

 Braskem

Annual Report 2013



# CONTENT

<b><u>INTRODUCTION</u></b>	<b><u>5</u></b>	<b><u>SOCIAL DEVELOPMENT</u></b>	<b><u>77</u></b>
<u>ODEBRECHT ENTREPRENEURIAL TECHNOLOGY</u>	<u>6</u>	<u>TEAM MEMBERS</u>	<u>78</u>
<u>MESSAGE FROM THE BUSINESS LEADER</u>	<u>8</u>	<u>SUPPLIERS</u>	<u>84</u>
<u>SUSTAINABILITY STRATEGY</u>	<u>10</u>	<u>COMMUNITIES</u>	<u>88</u>
<b><u>PROFILE</u></b>	<b><u>19</u></b>	<u>GOVERNMENT</u>	<u>92</u>
<u>GLOBAL COMPANY</u>	<u>20</u>	<b><u>HEALTH, ENVIRONMENT AND SAFETY MANAGEMENT</u></b>	<b><u>95</u></b>
<u>THE PETROCHEMICAL INDUSTRY</u>	<u>24</u>	<u>HEALTH, ENVIRONMENT AND SAFETY HIGHLIGHTS</u>	<u>96</u>
<u>CORPORATE GOVERNANCE</u>	<u>26</u>	<u>WORKPLACE HEALTH AND SAFETY</u>	<u>98</u>
<u>COLLABORATIVE INITIATIVES AND VOLUNTARY COMMITMENTS</u>	<u>32</u>	<u>CHEMICAL SAFETY</u>	<u>104</u>
<u>DISTINCTIONS</u>	<u>36</u>	<u>PRODUCT RESPONSIBILITY</u>	<u>104</u>
<b><u>GROWTH STRATEGY</u></b>	<b><u>39</u></b>	<u>ENVIRONMENT</u>	<u>106</u>
<u>BUSINESS AGENDA</u>	<u>40</u>	<b><u>ABOUT THE REPORT</u></b>	<b><u>125</u></b>
<u>STRATEGIC OBJECTIVES</u>	<u>42</u>	<u>ABOUT THE REPORT</u>	<u>126</u>
<u>STRENGTHENING THE PRODUCTION CHAIN</u>	<u>44</u>	<u>KEY INDICATORS 2013</u>	<u>127</u>
<u>SOLUTIONS FOR CLIENTS</u>	<u>46</u>	<u>SUSTAINABLE DEVELOPMENT MACRO OBJECTIVES</u>	<u>128</u>
<u>BRASKEM-IDESA</u>	<u>50</u>	<u>GRI G4 CONTENT INDEX</u>	<u>134</u>
<u>OPPORTUNITIES IN THE USA</u>	<u>52</u>	<u>CORRELATION WITH THE GLOBAL COMPACT</u>	<u>146</u>
<u>COMPERJ</u>	<u>53</u>	<u>LIMITED ASSURANCE REPORT ISSUED BY INDEPENDENT AUDITORS</u>	<u>148</u>
<u>RENEWABLES</u>	<u>54</u>	<u>CORPORATE INFORMATION</u>	<u>150</u>
<u>INNOVATION</u>	<u>56</u>	<u>CREDITS</u>	<u>152</u>
<b><u>ECONOMIC AND FINANCIAL PERFORMANCE</u></b>	<b><u>59</u></b>	<u>GLOSSARY</u>	<u>153</u>
<u>FINANCIAL RESULTS</u>	<u>60</u>	<u>ACRONYMS</u>	<u>154</u>
<u>INVESTMENTS</u>	<u>64</u>	<b><u>APPENDICES</u></b>	<b><u>157</u></b>
<u>OPERATING PERFORMANCE</u>	<u>66</u>		



 Braskem



## INTRODUCTION

G4-3

In this Annual Report, Braskem S.A. presents the challenges and results achieved by its teams in 2013. The document is also available as an application for tablets and in a PDF version. The printed version offers a summary of the year's highlights.

# ODEBRECHT ENTREPRENEURIAL TECHNOLOGY

G4-56

TEO – Odebrecht Entrepreneurial Technology – is the set of beliefs and practices adopted by the Odebrecht Group. It is philosophical concepts made up of principles, concepts and criteria that arose from the practices of the founder of the Organization, Norberto Odebrecht. The concepts have been standardized to ensure the unity of thought and consistency of action of those who take part in the various businesses, countries and cultural contexts in which the Organization operates. In this way, it is possible to meet Clients' needs, add value to shareholder equity, reinvest the achieved results and grow on different fronts while generating wealth.

The essence of TEO is in the spirit of service: to serve with humility, discipline and hard work, to win over Clients and to establish a trusting relationship with them.

To learn more, go to

[www.braskem.com.br/site.aspx/Principles-and-Values-USA](http://www.braskem.com.br/site.aspx/Principles-and-Values-USA)

[www.odebrecht.com.br/en/odebrecht-organization/teo-business-culture](http://www.odebrecht.com.br/en/odebrecht-organization/teo-business-culture)

## TEO PORTAL

In 2013 Braskem developed the TEO Portal, accessible to Team Members through the corporate intranet. The portal contains articles, videos, references to TEO books, remote learning and links to other Odebrecht sites, and supports Team Members in their understanding of the philosophical concepts of the Odebrecht Entrepreneurial Technology.







**CARLOS FADIGAS**  
Business Leader

The results achieved by Braskem in 2013 show improvement in the implementation of our corporate strategy, based on seeking new opportunities to better serve our Clients, from two perspectives: an increase in competitiveness along the entire production chain, and the continuity of the process of growth and internationalization of our operations, with a current focus on the Americas.

## MESSAGE FROM THE BUSINESS LEADER

### G4-1

The results achieved by Braskem in 2013 show improvement in the implementation of our corporate strategy, based on seeking new opportunities to better serve our Clients, from two perspectives: an increase in competitiveness along the entire production chain both in petrochemicals and plastics, and the continuity of the process of growth and internationalization of our operations, with a current focus, on the Americas.

The year 2013 has proven to be challenging due to the slow recovery of global markets, which has impacted the Brazilian economy. The consumption of thermoplastic resins grew by 8% compared to 2012, driven by sectors such as food, automotive, infrastructure and agribusiness. However, the country finished the period with a 2.3% rise in GDP, below that of most emerging economies.

Although the chemical industry recorded a new record trade deficit of US\$ 32 billion, the Brazilian government's decision to eliminate PIS (Social Integration Program) and Cofins (Social Security Financing Contribution) taxes on the purchase of raw materials for the first and second generation petrochemical industry had a positive impact on the industry. Implemented in May, the measure contributed to a partial recovery of the competitiveness lost during the past few years due to issues relating to the cost of raw materials, energy, infrastructure, as well as an exchange rate gap.

In line with its commitment to strengthen the plastic transformation industry in Brazil, Braskem structured the Incentive Plan for the Plastic Chain (PIC), with the goal of having the Company contribute up to R\$ 80 million in 2014. These resources are targeted to initiatives that support our Clients, and include a stimulus for the export of plastic manufactured goods, incentives for innovation, support for training of operations and management professionals to improve competitiveness and, in general, to promote the advantages of plastic.

In 2013, Braskem promoted internal programs designed to improve operational efficiency, investments in technology and innovation, and noteworthy advances such as record production of ethene at 3.4 million tons and of polyethylene at 2.6 million tons. It should



also be noted that the performance of the International Business Unit, represented by operations in the United States and Europe, registered an average operation rate of 91%, an increase of 2% compared to 2012. In terms of workplace safety, which is a priority for the company, the injury rate with and without lost time, which includes both Team Members and subcontractors, remained at 1.04 accidents per million hours worked, a continuation of the good performance achieved in 2012.

EBITDA reached R\$ 4.8 billion, an increase of 22% over 2012. The growth in dollars was 11% compared to the previous year, reaching 2.2 billion US dollars. Among the factors contributing to these results are the recovery of margins in resins and basic petrochemicals in the international market, a 6% increase in the volume of sales of thermoplastic resins to the Brazilian market, totaling 3.7 million tons, and a 3% increase in sales of polypropylene by the International Business Unit, totaling 1.8 million tons of product, in addition to the tax relief on raw materials on the domestic front.

The net profit of R\$ 507 million earned during 2013, reflected an all-time best operating performance for the Company along with the adoption, starting May 1, of hedge accounting, allowing for better reporting of the effects of exchange rate fluctuation on the Company's debt and profit/loss figures.

In line with the strategy of internationalization and access to competitive raw materials, the Braskem Idesa project for the production of polyethylene in Mexico, projected to begin operations in 2015, achieved 58% of its physical construction plan by the end of 2013. The Client relations agenda has intensified through pre-marketing activities. In addition, in the United States, analysis has begun regarding participation in a new project for polyethylene production, known as Ascent, with the possibility of taking advantage of competitive American shale gas. In Brazil, studies continued for Comperj, a petrochemical project based on natural gas extracted from pre-salt reserves, which seeks to competitively meet the growing demand for resins on the domestic market. In December, Braskem came to an agreement – still subject to the approval of

regulatory authorities – for the acquisition of a controlling interest in Solvay Indupa, which owns four PVC and soda production plants in Brazil and Argentina, which would expand the Company's PVC production capacity by 42% and its soda capacity by more than 60%.

With regard to Sustainable Development, Braskem, as a signatory of the UN Global Pact, achieved significant advances and distinctions. In 2013, the Company reached the top of the Carbon Disclosure Project, index, as the best Brazilian company in carbon management, and with an excellent level of transparency. Once again, the company reaffirmed its position in the Corporate Sustainability Index (ISE) of the PM&F Bovespa stock exchange and the Dow Jones Sustainability Index (DJSI) for Emerging Markets of the New York Stock Exchange. In addition to being recognized in domestic financial publications, the company's production of resins from renewable raw materials was recognized at the start of 2014 by the United States magazine *Fast Company*, which ranked Braskem as one of the top 50 most innovative companies in the world. Braskem was the only Brazilian company listed.

Braskem's results demonstrate our teams' willingness to confront and overcome challenges, thus rewarding the confidence placed in us by our Shareholders, especially Odebrecht and Petrobras, and by our Clients. We work together with the objective of reaching ever-higher plateaus in the financial, social and environmental fields, as determining factors for the Survival, Growth and Perpetuity of the Company. Based on its belief that plastics and chemistry help to make a better life, Braskem carries out its business with an eye to the future, ever seeking to better serve its Clients, to continue to grow and to generate wealth that can be shared by all.



## SUSTAINABILITY STRATEGY

G4-18 | G4-19 | G4-20

This report covers topics related to the Company's contribution to sustainable development, as set out in its sustainability strategy, as well as the challenges encountered in 2013 from this perspective.

In 2010 and 2011, the strategy reflected the results of interviews held in 2009 with Braskem Leaders and with eight stakeholder groups in the Brazilian states where the Company does business: Shareholders, Clients, Team Members, Suppliers, Academia, Government, Financiers and Local Communities.

Since Braskem's profile has evolved over the last few years as a result of the expansion of its operations, a new and more comprehensive stakeholder consultation process was carried out in the first half of 2013, to rectify and ratify the Company's 2020 sustainable development strategy.

## SCOPE OF THE PROCESS

- Consultation with the executive management of Braskem, by means of 35 interviews.
- Consultations with internal stakeholders: In Brazil, three workshops were held, with the participation of Team Members from São Paulo (ABC region and corporate headquarters), and Camaçari (Bahia); in the United States, Team Members participated in the local workshop, which brought together internal and external stakeholders.
- Consultations with external stakeholders: five workshops were held, in Maceió, Porto Alegre, Salvador, São Paulo and Philadelphia. In addition to the workshops, six interviews were held with strategic stakeholders for the Braskem-Idesa project in Mexico, which included one representative from the Inter-American Development Bank (IDB), one from the International Finance Corporation (IFC), three representatives of regional and local environmental authorities, two from Government and two leaders from communities neighboring the petrochemical complex being built in the country.



## ONLINE SURVEY: MOTIVATION FOR ACTION

In addition to consulting Braskem's stakeholders on which sustainable development issues are most relevant to the Company's activities, the online survey also asked if the Company should strengthen its contribution in this field. These results are shown in the chart below:

### SURVEY FINDINGS

ANSWERS TO THE QUESTION "SHOULD BRASKEM INCREASE ITS CONTRIBUTION TO SUSTAINABLE DEVELOPMENT? IF SO, WHY?"

**20.5%**

Yes, it should because society will demand it, and as such, it will be necessary for the company's survival.

**1.7%**

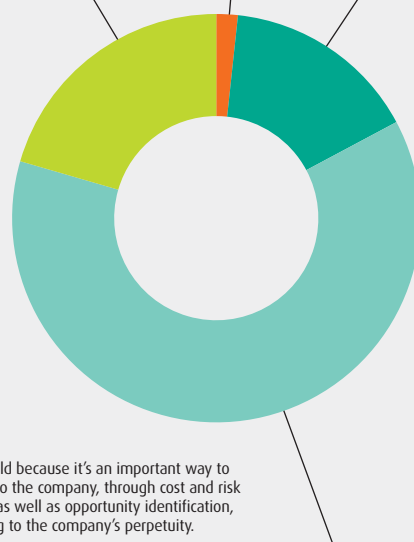
It wouldn't be necessary as the company already does enough.

**15.5%**

Yes, it should because the company will benefit from the improvement in its intangible assets, such as its image and reputation.

**62.3%**

Yes, it should because it's an important way to add value to the company, through cost and risk reduction, as well as opportunity identification, contributing to the company's perpetuity.



- An online survey taken by Braskem Leaders and Team Members, Clients, Suppliers, Local Communities, Academia, Government, trend setters (media, NGOs and trade associations) and the general public. 2,001 responses were received.
- Consolidation of the results of the consultations to determine the level of importance to stakeholders of each aspect. The magnitude of Braskem's impact and its level of control over each aspect were also evaluated. Based on this data, the Company's sustainable development strategy for the 2013 - 2020 period was rectified and approved with the Leadership of the Company's Business and Support Units.



## STAKEHOLDERS

G4-24 | G4-25

Braskem interacts with its stakeholders in many different ways, maintaining streamlined and transparent channels of communication.

The definition of the categories of stakeholders involved in the process was carried out following guidelines defined by Braskem for monitoring the Company's reputation. Several representatives from each category were invited to participate. In order to define these invitations, contact lists from Team Members who have relationships with each group were used as a reference. The online survey was sent to the Company's contacts and announced on social media, which allowed the involvement of the general public.

## STAKEHOLDER MAP

### CATEGORIES OF BRASKEM'S STAKEHOLDERS

### Types of Engagement

G4-26

INFLUENCING PARTIES	<b>STRATEGIC-POLITICAL:</b> TRADE UNIONS, REGULATORY AGENCIES, CLASS ENTITIES, EXECUTIVE BRANCH, LEGISLATIVE BRANCH, PUBLIC PROSECUTOR'S OFFICE, ENVIRONMENTAL AGENCIES, PUBLIC/REGIONAL OPINION, NGOS, FINANCIAL MARKET ANALYSTS AND AUDITORS.	Meetings, Reputation Survey*.
	<b>SECTORIAL:</b> COMPETITORS, SECTOR-SPECIFIC TRADE ASSOCIATIONS.	Sector fairs, Participation in sector-specific meetings.
	<b>MEDIA:</b> COLUMNIST PRESS, TRADE PRESS, GENERAL PRESS, SOCIAL NETWORKS/VIRTUAL ENVIRONMENT.	Press releases, Meetings, Interviews, Reputation Surveys*.
	<b>ACADEMIA</b> RESEARCH CENTERS, SCHOOLS, RESEARCHERS, UNIVERSITIES AND VOCATIONAL SCHOOLS.	Meetings, Reputation Survey*, and Partnership projects.
FACILITATORS	<b>SUPPLIERS:</b> RAW MATERIALS, PETROBRAS, INDIRECT MATERIALS, SERVICES AND TECHNOLOGY.	Meetings, E-mails, Internet channel with exclusive access, and Reputation Survey*.
	<b>FINANCIAL MARKET:</b> CONTROLLING SHAREHOLDER, MINORITY SHAREHOLDERS, BOARD OF DIRECTORS, FINANCIAL INSTITUTIONS, DEBT PROVIDER AND BANKS.	Meetings, "Investor Relations" Website, Reports, and Results conferences calls.
	<b>TEAM MEMBERS:</b> TEAM MEMBERS AND CONTRACTORS.	E-mails, Internal Campaigns, Newsletters, Safety Dialogs, Destaque Award, Intranet, Reputation Survey*, Work Environment Survey (every two years), and Communication Survey (every two years).
IMPACTED PARTIES	<b>NEIGHBORING COMMUNITIES:</b> RESIDENTS, LOCAL LEADERS AND PROJECT PARTNERS.	Projects, Direct relationships with local representatives of the Institutional Relations team, and Reputation Survey*.
BENEFICIARIES	<b>SOCIETY:</b> CLASS ABC 18+ / NATIONAL, FAMILIES OF TEAM MEMBERS.	Reputation Survey*.
	<b>CLIENTS:</b> CLIENTS OF OUR CLIENTS, END CONSUMERS, DISTRIBUTORS, CLIENTS OF OUR BUSINESS UNITS (BASIC PETROCHEMICALS, POLYMERS, VINYLs AND INTERNATIONAL UNITS).	Meetings, Visits to installations, Technical and relationship events, Sector fairs, Sponsorships, Internet channel with exclusive access, Commercial support by Account Managers, Technical development roadmap and Reputation Survey*.

