were presented as well according to their relevance for the year.
- The data from quantiQ, a chemical and petrochemical product transport subsidiary, was included only in the indicators of financial results and People (Team Members), since environmental indicators are of different nature and are still being aligned.
- To view a complete list of subsidiaries included in the Company results, access Financial Statements (Chapter 2.1.1 a), available at: http://www.braskem-ri.com.br/ portal/Rl/arquivos/resultado/119/Braskem%20 DFs%202014%20(freetranslation).pdf.

 The data referring to commercial offices was reported in the G4-10 profile item only, because their Team Members represent 0.5% of the Company's workforce.

The external assurance of this report was carried out by KPMG.

# CONTACT INFORMATION FOR QUESTIONS, SUGGESTIONS OR CRITICISMS

Mailing address: Rua Lemos Monteiro, 120 – Butantã – São Paulo (SP) – Edifício Odebrecht São Paulo – CEP 05501 – 050

### **ELECTRONIC ADDRESSES:**

imprensa@braskem.com and braskem-ri@braskem.com

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# Limited assurance report issued by independent auditors

GRI G4-33



To the Directors and Officers of Braskem S/A São Paulo – SP

### INTRODUCTION

We have been engaged by Braskem S/A ("Braskem") to apply limited assurance procedures on the sustainability information disclosed in Braskem's 2014 Annual Report, related to the year ended December 31st, 2014.

# RESPONSIBILITIES OF BRASKEM'S MANAGEMENT

The management of Braskem is responsible for preparing and adequately presenting the information in the 2014 Annual Report in accordance with the *Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (GRI–G4)* as well as the internal controls determined necessary to ensure this information is free from material misstatement, resulting from fraud or error.

### INDEPENDENT AUDITORS' RESPONSIBILITY

Our responsibility is to express a conclusion about the information in the 2014 Annual Report based on the limited assurance engagement conducted in accordance with Technical Communication (TC) 07/2012 approved by the Federal Accounting Council and prepared in accordance with NBC TO 3000 (Assurance Engagements Other Than Audits and Reviews), issued by the Brazilian Federal Accounting Council - CFC, which is the equivalent to international standard ISAE 3000 issued by the International Federation of Accountants applicable to Non-Financial Historical Information. These standards require compliance with ethical requirements, including independence ones and also that the engagement is conducted to provide limited assurance that the information in the 2014 Annual Report, taken as a whole, is free from material misstatement.

A limited assurance engagement conducted in accordance with NBC TO 3000 (ISAE 3000) consists mainly of questioning the management of Braskem and other professionals of the Company involved in the preparation of the information disclosed in the 2014 Annual Report and applying analytical procedures to obtain evidence that allows us to make a limited assurance conclusion about the sustainability information taken as a whole. A limited assurance engagement also requires additional procedures when the independent auditor learns of issues which lead them to believe that the information disclosed in the Annual Report 2014 taken as a whole could present material misstatement.

The selected procedures were based on our understanding of the issues related to the compilation, materiality and presentation of the information disclosed in the 2014 Annual Report, other engagement circumstances and considerations regarding areas and procedures associated with the material sustainability information disclosed in the 2014 Annual Report where material misstatement could exist. The procedures consisted of:

- (a) planning: consideration of the materiality of aspects to Braskem's activities, relevance of the information disclosed, amount of quantitative and qualitative information and operational systems and internal controls that served as a basis for preparation of the information in the 2014 Annual Report. This analysis defined the indicators to be tested in detail:
- (b) understanding and analysis of the information disclosed related to the management of material aspects;
- (c) analysis of processes for the preparation of the 2014 Annual Report and its structure and content, based on the Principles for Defining Report Content and Quality of the Global Reporting Initiative – GRI (GRI–G4);
- (d) evaluation of indicators and other non–financial information:
- understanding the calculation methodology and procedures for the compilation of indicators through interviews with managers responsible for preparing the information;

- application of analytical procedures on the quantitative information and questions about qualitative information and their correlation with indicators disclosed in the 2014 Annual Report;
- analysis of evidence supporting the information disclosed:
- visits to three of Braskem's operational units and its head office for application of these procedures, as well as of items (b), (c) e (d);
- (e) plausibility analysis of the reasons for omissions of performance indicators associated with topics and aspects identified as material through the Company's materiality assessment; and
- (f) comparison of financial indicators with the financial statements and/or accounting records.

We believe the information, evidence and results we have obtained are sufficient and appropriate to provide a basis for our limited conclusion.

### **SCOPE AND LIMITATIONS**

The procedures applied in a limited assurance engagement are substantially less extensive than those applied in a reasonable assurance engagement. Therefore, we cannot ensure we are aware of all the issues that would have been identified in a reasonable assurance engagement, which aims to issue an opinion. If we had conducted a reasonable assurance engagement, we may have identified other issues and possible misstatements within the information presented in the Annual Report 2014.

Nonfinancial data is subject to more inherent limitations than financial data, due to the nature and diversity of the methods used to determine, calculate or estimate this data. Qualitative interpretations of the data's materiality and accuracy are subject to individual presumptions and judgments. Additionally, we did not examine data regarding prior periods to assess the adequacy of policies, practices and sustainability performance, nor future projections data.

### CONCLUSION

Based on the procedures carried out, described in this report, nothing has come to our attention to suggest that the information in Braskem's 2014 Annual Report is not, in all material respects, fairly stated in accordance with the *Global Reporting Initiative Sustainability Reporting Guidelines (GRI-G4)*, and with its source records and files.

São Paulo, May 07th, 2015

KPMG Risk Advisory Services Ltda. CRC 2SP023233/0-4

Eduardo V. Cipullo

Accountant CRC 1SP135597/0-6

# Macro-objectives of sustainable development

Macro-objective and 2020 Goal	Initiatives to achieve the 2020 Goal	Progress in 2014
Macro-objective: Safety (material aspects: Waste, health and safety, and Safe use of Braskem's products)  2020 Goal: Be recognized as a reference in chemical, occupational and process safety in the global chemical industry.  1 - Being a reference is assessed through comparison of incident rates of other companies and the ability to take on a leadership role in international forums.	Lead the implementation of GPS – Global Product Strategy in Latin America  Learn more about GPS and its objectives.  Promote continuous improvement of the risk rating, a process safety index established by insurance companies, so as to reach an average of 90 points, with all plants classified at least as "above standard" (second highest performance level).  Ensure the progression of all the plants across the SEMPRE stages, so that they can all reach stage 5 (most advanced level) by 2017.  Avoid injuries with lost time and process injuries of greater significance (Tier 1).  Continue reducing the waste generation rate while increasing the waste reuse rate.  Identify alternatives to replace substances that deplete the ozone layer.	R\$ 137.9 million invested in occupational workplace health and safety, and process safety projects. Savings estimated at R\$ 45.6 million as a result of improvements in health and safety, and 53.7 million due to improvements in waste generation and disposal.  No work-related fatalities reported and attainment of the best historical personal injury rate results (per million hours worked by Team Members and Contractors) since 2002:  • Injury rate with and without lost time: 1.00;  • Injury rate with lost time: 0.14; and  • Severity rate: 10.80.  Eleven years with no injuries (with and without lost time) at the PP11 WS plant (Wesseling, Germany), and 12 years with no lost time injuries at the PVC1BA (Bahia, Brazil).  Differentiated focus on Process Safety, emphasizing the topic in every corporate leadership and business unit committees. The main highlight was the 86.8% reduction in the Tier 1 incident frequency rate (incidents of greater significance), compared to 2013, falling from 29 to four incidents.  No new cases of occupational illness in 2014. The UNIB1BA plant was recognized with the Excellence Award in Quality of Life in the Workplace at the 14th Brazilian Association of Quality of Life (ABQV) Conference. Continuation of the annual SEMPRE (Integrated Health, Environment and Safety System) audits. All plants reached their progress goals, with 47% of them being at Stage 2 and 50% at Stage 3.  Nearly 155,000 behavioral dialogues conducted by Braskem Leaders so as to demonstrate concrete commitment to safety, prevent deviations, and strengthen operational discipline and preventive culture. Creation of a Work Group for the construction of a multi-annual action plan to replace substances that deplete the ozone layer.  The waste generation index, which has accumulated a 60% reduction since 2002, reached 2.3 kg/t, which is 7.3% below the target, but 4.5% above the previous year. This increase is related to the inclusion of plastic scrap that was previously treated as a byproduct, as well as large maintenance shutd

Macro-objective and 2020 Goal	Initiatives to achieve the 2020 Goal	Progress in 2014
Macro-objective: Economic and financial results (material aspect: Economic performance)  2020 Goal: Be among the three largest producers of thermoplastic resins in the world, guaranteeing profitability that supports the continuity of the business, maintaining "Investment Grade" classification in the 3 main international agencies.	Begin operation of the Ethylene XXI project (Braskem Idesa, in Mexico) with 1.05 million tons natural gas-based PE production capacity in 2015. Foster sustained growth of the plastic transformation sector in the Brazilian market and work to boost exports of processed products. Replace licensed catalysts with own raw materials or those developed in partnership with other companies. This measure is designed to diversify production and cut costs.	Maintenance of Investment Grade. Physical progress of Braskem-Idesa development, which is now 88% complete, continuation of hiring and training of Team Members who will lead future industrial operations. Continued progress of the premarketing activities by winning over 305 new Clients in the portfolio and 276 active Clients. The ASCENT project studies for the integrated production of polyethylene from shale gas moved forward and new scenarios have been added to the analysis, given the new reality of the global energy market. Announcement of a project to produce ultra-high molecular weight polyethylene in its plant in La Porte, Texas, USA, known commercially as UTEC, the resin uses an exclusively Brazilian technology and is applied in a range of different industries. Braskem and Siluria Technologies — a U.S. company that sells fuels and chemical products that use natural gas for the direct conversion of natural gas methane into ethane — signed an agreement that will help reduce the costs of naphtha-based plants.
Macro-objective: Post-consumption (material aspect: Post-consumption)  2020 Goal: Be recognized as an important agent that contributes to the recycling of plastics.	Strengthen partnerships with leading institutions to support the implementation of the Brazilian National Solid Waste Policy.  Strengthen the socio and environmental support project for mechanical recycling cooperatives in the Brazilian states of Rio Grande do Sul, São Paulo, Rio de Janeiro, Bahia, and Alagoas.  Continue to support the chemical recycling project, seeking partnerships to develop a viable business model.  Learn more about energy recovery, mechanical recycling, and chemical recycling.	Inauguration of the first Voluntary Delivery Point for recyclable materials in Salvador by Ambev and Braskem. The launch is supported by the Sustainable City Department and the Nova República Cooperative of Environmental Agents (CANORE).  Choice of three chemical recycling technologies for detailed analysis and technical–economic assessment: Eco Energy, Michaelis and JBI.  The establishment of an energy recovery unit in Brazil has proven economically unfeasible, leading Braskem to focus on other activities, such as chemical recycling.  A study on the co–processing of plastic debris in the cement industry proved to be economically unfeasible. Project underway for the use of plastic debris in the production of gravel as concrete aggregate. Approval granted under the Brazilian National Development Bank (BNDES) Innovate Sustainability program for two projects that involve recycling and reverse logistics.  See the Local Development topic to learn more about the results of the support for recycling cooperatives.
Macro-objective: Renewable resources (material aspect: Non-renewable resources)  2020 Goal: Be recognized as a leader in the production of chemicals and thermoplastic resins from renewable raw materials, continuing to be the world's largest producer of thermoplastic resins from renewable sources.	Move forward with Innovation and Technology (I&T) projects focused on developing new products and processes based on raw materials from renewable sources. Learn more in Innovation and Renewables.	Inauguration of a new Research and Development laboratory in Campinas, São Paulo, focused on chemical product development projects using renewable raw materials.  Announcement of an international cooperation agreement with the companies Amyris and Michelin to develop a new technological route geared toward the production of isoprene, a raw material made from renewable sources used by the rubber industry.  Total of 99.7% of ethanol purchased from Braskem's suppliers that have adhered to the Code of Conduct for Ethanol Suppliers, which is above the Company's 90% target and represents a growth of 1.7% as compared to 2013. The plants representing 95.7% of the ethanol purchased by Braskem between July 2012 and June 2014 had valid third-party audits, representing a 10.7% increase as compared to 2013.  Partnership between Braskem and Bimbo in the bakery segment in the United States to use green PE — a product produced from renewable raw materials — in the packaging of new products from the Eureka! bread line, which is certified as an organic and vegan product by the United States' Department of Agriculture.

Macro-objective and 2020 Goal	Initiatives to achieve the 2020 Goal	Progress in 2014
Macro-objective: Water efficiency (material aspects: Water)  2020 Goal: Continue as a reference in the use of water resources in the global chemical industry and achieve a rate of reuse greater than 40%.	Continue improving the water use rate as well as the water reuse rate.  Continue working on remediation projects.  Braskem's remediation management process focuses on the prevention of liabilities and the mitigation of detected possible problems. New projects present improvement mechanisms with the elimination of impacts.  Reduce wastewater generation rates.	Savings estimated at R\$1.9 million as a result of improvements in water consumption and disposal. Water reuse index (without inherent process reuse) reached 17%, allowing Braskem to avoid withdrawing 18.7 billion liters of water from the environment. This volume is equivalent to the annual consumption of approximately 500,000 people. The water consumption index was 4.16 m³/t, 3.3% better than the previous year and 5.9% below the target, but 0.5% above 2002. The wastewater generation index, which has accumulated a 34% improvement since 2002, reached 1.28m³/t, which is slightly higher than the 1.27 m³/t target and 5% above the previous year. Improvements to the water processes in the Mauá facilities, in São Paulo, will be viable through a partnership with GE Water & Process Technologies, by applying reverse osmosis skid that allows for the production of water with a low concentration of dissolved salts. The demineralized water polishing process will be safer, faster and more reliable, and this will help improve the reuse water that is used at the industrial plant. Braskem participated in the CDP Water Disclosure for the first time, establishing a monitoring baseline for its progress in the area of water resource management. Clients supported through the development of water efficiency solutions for society – see the Solution Development macro-objective in this chart.
Macro-objective: Climate change (material aspect: Climate change and energy)  2020 Goal: Be among the best large chemical companies in the world in terms of greenhouse gas emissions (GHG) intensity and a major player in carbon capture and storage, as a result of the use of renewable raw materials.	Reduce the intensity of greenhouse gas emissions. Continue improving in CDP's "Disclosure" and "Performance" evaluation. Obtain the first carbon credits.	R\$ 59 million invested in projects to reduce greenhouse gas (GHG) emissions, with estimated savings of R\$ 4.5 million.  The intensity of GHG emissions (scopes 1 and 2), which has accumulated a 13% improvement since the base year 2008, was maintained at the previous year's level.  Corporate GHG Inventory, which is third-party audited, classified as Gold level for the fourth consecutive year in the GHG Protocol Brazil program¹. The program is designed to encourage companies to compile and publish their greenhouse gas inventories. See the document.  Highlighted in the CDP Brazil Carbon Management Project, with 97% in Disclosure and Level B Performance. Inclusion of the Company's shares for the fourth consecutive time in the Carbon Efficiency Index (ICO2) of BMF&Bovespa, which brings together companies with good GHG emission reduction practices.  Growing adherence among Braskem's suppliers to reporting GHG emissions in the CDP Supply program, from 18 in 2013 to 20 in 2014, representing 9% of the Company's Scope 3 emissions.
Macro-objective: Energy efficiency (material aspect: Climate change and energy)  2020 Goal: Be among the world's best large chemical companies in terms of energy consumption intensity and a major user of renewable energy.	Continue to reduce energy consumption intensity.  Continue to assess the feasibility of projects focused on energy cogeneration from biomass and urban solid waste.	Savings estimated at R\$ 307.6 million as a result of improvements in energy efficiency. Accumulated reduction of $10\%$ in Braskem's energy use per ton produced between $2002$ and $2014$ . However, compared to $2013$ , there was a $0.7\%$ increase, and compared to the target set for the period, the result was $0.9\%$ over, reaching $10.74$ GJ/t.

Macro-objective and 2020 Goal	Initiatives to achieve the 2020 Goal	Progress in 2014
Macro-objective: Local development (material aspects: Community investments and relationships, Local suppliers, and Labor from Local Communities)  2020 Goal: Be recognized by the communities surrounding our operational sites and by society in general for our contribution to the improvement of human development, as shown by achieving the reputation level of "excellent" in the Citizenship Dimension of our Reputation Survey (RepTrak™ Pulse).	Increase the scope of the social insertion program to national level by strengthening the mechanical plastics recycling chain.  Maintain the Corporate Community Investment (CCI) programs, which are aligned with Braskem's main contributions to the improvement of the Human Development Index (HDI), Global Compact and Millennium Objectives, wherever the Company is present.  Strengthen partnerships associated with the Braskem CCI, focusing on long-term measurable impacts in the following areas:  • Education for Responsible Consumption: to engage one million students through Edukatu (by 2020)  • Forest Factory: to promote the planting of 1,000 ha with community participation and engaging 100,000 people (2013 to 2020)  • Social Inclusion of Recyclable Material Workers: to benefit 3,000 recyclable material workers by helping them increase their income by 50% (2013 to 2020)	Highlighted among the "100 Best Corporate Citizens List 2014" for its Social Responsibility initiatives, and received the "2013 Sister Company Seal" granted by the Sister Dulce Social Works (OSID) charity. R\$ 21.3 million invested in social and environmental, cultural and sports projects in Brazil, across three main fronts of operation: Corporate Community Investment (CCI) projects, incentivized sponsorships and donations to the Odebrecht Foundation (R\$ 7 million). Braskem Team Members also support the foundation through the Tribute to the Future Program, which raised more than R\$ 1.2 million in donations. MX\$ 5 million (R\$ 0.88 million) invested in production projects in Mexico, focused on inserting local Communities into the Braskem Idesa value chain.  US\$ 64,000 (R\$ 0.15 million) donated by Team Members in the United States to charities.  9,000 people, from 1,461 schools located across the 27 Brazilian states and from 464 universities, NGOs and local government, participated in the Edukatu project in Brazil. More than 2,900 were directly involved in intervention projects within their school communities, engaging approximately 18,000 people on responsible consumption, which is the project's objective.  Production of more than 165,000 seedlings¹ as part of the Fábrica de Florestas project in Brazil. 83,000 reached the ideal planting stage, and were planted and monitored.  Assistance to recycling cooperatives expanded to 14 new municipalities in Brazil, with 54 cooperatives and associations and 2,132 recyclable material workers or cooperative members benefitted from the project called ser+realizador.  Seventy-eight percent of the cooperative members who received monthly consultancy support were able to increase their income. Furthermore, over 5,000 people were engaged on the importance of recycling.