\* The Reputation Survey has been carried out every year since 2009, with the support of the Reputation Institute. The program includes a Corporate Image and Reputation Management Committee, with the participation of representatives from all areas of the Company, who are tasked with discussing the main risks and opportunities arising from the process of strengthening confidence amongst Braskem's Stakeholders.

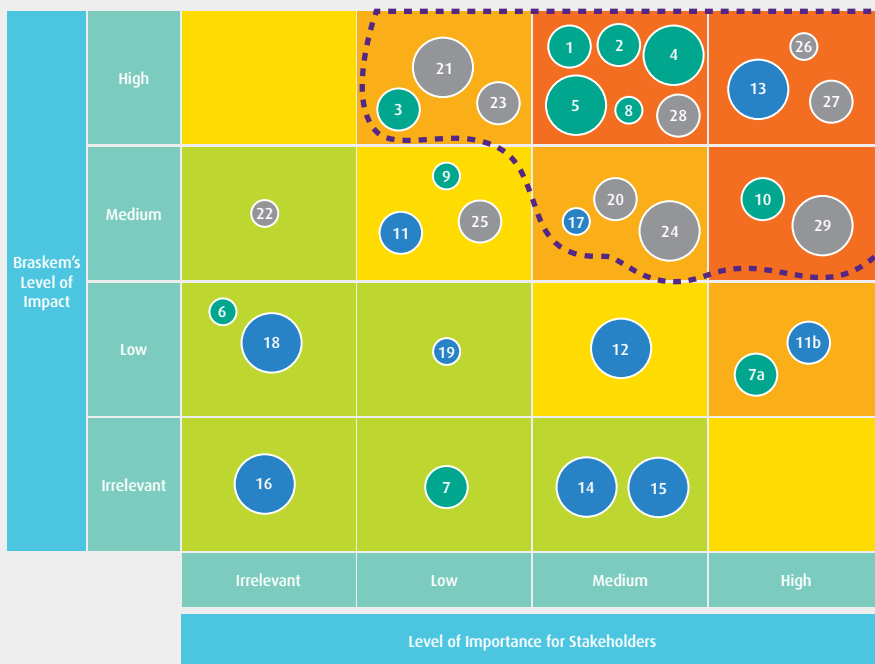
## MATERIALITY MATRIX

G4-27

Braskem's materiality matrix, which sets out the most relevant issues for Braskem to strengthen its contribution to sustainable development (covered by this annual report), represents the result of the extensive consultation process carried out in 2013. The aspects\* set out in the Global Reporting Initiative (GRI) Reporting Guidelines (versions G3.1 and G4) were used as the basis for the consultation. 17 aspects were found to be material, and 10 Macro Objectives were defined to cover these aspects and ensure a proactive approach by the Company.

\*Some GRI aspects were consolidated and others were broken down to improve the quality of analysis – for example, the Effluents and waste, and Emissions aspects were broken down because they were issues on which Braskem has a significant impact; the aspects of Communication and Marketing were consolidated because of the fact that Braskem is a company that does not sell directly to the public. The aspects referring to Legal Compliance were not included in the consultation since the Company does not consider them 'optional' and their levels of material importance for reporting are equal to the level of material importance of the issue to which they refer. The aspect of Indigenous rights was not included because there are no indications that the Braskem chain has any interaction with those Communities.

### MATERIAL IMPORTANCE MATRIX



#### 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) 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

#### MATERIALITY

CRITICAL

HIGH

MODERATE

LOW

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



#### MATERIAL ASPECTS

To learn more, visit:

<http://www.braskem.com/site.aspx/sustainabilitymateriality>





## **MACRO OBJECTIVES** **FOR SUSTAINABLE DEVELOPMENT**

The ten macro objectives relate transversally to the three pillars of Braskem's sustainability strategy: (i) increasingly sustainable processes and resources; (ii) increasingly sustainable portfolio of products; and (iii) solutions for society to have an increasingly sustainable lifestyle.

Some of these macro objectives were already part of Braskem's sustainable development strategy. The most significant changes from the previous version were that economic and financial matters, previously considered separately, were included, and Development of Solutions and Strengthening of Practices, which were previously transversal, were made into explicit objectives. It is believed that

this will allow these issues to be better articulated in the strategy. Also of note is that the issue previously addressed as 'People' has now been further defined as Local Development, since the materiality analysis indicated that this was the aspect in which Braskem's contribution would be most significant.

To communicate the new macro objectives and encourage all areas of the Company to develop related goals, the Leaders' Workshop for Sustainable Development was created, consisting of a one-day peer-led training session. Thirty Team Members were trained to be facilitators and the first Leaders' Workshop was carried out in 2013. In 2014 all of the Leaders will be invited to participate.



MACRO OBJECTIVES AND 2020 GOALS	MATERIAL ASPECTS	
<p><b>SAFETY</b> Be recognized as a reference in chemical, labor and process safety in the global chemical industry.</p>	<p>4. Air 5. Waste</p> <p>13. Health and safety 17. Safe use of Braskem's products</p>	<p>Environmental Social Economy and Governance</p>
<p><b>ECONOMIC AND FINANCIAL RESULTS</b> Be among the three largest producers of thermoplastic resins in the world and guarantee profitability that will sustain the perpetuity of the business, retaining the classification of Investment Grade. Additional details can be found in Growth strategy / Strategic objectives.</p>	<p>20. Economic performance</p>	
<p><b>POST CONSUMPTION</b> Be recognized as an important agent that contributes to the recycling of plastics.</p>	<p>8. Post consumption 20. Economic performance</p>	
<p><b>RENEWABLE RESOURCES</b> Be recognized as a leader in the manufacture of chemical products and thermoplastic resins from renewable raw materials and remain as the largest producer in the world of thermoplastic resins from renewable sources.</p>	<p>1. Non-renewable resources</p>	
<p><b>WATER EFFICIENCY</b> Continue to be a reference in the use of water resources in the global chemical industry.</p>	<p>2. Water</p>	
<p><b>CLIMATE CHANGE</b> Be among the best large chemical companies in the world in terms of greenhouse gas emissions (GHG) intensity and a major sequestrator of GHG emissions, as a result of the use of renewable raw materials.</p>	<p>3. Climate change and energy</p>	
<p><b>ENERGY EFFICIENCY</b> Be among the world's best large chemical companies in terms of energy consumption intensity and a major user of renewable energy.</p>	<p>3. Climate change and energy</p>	
<p><b>LOCAL DEVELOPMENT</b> 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).</p>	<p>21. Community investments and relationships 23. Local suppliers 28. Labor from local communities</p>	
<p><b>DEVELOPMENT OF SOLUTIONS</b> Be recognized as a company that supports its Clients in the development of environmental and social solutions; contribute to the perception of plastic as a solution to sustainable development due to its potential to improve people's lives.</p>	<p>10. Product development – environmental 27. Product development – social</p>	
<p><b>STRENGTHENING OF PRACTICES</b> Be recognized as a business leader in Brazil, as well as a global industry leader, for our contribution to sustainable development.</p>	<p>24. Free competition 26. Contribution to public policy 29. Transparency and integrity</p>	





## PROFILE

[G4-3](#) | [G4-4](#) | [G4-5](#) | [G4-6](#) | [G4-7](#) | [G4-8](#) | [G4-9](#) | [G4-13](#)

Braskem S.A. operates in the chemical and petrochemical sector with 36 industrial units located in Brazil, the United States and Germany. The Company serves Clients in more than 70 countries on all continents, through integrated business offices located in the Americas, Europe, and Asia.



## GLOBAL COMPANY

G4-3 | G4-4 | G4-5 | G4-6 | G4-7 | G4-8 | G4-9 | G4-13

Braskem supplies its Clients with products that are processed and transformed into articles for daily use. Among the markets it serves are the automobile industry, kitchen utensils, cleaning supplies, personal hygiene and cosmetics, packaging, electronics and home appliances, toys, clothing and shoes, civil construction, sanitation, fuel additives, agriculture and others.

Formed in August, 2002 by integrating six Companies from the Odebrecht Organization and from the Mariani Group, Braskem made a series of acquisitions and led the process of consolidating the Brazilian petrochemical industry.

A world-wide company, Braskem is currently the largest producer of thermoplastic resins in the Americas, with a focus on polyethylene, polypropylene and PVC. The Company's growth strategy rests on the pillars of strengthening the plastics production chain in Brazil, expanding internationally through asset acquisitions and the prospecting of new operational opportunities and the diversification of raw materials, increased competitiveness, innovation and technological autonomy, aligned with the commitment to promote sustainable development.

With 8,096 Team Members in Brazil and in other countries, Braskem possesses four business units, which autonomously coordinate their industrial, commercial, marketing, human resources, planning and controllership activities, giving it more agility in making decisions. The business units are:

- **Basic Petrochemicals Unit:** ethylene, green ethylene, propane, chemical and aromatic intermediates, totaling approximately 30 products.
- **Polyolefins, Comperj, Renewables and Vinyls Unit:** polyethylenes (low density, linear low density, high density and green polyethylene), polypropylene, PVC, soda and the Comperj project.
- **United States and Europe Unit:** polypropylene and ultra-high molecular weight polyethylene (UTECH). UTECH resins, although manufactured in Brazil with 100% domestic technology, are almost exclusively for export to the United States and Germany. Because of this, these operations are linked to the United States and Europe Unit.
- **Latin America Unit:** the Braskem-Idesa project in Mexico, and studies for other projects in Latin American countries.



TEAM MEMBERS  
TOTAL AS OF 12/31/2013

8,096

Brazil

6,742

USA

624

Mexico

524

Germany

168

Business offices in  
other countries

38

## INDUSTRIAL UNITS

### Basic petrochemicals:

Camaçari (BA)  
Duque de Caxias (RJ)  
Mauá (SP)  
Triunfo (RS)

### PVC and soda:

Maceió (AL)  
Marechal Deodoro (AL)  
Camaçari (BA)

### PE:

Cubatão (SP)  
Santo André (SP)

### PP:

Mauá (SP)  
Paulínia (SP)  
Schkopau e Wesseling (Germany)  
Marcus Hook (Pennsylvania)  
La Porte (Texas)  
Oyster Creek (Texas)  
Seadrift (Texas)  
Neal (West Virginia)

### PE + PP:

Camaçari (BA)  
Duque de Caxias (RJ)  
Triunfo (RS)

### Green PE:

Triunfo (RS)

## ADMINISTRATIVE OFFICES

### Administrative Centers:

São Paulo (management and  
administration offices)  
Philadelphia (Pennsylvania/USA)  
and Frankfurt (Germany)

### Administrative Offices:

Salvador (BA)  
Rio de Janeiro (RJ)  
Porto Alegre (RS)

### Business offices:

Germany	United States
Argentina	Netherlands
Austria	Mexico
Chile	Peru
Singapore	Venezuela
Colombia	

## INNOVATION AND TECHNOLOGY

### Technology and Innovation Center:

Triunfo (RS)  
Pittsburgh (USA)

Partnering with external companies and laboratories for research in chemicals and polymers, from petrochemical and renewable sources

PE  
polyethylene

PP  
polypropylene

PVC  
polyvinyl chloride

Green PE  
polyethylene manufactured from sugarcane ethanol, a renewable raw material source



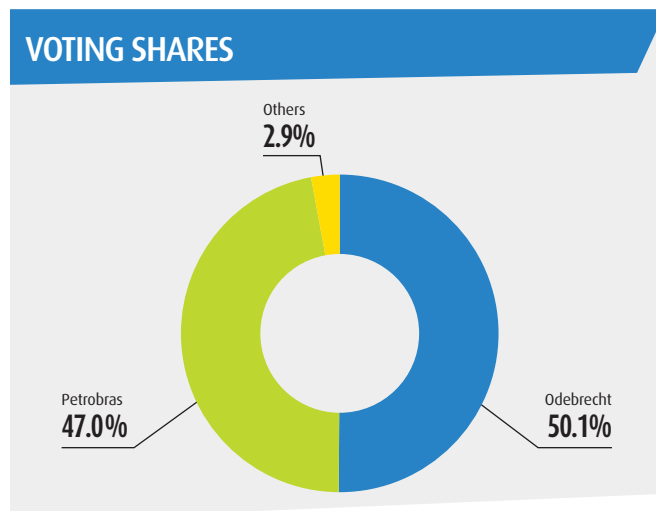
## ANNUAL PRODUCTION CAPACITY

- More than 16 million tons of thermoplastic resins, basic petrochemicals and other chemical products
- 200 thousand tons of green PE
- Leading producer of thermoplastic resin (PE, PP e PVC) in the Americas\*
- Leading producer of PP in the United States
- Global leader in the production of biopolymers

\* The installed capacities of the companies were used as the parameter instead of the annual production.  
 Source: [http://www.cmaiglobal.com/marketreports/globalplastics\\_polymers.aspx](http://www.cmaiglobal.com/marketreports/globalplastics_polymers.aspx).

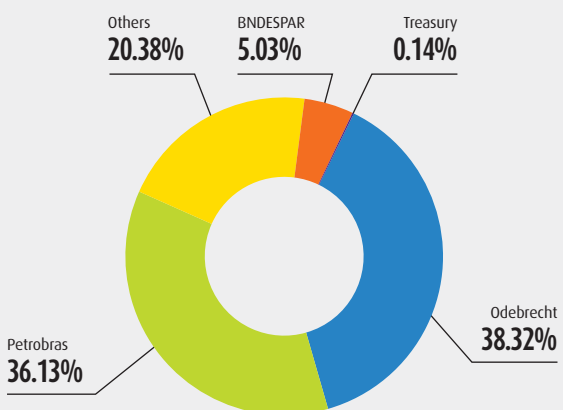
## SHAREHOLDER STRUCTURE

Braskem's capital stock is controlled by Odebrecht S.A., a holding of the Odebrecht Organization, with major shareholder participation by Petrobras. As of December 31, 2013, the shareholding structure of Braskem was:





## TOTAL SHARES



Learn more about Braskem, its products, industrial units and global presence at:

[www.braskem.com.br/site.aspx/Braskem-Profile-USA](http://www.braskem.com.br/site.aspx/Braskem-Profile-USA)

[www.braskem.com.br/site.aspx/Our-Business-Usa](http://www.braskem.com.br/site.aspx/Our-Business-Usa)

[www.braskem.com.br/site.aspx/Global-Presence-USA](http://www.braskem.com.br/site.aspx/Global-Presence-USA)



## THE PETROCHEMICAL INDUSTRY

The petrochemical field, in which Braskem does business, concentrates its productive units, located mainly in the Middle East, the United States and Asia. They are first- and second-generation industries, according to their production.

First generation industries, called “crackers”, break down naphtha or natural gas, their main raw materials, transforming them into basic petrochemical products (such as ethene, propene and butadiene) and aromatics (such as benzene, toluene and xylenes). Second-generation industries process basic petrochemical products and produce thermoplastic resins, such as polyethylenes, polypropylene, PVC, and others.

At the leading edge of the production chain are the third generation industries, the thousands of plastic transformers who manufacture consumer and industrial goods. Braskem operates as an integrated producer within the first and second generation of the petrochemical industry.

The most recent scenario in the industry is characterized by the construction of new global petrochemical complexes and

by strategic alliances, acquisitions, mergers and incorporations, motivated by the search for competitive raw materials and by the presence of large commodity consuming markets.