Macro-objective and 2020 Goal Initiatives to achieve the 2020 Goal Progress in 2014 Pipeline of 58 Lifecycle Assessment (LCA) studies covering all Business Units, 28 of which have been Macro-objective: Make progress in the use of the LCA tool by **Development of solutions** carrying out more studies. completed and are currently being disseminated, while 24 are still underway and six are in the exploratory (material aspect: Product development Launch a program to promote the image of stage. These studies provide data on environmental impacts related to the different lifecycle stages of the -environmental and social) plastics. Company's products, not only of the production stage, thereby helping to improve decision-making and Launch a program to identify environmental and communication of the benefits and limitations of these products. 2020 Goal: social gains in each new market development. Development of an assessment tool of new products' sustainability that takes into account the Company's Develop new projects with social and macro-objectives, facilitating the alignment of decision-making with the Company's sustainability strategy. Be recognized as a company that supports its Clients in the development environmental benefits (such as a construction 27% increase in the sales of the Maxio<sup>®</sup> line as compared to 2012 (the year it was launched). These resins improve of environmental and social solutions; system for daycare centers and hospitals, lowenergy efficiency and productivity, consequently reducing the environmental impact of Braskem's Clients. contribute to the perception of cost solar heating, gas cylinders, railway ties, Launch of Black and White Mulching by Electro Plastic, produced with Braskem's PE, which is specific for plastic as a solution to sustainable cement sacks, etc.) growing citrus crops. This product, designed to cover the soil to control weeds and maintain humidity and development due to its potential to temperature, contributes toward agricultural water efficiency. Moreover, it improves root development, improve people's lives. which helps the plants grow stronger. Began in supplying resins to Central de Embalagens (large packaging company) who will produce plastic mover boxes for rental, replacing the traditional cardboard boxes. The plastic alternative can be reused more than 400 times before being sent to recycling, avoiding the environmental impact of producing new cardboard boxes for every relocation. Braskem's polyisobutylene being used by Tecno Cell Agroforest to replace imported raw materials in the production of urban pest control products. Polyisobutylene is a non-toxic and transparent chemical product, suitable for organic materials. Development of a new PE resin for water and natural gas supply network pipes, transport of ore slurry, oil, sewage networks and water mains. Partnership between Braskem, Resiplastic, Odebrecht Agroindustrial and Santa Isabel (company specialized in trunks) to produce polyethylene trunks to replace the steel ones. Because they are lighter, they allow for an increase in the liquid load capacity with a reduction in fossil fuel consumption and, consequently, CO<sub>2</sub> emissions. Macro-objective: Continue to be part of DJSI Emerging Markets Listed for the third consecutive year in the Dow Jones Sustainability Index for Emerging Markets, an Strengthening of practices international index for investors interested in companies committed to sustainable development. Index. (material aspects: Transparency Become a benchmark in Environment and Listed for the tenth consecutive time in the Bovespa Corporate Sustainability Index (ISE), with above and integrity, Free competition and Climate Management in the ISE. average score and a leading position in the climate change category. Contribution to public policy) Maintain structured management of Braskem's Recognized through different initiatives and awards as a market leader. Learn more in Distinctions. participation and contribution to organizations More than 50 sessions of the Leaders' Workshop for Sustainable Development carried out. The Workshop 2020 Goal: focused on sustainable development. aims to further engage Leaders on sustainability and strengthen their contribution. In all, 922 people were Be recognized as a corporate leader in Continue to contribute toward the definition and trained in Brazil. Mexico and the United States. Establishment of a Code of Conduct for Braskem's suppliers, aiming to formalize the ethical and Brazil, as well as a global leader in the implementation of public policies (for instance, chemical industry, for our contribution Brazilian National Solid Waste Policy, Chemical responsibility practices the Company expects from its suppliers. to sustainable development. Safety and Global Agreement for Sustainable Approval of the anti-corruption policy and review of the Team Member Code of Conduct and Ethics, Development). strengthening controls and the commitment to ethical conduct. Braskem co-lead the Brazilian Business Council for Sustainable Development (CEBDS) Agenda for a Sustainable Country, led the Brazilian Business Network for Lifecycle Assessment, which includes 20 companies, and co-led the development of the ISO Standard for Sustainable Procurement at a global level.

# **Key indicators**

## Economic development

	2014	2013	2012
Production – main products (t)			
PE	2,414,520	2,580,290	2,539,476
PP	3,454,497	3,413,079	3,403,351
PVC	635,016	582,579	497,366
Liquid soda	448,062	437,334	450,589
Basic petrochemicals	5,933,222	6,486,105	6,404,466
Consolidated net revenue (R\$ billions)	46	41	36.2
EBITDA (R\$ billion)	5.6	4.8	4
Total investment (R\$ billion)	2.5	2.7	1.7
Patents submitted during the year (total accumulated in 2014)	88	112	63 <sup>1</sup>

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## Social and environmental development<sup>2</sup>

	2014	2013	2012
Total Team Members <sup>3</sup>	8,126	8,096	7,364
Injury frequency rate with and without lost time (Team Members and Partners per million hours worked)	1.00	1.04	1.04
Energy consumption (GJ/tons of product)	10.74	10.67	10.55
Total energy consumption (GJ thousand)	191,706	190,4154	194,8664
GHG emissions (thousand tCO <sub>2</sub> e/tons of product)	0.63	0.63	0.63
Direct GHG emissions (scope 1) (tCO <sub>2</sub> e thousand)	9,385	9,771	9,565
Indirect GHG emissions (scope 2) (tCO <sub>2</sub> e thousand)	1,088	874	783
Indirect GHG emissions by third parties (scope 3) (tCO <sub>2</sub> e thousand)	11,351	11,534	12,000
Water consumption for production (m³/tons of product)	4.16	4.30	4.23
Total water consumption (m³million/ year)	66.7	70.8	71.3
Generation of liquid effluents (m³/tons of product)	1.28	1.22	1.17
Total generation of liquid effluents (m³ million /year)	20.5	19.7	21.14
Generation of solid, liquid and viscous waste (kg/tons of product)	2.30	2.20	2.28
Investments in the Community (R\$ million)	23.55	17.54	12.64
Volume of ethanol acquired from plants that signed the Code of Conduct (%)	99.7	98	95

- 1 Data reviewed as a result of changes in the control system of patent documentation.
- 2 Social and environmental data for the development in Mexico is reported only in terms of the number of Team Members, given that the petrochemical complex is still in the construction phase.
- 3 Data from 2013 and 2014 includes quantiQ and Team Members already hired for future operations in Mexico.

All years include the international commercial offices' data.

- 4 Data does not include the Germany and United States operations.
- 5 Data includes investments and donations made by Braskem and its Team Members.

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## **Distinctions**

Similarly to previous years, Braskem earned a series of distinctions of excellence in 2014. The inclusion in important indexes, rankings and portfolios marked the initiatives promoted by the Company centered on sustainable development and its macro-objectives for 2020, focused on the search for recognition as a reference in management and performance in relevant aspects for business sustainability.

### BRAZIL

São Paulo Stock Exchange Corporate Sustainability Index (ISE): member of the ISE for the tenth consecutive year, that is, since the creation of this portfolio, which includes 51 actions of 40 companies representing 19 sectors. The new composition will be into force from January 5, 2015 to January 2, 2016.

Carbon Efficiency Index (ICO2) of BM&F-Bovespa: chosen for the fourth consecutive year to integrate ICO2, in force since January 7. The portfolio consists of 31 actions taken by 29 companies that agreed to adopt transparent practices related to the management of their greenhouse gas emissions (GHG).

**GHG Protocol Brazil:** the GHG emission inventory obtained the Gold classification for the fourth consecutive year.

Carbon Project of the CDP Investor Brazil: outstanding position, with a 97% rating in transparency and "B" level in results.

Transparency Trophy: considered one of Brazil's 10 Most Transparent Companies among the 2,000 analyzed by the National Association of Financial, Administration and Accounting Executives (ANEFAC) — a category for publicly–traded companies with revenues over R\$ 5 billion. There was an evaluation of criteria, such as commitment to ethics and transparency in financial statements accountability.

The Best of Chemicals and Petrochemicals: listed for the third consecutive year in the ranking organized by the Época Negócios 360° Yearbook, which includes human resources practices, capacity to innovate, social and environmental responsibility, vision of the future and corporate governance.

The Best of Dinheiro: champion of the chemical and petrochemical sector in the ranking organized by IstoÉ Dinheiro magazine.

### Braskem is part of:

Dow Jones Sustainability Indices

In Collaboration with RobecoSAM (

Dow Jones Sustainability Index (DJSI) for Emerging Markets since the first portfolio in 2012



São Paulo Stock Exchange Corporate Sustainability Index (ISE) for the tenth consecutive year since its creation by BM&FBovespa

findice Carbono Eficiente

Carbon Efficiency Index (ICO2), also from BM&FBovespa, for the fourth consecutive year

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**Best Companies for Leadership:** one of Brazil's Top 10 Companies in Leadership Development, out of 100 companies evaluated by the business management consulting firm Hay Group.

Innovative Company Brazil: ranked eighth among 300 companies surveyed by Info Exame magazine, in partnership with the College of Advertising and Marketing (ESPM), for the development of green plastic.

**Top Human Being of the ABRH – RS:** one of the winning companies of the Brazilian Association of Human Resources Award, for work dedicated to culture ("Odebrecht Entrepreneurial Technology – Innovate today, change tomorrow, serve always"), the introduction of practices and results obtained.

**PIEL Award:** INFRAERO Logistics Effectiveness Program, awarded by INFRAERO (Brazilian Airport Infrastructure Company) in the chemical sector for airport clearance processes.

### INTERNATIONAL

Dow Jones Sustainability Index (DJSI) for Emerging Markets: New York Stock Exchange (NYSE) Developing Country Sustainability Index, which consists of 86 companies, 17 of which are Brazilian. Braskem is on the index for the third consecutive year.

**Innovative Company:** the U.S. magazine Fast Company listed Braskem as one the World's 50 Most Innovative Companies for its research work on products of a renewable origin such as green plastic.

**Youths' Dreams Company in Mexico:** fifth place in a ranking created by Cia de Talentos.

**Top Work Place:** recognized as the Best Place to Work in the Greater Philadelphia and Pittsburgh region, in the United States, where Braskem maintains operations.

**Supplier Excellence Award:** supplier excellence award, with a focus on green PE, granted by Estee Lauder, Braskem's client in the United States.

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# **GRI** content index

GRI G4-32

The symbols used identify the procedures that have been applied to carry out the Assurance:







Procedures (f) Procedures (a) and (e) Procedures (a), (b) and (c)

See a description of each procedure in the Independent Auditors 'Limited Assurance Report

### General standard disclosures

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
Strategy and analyses			
G4-1	Statement from the most senior decision–maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the Company and its strategic approach.	Message from the Business Leader	•
G4-2	Description of key impacts, risks, and opportunities related to sustainability and effects on stakeholders.	Chemical and petrochemical industry Communities	•
Organizational Profile			
G4-3	Name of the organization. Nome da organização.	Message from the Business Leader Global company	•
G4-4	Primary brands, products, and/or services.	Global company	•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
G4-5	Location of the organization's head office.	São Paulo, Brazil.	•
G4-6	Number of countries in which the organization operates and the names of the countries where its main operations are located or are particularly relevant to the sustainability issues brought up in the report.	Global company	•
G4-7	Nature and legal form of ownership.	Global company	•
G4-8	Markets served (including geographic breakdown, sectors served and types of clients/beneficiaries).	Global company Value creation	•
G4-9	Size of the organization, including the number of employees and operations, net sales, total capitalization (debt and net equity), products or services rendered.	Global company Economic and financial results Suppliers	•
G4-10	Total number of employees by employment contract, gender, and region.	Team Members / Profile Third-party data was not provided, as the data recording system needs to be improved. This information will be published in the 2015 Annual Report.	•
G4-11	Percentage of employees covered under a collective bargaining agreement.	Team Members / Profile	•
G4-12	Organization's supply chain.	Suppliers	•
G4-13	Main changes during the period covered by the report with respect to size, structure, share structure or participation, or the organization's suppliers, including: changes to the location of operations (openings, closing or expansion of installations); changes to the capital structure and other activities aimed at capital formation, preservation or alteration; changes to the location of suppliers or involving supplier relations, including the screening and exclusion process.	Braskem sold a water treatment plant in Triunfo, RS, because it was not an asset of its core business. It is also moving forward with the development of the Braskem Idesa petrochemical complex in Mexico. There were no other significant changes in terms of size, structure, shareholders' participation or supplier chain of the Company.	•
G4-14	Description of whether and how the precautionary principle is addressed by the organization.	Based on its principles and in compliance with its Health, Environment, Safety, Quality and Productivity Policy, Braskem does not produce, handle, use, trade, transport, or dispose of any product unless it can do so in a safe manner and with a minimal environmental impact.	•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
G4-15	Externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	Collaborative initiatives and voluntary commitments Note: the above–mentioned associations are voluntary in nature and involve multiple groups (multi- stakeholder).	•
G4-16	Memberships in associations (such as industry associations) and national or international advocacy organizations in which the organization: holds a position on the governance body; participates in projects or committees; provides substantive funding beyond routine membership dues; views membership as strategic.	Collaborative initiatives and voluntary commitments OBS: the above-mentioned associations are voluntary in nature and involve multiple groups (multi-stakeholder)	•
Identified material aspects a	nd boundaries		
G4-17	<ul><li>a. List of all entities included in the consolidated financial statements or equivalent documents in the organization.</li><li>B. Indicate whether any of the entities included in the consolidated financial statements or equivalent documents in the organization were not covered by the report.</li></ul>	Base and scope a. See Note 2.1.1.a of the Financial Statements b. See About this report	•
G4-18	Process for defining the content of the report and the limits of the aspects included: Process for implementing the principles for defining the content of the report.	Sustainable development	•
G4-19	Material aspects identified in the process of defining the content of the report.	Sustainable development	•
G4-20	For each material aspect, describe the scope of that aspect within the organization, taking into account: (1) whether the aspect is material for the organization; (2) if the aspect is not material for the entire operational structure of the organization (divisions, operating units, subsidiaries and joint ventures), select one of the following two approaches and present: (i) operational structures included in the G4–17 indicator for which the aspect is not material, or (ii) operational structures for which the aspect is material; (3) any specific limitation relating to the scope of the aspect in the organization.	Sustainable development	•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
G4-21	For each material aspect, describe its scope outside of the organization, taking into account: (1) whether the aspect is material outside of the organization; (2) if so, identify the entities/elements for which the aspect is material and indicate their geographical location; (3) describe any specific limitations relating to the scope of the aspect outside of the organization.	The following macro-objectives are material outside of the Company: Climate change, Post-consumption, Local development and Safety (safe use of products). Braskem monitors indicators associated with these subjects outside of the Company, provided that the third-party database is available and reliable. Examples of monitored data: scope 3 emissions, plastics recycled by cooperatives supported by the Company, benefits from community investment partnerships, and the safe use of products. The entities are geographically widespread, with the exception of local development, which is centered on neighboring Communities of Braskem's operations.	
G4-22	Consequences of any reformulations of data provided in previous reports, and the reasons for such reformulations (such as mergers and acquisitions, changes to the accounting period or base year, to the nature of the business or to measurement methods).	Specific reformulations of performance indicators compared to previous reports are reported in the notes for each indicator.	•
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries.	Base and scope	•
Stakeholder engagement			
G4-24	Listing of stakeholders engaged by the organization.	Sustainable development	•
G4-25	Basis for identification and selection of stakeholders with whom to engage.	Sustainable development	•
G4-26	Approaches to engaging stakeholders, including frequency of engagement by stakeholder type and group, indicating whether any engagement in particular was promoted as part of the report preparation process.	Sustainable development  Note: the frequency of stakeholder engagement does not follow any pre-established standard and is aligned with the Company's sustainable development strategy.	•
G4-27	Principal issues and concerns that have been raised through stakeholder engagement, and the measures adopted by the organization to deal with them, including as part of the preparation of the report. Stakeholder groups that presented each of the above–mentioned issues and concerns.	Sustainable development The information about the material issues raised by the stakeholders is available throughout the report.	•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
Report profile			
G4-28	Period covered by the report (for example, accounting year or calendar year), for the information presented.	Base and scope About this report	•
G4-29	Date of the most recent previous report (if any).	2013	•
G4-30	Frequency with which reports are issued (annually, biannually, etc.).	About this report Base and scope Annual	•
G4-31	Contact data in the event of questions relating to the report or its content.	Base and scope	•
G4-32	Table identifying the location of the report data, specifying: (1) the "in accordance" option chosen by the organization; (2) external verification (if any).	GRI index	•
G4-33	Policy and practice relating to the search for external verification for the report; relationship between the organization and the party responsible for external verification; whether the highest governing body or the Leadership are involved in the search for external verification of the report.	Assurance Report The external assurance statement is performed at the request of the Leadership and included in the set of annual goals of the Leadership responsible for the preparation of the report.	•
Governance			
G4-34	The organization's governing structure, including committees that report to the highest governing body responsible for specific tasks, such as advisement of the board of directors in connection with decision–making that has economic, environmental, and social impacts.	Corporate Governance	•
G4-39	Indicate whether the chair of the highest governing body is also an executive director (and if so, indicate his or her function in the organization's management and the reason for holding both positions).	Corporate Governance The Chair of the Board of Directors is not an Executive Director	•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	EXTERNAL ASSURANCE
Ethics and Integrity			
G4-56	Values, principles, standards, and norms of behavior in the organization, such as codes of conduct and ethics.	Odebrecht Entrepreneurial Technology (TEO) Corporate Governance Ethics and integrity	•
G4-57	Describe the internal and external mechanisms adopted by the organization to request guidance regarding ethical behavior that complies with legislation, such as communication channels (for example: ombudsman).	Ethics and Integrity	•
G4-58	Describe the internal and external mechanisms adopted by the organization to report concerns regarding unethical behavior or behavior that does not comply with legislation, and matters relating to organizational integrity, such as communicating concerns through hierarchical channels, mechanisms for reporting irregularities, or reporting channels.	Ethics and Integrity	•

The symbols used identify the procedures that have been applied to carry out the Assurance:







Procedures (f) Procedures (a) and (e) Procedures (a), (b) and (c)

See a description of each procedure in the Independent Auditors 'Limited Assurance Report