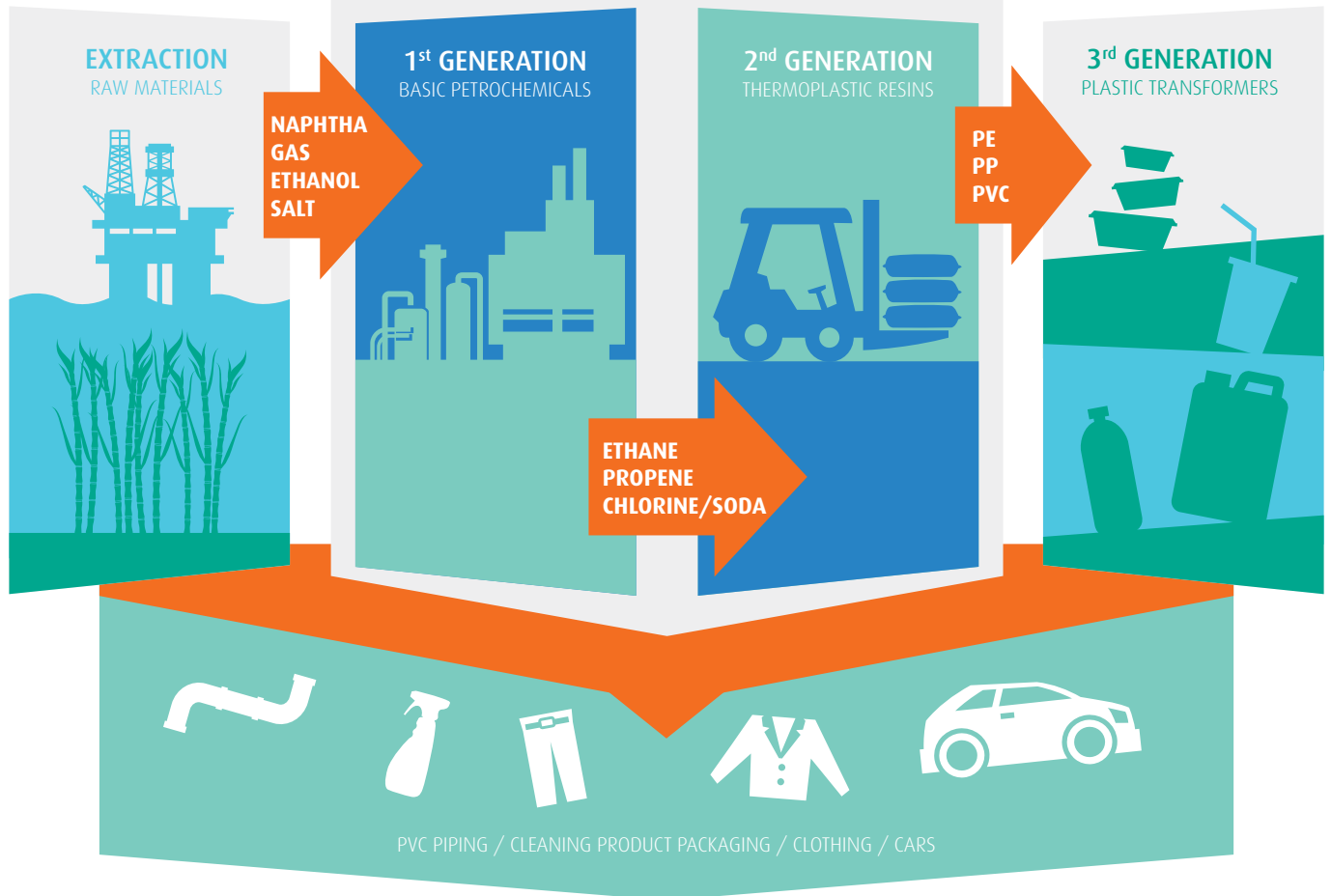
The global capacity for ethane, the raw material for the production of thermoplastic resins, was 150 million tons in 2013. The global production of resins (PE, PP and PVC) was approximately 212 million tons. Braskem is responsible for 4% of the world production of resins and supplies, on average, 70% of domestic demand.

For 2014, Braskem expects to encounter a moderately more favorable scenario than for the previous period, but it also expects challenges in the performance of the global economy and, especially, in the petrochemical business, since its commodities are subject to price volatility stemming from political and economic conditions. Another aspect to be considered, over the short and medium term, is planning for new capacity that should come on line in the United States, the Middle East and China, which will impact prices.





**COMPETITIVE INTEGRATION**  
**Braskem**





## CORPORATE GOVERNANCE

G4-34 | G4-39

Braskem conducts its business in line with Corporate Governance best practices. The Public Commitment assumed in August 2002, when the Company was created, defines as key business practices transparency, accountability and respect to Shareholders, Team Members, Clients and Society.

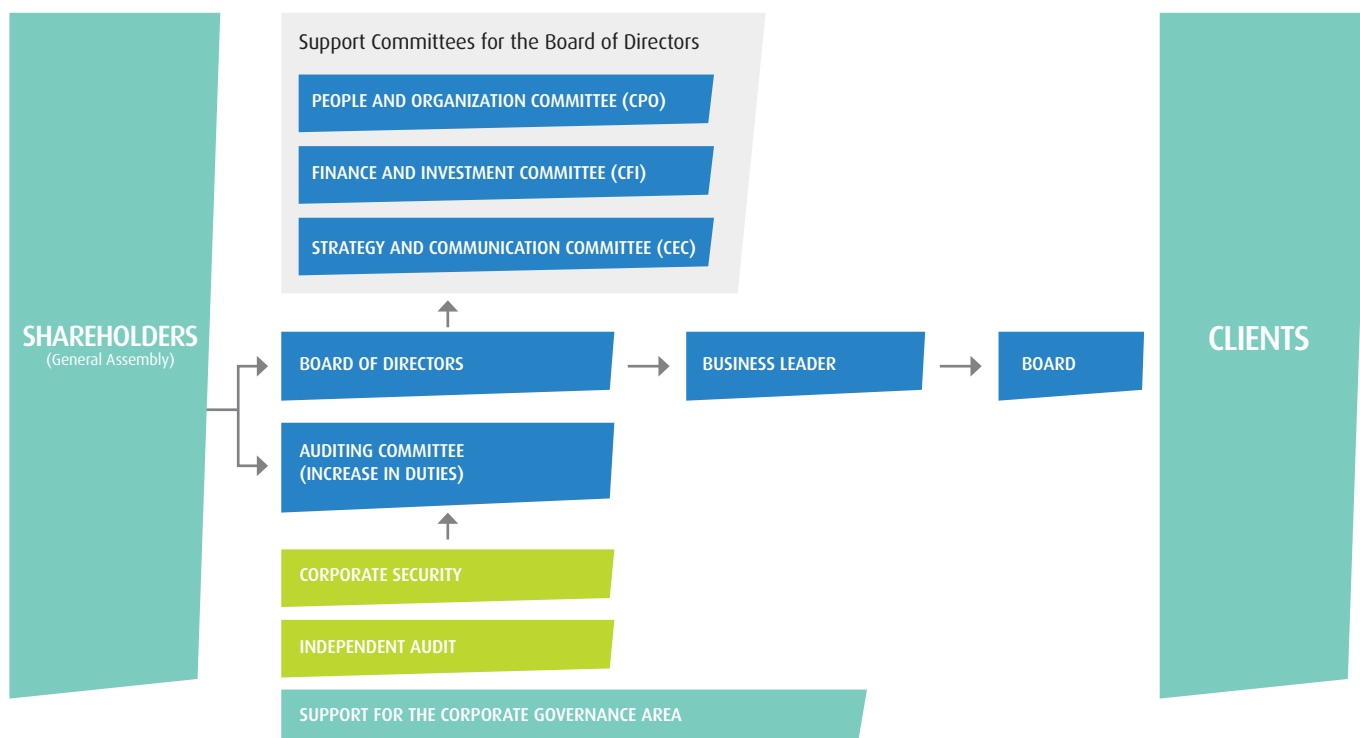
In addition to financial statements, quarterly results reports are published with short-term situation analysis (available for consultation on the site [www.braskem.com/ri](http://www.braskem.com/ri)), and, at each publication, there are meetings with market analysts and investors. In 2013, quarterly information began to be summarized and communicated to our internal audience, through presentations by the Business Leader (CEO), through our internal communication channels.

As it is a publicly-listed company with shares traded on the Stock Market, Braskem is subject to Law No. 6.404/79 – Brazilian Corporation Law and its amendments, as well as to the standards and controls of the Brazilian Securities Commission (CVM) and BM&F

Bovespa (São Paulo Stock Exchange). Outside Brazil, Braskem's stock is also listed on the New York Stock Exchange (NYSE) and Latibex – the Latin American section of the Madrid Stock Exchange. It is therefore also subject to the requirements of the pertinent regulatory agencies, which are the Securities & Exchange Commission (SEC), in the United States, and the Bolsas y Mercados Españoles (BME), in Spain.

In 2005, Braskem became one of the firstst Foreign Private Issuers (FPIs) in South America to meet the requirements of sections 404 and 302 of the Sarbanes-Oxley Act – SOX. The Company Management evaluated the effectiveness of internal controls over financial statements in December, 2013, according to criteria established in the Internal Control – Integrated Framework standard, issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on these criteria, it concluded that the Company's internal controls over financial statements are effective.

Braskem's Corporate Governance model is made up as follows:



#### BOARD OF DIRECTORS

(base 12/31/2013)  
(Permanent Members)

(Shareholder Representatives)  
 Marcelo Bahia Odebrecht – *Chairman of the Board of Directors*  
 José Carlos Cosenza – *Vice president of the Board of Directors*  
 Alfredo Lisboa Ribeiro Tellechea  
 Almir Guilherme Barbassa  
 Álvaro Fernandes da Cunha Filho  
 José Alcides Santoro Martins  
 Luiz de Mendonça  
 Marcela Aparecida Drehmer  
 Newton Sérgio de Souza  
 Patrick Horbach Fairon  
 Roberto Zurlí Machado

#### EXECUTIVE DIRECTORS

(base 12/31/2013)

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

<sup>\*</sup> Statutory Directorships.

#### AUDIT COMMITTEE

(base 12/31/2013)  
(Permanent Members)

Maria Alice Ferreira Deschamps Cavalcanti – *Presidente of Auditing Committee*  
 Aluizio da Rocha Coelho Neto  
 Antônio Luiz Vianna de Souza  
 Ismael Campos de Abreu  
 Manoel Mota Fonseca

**General Shareholders' Meeting:** the General Shareholders' Meeting is the sovereign organ, with powers to decide upon all matters relating to the corporate objective of the Company and to make resolutions that it deems appropriate for its defense and development. Its jurisdictions, forms and functions are regulated by Law No. 6.404 - Brazilian Corporation Law and its subsequent amendments.

**Board of Directors:** has its activities regulated by current legislation, Company Bylaws and its Terms of Reference. The Board of Directors is an autonomous collegiate body composed of 11 counselors and their respective alternates, who can be elected or removed at any time by the General Shareholders' Meeting.

The Board is active and independent, deliberating with quality and promptness in the interest of Braskem, with the purpose of adding value to Shareholders. It is accountable to the Shareholders and other stakeholders, and to society in general, with respect to the tangible and intangible assets used to conduct the Company's business.

The main responsibilities of the Board of Directors are: (a) to direct the Company's business; (b) monitor its operation and management; (c) decide on strategic questions; (d) guide the Directors on relevant issues; (e) approve proposals for policies applicable to the Company as a whole; and (f) decide on Investments, in addition to other responsibilities set forth in the Corporate Bylaws.

The Braskem Board of Directors has three Standing Committees, composed of principal counselors and their alternates, who form part of the Corporate Governance structure and whose objective is to assist and advise the Board in pre-established matters. These are:

- **People and Organization Committee (CPO):** responsible for evaluating current policies and programs regarding People and Organization, as well as monitoring and reviewing them.
- **Finance and Investment Committee (CFI):** evaluates new policies, monitors and analyzes current policies on the matters of financial management, insurance and guarantees, integrated risk management, among other items. The Committee is also accountable for the evaluation of investments subject to approval and for monitoring investments and contracts with related parties, as approved by the Board of Directors, as well as participating in the creation of the Business Leader's Action Plan (PA).
- **Strategy and Communication Committee (CEC):** in matters of strategic direction, the CEC evaluates definitions for planning, that is, the basis for the Business Leader's Action Plan. Regarding Communication issues, the CEC evaluates new policies, monitors

and analyzes current corporate policies related to the capital market, social responsibility and corporate sustainability, and contributes to the creation of the CEO's PA.

**Fiscal Council:** the activities of the Fiscal Council are regulated by current legislation, Company Bylaws and its Terms of Reference. To meet the requirements set forth by the Sarbanes-Oxley Act – SOX, the Fiscal Council had its activities expanded in 2005, taking on the duties of an Audit Committee.

The Council is a corporate body independent of the Company Management, which monitors the actions of the administrators with the objective ensuring compliance with legal and statutory duties, issuing opinions, informing shareholders and monitoring internal audits.

**Business Leader and Executive Directors:** the activities of Braskem's Executive Directors are regulated by Law and by Corporate Bylaws. Executives are responsible for exercising the management of the business and the functional areas of the Company, as well as for the implementation of policies and general guidelines periodically defined by the Board of Directors.

As defined in Braskem's Corporate Bylaws, the Executive Directors form a permanent body of the Company, composed of at least four and at most ten Team Members, one President and CEO, one Director of Investor Relations and remaining Executives without specific designations, elected by the Board of Directors.

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

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

**Independent Auditors:** are responsible for issuing independent opinions concerning Financial Statements, in accordance with current legislation. The company providing audit services is replaced at least every five years, as determined by CVM Instruction No 308/09.





## **ETHICS AND INTEGRITY**

G4-56 | G4-57 | G4-58

The principles and criteria that guide business actions at Braskem are consolidated in the Odebrecht Entrepreneurial Technology (TEO), which is an ethical and cultural reference shared by all of its Team Members.

The leaders of Braskem and representatives of its shareholders must, among their main responsibilities, ensure that the TEO and the implementation of its policies and other internal guidelines are, in fact, an ethical and cultural reference that is shared by all Team Members of the Company.

Braskem has a Code of Conduct that, along with its detailing documents, is a record of the concepts, principles and orientations for the conduct expected of Team Members in carrying out their duties.

Braskem provides a printed version of the Code of Conduct in the local language to each Team Member when they are hired, and explains the values and principles of the Code, as part of the Introduction Program to the Company's Culture. The Code of Conduct is also accessible through the corporate intranet and on the Company website – [http://www.braskem.com/Portal/Principal/Arquivos/Download/Upload/code\\_conduct\\_eng\\_24.pdf](http://www.braskem.com/Portal/Principal/Arquivos/Download/Upload/code_conduct_eng_24.pdf).

Braskem understands that continuous, clear and consistent communication of the values of the Code is essential for guaranteeing that compliance remains a daily priority as part of standard behavior at the Company.

In addition to the daily learning provided by the presence of the Educating Leader through interaction with Team Members, Braskem offers qualification and training processes focused on the principles and values of the Code of Conduct and its implementation.

The Company values the Leader-Team Member relationship, considered to be the essence of the communication process in the Company, and, accordingly, encourages dialog between Team Members and their direct Leader if they have any questions or become aware of any violation of the Code of Conduct or of its implementation.

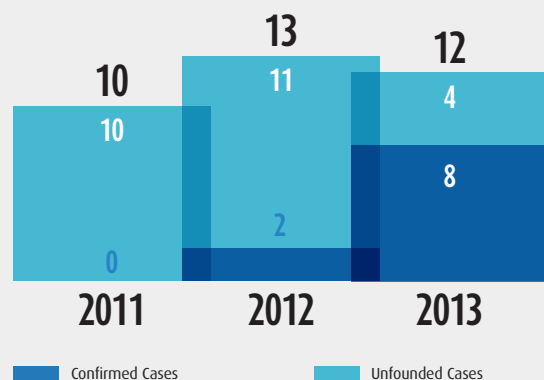
If a Team Member or other person (for example: a Supplier or Partner) feels in any way uncomfortable with any attitude taken, a communication channel called the Braskem Ethics Line may be used. It is accessible to all groups (Team Members, Partners or otherwise) through the Internet or by a toll-free telephone connection for the purpose of receiving reports of possible violations of the Code of Conduct and its respective implementation and/or violations of the law.



### CODE OF CONDUCT

Defines, reinforces and encourages ethical conduct, market best practices, and compliance with legal requirements and the Company's set of policies and other guidance.

### CASES OF DISCRIMINATION AND MEASURES TAKEN



The Braskem Code of Conduct states that no form of retaliation shall be permitted or tolerated against a Team Member who reports, in good faith, any concern about conduct that is illegal or that does not comply with the guidelines established in the Code.

The Business Security department is responsible for recording and analyzing reports in absolute confidentiality, so that the relevant Leader may become aware of the reported facts and take appropriate measures. All reports and the results of their respective analyses are presented to, and discussed, by the Ethics Committee every three months.

#### G4-HR3 | G4-HR12

In 2013, 12 complaints regarding human rights were registered. All were investigated and, in eight cases, corrective measures were adopted. Corrective measures included: warnings, reassignments to non-leadership roles (i.e. do not involve people management) and dismissals. Both confirmed cases in 2012 were cases of individuals who were not acting in line with the Company's values, creating a hostile work environment. One person was temporarily suspended and the other set improvement goals for 2013.

#### G4-S05

No cases of corruption involving public officials were confirmed in 2013, but one case of conflict of interest in which a Team Member sought to obtain personal gain in a relationship with Suppliers was confirmed. The Team Member, who was dismissed from Braskem, would have received benefits from the Supplier for approving their entry and permanence with Braskem. The Supplier was blocked and no longer provides services to the Company.

To know more about Braskem's governance model and mechanisms, see:

[www.braskem.com/site.aspx/Corporate-Governance-USA](http://www.braskem.com/site.aspx/Corporate-Governance-USA)

[www.braskem.com/Portal/Principal/Arquivos/Download/Upload/code\\_conduct\\_eng\\_24.pdf](http://www.braskem.com/Portal/Principal/Arquivos/Download/Upload/code_conduct_eng_24.pdf)

[www.braskem.com/site.aspx/Ethics-Line](http://www.braskem.com/site.aspx/Ethics-Line)

[https://ssl-w08dnn0177.websiteseguro.com/braskem1/Portal/Principal/Arquivos/Download/Upload/Compromisso\\_Publico\\_Ingles\\_74.pdf](https://ssl-w08dnn0177.websiteseguro.com/braskem1/Portal/Principal/Arquivos/Download/Upload/Compromisso_Publico_Ingles_74.pdf)



## COLLABORATIVE INITIATIVES AND VOLUNTARY COMMITMENTS

G4-15 | G4-16

Braskem participates in initiatives that are aligned with the contribution of the business sector to sustainable development and with issues considered relevant to its stakeholders. In 2013, the associations and organizations in which the Company's participation is considered to be strategic were defined.

**CDP – global sustainability program:** an international non-governmental organization initiative, launched in 2000, with the objective of collecting and publishing data on corporate greenhouse gas emissions in over 60 countries. Braskem has supported the initiative since its launch and, in 2006, began to report its GHG emissions. In 2013, the Company reached the top of the CDP Brazil index, as the best Brazilian company in carbon management through excellence in transparency, receiving a grade of 99 on a scale of 100 in this category. The CDP is one of the world's most respected capital market sustainability indices. All reported information may be found at [www.cdp.net](http://www.cdp.net).

**CEBDS – Brazilian Business Council for Sustainable Development:** Braskem is one of its founding companies. The Company participates in the Climate Technical Chamber, has taken part in the Carbon Management Program in the Value Chain since 2013 and presides over the Materials Technical Chamber, choosing this group over the Water Technical Chamber, as had been planned and stated in the 2012 Annual Report. Braskem has a seat on the CEBDS board of directors.

**Cempre – Corporate Commitment to Recycling:** a non-profit association dedicated to the promotion of recycling, with a focus on integrated waste management. Created in 1992 and maintained by private companies from various sectors, among them Braskem, Cempre performs technical research and holds seminars, distributes publications and organizes databases on the reduction, reutilization and recycling of waste. Among the activities undertaken in 2013 were discussions to define the role of business in the implementation of the Brazilian National Solid Waste Policy (PNRS) and the joining together of 22 associations, known as the Corporate Coalition, to approve a proposal for reverse packaging logistics, 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), with the objective of disseminating 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:** a permanent corporate platform with the objective of mobilizing, motivating and uniting corporate leadership for the management and reduction of greenhouse gases (GHG), management of climate risks and the proposal of public policies with regard to 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 of the United Nations (UN) Global Compact since 2007 and obtained, in 2013, the highest status for communicating its progress in adopting its 10 principles. Since 2008, the Company has been a member of the Brazilian Network Committee of the Global Pact, and is assuming the presidency of the committee during the 2013 - 2014 biennial. In September of 2013, Braskem participated in a meeting at the UN headquarters in New York that was attended by more than a thousand executives from nearly 100 countries, for the launch of the Architects of a Better World platform, which seeks to engage business in matters of sustainability. A few weeks following the meeting at the UN, the Company promoted the launching of the platform in Brazil, a partnering between the Brazilian Global Compact Network, GRI and WBCSD/CEBDS, at the Bovespa. The objective of the meeting was to establish an agenda for sustainable development, as agreed to in the Letter of Commitment at Rio+20 (2012), signed by 230 corporate directors and organizations committed to the issue in Brazil. Learn more about the actions undertaken by Braskem in 2013 relating to the ten principles of the Global Compact, in the chapter About this report / Global Compact.



**ICCA (International Council of Chemical Associations):** Braskem belongs to the executive leadership group and participated in energy, climate change and chemical safety work groups. It also occupies a chair in internal Communication and Energy & Climate Change groups. Through Abiquim (Brazilian Chemical Industry Association) and the ACC (American Chemistry Council), Braskem participates in the following ICCA initiatives:

- **Responsible Care:** a voluntary initiative instituted by the global chemical industry, through ICCA. Responsible Care seeks to improve the environmental management of chemical companies and of their production chain. In Brazil, the program was officially adopted by the Brazilian Chemical Industry Association (Abiquim) in April of 1992. Braskem has been a signatory of the document since that date.
- **GPS – Global Product Strategy:** Braskem, together with Abiquim, leads the implementation of the program in Brazil and in other Latin American countries, for the purpose of promoting awareness 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:** a non-governmental, non-profit organization that works hand-in-hand with society for the promotion of conscientious consumption. Braskem supports the Institute and sponsors the Edukatu program, an initiative focused on education for sustainability, launched in 2013. More information about the Edukatu program can be found at Social Development / Communities.

**Trata Brazil Institute:** A Civil Society and Public Interest Organization, Trata Brazil has as its objective to coordinate national information and mobilization initiatives, so that Brazil can obtain universal access to basic sanitation, without which there is no health, rivers are polluted and children and human development are at risk. Braskem was one of the founders of Trata Brazil Institute, in 2007, along with Solvay Indupa, Tigre, Amanco, among others, and is a member of its Board.

**Brazilian Corporate Network of Lifecycle Assessment:** a joint initiative of eleven Brazilian companies, the Network was officially launched in October of 2013, with the objective of discussing and researching methods for learning more about the lifecycle of products and services, disseminating the practice of Lifecycle Assessment (LCA) and offering knowledge, so that the consumer can make more sustainable choices. The Network is a voluntary grouping of companies. The founding companies are: Braskem (responsible for coordination), Norberto Odebrecht Construction, Tetrapak, Danone, GE, Oxiten, Natura, Grupo Boticário, and Embraer. One of the proposals of the Network is to act in conjunction with IBICT (Brazilian Science and Technology Information

Institute) with the view to advancing the Brazilian LCA Program and the creation of a national database, to make information available which is of interest to society.

**World Economic Forum:** an international organization whose objective is to encourage public-private cooperation, by involving corporate leaders, politicians, and academics, among others, in developing agendas for global, regional and corporate cooperation.

**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 in the company's operations on a world-wide level.

## FORUMS AND ASSOCIATIONS

Braskem also participates, in an 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 Sanitation Material Manufacturers
- **Bioplastics Council**
- **CCPS** – Center for Chemical Process Safety
- **CNI** – National Confederation of Industry
- **INP** – Export Plastic
- **INP** – National Plastics Institute
- **Ethos Institute**
- **PVC Institute**
- **Plastivida** – Socio-environmental Plastics Institute
- **SPE** – Society of Plastic Engineers
- **Suppliers Partnership for the Environment**
- **Automotive Women's Alliance Foundation**

## DISTINCTIONS

Braskem was recognized in 2013 for its performance in the three dimensions of sustainable development: economic, social, and environmental. Check out these highlights.

### NATIONAL

- **Corporate Sustainability Index (ISE):** organized by BM&F Bovespa, the index will be in effect from January 6, 2014 through January 2, 2015. The new ISE portfolio includes 51 stocks from 40 companies that represent 18 sectors and R\$ 1.14 trillion in market value, equivalent to 47.16% of the total value of the companies with shares traded on the stock exchange, based on its close on November 26. Braskem belongs to ISE for the 9th straight year and reached the benchmark in the climate change category in 2013.



- **BM&F Bovespa's Efficient Carbon Index (ICO2):** composed of stocks of companies that participated in the iBrX-50 index and which accepted the adoption of transparency practices relating to their greenhouse gas (GHG) emissions.



- **GHG Protocol Brazil:** the Company's GHG emissions inventory obtained the Gold Classification for the third straight year.
- **Exame Magazine Sustainability Guide:** for the 5th time, Braskem was included in the list of the country's most sustainable companies, according to three dimension of sustainable development – economic, social and environmental. The company received the Highlight Award in the Chemical category.
- **Whirlpool Sustainability Award:** a Client of Braskem, Whirlpool recognized the Social Inclusion Program for Waste Collectors (the name of the program changed to ser+realizador, in December), as a practice aligned with its sustainability principles. Learn more about the program at Social Development / Communities.
- **2013 Support Award:** "I'm green™" green polyethylene was the Products category winner in the ranking of sustainable products and services at the 6th Forum on Sustainable Development – Sustentat 2013.



**Época Magazine Green Company Award:** special recognition among the 20 companies that engage in the best environmental practices in Brazil.

- **Sustainability Best Practices:** a ranking organized by the Benchmais Institute, which gave 4th place to the Água Viva (Living Water) water reutilization project, developed by UNIB, in Camaçari (BA).
- **Exame Magazine Biggest and Best Guide:** ranked first among the companies in the chemical and petrochemical sector, besides earning ninth position overall among the 50 largest private companies in Brazil.
- **IstoÉ Dinheiro Magazine:** for the third time, placed first in the Chemical and Petrochemical category in Best of Dinheiro issue, for maintaining its investments and growth during a year of global crisis.
- **Época Business 360º Guide:** first place in its category. Braskem was evaluated on its financial performance, corporate governance, innovation, vision of the future, HR practices and social-environmental responsibility. The Company also



achieved 15th place among the 250 largest companies selected by the guide.

- **Transparency Trophy 2013:** awarded by the National Association of Financial, Administration and Accounting Executives (Anefac), the award recognized best accounting practices and the most objective set of information for the market. Braskem was selected, for the 5th time, in the category of open capital companies with revenues over R\$ 5 billion.
- **Being Human Award 2013:** awarded during the 39th National Conference on People Management (CONARH), in the People Management – Company category for its Operator 2020 program:
- **HR Management Magazine:** among the 100 Best companies in IDHO – Organizational Human Development Index – and among the 50 Best Companies in Corporate Citizenship.
- **Innovation:** Braskem is among the 15 most innovative companies in the opinion of university students in Brazil, according to a survey conducted by the consulting firm Universum, a talent attraction company. 15,855 higher education students in the country were surveyed.

## International

- **Dow Jones Sustainability Index Emerging Markets (DJSI):** for the second consecutive time, Braskem is included in the New York Stock Exchange's Dow Jones Sustainability Index (DJSI), created in 2012. The portfolio consists of the shares of 81 companies, including only two from the chemical industry. Of the 81 companies, 17 are Brazilian. Selection is made based on economic, environmental and social criteria, including strategies aimed at climate change, energy consumption, people development, knowledge management and corporate governance.

MEMBER OF  
**Dow Jones**  
**Sustainability Indices**  
In Collaboration with RobecoSAM

- **CDP – global sustainability program:** Braskem was recognized as the best Brazilian company in carbon management, for excellence in performance and transparency, among 58 domestic companies that responded to the 2013 climate change report.
- **Innovative Company:** the North American magazine Fast Company listed Braskem as one of the 50 most innovative companies in the world. The only Brazilian company to make the ranking, the Company was selected for its research work in renewable source products such as “Green” Plastic.
- **Highlighted for renewable chemical products:** International ranking (The 30 Hottest Companies in Biobased Chemicals for 2013-14) organized by the Biofuels Digest, a daily news website concerning biofuels, designed to recognize the main highlights in innovation in the biotechnology field. The ranking was decided based on votes from specialists in the field and on Internet public opinion (more than 100 thousand evaluations). Braskem occupies 18th place.
- **Kirkpatrick Chemical Engineering Achievement Award:** Braskem was among the five global finalists, selected for its green polyethylene project. The award highlights innovative chemical engineering technology, utilized in industrial processes.
- **Sustainability Annual:** Braskem is listed among the most sustainable companies and those with the best global performance in the chemical industry. Recognition granted by RobecoSAM's Annual Corporate Sustainability Assessment (CSA).





## GROWTH STRATEGY

Braskem works to serve Clients and generate wealth in the regions in which it is present.

## BUSINESS AGENDA

Braskem operates in harmony with the spirit of service to Clients and of wealth generation, centered on the competitiveness of its operations and on the plastics chain, seeking opportunities for innovation and for diversification in raw materials outside the country, with a focus on the Americas.

One of the highlights of the corporate strategy is the petrochemical project headed up by Braskem-Idesa, in an advanced state of construction in Mexico, based on gas acquired from a local company at a competitive price. At the same time, studies and negotiations are moving forward in Brazil concerning the Rio de Janeiro Petrochemical Complex (COMPERJ), also based on gas as the raw material. And, in the United States, where The Company has maintained operations since 2010, when it acquired its first polypropylene assets in that country, the intent is to operate, in the medium term, an integrated polyethylene complex based on shale gas.

The most recent move by Braskem in its growth agenda, happened in December, 2013, with the signing of an agreement with the Solvay group to purchase 70.59% of the voting and total stock of Solvay Indupa, a PVC and soda producer, with industrial units in Brazil and Argentina. The value of the deal is R\$ 290 million. Solvay Indupa has an annual production capacity of 540,000 tons of PVC and 350,000 tons of soda. Finalization of the purchase agreement depends on the review and approval of Brazil's Administrative Economic Defense Council (CADE) and Argentina's National Securities Commission (CNV).

Based on this set of initiatives, Braskem is solidifying its position as a major global petrochemical company, dedicated to seeking ever-greater operational competitiveness and committed to the strengthening of its sector in Brazil. The Company's growth agenda is aligned with the principles of sustainable development, which at Braskem translate, into ten macro objectives. Learn more in About the Report / Macro objectives of sustainable development.







Braskem is dedicated to increasingly boosting its operational competitiveness and is firmly committed to strengthening its sector in Brazil.

## STRATEGIC OBJECTIVES

The revision of the Company strategy, previously defined in its "2020 Vision", was approved in 2013 in response to a challenging scenario, a combination of very high competitiveness from the North American petrochemical industry (as a result of the low cost of shale gas) and challenges faced by all of Brazil's industry, arising mainly from the gap between exchange rate fluctuations and inflation and the lack of infrastructure in the country.

This action strategy has two main pillars: maximizing the profitability of the present businesses and assets and growing in the Americas, investing in new production bases and using competitive raw materials. In this light, technological developments, always key for the chemical industry, will focus on combining competitiveness and viable growth, including in the realm of renewable chemical products.

The maximization of profitability will be achieved by:

- strengthening common objectives with Clients to meet their needs by mobilizing unique resources, products and services offered by Braskem;
- continually seeking opportunities for more competitive raw materials for all industrial plants;
- assuring competitiveness in supplying energy for operations;
- intensifying measures to increase the productivity and efficiency of operations and of integrated optimization of first and second generation assets;
- optimizing the allocation of capital, prioritizing operational investments with greater returns and seeking to reduce the use of capital;
- supporting efforts to increase the structural competitiveness of the industry in the countries where the Company does business, especially in the petrochemical and plastics transformation chain in Brazil.





Braskem's operating strategy is based on two main pillars: maximizing the profitability of the present businesses and assets and growing in the Americas, investing in new production bases and using competitive raw materials.

Regarding growth, the focus is on:

- meeting the growing demand for resins and basic petrochemical products in Brazilian markets, keeping them supplied;
- expanding the production base of resins in the Americas, based on competitive raw materials;
- making new opportunities of growth in renewable chemical products viable, by promoting a long-term agenda for the development of new technology paths using biomass.

To these two pillars of profitability and growth, we add the basic conditions that guide Braskem's operations. These basic conditions include:

- absolute respect for workplace safety, process safety and chemical safety;
- responsible use, handling, production and marketing of chemical products;
- training and qualifying Team Members and Leaders in the countries where Braskem does business, in order to prepare the Organization for international growth;
- assigning and giving responsibility to each team for the results of its respective business;
- maintaining the positive reputation that Braskem has built in the eyes of its Clients and its sphere of operation;
- preserving the Company's financial health and liquidity.

Following this strategy, Braskem believes that it will enjoy a significant boost in its competitiveness, with corresponding effects on its profitability and on its Shareholders' returns.

## STRENGTHENING THE PRODUCTION CHAIN

### G4-EC8

To aid in the development of the Brazilian market, Braskem has continued its strategy of strengthening the plastics transformation industry in the country, by means of new investment projects and innovative solutions for products and services to its Clients.

In the area of investments, the Company has announced the expansion of one of its linear low density polyethylene (LLDPE) production lines at the Petrochemical Complex in Camaçari (BA), with an additional annual capacity of 120 thousand tons. Of this total, 100,000 tons will be part of the Braskem Flexus family, the Company's brand of metallocene-based polyethylene.

The investment is approximately R\$ 50 million, and the production line should begin operating during the first half of 2015. The Braskem Flexus family is designed for packaging that requires characteristics such as improved strength, shine, transparency and sealing (transformation industry in applications using special films, technical spools and industrial films). Presently Braskem's annual production capacity for metallocene-based polyethylene is at 350 thousand tons.

Another highlight in 2013 was the signing of a memorandum of understanding between Braskem and the German company Styrolution, a global leader in the styrenes segment, to evaluate the formation of a joint venture in Brazil, with a 30% - 70% share, respectively. The agreement will analyze the economic feasibility of installing an industrial plant with an annual production capacity of 100,000 tons, which would supply styrene specialties and acrylonitrile butadiene styrene (ABS) and styrene-acrylonitrile (SAN) to Clients in Brazil and in other countries in South America.