## Specific standard disclosures

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: all				
Macro-objectives: all				
G4-DMA	Disclosures on management approach	a. Aspects Materiality b. Management, objectives and actions: Macro-Objectives of Sustainable Development / Collaborative Initiative and Voluntary Commitments, and Braskem's Voluntary Commitments c. Management Evaluation: Social Development. Team Members. Performance Management		•
Material aspects: Econom	nic performance			
Macro-objectives: Econo	mic and financial results			
G4-EC1	Direct economic value generated and distributed	Economic and financial results	The reported information does not show a full breakdown of the economic value generated and distributed by region, given that it is heavily concentrated in Brazil.	<b>A</b>
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Renewables Energy and Climate Change Additional information about this indicator is available in the 2014 CDP report.		•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE	
G4-EC4	Financial assistance received from government	Government Furthermore, it is important to emphasize that the Government does not have any direct involvement with Braskem's shareholder structure.	The data is not broken down by country, as no significant assistance is received outside of Brazil.	<b>A</b>	
Aspects: Market presence	2				
Macro-objectives: Local o	development				
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	Compensation Note: for explanatory purposes: values by gender are not presented, considering that the entry level wage at Braskem is the same for both men and women, or in other words, the same value applies for both.		•	
G4-EC6	Proportion of senior management hired from the local community at significant Locations of operation	Among Braskem's Leaders in Brazil — positions starting with Manager — 52% are local, or in other words, they were born in the same state where they are currently working. In Mexico and Germany, Leaders include all of those with Team Members and 35.8% and 61.9% of them were hired locally, respectively. The data from the United States is not reported given that the information is not monitored.		•	
Material aspects: Indirect	economic impacts				
Macro-objectives: Local o	Macro-objectives: Local development				
G4-EC7	Development and impact of infrastructure investments and services supported	Communities Investment Note: this information is not broken down because all investments were paid in cash (money) or in kind (equipment donated) and all services offered were free.		•	

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
G4-EC8	Significant indirect economic impacts, including the extent of impacts	Markets and production Business strategy Global company Braskem Idesa: progress Products		•
Material aspects: Purchas	ing practices			
Macro-objectives: Local o	development			
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	Suppliers Braskem has defined local suppliers as those that are located in the same country where the Company unit has acquired its products or services.		•
Material aspects: Material	İs			
Macro-objectives: Renew	vable resources			
G4-EN1	Materials used by weight or volume	The main non-renewable direct materials* used by Braskem include: naphtha, condensate, ethane, propane, HLR, and sodium chloride. Braskem also uses ethanol manufactured from sugarcane to produce ethylene from a renewable source, thus reducing its demand for non-renewable resources.  * Direct materials: those present in the final product. Non-renewable materials: resources that are not renewed at the same rate at which they are consumed, such as minerals, metals, oil, coal, and gas.	The values used are not disclosed, as this is commercially sensitive information.	•
G4-EN2	Percentage of materials used that are recycled input materials	Braskem's strategy for replacing virgin raw materials consists of investments in renewable raw materials. As a result, no raw materials are obtained from recycling. At any rate, re–use is maximized at the industrial plants by means return flows in the productive process, which is the equivalent of internal recycling. For the future, investments are being made in energy and chemical recycling.		•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: Energy				
Macro-objectives: Energy	y efficiency			
G4-EN3	Energy consumption within the organization	Energy and Climate Change	The 2012 and 2013 data does not include the international plants due to the difficulty of obtaining data in the necessary format.	•
G4-EN5	Energy intensity	Energy and Climate Change	Data from quantiQ and the Innovation Laboratory in Campinas (SP) was not considered. The quantiQ data is currently being integrated with the Braskem data. The laboratory is not considered material because it is a very small installation as compared to the industrial plants.	•
G4-EN6	Reduction of energy consumption	Energy and Climate Change The reductions obtained were calculated based on the difference between fuel consumption before implementation of the initiative and fuel consumption after the implementation of the initiatives.		•
G4-EN7	Reductions in energy requirements of products and services	Products Reductions are estimated by comparing the 'before' and 'after' scenarios for the use of the resins in question (Maxio® Family).	The presented data shows reductions in % in order to demonstrate the relevance of the gain. The absolute values are confidential.	

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: Water				
Macro-objectives: Water	efficiency			
G4-EN8	Total water withdrawal by source	Water: Use and discharge		•
G4-EN10	Percentage and total volume of water recycled and reused	Water: Use and discharge		•
Material aspects: Biodive	rsity			
Macro-objectives: n/a (n	naterial only for Mexico)			
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	The main impact of Braskem's operations on biodiversity occurs when the new units are built in areas where there was no previous industrial activity, as in Mexico, where Braskem-Idesa is building a petrochemical complex. The measures designed to reduce impacts on the local biodiversity were described in the 2012 and 2013 annual reports. The non-reversible impacts over the middle term (approximately 10 years). The current status is described in the chapter entitled Braskem Idesa / Environmental Impact.		•
G4-EN14	Total number of iucn red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	Braskem Idesa There is only one species at risk of extinction affected by Braskem's operations, the Ceratozamia miqueliana (flora, critical status) in Mexico. With the transfer of the plants found to the environmental protection area created by the Company, the number of plants increased significantly.		٠

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: Emissio	ns			
Macro-objectives: Climat	re change			
G4-EN15	Direct greenhouse gas (GHG) emissions (scope 1)	Energy and Climate Change Braskem reports data from operations at which it holds operational control. To learn more about the complete methodology, consult the section about the Brazilian GHG Protocol Program in the Braskem report.	The breakdown of biogenic CO <sub>2</sub> emissions is presented in the Company's report for the Brazilian GHG Protocol Program, which has a publication date that falls after this report was closed (May 29, 2015). These emissions are not considered material for the Company, representing less than 0.01% of its Scope 1 emissions.	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (scope 2)	Energy and Climate Change Braskem reports data from operations at which it holds operational control. To learn more about the complete methodology, consult the section about the Brazilian GHG Protocol Program in the Braskem report.		•
G4-EN17	Other indirect greenhouse gas (GHG) emissions (scope 3)	Energy and Climate Change Braskem reports data from operations at which it holds operational control. To learn more about the complete methodology, consult the section about the Brazilian GHG Protocol Program in the Braskem report.	The breakdown of biogenic CO <sub>2</sub> emissions is presented in the Company's report for the Brazilian GHG Protocol Program, which has a publication date that fell after this report was closed (May 29, 2015).	•
G4-EN18	Greenhouse gas (GHG) emissions intensity	Energy and Climate Change The GHG Protocol is the emission inventory methodology used. The information about the gases included in the calculation is available in the Braskem report in the Brazilian GHG Protocol Program.		•

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE	
G4-EN19	Reduction of greenhouse gas (GHG) emissions	Energy and Climate Change The base year is 2008, since this was the year in which the Company established its strategic commitment to the topic. The methodology used is the GHG Protocol. The information about the gases included in the calculation is available in the Braskem report in the Brazilian GHG Protocol Program.			
Macro-objectives: Climat	e change				
G4-EN20	Emissions of ozone-depleting substances (ods)	Energy and Climate Change Regarding CFC-11 equivalent, Braskem's emissions are equal to 2.69 tons of CFC11e.		•	
Macro Objetivos: Energia					
G4-EN21	NOX, SOX, and other significant air emissions	Energy and Climate Change The methodology used is that of the GHG Protocol. The complementary guidelines and conversion factor sources include: National Energy Balance (BEN, Brazil); 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Hot Climate, Cool Commerce Report: A Service Sector Guide to Greenhouse Gas Management (WRI, 2006); AP–42 (Compilation of Air Pollutant Emission Factors — Volume I, Fifth Edition, January, 2005 revised edition); Petroleum Industry Guidelines for reporting Greenhouse Gas Emissions (IPIECA, OGP and API).  Specific conversion factors for the fuels of a specific site are used when available and can be consulted with the Environment area through the Company website contact channel.		•	
Material aspects: Effluents and Waste					
Macro-objectives: Water	efficiency				
G4-EN22	Total water discharge by quality and destination	Water: use and discharge There are no records of the reuse of Braskem's effluents by other organizations.		•	

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE		
Macro-objectives: Safety	Macro-objectives: Safety					
G4-EN23	Total weight of waste by type and disposal method	Waste Waste discharge is determined under the terms of the suppliers' agreements and in compliance with legal requirements.		•		
Material aspects: Product	s and Services					
Macro-objectives: Applic	ation development					
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	Innovation Products Renewables Reductions are estimated by comparing the 'before' and 'after' scenarios for the use of the resins in question.		•		
Macro-objectives: Post-o	consumption					
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	Communities Projects Braskem works with recyclable material scavenger cooperatives in Brazil to encourage the recycling of its products and packaging materials. See the recycled volumes in the chapter on Communities / Projects. These volumes do not represent a significant percentage of the total sold by Braskem.		•		
Material aspects: Complia	nce					
Macro-objectives: Streng	thening of practices					
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	The Company was not sentenced to pay any fines or comply with any non-monetary sanctions during the period in question. For the purposes of this report, the same materiality criterion was adopted as that used in the Reference Form instituted by the Brazilian Securities and Exchange Commission (CVM) under the terms of CVM Resolution 480/2009 — R\$ 60 million. For environmental matters, the monetary value of R\$ 10 million was adopted.				

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Aspects: Overall				
Macro-objectives: Climat	e Change, Energy, Water			
G4-EN31	Total environmental protection expenditures and investments by type	Environmental protection		•
Aspects: Employment				
Macro-objectives: Econo	mic and financial results			
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	Recruitment and selection		•
Material aspects: Safety				
Macro-objectives: Workp	lace Safety			
G4-LA5	Percentage of total workforce represented in formal joint management—worker health and safety committees that help monitor and advise on occupational health and safety programs	Safety		
G4-LA6	Type of injury and injury rates, occupational diseases, lost days, and absenteeism, and total number of work–related fatalities, by region and by gender	Safety	The data recording system for occupational health and safety does not present a breakdown by gender. The method used to monitor absenteeism is being revised, and therefore, it was not possible to obtain this item. Expected deadline for inclusion: 2015 Annual Report.	