Both ABS and SAN are imported from suppliers such as Styrolution itself. If the project is confirmed, local production will meet the growing local demand in the automotive and electrical appliances



sector in Brazil. The partnership is subject to regulatory and anti-trust approvals.

As followup on the agreement signed in 2011, BASF and Braskem are continuing with the construction project of the Basf acrylic complex in Camaçari (BA). Braskem will be the supplier of propene, sodium hydroxide and utilities, in addition to investing in hookups to supply raw materials and utilities needed for the project. The acrylics complex will meet the needs of several segments of industry, among which are paints, adhesives, diapers, mining, textiles, paper, civil construction and petroleum extraction. The factories will be operational between 2014 and 2015.

Encouraged by the PIS and COFINS tax break on the purchase of first and second generation petrochemical raw materials, a measure proposed by the Federal Government which benefits about 50 companies who operate along these links of the production chain, Braskem created the Incentive Plan for the Plastic Chain (PIC) together with the plastic transformation industry.

The program can be seen as a series of stimulus initiatives for strengthening third generation plastics activities in Brazil. Highlighted



among the initiatives are special conditions for the sale of PE and PP destined for export products, stimulus for innovation and support for the training of professionals and for the management processes of companies in the field, responsible for over 340 thousand jobs in the country.

With respect to the incentive plan for exporters, the goal of PIC is to double business in two years. As far as innovation is concerned, the proposal is to support the development of projects in the transformation industry through specialized consulting groups, training programs and sponsorships of events in the sector. Another pillar of PIC, support for the training of professionals and for the management process of transformers, will involve the training of the labor force, technical and management discussions and access to specialized consulting.

PIC also proposes re-emphasizing the promotion of and appreciation for the benefits of plastic. The intention is to work with recycling programs, Lifecycle Assessments (LCA), positioning in light of Brazilian National Solid Waste Policy, support for associations committed to the issues, communication and the creation of a Sector Fund for the Promotion of Plastics.

*Aerial image of the Camaçari Petrochemical Center (BA): investment of R\$ 50 million to expand one of the LLDPE production lines*

#### HIGHLIGHTS

Expansion of one of the LLDPE production lines at the Camaçari Petrochemical Center (BA).

Signing of a memorandum of understanding with the German company Styrolution to analyze the economic feasibility of installing an industrial plant to supply ABS and SAN to Clients in Brazil and other South American countries.

Development together with the Brazilian plastic transformation industry of the Incentive Plan for the Plastic Chain (PIC).



Decks in PVC with phenolic waste particles

## SOLUTIONS FOR CLIENTS

### G4-EC8

With the commitment to serve its Clients, Braskem contributes to their Clients having a project that is most appropriate for the Clients' needs. In this way, the Companies' teams innovate, create solutions and propose improvements for all segments in which they operate, presenting solutions for society together with their chain of Clients.

Among the Client support initiatives involving new products and improvement projects that were implemented in 2013, the following are considered highlights:

### PVC

**PVC roofing tiles:** originally launched in 2010 with five lines of extrusion, the project evolved significantly in 2013. New producers entered the market, currently totaling nearly 20 extrusion lines, and the industry progressed thanks to Abitelha – the Brazilian Association of the PVC Tile Industry –, with the beginning of the Sector Quality Program (PSQ), linked to the Ministry of Cities. The completion of the first Technical Evaluation Report in the Brazilian Technical Evaluation System (SiNAT) also contributed to the evolution of the project by making it possible to use the product in construction projects financed by the Caixa Econômica Federal (Brazilian Savings Bank).

**PVC concrete construction system:** significant progress was made in 2013. In addition to new producers entering the market, the various available technologies are progressively gaining the approval of the Brazilian Technical Evaluation System (SiNAT). The Global Housing system, a founding partner of Braskem on the project, received final approval from the SiNAT system in 2013, which allows the unlimited use of this technology in Brazil.



Raffia sacks for Holcim ready-mix concrete

**Decks in PVC with phenolic waste particles:** developed in partnership with the Client Pertech, it deals with a technology for the production of decking in expanded PVC, with the incorporation of phenolic waste particles originating in the Client's own production processes. Besides being sustainable, through the use of waste in the formulation of the product, the decking produced with this technology has proven to be durable.

**PVC House Contest:** a public competition, launched by Braskem and the Architects of Brazil Institute, that proposes the creation of a design for a house that prioritizes the use of plastics, and primarily PVC, as construction elements. In addition to receiving an award in money, the winning project will be built in 2014, at the PVC industrial unit in Alagoas. 44 projects have been entered, representing 15 Brazilian states.

## PRODUCTS WITH SOCIO-ENVIRONMENTAL IMPROVEMENTS

### G4-EN7 | G4-EN27

In 2013, three new grades of the Maxio Family, composed of products that provide Braskem's Clients with increased productivity, reduced energy and/or raw material consumption, were launched.

- **KM 6150HC Grade:** designed especially for plastic furniture and technical parts. Its increased rigidity together with its impact resistance, in market tests, allowed for a 12% reduction in the weight of monoblock plastic chairs while still maintaining their structural characteristics and increasing their resistance to impact breakage.
- **RP 141 Grade:** provided a 9% reduction in energy consumption in the industrial process of the Client, who reduced their consumption from 770.7 kWh/t to 702.0 kWh/t. This gain was obtained mainly due to a reduction in the process temperatures needed (from 240 °C to 200 °C).
- **H 105 Grade:** provided an 8% reduction in the cycle time, which went from 4.9 s to 4.5 s, increasing productivity and reducing the relative environmental impact of the operations. This gain was also obtained due to a reduction in the process temperatures needed, this time from 230 °C to 195 °C.

In the vinyls sector, the PVC panels and door and window frames market has progressively substituted lead-salt based stabilizers with calcium / zinc alternatives, which minimizes the environmental impact of the final disposal of these products at the end of their lifecycles.



*Polypropylene for the outdoor furniture segment*



*Polypropylene for the shrink wrap segment*

## PP

**Raffia sacks for Holcim ready-mix concrete:** allows preparation of the product while inside the sack itself, by adding water to the concrete mix (gravel, sand and cement). Furnished with extended straps to be used as handles for moving the sack during preparation of the product. Partnership between Braskem, Embrasa (Brazilian Packaging) and Holcim Brazil, the manufacturer of the product.

**Polypropylene for the automotive industry:** in the continual effort to serve our Clients and to meet the requirements of the sector, Braskem expanded its line of PP resins to be applied in automotive compounds.

**Polypropylene for the outdoor furniture industry:** Improved PP resin to give it greater rigidity and impact resistance than the previous product. The new product avoids process losses for the Clients, since it lends itself better to the mechanical performance properties required for the application.

**Odebrecht Braskem Design Challenge:** Odebrecht Properties and Braskem held the Design Challenge, open to university students majoring in Design. The objective was to create furniture for the social lounge area of the Odebrecht Building in São Paulo. The winning items were produced by Tramontina, a Client of Braskem, and may be commercially reproduced. Youths from four different colleges with product design courses participated.



*Expanded polyethylene sheets*

## PE

**Polyethylene for the agrochemical industry:** adaptation of PE resins utilized in the blown packaging sector for agrochemical products, with a view to meeting the market's rigid requirements of resistance and safety.

**Polyethylene for the shrink wrap film industry:** a new resin to satisfy the packaging market for wrapping cans and bottles. This resin guarantees a compact package, without holes and marks on the surface.

**Beer can lids:** Colonia Beer launched the first beer cans with plastic lids, to guarantee the hygienic protection of the product, an innovative solution on a global level developed by the Brazilian Packaging Company and Braskem. A Lifecycle Assessment (LCA) of the lids is underway, as well as partnering with recycling collectors' cooperatives in the state of Paraná, where the product is manufactured, for training in collection and recycling incentives.

**Expanded polyethylene sheets:** a solution for civil construction, which reduces noise between floors and is to be applied between the slab and the floor underlayment.





Cacao drying stoves



Beer can lids



Plastic silo bags

**Cacao drying units:** in plastic film greenhouses, drying is not carried out by the burning of wood, rather, by solar energy, which makes the process sustainable, in addition to increasing quality and saving time. The technology was developed by Braskem and its partners for the members of the Fine Cocoa Agroindustrial Cooperative (Cooperbahia). At the end of their useful lifecycle, the plastic film and screen may be recycled.

**Plastic silo bags:** developed in partnership with Pacifil Brazil, plastic silo bags are large bags made of polyethylene, capable of storing about 200 tons of grain per bag and need no type of physical support structure and are easily handled as they are loaded. In this type of silo, grain may be stored for up to two years, since, inside the bag, an atmosphere is created without oxygen, which impedes the development of pestilences and insects, thus guaranteeing the quality of the product and avoiding a loss in its final value. The product may be totally recycled.

## LIFECYCLE ASSESSMENT

Lifecycle Assessment (LCA) has become the main tool for evaluating sustainability issues in Braskem's value chain, strategic for the Company and of interest to its stakeholders, especially Clients. At present, there are 38 studies in Braskem's LCA pipeline, 19 of which concluded, 11 under way and eight awaiting consideration.

Example of a study concluded and reviewed in 2013: chocolate milk packaging – developed in conjunction with the International Council of Chemical Associations (ICCA), the study was utilized for the development of a pilot project for measuring greenhouse gases avoided through the use of the plastic.

Two other finalized studies which are under external review compare the environmental impact of disposable plastic (PP) 200 ml and 500 ml cups with other materials. 200 ml cups: a comparison to reusable alternatives (glass, ceramic), for serving water in a corporate environment. The study was developed with Clients. 500 ml cups: the study compared disposable PP cups with paper cups used to serve drinks in fast food outlets. The results of the study, which was developed with data from Clients, showed a better environmental performance of the plastic cups in most impact categories evaluated. These studies are available upon request through the Braskem website, [www.braskem.com/site.aspx/braskem-internacional](http://www.braskem.com/site.aspx/braskem-internacional)

Braskem's goal is to involve all of its business units in Lifecycle Assessment studies by training Team Members in lifecycle concepts.



## BRASKEM-IDESA

G4-EC8 | G4-EN14 | G4-S01 | G4-S02

The Company's largest investment in production capacity at present is in Mexico, where it is developing the Ethylene XII project in association with the local petrochemical company Idesa – a joint venture between Braskem and Idesa, with a 75% - 25% share, respectively.

The petrochemical complex for the integrated production of polyethylene in the region of Coatzacoalcos, Nanchital municipality, in the state of Veracruz, reached, in 2013, approximately 10 thousand workers employed in its construction (about 90% of whom are residents of neighboring communities) and 58% of project completion, falling short of the 68% projected. This gap does not compromise the general timeline. More than 90% of the engineering work for the project has been completed and 97% of the equipment has already been purchased from manufacturers in ten different countries. Operations are set to begin in 2015.

At the end of July, the Braskem-Idesa subsidiary received US\$ 1.5 billion, representing the first installment of the financing set up in 2012, with the support of a multinational pool composed of seven main banks and credit agencies (three development banks, two export agencies and two multilateral agencies) and ten commercial banks. Total financing is for US\$ 3.2 billion, for the construction and operation of the petrochemical complex. The withdrawal of the first installment allowed for the payment of anticipated investments by controlling Shareholders, which, in Braskem's case, came to US\$ 649 million.

Hiring of personnel to operate at the complex is well on its way. At the beginning of 2013, the number had reached 120 new hires. By the end of the year the total was 524. Among these, 150 are recently graduated young people from Mexican technical schools and universities, who were trained for nine months in the operation and maintenance of the complex. Training was performed by the Southwest Veracruz Technological University with the support of SENAI (Brazilian Industrial Learning Service). For the operational phase, approximately 700 direct jobs and 2,300 indirect jobs are foreseen.

In 2013, pre-marketing activities were intensified, having been initiated a year before, and have their sight on marketing products and forming relationships with more than one hundred active Clients. The products being sold are manufactured by Braskem in Brazil as well as being imported from other countries. The goal for 2014 is to expand this customer base even more and continue the evaluation of commercial processes and logistics necessary to meet the needs of the Mexican market.

The project in Mexico was conceived according to the three pillars of sustainable development – economic, social and environmental. The reduction of environmental impact is guaranteed by the mitigating actions already taken and reported in Braskem's 2012 Annual Report (<http://rao2012.braskem.com/relatorio.asp?subrelatorio=28&idioma=in>) and by the use of new technologies in systems and processes.

In terms of social responsibility and relationships with neighboring Communities, communication activities have been undertaken since the beginning of the project, to inform people about project



*Petrochemical complex in Mexico: 10,000 workers employed for the construction work and 58% from the installed project*

progress, the associated impacts, and mitigating actions, as well as the characteristics of the petrochemical complex and its benefits for the local and national economy. Handicraft workshops are also held, which generate additional income for families.

Creating income generation opportunities for the local population is the challenge that arises in Community Relations in 2014. The ten thousand jobs at the peak of construction will begin to decline, and the workers will be demobilized after the completion of construction. The subsidiary is working on identifying business opportunities for the local Communities to supply services which will be necessary once the complex begins operations, such as food services, transportation, production cooperatives and others, therefore generating job and income opportunities in a sustainable manner.

The Braskem-Idesa project will have an ethylene cracker and three polymerization plants. The plant will use natural gas ethylene, a competitive raw material which will be supplied by Pemex (Mexican state-owned petroleum and gas) through a guaranteed 20-year contract. The annual production capacity will be 1 million tons of high and low density polyethylene, which represents two thirds of the total PE imported by the country.

With the Mexican project, Braskem proceeds with its growth strategy, that seeks to internationalize its industrial operations and its sources of competitive raw materials.

## LEARN MORE

- In addition to meeting legal environmental requirements, Braskem has supported its material and service suppliers in their compliance with such obligations.
- The main environmental impacts arising from the petrochemical complex and identified by local stakeholders are the generation of noise and dust, the increase in vehicle traffic and the loss of biodiversity. For each of these, management and control measures are adopted. Among them, the Participative Environmental Monitoring Program. In all, 20 events have been held, with 153 local residents taking part.
- In 2013, more than 400 seedlings of the Miqueliana Ceratozamia plant, which is in danger of extinction and found in the area where the Mexican complex is being built, were returned to nature. All of the plants found at the beginning of the project were relocated to another area and additional seeds were planted in greenhouses. The two thousand seedlings and small plants found today represent five times the population originally identified.
- Communication channels with local Communities (community visits by the project's social team, Open Houses and Community Meetings), initiated by Braskem-Idesa, should remain active following the beginning of operational activities, in 2015.
- Although the petrochemical complex is located near a densely populated region, activities have not needed to be interrupted over the two years of work due to Community complaints.
- In 2013, Braskem-Idesa invested around US\$ 300 thousand in social projects.

**Also in Latin America** – Besides the Braskem-Idesa project, other opportunities for investment in Latin America are being analyzed by Braskem in Peru, Venezuela and Bolivia, with several studies underway.

For additional information on Braskem-Idesa, go to [www.braskem.com.mx](http://www.braskem.com.mx).



## OPPORTUNITIES IN THE USA

In accordance with its growth and competitiveness strategy, Braskem has been studying the possibility of participating in a greenfield project in the state of West Virginia. The project would consist of a petrochemical center for obtaining ethene, integrated with the production of polyethylene, based on shale gas, which is currently the most competitive raw material for the industry on a global level.

The project's business model, which should involve the participation of a group of investors, is currently being evaluated and, if its viability is confirmed, it will be submitted for review by Braskem's Board of Directors. The Company must preserve its financial capacity in order to implement other strategic projects in Brazil, the main one being Comperj - Petrochemical Complex of Rio de Janeiro.

**New partnership** – Braskem and Siluria Technologies have signed a collaboration agreement with the intent to implement a new technology for the direct conversion of methane, the main component of natural gas into ethene. Siluria Technologies, with headquarters in the United States, is a pioneer in the commercial production of fuels and chemical products made from natural gas.

The studies will seek to identify commercial prospects for the technology in Braskem's ethene-based plants and are aligned with the Company's raw material diversification strategy. The demonstration plant will be constructed by Siluria, with an investment of US\$ 15 million, and should begin operations by the end of 2014.



## COMPERJ

The feasibility studies conducted for COMPERJ (Rio de Janeiro Petrochemical Complex), based on competitive indicators, are aligned with Braskem's growth strategy in Brazil, with an increased stake in the local market and the strengthening of the petrochemical and plastics chain.

Throughout 2013, the Company has advanced to the FEL 2 stage of the project, that is, its definitive configuration, which includes negotiations with Petrobras, a partner in the undertaking, with respect to the supply of raw material (gas). As happened in 2012, the technologies to be utilized, specific products and other necessary aspects were considered, in order to define the scale of the industrial units that will have to be built.

Developed in Rio de Janeiro, the project has its own team of approximately 50 people, in addition to third parties. Comperj is a priority for Braskem, because it promises to meet the growing demand for thermoplastic resins in the Brazilian market. The expectation for 2014 is the conclusion of the project design in order to make a decision on the investment in 2015.

COMPERJ is a priority for Braskem since it guarantees supply to meet the growing demand for thermoplastic resins in the Brazilian market.

## RENEWABLES

Braskem continued to implement its strategy of investing in biopolymers, of prioritizing a portfolio to meet the demands of its Clients, as well as researching and developing products and new paths that utilize renewable sources of raw materials. The strategy foresees establishing Brazil as the country with the greatest potential for meeting the world-wide demand for green plastic.

The performance of green polyethylene (Green PE), a biopolymer produced from 100% renewable raw material, sugar cane, exceeded that of the year 2012, increasing the volume of sales, with a focus on Brazil and the United States, and of applications / products offered to consumers. Sales to European countries remained stable in 2013, with the deceleration of certain commercial projects underway, possibly due to the economic crisis still underway, which inhibited Clients from paying the higher price of Green PE. About 60% of Green PE production was exported during the reporting period. The expectation for 2014 is that sales in Brazil will increase, with new contracts coming in.

It bears mentioning that, because of a change in the scenario in Europe following the crisis of 2008, legislation in European countries, which anticipates a 10% utilization of biofuels by 2020, is being reevaluated. In addition to this, Brazil lost the GSP (Generalized System of Preferences) that it had with Europe, raising taxes on the import of ETBE (a bioadditive for gasoline, manufactured by Braskem since 2009 and exported entirely to Europe) from 2% to 5.5%, beginning in January, 2014, causing the Company to see a negative impact on the commercial performance of this product.

Therefore, Braskem decided to convert the Triunfo ETBE plant to MTBE and keep it flexible to produce both products, to be prepared to choose what to produce in accordance with fluctuations in the market. The Camaçari plant continues to produce ETBE, but is also ready to convert its production to MTBE if necessary.

The expense to make the two plants completely convertible was US\$ 250 thousand in Triunfo and US\$ 150 thousand in Camaçari (process underway). Because of the characteristics of the plants, Braskem may opt to produce ETBE 50% of the time and MTBE the other 50%, to take advantage of seasonal fluctuations in the European market. Since both assets continue in normal production, whether producing ETBE or MTBE, there was no impact on Team Members, that is, there were no layoffs because of this decision.



## DEVELOPMENTS IN GREEN PRODUCTS

In 2013, Braskem invested in connections between the factories at the Triunfo Petrochemical Complex (RS) and in the acquisition of equipment in order to expand its portfolio of renewable products, launching a line of low density polyethylene (LDPE) at the start of 2014. The annual production of the new resin will be approximately 30,000 tons. With properties and applications identical to traditional polyethylene (packaging and plastic film) the new resin adds value to the product by being manufactured from a renewable source, ethene derived from sugar cane, allowing carbon to be captured.

Tetra Pak, which has used green plastic in its cardboard packaging lids since 2011, will use green LDPE in all of its packaging produced in Brazil starting in 2014. There will be nearly 13 billion units per year, consisting of 82% material from a renewable source.

The expansion of the line of green products reinforces the Company's commitment to the reduction of greenhouse gas emissions, one of the characteristics of products made from sugar cane ethene.



### THE "I'M GREEN™" LABEL

In order to identify products that use green plastic, and to help the consumer to recognize them, Braskem provides clients with the "I'm green™" label. Green PE is used in certain products of more than 50 Clients, among them Embalixo, Faber-Castell, Johnson & Johnson, Kimberly-Clark, Natura, Tetra Pak, Tigre and Walmart. Among the brands that began to use green plastic in 2013 are:

- **Adimax:** a line of Super Premium Natural Formula dog and cat food;
- **Panvel:** a chain of pharmacies in Brazil, with an exclusive line of cosmetics, used the product in Panvel Vert;
- **Luvex:** new packaging for their protective hand cream (PPE- Personal Protective Equipment) and sunscreens;
- **Pilecco Nobre Alimentos:** rice packaging;
- **NobelPack:** promotional bags;
- **Unipac:** agrochemicals.



## INNOVATION

Braskem's activities in Innovation and Technology (I&T) take short-, medium- and long-term perspectives, with a focus on meeting Client demands and proposing new solutions that bring added value to society through its products and processes. Such efforts are also conducive to the objective of supporting the Company's business expansion projects, in accordance with the sustainable development agenda.

To carry out its studies and research, Braskem has its own team composed of 323 specialized professionals who support two Technology and Innovation Centers: one in Triunfo (RS) and the other in Pittsburgh (USA), with 24 innovation laboratories and eight pilot plants. The Company also acts in partnership with external companies and laboratories for research in chemicals and polymers from petrochemical and renewable sources.

Highlighted projects for the renewable raw material derivatives segment: Braskem has signed an agreement with Genomatica, a North American biotechnology research company, for the joint development of green butadiene. The goal is, preferably, to meet the needs of the synthetic rubber market. Through the contract announced

in December, 2013, if results prove successful, the construction of a pilot plant and a demo plant is anticipated over the next few years. This will be a long-term project, since it involves research and development activities.

Thirteen new products were added to Braskem's portfolio in 2013, among which the following are highlighted: polyethylene for the agrochemical field and for the shrink-wrap market; polypropylene for the automotive industry and for the outdoor furniture sector. Learn more in Solutions for Clients.

The Company continues its work on the semi-industrial UTEC (ultra high molecular weight polyethylene) fiber plant in Camaçari (BA), where 1.2 tons of the product was produced for testing of an application in bullet-proof vests and cables for pre-salt oil platforms. One of the characteristics of UTEC fiber is its high resistance to impacts and to abrasive wear.

In Innovation management, all research teams are utilizing a single system for project control, with comparable metrics and parameters, which facilitates the consolidation of data by number of

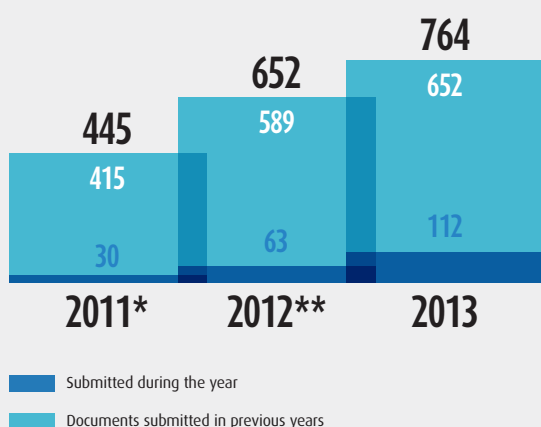


projects underway, resources employed, researchers involved, and innovation by business area, among other information. The system adopted facilitates reporting to public agencies and financiers.

Also worthy of mention is the holding of Braskem's first Global Technology and Innovation Conference, with 170 Team Members participating from Brazil, the United States and Europe. The conference was held in Rio Grande do Sul and was designed to promote greater synergy among the Innovation and Technology teams from the various locations. Ninety scientific articles were presented, written by Team Members who work in the field of polymer technology and innovation, renewables and basic petrochemicals, as well as lectures by international academicians.

In addition, the Plastic-to-Fuel-to-Feedstock workshop (a meeting on the use of plastic as a raw material for fuel) was held, bringing together different sectors involved in the plastics chain (manufacturers, Government, trade associations) to discuss the proper disposal of plastic after-use waste and to study alternative solutions, in addition to creating a permanent agenda on the issue.

## PATENTS



\* 2011: patents registered from assets acquired during the period in the United States and Europe are not included.

\*\* 2012: patents registered from the latest assets acquired by Braskem are included. Data relating to the patents published in the 2012 Annual Report were revised as a result of alterations in the patent document control system.

## HIGHLIGHTS

- Expenditures in 2013 R\$ 200 million (in 2012 they were R\$ 188 million).
- 19% of the Company's revenue generated by the Polyolefins Unit in 2013 was based on new products developed in the last three years by the Innovation department.
- 480 Clients were supported by the Innovation Technology Center in Triunfo, through 15,000 support analyses.
- 300 Clients were supported by the Innovation Technology Center in the United States.
- 274 projects are in the Company's pipeline to meet the needs of the various business areas.
- 112 new patent applications were filed, making a total of 764 patent documents in Brazil, the United States, Europe and Asia, the majority of which are related to technologies that use renewable raw materials.





## ECONOMIC AND FINANCIAL PERFORMANCE

Braskem's sales volume grew 6% and its net revenue was R\$ 41 billion, 13% more than in 2012.



## FINANCIAL RESULTS

G4-9

In a still challenging year, the global economy showed signs of recovery, signaled by better performance in the USA and by indications that the Euro Zone was beginning to emerge from the crisis. China's GDP, on the other hand, grew in line with market expectations, producing an increase of 7.7% in 2013. This panorama aided in the recovery of profitability in the world petrochemical industry, and the spreads for thermoplastic resins and for the principal basic petrochemicals expanded by 28% and 12%, respectively.

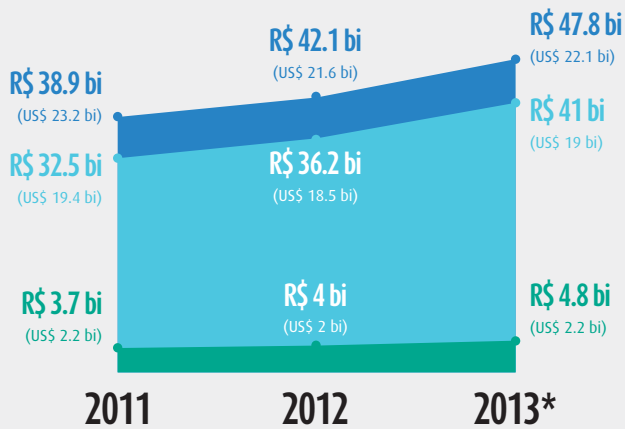
In this scenario, the consolidated net revenues of R\$ 41 billion represent growth of 13% over 2012. EBITDA (earnings before taxes, interest, depreciation and amortization) in reais, totaling R\$ 4.8 billion, also exceeded projections and represented an increase of 22% over the previous period. In dollars, the EBITDA was US\$ 2.2 billion, 11% above that reached in 2012.

Relevant factors for the year's results: (i) a better mix of sales of thermoplastic resins; (ii) an improvement of petrochemical margins in the international market; (iii) the devaluation of the real; and (iv) the PIS and Cofins tax break on the purchase of first and second generation petrochemical raw materials, allowing for a partial recovery of competitiveness for the Brazilian petrochemical industry.

The net profit was R\$ 507 million, reflecting the improved operational performance during the period and the company's adoption, starting in May, of hedge accounting, which explains better the effects of exchange rate variations on the Company's debt and profit.



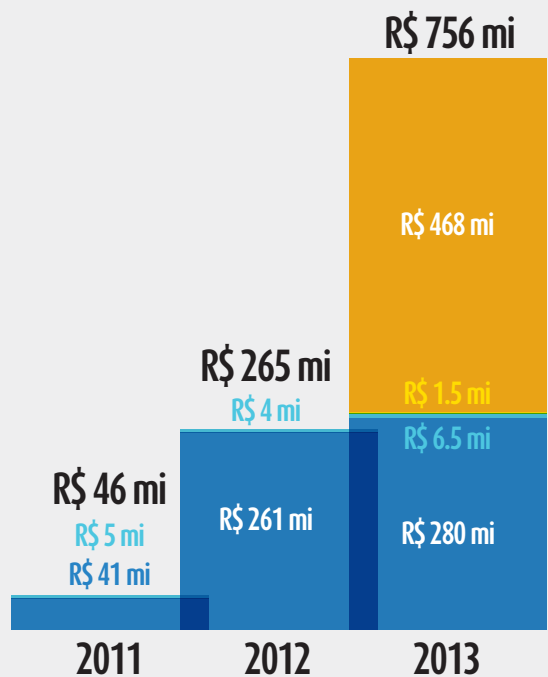
## REVENUE



- Consolidated gross revenue
- Consolidated net revenue
- EBITDA

## GOVERNMENTAL INCENTIVES

G4-EC4



- Tax incentives / credits\*
- Grants for investments, research and development\*\*
- Awards\*\*
- Financial assistance from ECAs (export credit agencies)\*\*\*\*

\* Reduction of income tax for industrial plants in Bahia and Alagoas, Reintegra Program (since 2011) and ICMS tax incentives, granted by the Government of Alagoas, through the Alagoas State Integrated Development Program - Prodesin.

\*\* Finep Award.

\*\*\* Risk insurance transaction carried out with Nippon Export and Investment Insurance (NEXI, a Japanese agency) for investment in maintenance and in the butadiene project.

## HEDGE ACCOUNTING

Braskem has its cash flow generation strongly pegged to the dollar. With practically 100% of its revenues tied, directly or indirectly, to the dollar, and about 80% of its costs also linked to the North American currency, the Company feels that keeping a significant part of its debt in dollars is a “natural hedge.” As a result of the above, which Braskem considers appropriate and in agreement with its Financial Management Policy, the effects of exchange rate gaps have an impact on its financial results, the accounting of which must be in reals.

By regularly exporting part of its production and with the objective of better reflecting exchange rate fluctuations in its results, the Company decided to designate, starting on May 1, part of its liabilities in dollars as a hedge against its future exports.

## DEBT PROFILE

On December 31, 2013, Braskem reported consolidated gross debt of US\$ 7.9 billion and net debt of US\$ 6.4 billion, a reduction of 7% from the amounts reported for 2012. Net debt tied to the US dollar was 75%. On December 31, 2013, the average debt term was 15.5 years. Taking into account only the part of the debt in dollars, the average term goes up to 20.7 years. The 11% growth of the EBITDA (US\$ 2.2 billion) and the reduction in net debt made it so that financial leverage, measured by the ratio of net debt / EBITDA, measured in dollars, closed the year 2013 at 2.87 times, a reduction of 12% compared to the previous year. In reals, the leverage was 3.09 times, with a decrease of 8%.

## RISK RATING

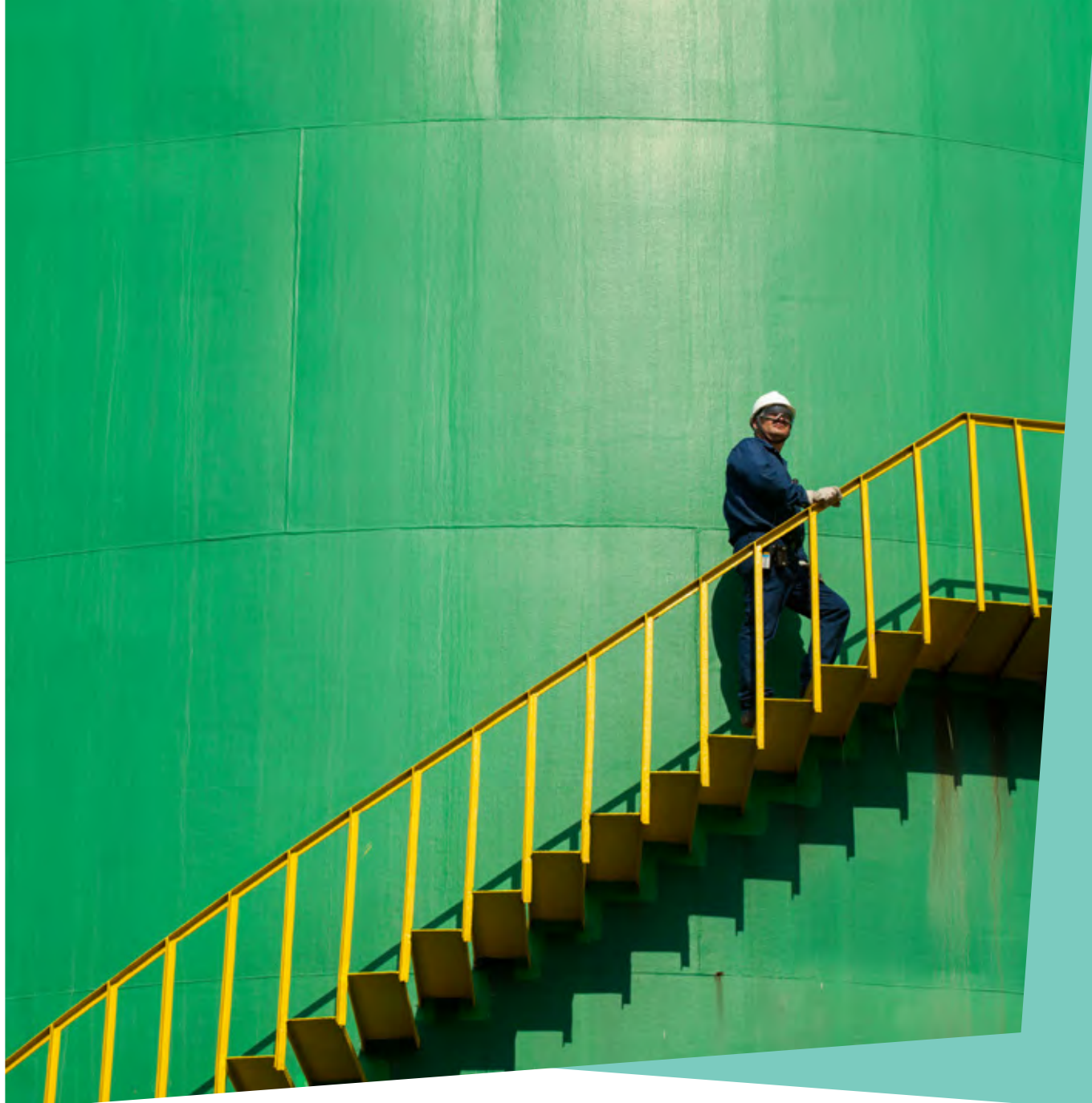
In 2013, Braskem maintained its Investment Grade according to grades given by the three major global risk rating agencies. Moody's and Fitch Rating put Braskem's rating at “Baa3” and “BBB-”, respectively, with a negative outlook. This grade reflects the positive impact of the tax break on raw materials, since this improves the Company's cash flow, profitability and capacity to invest in diversification projects.