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: Diversit	y and equal opportunity			
Macro-objectives: There	is none, since the related aspects are not material.			
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	Team Members' Profile	It was not presented a breakdown by age. Braskem will provide this information in 2016.	•
Material aspects: Local co	mmunities			
Macro-objectives: Local o	development			
G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	Braskem Idesa Communities		
G4-S02	Operations with significant actual and potential negative impacts on local communities	Braskem Idesa Projects Energy and Climate Change Process safety		•
Material aspects: Anti-co	rruption			
Macro-objectives: Streng	thening of practices			
G4-S05	Confirmed incidents of corruption and actions taken	Ethics and integrity		•
Macro-objectives: Public	policy			
Macro objectives: Strengt	thening of practices			
G4-S06	Total value of political contributions by country and recipient/beneficiary	The topic of Public Policy is material for the operations in Brazil. To find out more about the political contributions made by Braskem, please visit the TSE website, http://inter01.tse.jus.br/spceweb.consulta.receitasdespesas2014/abrirTelaReceitasCandidato.action, performing a search by the Company's name or its Federal Tax ID No. (CNPJ): 42.150.391/0001–70.		

INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE				
Material aspects: Anti-co	mpetitive behavior							
Macro-objectives: Streng	thening of practices							
G4-S07	Total number of legal actions for anti–competitive behavior, anti–trust, and monopoly practices and their outcomes	Zero		•				
Material aspects: Comp	Material aspects: Compliance							
Macro-objectives: Streng	thening of practices							
G4-S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	The Company was not sentenced to pay any fines or comply with any non–monetary sanctions during the period in question. For the purposes of this report, the same materiality criteria was adopted as that used in the Reference Form established by the Brazilian Securities and Exchange Commission (CVM) under the terms of CVM Resolution $480/2009-R\$60$ million. For environmental matters, the monetary value of R\\$10 million was adopted.		•				
Material aspects: Client H	ealth and Safety							
Macro-objectives: Safety								
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Product safety		•				
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	Product safety		•				

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INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE
Material aspects: Product	and service labeling			
Macro-objectives: Safety				
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling and percentage of significant product and service categories subject to such information requirements	Product safety		•
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Product safety		•
Aspects: Marketing comn	nunications			
Macro-objectives: Streng	thening of practices			
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	Zero		•

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INDICATOR	DESCRIPTION	RESPONSES AND/OR LOCATION	OMISSIONS	EXTERNAL ASSURANCE				
Material aspects: Comp	liance							
Macro-objectives: Strengthening of practices								
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	The Company was not sentenced to pay any fines or comply with any non-monetary sanctions during the period in question. For the purposes of this report, the same materiality criteria was adopted as that used in the Reference Form established by the Brazilian Securities and Exchange Commission (CVM) under the terms of CVM Resolution 480/2009 – R\$ 60 million. For environmental matters, the monetary value of R\$ 10 million was adopted.		•				
Aspects: Non-discrir	nination							
Macro-objectives: Stre	ngthening of Practices							
G4-HR3	Total number of incidents of discrimination and corrective actions taken	Ethics and integrity		•				

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# **Global Compact**

PRINCIPLE	DESCRIPTION	CHAPTERS AND RELATED GRI INDICATORS REPORTED BY BRASKEM
Principle 1	Respect and support human rights	Corporate Governance / Ethics and integrity G4-HR3
Principle 2	Prevent the violation of human rights	Corporate Governance / Ethics and integrity Suppliers / Ethanol
Principle 3	Support freedom of association in the workplace	Team Members / Training and development (Leader Training Program)
Principle 4	Eliminate forced labor	Suppliers / Ethanol
Principle 5	Abolish child labor	Suppliers / Ethanol
Principle 6	Eliminate discrimination in the workplace	Corporate Governance / Ethics and integrity Team Members / Profile Team Members / Compensation Team Members / New hires and turnover G4-10, G4-EC5, G4-EC6, G4-LA1, G4-HR3
Principle 7	Support a precautionary approach to environmental challenges	Braskem-Idesa: progress / Environmental impact Products Environment G4-EC2, G4-EN7, G4-EN12, G4-EN14, G4-EN27
Principle 8	Promote greater environmental responsibility	Braskem Idesa: progress / Environmental impact Products Environment Communities / Projects G4-EC2, G4-EN7, G4-EN14, G4-EN27, G4-EN28
Principle 9	Encourage environmentally-friendly technologies	Products Innovation / Green isoprene Innovation / Green butadiene Innovation / Ethane: new technology Innovation / Innovative company G4-EC2, G4-EN7, G4-EN27
Principle 10	Combat against corruption in all its forms, including extortion and bribery	Corporate Governance / Ethics and Integrity / Cases of corruption and conflicts of interest G4–S05

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## **Glossary**

**Above standard –** above an expected level of quality

**Água Viva –** Braskem's reuse water project at the Camaçari Complex (BA)

**Biopolymer** — a thermoplastic resin produced from renewable raw materials

**Cap** – emissions limit

**Crackers** — industrial installations in which naphtha is transformed into derivatives such as ethylene, propene, and other co-products

**Cracking (of naphtha) –** molecule breakdown for ethylene production

Thermal desorption — environmental remediation technology that uses heat to increase the volatility of contaminates so that they can be removed (separated) from the solid matrix in which they are found, typically in contaminated soils, until the same are decontaminated

**Deviation** – non-compliance with an operating requirement, for instance, the inappropriate use of required personal protection equipment

**Eco-efficiency** – the ratio between the use of resources needed for to manufacture a certain product and its produced volume. Expresses productivity from an environmental perspective

**Eco-indicators** — environmental performance indicators

**Education through and for Work** — one of the principles of Odebrecht Entrepreneurial Technology (TEO)

**Scope 1** — direct greenhouse gas emissions originating from sources that belong to or are controlled by the Company, such as emissions from combustion in boilers, furnaces or vehicles belonging to or controlled by the Company

**Scope 2** – greenhouse gas emissions originating from the acquisition of electrical or thermal energy consumed by the Company

Scope 3 – indirect greenhouse gas emissions that involve all other emissions resulting from direct activities of the Company, but which occur in sources that do not belong to or are not controlled by the Company

Water stress — when the demand for water from a number of inhabitants and the average consumption per inhabitant exceed supply, that is, the amount and the distribution capacity of available water **Grid emission factor** — average rate of GHG emissions resulting from electricity generation

**Feedback** – response to a certain request or event

Flare — static mechanical safety device used to burn off chemical compounds that a plant is unable to process, either because it is not working with the appropriate operational parameters (for instance, improper composition or overpressure), or in emergency cases, such as a nonscheduled shutdown or a power failure. Flaring prevents hazardous compounds from being released into the atmosphere. The flare stacks are operated continuously to ensure their proper functioning in case of emergency.

**Rotating clinker furnaces –** furnaces for cement production

**GHG Protocol** — a program designed to stimulate companies to create and publish their inventories of greenhouse gases

**Gamification** — application of elements and mechanics from games design in contexts other than electronic games in order to motivate and actively engage the parties involved through challenges, competition and rewards

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(Resin) Grades – type, specification

**Team Member** — a term used within Odebrecht Group's companies, including Braskem, to refer to their employees

**Investment grade** – a rating that indicates low risk of default

Reverse logistics — set of actions, procedures and means designed to enable collection and restitution of solid waste to the corporate sector for reuse in their cycle or other production cycles, or another end or disposal

**Materiality** – relevance, relevant topics

Cap & trade market – an expression used in English, where "cap" means a limit and "trade" business. It is a system composed of different parties – for instance, coun– tries or companies – in which emission quotas (permits or allowances) are defined for each participant, so that the sum of all quotas does not exceed the cap established for the system. The cap is established so as to ensure that the system's total emissions are reduced from one period to the next (for instance, every year of existence of the market). Trade is the exchange of permissions between participants - those who manage to reduce emissions may sell their exceeding permits to those for whom reducing emissions is more expensive than buying permits from others. In other words, this trading scheme allows the desired reduction to be achieved at the lowest possible cost.

Level 1 (Bovespa) — corresponds to one of Bovespa's listing segments. Most commitments to investors made by Level 1 companies refer to providing information that facilitates the follow-up and inspection of the acts of companies' administrations and controllers. Further information on http://www.bmfbovespa.com.br/enus/markets/download/N1-Listing-Regulation-2011.pdf

Level 2 (Bovespa) — among the requirements for listing at Level 2, the most relevant ones are the corporate commitments that ensure greater balance among all shareholders. Further information on http://www.bmfbovespa.com.br/en-us/markets/download/regulamento-niv-el-II-may10.pdf

Offsets — emission credits that can be traded in a cap & trade market. They result from the emission reduction or emissions avoided in accredited areas not covered by the market (for instance, reforestation). These certificates can be used as a means of carbon offsetting by the participants of a cap & trade market who have exceeded their emission limit.

**Onshore** — oil production that occurs on land

**Permits** – authorization to release a certain amount of a controlled substance. They can be traded among the participants of a cap & trade market.

**Green plastic** – term used to identify resins produced by Braskem from a renewable raw material, namely sugarcane.

Montreal Protocol – international treaty whereby signatory countries committed to promote changes in industrial processes, emphasizing the use of technologies that are free of substances responsible for ozone depletion.

**Risk rating (of processes)** – Process safety index established by insurance companies.

**Second generation (petrochemical in-dustry)** – second–generation plants that produce intermediates and thermoplastic resins (PE, PP and PVC).

**Spread** – (profitability) margin

**Stakeholders** – target audience, interested parties, relationship audiences – these are groups with which Braskem maintains some type of relationship as the result of its operations

Tag along — mechanism that gives minority Shareholders that own common shares (entitled to vote) of a company the same rights given to majority Shareholders in the case of sale or transfer of control. Provided for in Brazilian legislation (Corporation Law)

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## **Acronyms**

**ABIQUIM** – Brazilian Association of the Chemical Industry

**ABS** – acrylonitrile butadiene styrene

**ABIPLAST** — Brazilian Association of the Plastics Industry

**ABNT** — Brazilian Association of Technical Standards

**LCA** – Lifecycle Assessment

BM&FBovespa — Stock Market, Commodities and Futures

**CADE –** Administrative Council for Economic Defense

WLT - injury with lost time

**CEBDS** — Brazilian Business Council for Sustainable Development

**CEO** – Chief Executive Officer

**CDP** – Carbon Disclosure Program

**CIPA** — Internal Accident Prevention Commissions

**CEMPRE** — Corporate Commitment to Recycling, a non–profit association dedicated to promoting recycling, with a focus on integrated waste management

**CO**<sub>3</sub> – carbon dioxide gas

CO₂e – carbon dioxide equivalent

**DCX** – Duque de Caxias, a municipality in the state of Rio de Janeiro where one of Braskem's industrial units is located

**EBITDA** — Earnings before interest, taxes, depreciation and amortization

**FISPQs** —Chemical Product Safety Data Sheet (Brazil)

**GHG** – greenhouse gases

**Gj** – gigajoules

**GPS** – Global Product Strategy

**GRI** – Global Reporting Initiative (a network that created a global standard methodology for corporate economic, social and environmental performance reports)

**GVces** – Center for Sustainability Studies of the School of Business Administration of the Getúlio Vargas Foundation

**ICCA** – International Council of Chemical Associations

**Idesa** – a Mexican petrochemical company

**INFRAERO** – Brazilian Airport Infrastructure Company

**IPCC** – Intergovernmental Panel of Climate Change (UN)

**CCI** – Corporate Community Investment

kWh/t - kilowatt-hours per ton

**Kg/t** – kilograms per ton

**LE** – Business Leader

**MSDS** – Material Safety Data Sheet (United States; called FISPQs in Brazil)

**OSHA –** Occupational Safety and Health Administration

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**PA** – Action Program **REIQ** – Special Regime for the Chemical IR - injury rate Industry (Brazil) **PE** – polyethylene **UNESCO** – United Nations Educational, **WOLT** – injury without lost time Scientific and Cultural Organization **HDPE** – high-density polyethylene **SAN** – styrene acrylonitrile **UNIB** – Basic Raw Materials Unit **LDPE** – low-density polyethylene **UNPol** – Polyolefins, Vinyls and Renew-**HESQAS** – Health, Environment, Safety and Quality Assessment System (Brazil) ables Unit (Brazil) **LLDPE** – linear low-density polyethylene **Green PE** – polyethylene produced from **SDS** – Safety Data Sheet (Germany; **UNUSE** – United States and Europe Unit renewable raw material (sugarcane) called FISPQs in Brazil) UTEC - Braskem's own brand of ul-**GDP** – gross domestic product **SEBRAE** – Brazilian Support Service for tra-high molecular weight resin Micro and Small Companies **VPP** – Voluntary Protection Program PLASTIVIDA - Brazilian Social and Envi-**SEMPRE** – Excellence in HES: Braskem's ronmental Institute for Plastics

Health, Environment and Safety management program designed to prevent

and minimize risks as well as personal,

**SENAI – National Industrial Training Ser-**

**HES** – Health, Environment and Safety

**TEO** – Odebrecht Entrepreneurial Tech-

environmental and material losses.

vice (Brazil)

nology

**PNRS** – Brazilian National Solid Waste

**PRONATEC** — Vocational Education Access and Employment Program (Brazil)

**REACH** – Register Evaluation Authoriza-

tion and Restriction of Chemicals

Policy

**PP** – polypropylene

PVC - polyvinyl chloride

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# Corporate information

Addresses and contact information for Braskem commercial and industrial units.

#### **BRAZIL**

#### **SOUTHEAST**

#### **UNIB 3 CK ABC**

Avenida Presidente Costa e Silva, 1178, Pq. Capuava — Santo André, SP, CEP: 09270–901 Phone: 55 11 4478–1515

#### **UNIB 3 IN ABC**

Rua da União, 765, Jardim Sonia Maria — Mauá, SP, CEP: 09380-900 Phone: 55 11 4977-2020

#### UN PE 7 ABC

Avenida Presidente Costa e Silva, 400, Pq. Capuava — Santo André, SP, CEP: 09270–000 Phone: 55 11 4478–4000

#### **UN PP 4 ABC**

Avenida Ayrton Senna da Silva, 2700, Jardim Oratório — Mauá, SP, CEP: 09380–901 Phone: 55 11 3583–2200

#### **UN PE 8 CUB**

Rodovia Cônego Domenico Rangoni – SP 055, s/n – Km 266 – Pista Oeste – Cubatão, SP, CEP: 11573–903 Phone: 55 13 3362–9000 / Fax: 55 13 3362–9004

#### UNIB 4 and PE 9 DCX

Rua Marumbi, 1001, Campos Elíseos — Duque de Caxias, RJ, CEP: 25221–000 Phone: 55 21 2187–8883

#### UN PP 5 DCX

Rua Marumbi, 1400, Campos Elíseos – Duque de Caxias, RJ, CEP: 25221–000 Phone: 55 21 2173–4100

#### **UN PP 3 PLN**

Avenida Wagner Samara, 1280, Bairro Cascata – Paulínia, SP, CEP: 13140-000 Phone: 55 19 3344-6700

#### RJ Office

Rua Buenos Aires, 15, 9° e 10° andar, Edifício Buenos Aires Corporate, Rio de Janeiro, RJ, CEP: 20061–002 Phone: 55 21 2157–7760 / Fax: 55 21 2157–7719

#### SP Office — Head Office

Rua Lemos Monteiro, 120, Edifício Odebrecht São Paulo – Butantã, CEP: 05501–050 – São Paulo, SP Brasil Phone: 55 11 3576–9000 / Fax: 55 11 3576–9073

#### SP Office – Villa Lobos

Avenida das Nações Unidas, 4.777, 10° andar, Edifício Villa Lobos, Pinheiros, São Paulo, CEP: 05477–000 Phone: 55 11 3576–9000

#### SOUTH

#### PP1RS

BR 386 KM 419 – III Polo Petroquímico, Via Oeste – Lote 5, Triunfo, RS, CEP: 95853–000

#### **UNIB 2 RS**

BR 386, Rod. Tabaí/Canoas, km 419, Via de Contorno 850, Triunfo, RS, CEP: 95853-000

#### PP 2 / PE 5 RS

BR 386 KM 419 Lote 4, Polo Petroquímico do Sul, Triunfo, RS, CEP: 95853-000

#### PE 4 RS

BR 386 – Rodovia Tabaí/Canoas – Km 419, Via de Contorno, 1216 – Polo Petroquímico, Triunfo, RS, CEP: 95853–000

#### PE 5 RS

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**Appendices** 

# Braskern

# Sustainability in the production chain - ethanol suppliers

Contractual ethanol suppliers, who are responsible for over 90% of Braskem's purchases, are monitored with the aim of ensuring green polyethylene has a guarantee of origin in accordance with socio-environmental best practices, which strengthens the commitment to sustainability in the sugar and alcohol industry and ensures that Braskem's ant its Clients' expectations are met. Below is the management process of contractual ethanol suppliers.

#### **SELECTION OF NEW SUPPLIERS**

Braskem's Code of Conduct for Ethanol Suppliers is sent to potential suppliers and discussed in negotiation meetings. An assessment of suppliers' working capacity is carried out as part of a selection process through questions about their management and collection of supporting documentation.

#### **REGISTRATION AND RENEWAL**

During the negotiation of contract terms, the reputation, financial standing, and tax and labor situation of the new supplier are evaluated through documentation and verification of their status on the Government's "black lists". Once approved, the suppliers are registered on Braskem's supplier base and proceed to contracting stage. Registers are periodically renewed, with a document review undertaken on a sampling basis. The register will be blocked if the supplier remains inactive for a definite period.

#### CONTRACTING

The contract, which embodies commitment to the Code of Conduct for Ethanol Suppliers, is signed between the supplier and Braskem, which begins to place purchase orders based on this document.

#### **REGULAR AUDITS AT** CONTRACTED COMPANIES

Suppliers are periodically audited by a third party in order to evaluate their alignment to the requirements of the Code of Conduct. Audits reSoutht in action plans developed to address non-conformities (NCs) and to communicate them to Braskem. Cases of non-conformity that have not been mitigated or improved within the expected deadline may reSoutht in the termination of supply to the plant concerned.

Learn more about the Audit Program below. Audit Program:

#### 1st phase - Selection

Plants that supplied 80% of the volume purchased over the two previous years must have valid audits (each audit is usually valid for a period of two years, which may be reduced to one– year period in case of severe non–conformities or the recurrence of critical issues).

#### 3rd phase – Assessment and approval

Independent auditors visit selected plants and carry out the procedures set forth in a standard check list that includes the Code of Conduct requirements. Verifications include interviews with managers and employees, review of supporting documentation and compliance with working conditions. Any non-conformity (NC) including very critical items is immediately communicated to Braskem that gives notice to the supplier's executive in charge and requests an immediate correction. The supply can be suspended until the issue is settled.

#### 3º etapa – Avaliação e aprovação

An individual meeting is held with each supplier to discuss audit reSouthts. The plant is approved if no NC is found or once a Corrective Action Plans (CAPs) for NCs have been agreed with deadlines for solutions defined according to the severity of the matter. If a CAP is not fulfilled or renegotiated within the agreed deadline, a suspension of the plant's accreditation is considered.