Standard & Poor's, in a report published in July, also kept the “BBB-” rating and a stable outlook for Braskem. The agency maintained its confidence in the Company's reduction of leverage, as a result of the recovery of international spreads and the Brazilian Government's measures to stimulate the industry.

MOODY'S  
**Baa3**

FITCH  
RATINGS  
**-BBB**

STANDARD  
POOR'S &  
**-BBB**



## DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

G4-EC1

### DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

	2013 (R\$ million)	2012 (R\$ million)	2011 (R\$ million)
<b>(+) Direct economic value generated</b>	<b>47,981</b>	<b>43,897</b>	<b>40,422</b>
a) Revenues	47,981	43,897	40,422
<b>(-) Economic value distributed</b>	<b>45,006</b>	<b>43,698</b>	<b>40,247</b>
b) Operating costs, including payments to Suppliers	40,048	37,331	33,553
c) Team Member wages and benefits	861	808	762
d) Payments to providers of capital	2,525	4,391	4,224
e) Payments to Government	1,573	1,156	1,692
f) Community investments	17,5	13	16
<b>(=) Economic value retained</b>	<b>2,975</b>	<b>199</b>	<b>175</b>

## INVESTMENTS

In line with the investment strategy of obtaining returns above capital cost, Braskem disbursed R\$ 2.7 billion (compound interest is not included) in 2013, 21% above the initial estimate. The deviation from what was initially planned is explained, mainly, by the project in Mexico. The main factors were:

- early payment, due to the arrival and assembly of large equipment at the site;
- delay by the Mexican Government in the process of refunding VAT (Value Added Tax) on the purchase of equipment;
- the effect of converting investments from dollars to reals, which is the Company's working currency.

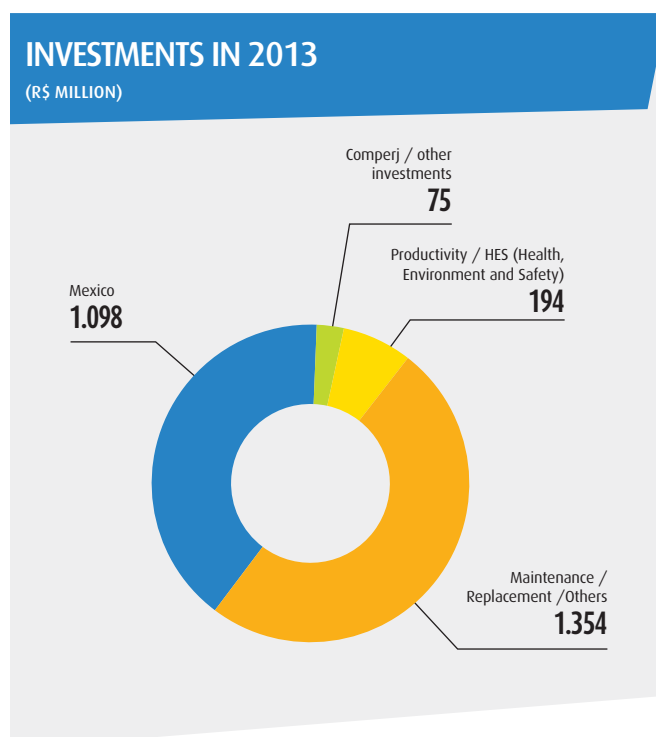
It must be emphasized that Braskem continues to maintain its financial discipline, and this deviation from what was initially planned, does not represent a cost increase in the total investment of the project.

To maintain the reliability and the high level of efficiency of its assets, Braskem disbursed R\$ 1.4 billion for maintenance, including investments in HES and the expense of the scheduled maintenance shut-down in Camaçari (BA) in the fourth quarter of 2013.

For 2014, the estimated investment is R\$ 2.7 billion, distributed as follows:

- about 25% will be disbursed for the construction of the new petrochemical complex in Mexico;
- 60% is earmarked for maintenance, productivity improvement and the reliability of assets, which include the scheduled maintenance shutdowns of the crackers in Rio Grande do Sul and São Paulo;

- The remainder will go to all other projects underway, such as the conversion of the polyethylene production lines in Bahia, to expand their capability for metallocene-based LLDPE, the studies relating to Comperj and the production, in Camaçari (BA), of styrene specialties and copolymers of acrylonitrile butadiene styrene (ABS) and styrene-acrylonitrile (SAN), and the completion of construction of the pipeline for the future supply of propene to the acrylic complex in Bahia.









## OPERATING PERFORMANCE

In 2013, the Brazilian thermoplastic resins market showed an 8% increase over the previous year, reaching approximately 5.4 million tons. The demand was positively influenced by the replenishment of stocks in the chain throughout the first half of the year, and by good performance in certain sectors, such as agribusiness, automotive and infrastructure.

In line with its growth strategy and commitment to the domestic market, Braskem's resin sales in Brazil totaled 3.7 million tons, representing 6% growth compared to 2012. The Company's market share was 68%.

During a year in which petrochemical centers were operating at an average rate of 90%, Braskem showed a record production of 3.4 million tons of ethylene. The scheduled maintenance shut-down of

one of the Camaçari cracker lines and the interruption of production, arising from electric energy supply problems in August were offset by the high rate of operation in the first half of the year.

Ethane and propane sales totaled 924 million tons, in line with 2012. In the case of butadiene, sales increased by 7%, reflecting the 100 thousand ton expansion that went into operation in June of 2012. Total sales of BTX, on the other hand, decreased by 2%, reflecting the lower production volume from one period to the next.



With 6% growth compared to 2012, resin sales in Brazil totaled 3.7 million tons. The Company's share in the Brazilian market was 68%.



*Santo André UNIB (SP): increase in the industrial excellence indicators at the UNIBs due to the improvements implemented*

## **BASIC PETROCHEMICALS**

In 2013, the average rate of operation of Braskem's crackers was 89%, in line with the previous year. 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 and process modernization, improvements in energy efficiency and reliability of productive processes, and initiatives focused on Health, Safety and the Environment. Altogether, these projects received investments on the order of R\$ 95 million.

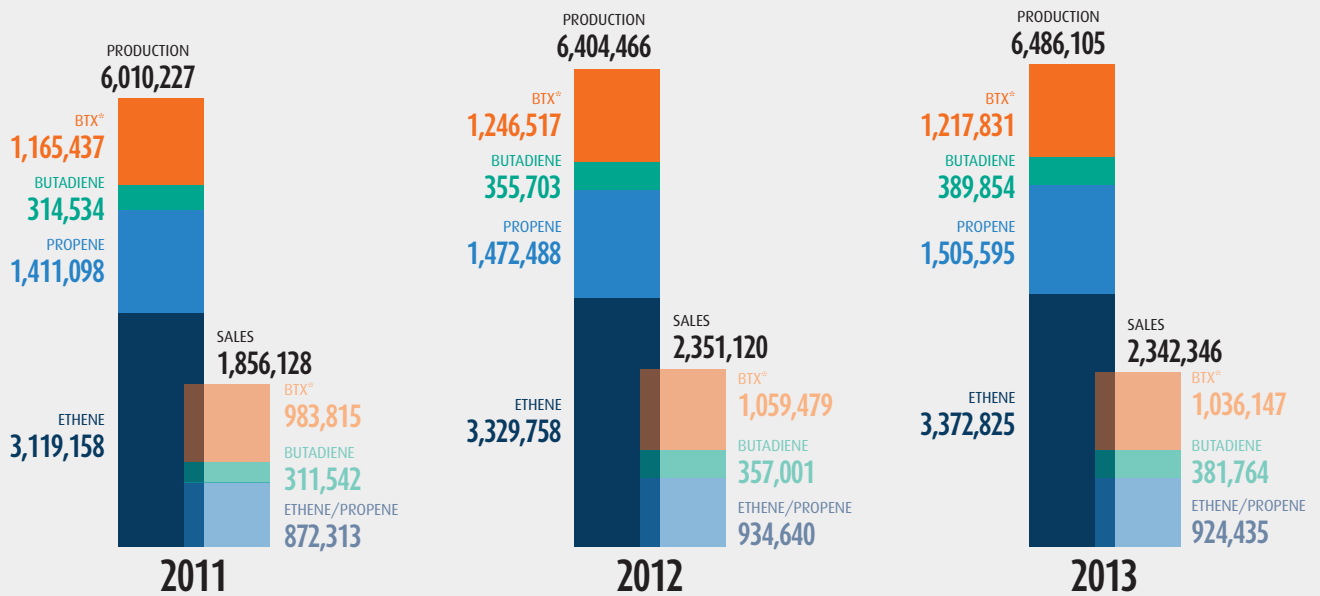
The Basic Petrochemical Unit (UNIB) continued its strategy of adding value to the naphtha cracker chains, by identifying new opportunities to better serve Clients and strengthen the production chain of plastics in Brazil. According to this strategy, UNIB keeps a series of projects on its docket: (1) investment in infrastructure, to provide materials and utilities to the acrylics complex being built by BASF in Camaçari; (2) partnering with the Client to make local use of the butadiene produced by Braskem; (3) the signing of a memorandum of understanding with Styrolution, to analyze the viability of a project to produce ABS and SAN in Brazil; and (4) options for improving the understanding of the Clients' perception of the importance of Braskem's products within the chemical chain, which adds value to the sector (Pricing project).

For further information regarding the strategy of adding value to the naphtha cracker chains, access the 2012 Annual Report at this link <http://rao2012.braskem.com/relatorio.asp?subrelatorio=35>

UNIB's actions are based on three pillars. The first is designed to strengthen core ethene and propene operations, with operational efficiency and competitiveness. The second seeks to add value to cracker chains, extracting from them co-products such as the derivatives C4 (butadiene) and C5 (DCPD, PIPS, isoprene), increasingly scarce in the Americas and with price levels trending upward on the international market. And, whenever possible, to attract industrial investments to Brazil based on local transformation of chains or co-products into products of increased added value. The third facet points toward a medium-term horizon and seeks to open the way for chemical specialties, a niche with greater margins of contribution.

# BASIC PETROCHEMICALS

TONS



- Ethene – Production
- Propene – Production
- Butadiene – Production
- BTX\* – Production
- Ethene/Propene – Sales
- Butadiene – Sales
- BTX\* – Sales

\* BTX: benzene, toluene, para-xylene, ortho-xylene.  
 Note: On average, 48% of basic petrochemical sales go to Braskem's second-generation units. The remaining 52% are sold on the market.



Laboratory analysis at UNIB, in Santo André (SP): increase in the industrial excellence indicators at the UNIBs due to the improvements implemented



*PP operational unit, in Paulínia (SP): polyolefin (PE and PP) sales volume totaled 3 million tons*

## **POLYOLEFINS (PE AND PP)**

Brazilian demand for polyolefins (PE and PP) was 4.1 million tons in 2013, 7% above the previous year. Braskem's sales volume, in turn, increased 5%, totaling 3 million tons with a market share of 74%.

To improve the competitiveness of its products and preserve its market share, the Company operates on different fronts, such as continuous investments in operational efficiency, cost reduction and institutional actions to correct tax inequalities compared to imports.

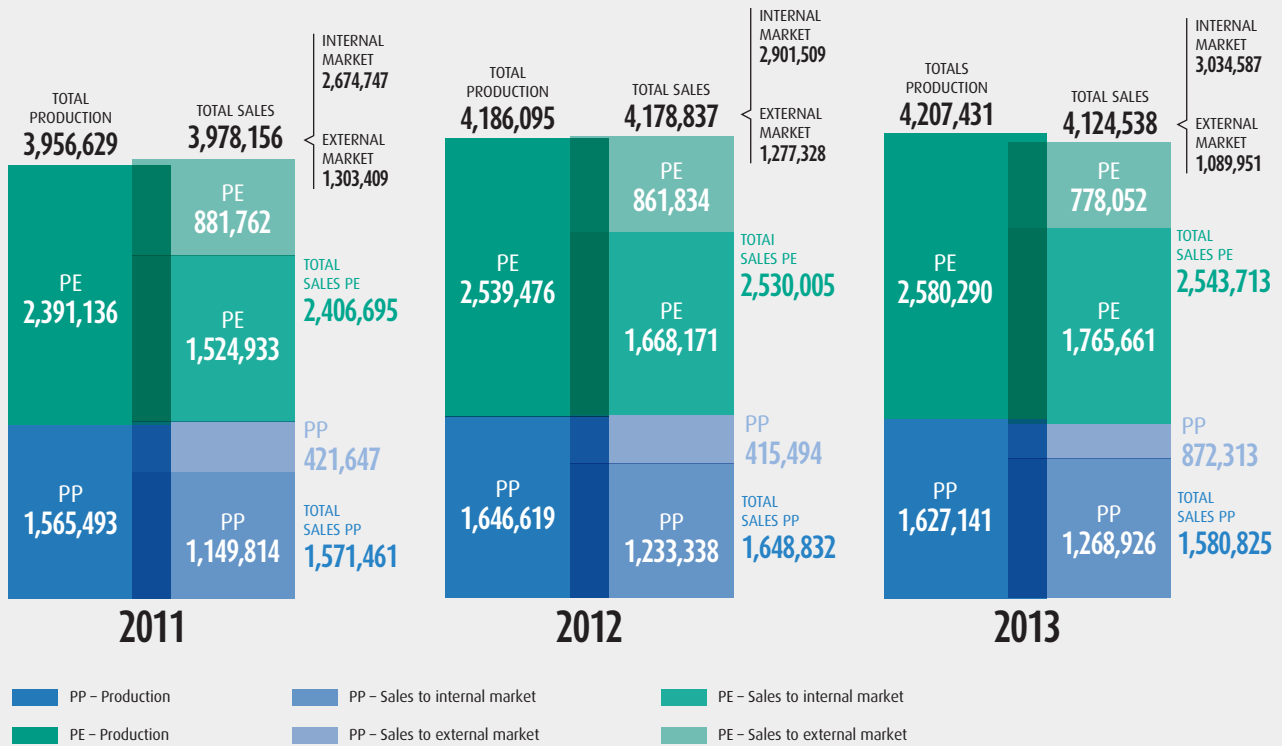
Among polyethylenes, sales were driven by the flexible films segment, primarily those intended to be used in plastic bags, which regained their market in 2013, special films, intended for use in food and pet food packaging, and the roto-molding sector for the manufacture of hollow items such as water tanks. Polyethylene also began to be utilized in the manufacture of drain pipes, in infrastructure projects, and new grades of resins were developed. As a highlight, Braskem approved the expansion of the production capacity of metallocene in Camaçari – more information may be found at Growth strategy / Strengthening the production chain.

Also in polyolefins, there was an improvement in the results for polypropylene, but business was impacted by the significant volume of imports. In response to this issue, Braskem initiated a commercial defense process, with investigations of dumping with regard to imports coming from India, South Africa and South Korea.

Among the fastest growing segments of the Brazilian transformation industry which influenced the sales of PP, are the following: rigid packaging (margarine, cream cheese, buckets), raffia sacks, to meet the needs of agroindustry (packaging for seeds, fertilizers, sugar for export) and compounds for the automotive industry (the demand for PP for automobile parts is growing). Of particular importance is the fact that the products of the Maxio line, launched at the end of 2012 and differentiated both competitively and environmentally, were well accepted, and sales grew about 30% over the course of 2013. Further information about the Maxio line is found in Solutions for Clients/Environmentally improved products.