#### 4th phase – Verification of CAPs

The fulfillment of CAPs is checked at the next audit of the plant. The Code of Conduct for Ethanol Suppliers has 37 requirements, which are classified, for audit and follow-up purposes, as follows:

	Level of criticality									
Year	Number of requirements	Expected deadline for solution of NCs								
1 – very critical	8	immediate (up to 1 month)								
2 – critical	9	short (up to 6 months)								
3 – moderate	12	medium (up to 1 year)								
4 – low	8	long (up to 2 years)								

# New hires and turnover

GRI G4-LA1

	New hires in 2014											
Country	Men							Women			Totals	
	Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	TOTAL	Total rate
Brazil	237	173	8	418	8.05%	137	52	2	191	12.91%	609	9.13%
US	20	37	1	58	10.68%	6	8	1	15	12%	73	10.93%
Germany	4	6	1	11	10.19%	0	3	2	5	9.26%	16	9.88%
Mexico	13	38	6	57	11.95%	10	22	1	33	29.73%	90	15.31%
International offices	0	1	0	1		1	0	0	1	5.56%	2	5.26%
Total	274	255	16	545	8.6%	154	85	6	245	13.7%	790	9.72%

#### Turnover in 2014 Country Men Women Totals Younger than 30 From 30 to 50 Younger than 30 From 30 to 50 TOTAL Total rate 68 9.94% Brazil 206 219 46 102 22 663 US 18 6.59% 7 5 44 12 1 1 Germany 0 3 0 7.41% 1 Mexico 5 15 5.27% 5 2 4 0 International offices 0 1 0 0 0 0 2.63% 50 23 80 247 237 564 114 Total 8.90% 10.46% 751 9.24%

#### New hires in 2013

Country	y Region Men						Women					Totais	
		Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	TOTAL	Total Rate
	South	59	35	2	96	6.6%	21	6	0	27	8.6%	123	6.9%
Brazil	Southeast	69	75	4	148	8.5%	53	40	2	95	15.8%	243	10.4%
DI dZII	Northeast	56	54	5	115	6.0%	25	17	0	42	9.7%	157	6.7%
	Sub-total	184	164	11	359	7.0%	99	63	2	164	12.2%	523	8.1%
	US	20	25	3	48	9.4%	10	11	3	24	21.1%	72	11.6%
	Germany	7	9	0	16	14.8%	4	10	0	14	23.3%	30	17.9%
	Mexico	200	154	2	356	80.9%	47	21	0	68	81.0%	424	80.9%
	Total Global*	411	352	16	779	12.6%	160	105	5	270	16.8%	1049	13.5%

<sup>\*</sup> the data exclude international sales offices and quantiQ.

#### Turnover in 2013

Country	Region	Men					Women					Totals	
		Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	Younger than 30	From 30 to 50	Over 50	Subtotal	Rate	TOTAL	Total Rate
	South	15	31	60	106	7.3%	11	9	3	23	7.3%	129	7.3%
Brazil	Southeast	25	88	57	170	9.8%	28	52	3	83	13.8%	253	10.8%
DI dZII	Northeast	16	75	64	155	8.1%	11	17	2	30	6.9%	185	7.9%
	Sub-total	56	194	181	431	8.4%	50	78	8	136	10.1%	567	8.8%
	US	19	11	11	41	8.0%	1	4	4	9	7.9%	50	8.1%
	Germany	4	0	0	4	3.7%	1	3	0	4	6.7%	8	4.8%
	Mexico	6	0	0	6	1.4%	2	0	0	2	2.4%	8	1.5%
	Total Global*	85	205	192	482	7.8%	54	85	12	151	9.4%	633	8.2%

<sup>\*</sup> the data exclude international sales offices and quantiQ.

#### New hires in 2012

Country	Region		Mer	1		Women				
		Younger than 30	From 30 to 50	Over 50	Subtotal	Younger than 30	From 30 to 50	Over 50	Subtotal	TOTAL
	South	30	8	0	38	81	25	2	108	146
Brazil	Southeast	69	43	0	112	63	72	5	140	252
Diazii	Northeast	45	14	0	59	51	60	4	115	174
	Sub-total	144	65	0	209	195	157	11	363	572
	Texas	0	0	2	2	2	4	0	6	8
US	Pennsylvania	7	12	1	20	14	27	11	52	72
03	West Virginia	0	0	0	0	3	5	2	10	10
	Total	7	12	3	22	19	36	13	68	90
	Germany	8	17	0	25	4	11	0	15	40
Total Te	am Members	159	94	3	256	218	204	24	446	702

#### Turnover in 2012

Country	Region	Men	Women
	South	77	23
D 'I	Southeast	155	59
Brazil	Northeast	120	32
	Sub-total	352	114
	US	2	1
	Germany	1	0
Total Te	eam Members	355	115

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# Discharge of **Effluents**

GRI G4-EN22

		Tota	ıl water discharge, by qua	lity and destination – Braz	il 2013	
Location	Destination of effluent	Volume of effluent discharges (m³/year)	Treatment method	Biochemical oxygen demand* (kg/year)	Total suspended solids* (kg/year)	Other significant quality parameters* (kg/ year)
Brazil						
Rio de Janeiro	Coelho Canal	676,405	Biological	52,615	43,278	NA <sup>(1)</sup>
Bahia	Cetrel – External Waste- water Treatment Plant	8,039,242	Pretreatment with water and oil separators and biological treatment at CETREL	879,526	169,808	0.12 kg of Hg in CS 2 and 1,102 kg of EDC 37,150 kg of Oils and Greases in PVC 1
Alagoas	Ocean	4,267,463	Neutralization / Aerobic process (activated sludge)	8	55	NA <sup>(1)</sup>
Rio Grande do Sul	SITEL – External Wastewater Treatment Plant	3,094,638	Pretreatment with water and oil separators and primary, secondary (biological) and tertiary treatment at SITEL	594,579	476,184	DQO at UNIB 2 RS: 1,510,508 kg
	Ponte Funda Creek	98,529	Sent for external treatment	NA <sup>(1)</sup>		
São Paulo	Perequê River	321,100	Water and oil separator and primary treatment by decantation and filtering	27	0	NA <sup>(1)</sup>
	Tamanduateí River	2,036,312	Conventional Primary and physical, physical–chemical and biological	33,948	492	Oils and greases in UNIB 3 CK and IN, respectively: 26,941 kg and 161 kg

<sup>\*</sup> Generation of liquid effluents at the UNIB1(Bahia) plant presented an increase in cooling tower drainage due to the impact of the quality of reused water.

<sup>1 -</sup> NA: data not available as it is not a legal requirement;

Total water discharge, by quality and destination – U.S. and Germany 2013									
Location	Destination of effluent	Volume of effluent discharges (m³/year)	Treatment method	Biochemical oxygen demand* (kg/year)	Total suspended solids* (kg/year)	Other significant quality parameters*(kg/ year)			
US									
La Porte	Houston navigation cana	175,216	Primary treatment and coloration	NR <sup>(1)</sup>					
Marcus Hook	Delaware River via POTW	243,489	Primary treatment, biological and coloration	<10mg/L	<10mg/L	NR <sup>(1)</sup>			
Neal	Big Sandy River	399,120	Primary treatment and coloration	8.3 mg/L	17.8 mg/L	NR <sup>(1)</sup>			
Seadrift	Victoria Barge Canal	308,275	External treatment	NR <sup>(1)</sup>					
Oyster Creek	Oyster Creek	108,956	External treatment	NR <sup>(1)</sup>					
Germany									
Schkopau	Rio Saale	73,759	External treatment	NR <sup>(1)</sup>					
Wesseling	Rio Rhine	112,538	Primary and biological treat- ment	17 mg/L	NR <sup>(1)</sup>				

<sup>\*</sup> Generation of liquid effluents at the UNIB 1 (Bahia) plant presented an increase in cooling tower drainage due to the impact of the quality of reused water. 1 – NR: parameters not reported since they are insignificant.

#### Total water discharge, by quality and destination – Brazil 2012

Location	Destination of effluent	Volume of effluent discharges (m³/year)	Treatment method	Biochemical oxygen demand (kg/year)	Total suspended solids (kg/year)	Other significant quality parameters*(kg/ year)	
Brazil							
Rio de Janeiro	Coelho Canal	709,449	Biological	7,350	71	Not available	
	Biological Treatment Plant UNIB4	76,626	BIOX / biological treatment	Not available			
Bahia	Cetrel Wastewater Treatment Plant	6,309,717	Biological treatment pretreatment with water and oil separators	931,759	213,816	1.91 mercury 1,910,000 chloride 12,922 dichloroethane 40,090 oils and fatsphosphate, zinc, chrome, cyclohexane and methylene chloride (data not available)	
Alagoas	Ocean	3,681,672	Neutralization / Aerobic Process (activated sludge)	831,294	305,211	Not available	
Rio Grande do Sul	SITEL – External Waste– water Treatment Plant	1,034,008	Stabilization ponds	1,758	26,884	1,272 oils and fats	
São Paulo	ETE REPLAN	878	Not available				
	Perequê River	94,827	Primary	9,231	51	Not available	
	Tamanduateí River**	8,761,353	Physical, physicalchemical and biological	316,477	1,293	3,155 oils and fats	

<sup>\*</sup>Partial data. Since 2012 was the first year this indicator was collected, it was not possible to obtain complete data for all quality indicators at all industrial plants. It was also not possible to collect data for the units in the USA and Germany.

<sup>\*\*</sup> In preparation for the change in wastewater classification at the polyethylene and basic petrochemicals plants in the ABC region of Greater São Paulo, improvements were made to the wastewater measurements systems in 2012. Improvements in the treatment systems were found to be necessary to ensure compliance with the regulations applicable as of 2013. These improvements began to be implemented in 2012.