# POLYOLEFINS

TONS



Team Members at the PE unit in Cubatão (SP): PE sales were driven by the flexible film, special film and roto-molding segments

## VINYLS

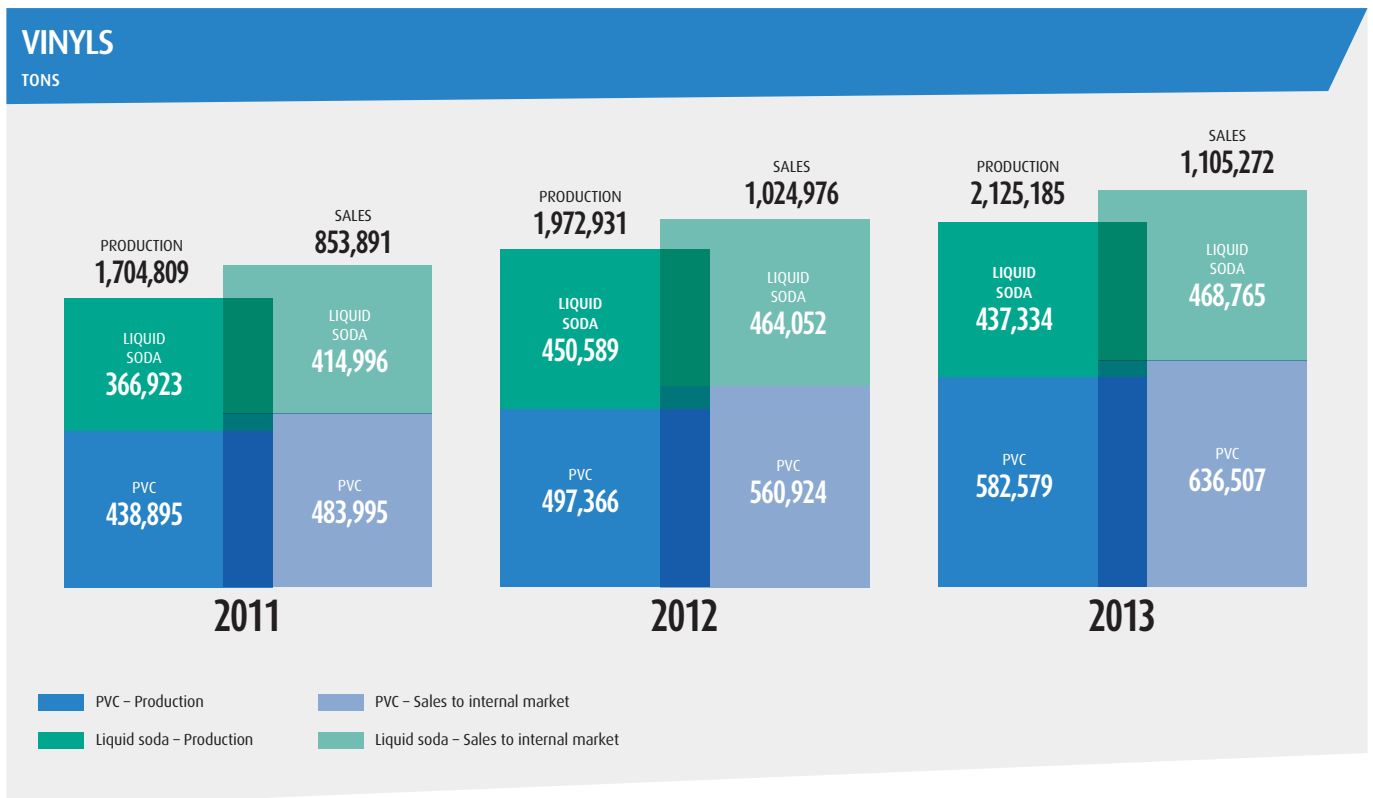
The demand for PVC and soda remained high on the Brazilian market, led by the civil construction segment, in the case of PVC, and by the paper and cellulose industry, in the case of soda.

Among the industrial highlights, the PVC plant in Camaçari broke a production record, with 240 thousand tons. The Alagoas unit, which started operations in 2012, has not yet reached its projected performance level on the order of 288 thousand tons for 2013. The main reasons were technological adjustments needed to reach maximum potential for the plant, shut-down for maintenance of the VCM plant (raw material for the production of PVC) and interruptions in the supply of electrical energy in the region. To supply the market, Braskem imported about 48 thousand tons of PVC in 2013.

In the commercial domain, the 14% increase in total sales volume – for a portfolio of more than 370 active Clients – was a record. As for the relationship with its Clients, Braskem was recognized as best Supplier by Cenibra, a paper and cellulose company.

Among the projects underway in the Vinyls area, we should emphasize the work performed to replace asbestos diaphragm cell technology with synthetic diaphragm cells in the chlorine and soda production process, conforming to phased-in regulatory requirements with a deadline yet to be defined. The project made 30% progress, corresponding to 131 cells, and should be completed by 2015.

The vinyls area is also studying alternatives for generating steam for the PVC plant in Alagoas, based on eucalyptus biomass, in partnership with the Renewable Energies of Brazil (ERB) company. The project establishes a contract for a 20-year supply of steam and stipulates that investment, operation and maintenance will be the responsibility of the partner. The biomass unit should begin operating in 2016.







## UNITED STATES AND EUROPE

The United States and Europe Business Unit which began to represent the UTEC (ultra-high molecular weight polyethylene) business in 2013, reached a sales volume of almost 1.8 million tons of polypropylene – 3% higher than 2012 – and 24.1 thousand tons of UTEC over the period.

In the USA, Braskem has held its leadership position in the PP market, with a market share around 18%, and a sales volume greater than the Company's production capacity in the country, which is 15.9%.

There was significant improvement in the reliability of the industrial units, which raised the utilization rate to 91%. Taking advantage of synergies with plants acquired in 2011 made it possible to reallocate production lines in the units, with an increase of capacity and a reduction in costs. There was improvement, also, in stock management, which reduced storage volumes and costs.

In Europe, the year was challenging for business as a result of the macroeconomic scenario and an increase in the importing of polypropylene from other regions, especially the Middle East, putting a price and demand squeeze on local producers. For 2014, a moderate recovery of the Euro Zone economy is expected, but challenges in the local petrochemical industry will probably continue, as a result of strong competition from imports.

As for its relationship with its Clients, Braskem participated in the K Trade Fair, the largest event in the global petrochemical industry, held every three years in Germany. It was an opportunity to gain exposure for the brand and meet with European Clients.

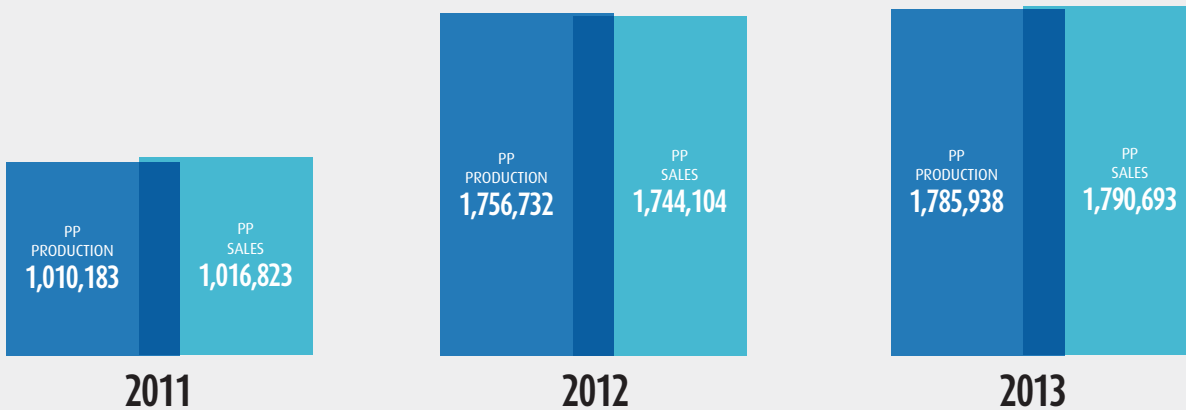
The inclusion of the UTEC business by the United States and Europe Unit created conditions for viability studies for transferring the production of resin to the USA, which is its major buyer. UTEC resins, although manufactured in Brazil with 100% domestic technology, are almost exclusively for export to the United States and Germany.





## USA AND EUROPE

TONS



■ PP - Production  
■ PP - Sales





## **SOCIAL DEVELOPMENT**

Actions and initiatives focused on Team Members, Suppliers, Communities, the Government and society.



*Leader-Team Member relationship - the essence of the Braskem communication process*

## TEAM MEMBERS

At Braskem, the focus of people development is through on-the-job learning, based on the relationship with Leaders and by overcoming the challenges in each Team Member's scope of work. In line with this approach, the Company values self-development and the pursuit of personal and professional growth. In 2013, investment in education for teams in Brazil, the United States, Germany and Mexico was approximately R\$ 21 million.

The education and development programs are planned to support the Company's growth process, fostering the required competencies, to ensure a motivating environment and to strengthen the corporate culture. Accordingly, in 2013 about 300 Team Members completed the Development Program for Team Leaders (PDLE) implemented in the previous year with the aim of strengthening the Team Leader's role as an educator. Team Members from junior management level and above participated in the program.

One of the highlights in people development was the partnership signed with Petrobras University to carry out two-year professional improvement programs for 70 engineers in the fields of Petrochemical Processing Engineering and Mechanical Maintenance Engineering.

The Operator 2020 program was also continued; the objective of this program is to train and develop technical-level professionals (operation, maintenance, laboratories), who currently represent over 45% of Braskem's workforce. The program is also training

operators to work in the Braskem-Idesa petrochemical complex beginning in 2015, when industrial activities will start up at the Mexican complex.

Further developing the strategy of rolling out sustainability knowledge through peer-led initiatives, which began with the Sustainability Competencies Development Program, which took place from 2011 to 2012, thirty people were trained to deliver the Leaders for Sustainable Development Workshops. In 2014, all Braskem Leaders will be invited to participate.

Most of the educational activities are carried out in Brazil, but courses and workshops were also offered to teams in the United States, Germany and Mexico, especially in the areas of strengthening TEO, the company's corporate culture, and the development of specific competencies, such as leadership.

Focused on training emerging professionals, the Associate program for interns and trainees is carried out at all locations except Germany. For Team Members in Brazil approaching the end of their careers, Braskem offers Horizon, a voluntary program which prepares and supports professionals and their families for their post-career transition.



People development is achieved through work and by overcoming challenges

## PERFORMANCE AND CAREER MANAGEMENT

To consolidate decentralization and strengthen the partnership between Leaders and their teams, Team Members participate in an annual performance management process called the PMEJ (Plan/Negotiate, Monitor, Evaluate and Judge) cycle, whereby goals and expected performance for the period are established.

Results are monitored periodically, which creates an opportunity for Leaders and Team Members to discuss progress achieved so far and any adjustments needed. At the end of the year, performance reviews take place, and final results are evaluated. The final step, judgement, is a consequence of this process, and is when the Leader decides on the Team Member's career progression. At Braskem's units in Brazil and in the United States, the evaluation process is well established. In Germany, the first cycle took place in 2013.

## DISTINCTION AWARD

As an initiative designed to encourage creativity, spirit of service and the pursuit of knowledge, the Distinction Award is held annually in Braskem and is open to all Team Members. In 2013, 303 projects were developed by teams, bringing together a total of 1,073 Team Members. There were four categories – Continuous Improvement, Adding Value to the Client, Innovative Solutions and HES (Health, Environment and Safety) – and prizes were awarded to first through third place in each category. Please see below the winner in each category.

Category	Project Name	Units where the project was developed
Continuous Improvement	Increased reliability in maritime logistics for raw material at PP5 plant	Polyolefins, Comperj, Renewables and Vinyls Unit
Adding Value to the Client	Expanded PVC Decks – Beauty and performance together in a new product	Polyolefins, Comperj, Renewables and Vinyls Unit
Innovative Solutions	Innovation of UTEC application to support piping	Investments
HES	SIL – Safety Integrity Level - checking and increasing process safety	Basic petrochemicals



Motivating work environment, built based on relationships of trust

## WORK ENVIRONMENT SURVEY

The initiatives and activities planned for Braskem's internal public aim to support the Company's business and growth, through the personal and professional development of its Team Members, in a motivating work environment built on mutual trust, leading to Braskem's being perceived as the best company to work for in the chemical and petrochemical sector.

Thus, the Company conducts an online survey every two years to listen to people and identify the strengths and improvement opportunities of the work environment. Participation is voluntary, and anonymity preserved. Participation in the 2013 survey was 77%, meaning that nearly 6,000 people answered the questionnaire, which confirms everyone's commitment to an even better work environment. The previous study, carried out in 2011, achieved a 69% response rate.

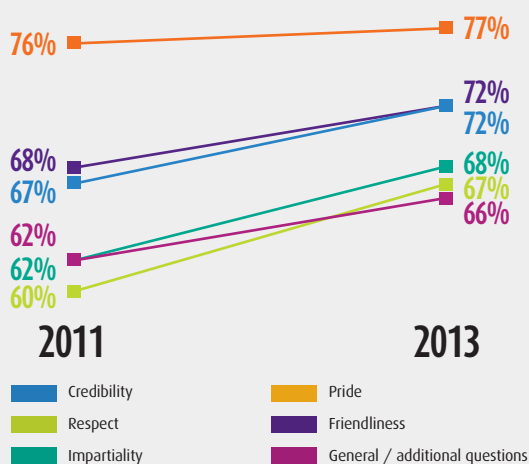
The general satisfaction rate grew by six percentage points from 62% to 68%, for the Company view (that is, perception of the company overall), and increased five percentage points, from 66% to 71%, for the Area view (that is, Team Member's perception of the area in which they work). The results indicate progress in all the dimensions assessed, including additional questions specific to Braskem's reality, according to the methodology of the Great Place to Work Institute. The additional questions refer to the relationship between Leaders and their teams, remuneration, strategy, vision, planning and change management.

The strengths identified by the 2013 survey include pride of belonging, understanding of company strategy, camaraderie and the following aspects of the relationship between Leaders and their teams: confidence, knowledge and information sharing, autonomy and delegation to teams.

Opportunities for improvement showed progress over the 2011 study, but there is still room for further improvement. These include:

- strengthening discipline in the performance appraisal cycle, creating more opportunities for dialog and broadening the practice of giving feedback;
- Relationship between Leaders and their team: although there were significant improvements on the previous study, there is still room for improvement in the practice of the company culture, TEO.

### SATISFACTION RATES (%)



Notes: The 2013 survey was sent to Team Members at all of the Company's sites, including commercial offices outside Brazil. In 2011, the survey was not sent to teams in Germany, as there were no operations in that country





Actions and activities planned for Braskem's internal public: support for businesses and for the Company's growth through the personal and professional development of its Team Members

## TEAM MEMBERS' PROFILE

Braskem had a total of 8,096 Team Members at the end of 2013. Of this total, 6,742 were working at industrial units and offices in five Brazilian states, 624 in the United States, 524 in Mexico, 168 in Germany and 38 at commercial offices in other countries. This total includes members of quantiQ, the distributor of chemical and petrochemical products controlled by Braskem. However, members of this subsidiary are not included in the detailed GRI indicators, as in 2013 there was an intention to sell it, which did not happen as the Company changed its decision.

### TEAM MEMBERS' PROFILE IN 2012

Country	Region	Men	Women	Total
Brazil		80% (5,202)	20% (1,300)	6,502
United States		84% (499)	16% (95)	594
Germany		36% (53)	64% (94)	147
<b>Total Braskem</b>		<b>79% (5,754)</b>	<b>21% (1,489)</b>	<b>7,243*</b>

Notes: there were only three members working part-time (all women based in the U.S.). Fewer than 1% of the Team Members had temporary contracts in 2012. The data include countries where Braskem maintains production operations. Braskem's database does not track minority groups.

### TEAM MEMBERS' PROFILE IN 2013

G4-10

Country	Region	Men	Women	Total
Brazil	South	82% (1,460)	18% (314)	1,774
	Southeast	74% (1,735)	26% (601)	2,336
	Northeast	82% (1,910)	18% (433)	2,343
	Subtotal	79% (5,105)	21% (1,348)	6,453
United States		82% (510)	18% (114)	624
Germany		64% (108)	36% (60)	168
Mexico		84% (440)	16% (84)	524
International offices		53% (20)	47% (18)	38
<b>Total</b>		<b>79% (6,183)</b>	<b>21% (1,624)</b>	<b>7,807</b>

Notes:

a) There are only 13 members working part-time (two women in the U.S., one in Mexico and ten men in Germany).

b) Fewer than 1% of members have fixed-term contracts.

c) These figures do not include quantiQ, a subsidiary of Braskem, because the Braskem intended to sell it in 2013, and also does not include the international sales offices.

d) Braskem is reviewing its system for monitoring the number of Partners (contractors). For this reason, reliable data could not be obtained in 2013. There were no operational changes to the Company nor outsourcing of new services on a national scale. Therefore, it is believed that the number and profile of Partners did not changed significantly in 2013.

## NEW HIRES AND DISMISSALS

### G4-LA1

In 2013, Braskem hired 1,049 people in the countries where it operates. Given that 633 people left the company, 416 new employment positions were created, most of them in Mexico, in preparation for the start-up of the new plant in 2015. The total turnover rate (excluding quantiQ and business offices) was 10.8%, above the result of the previous two years, 8%. The increase is primarily due to the large number of new hires in Mexico. Hiring and dismissals data broken down by region and gender, following the GRI standard, is presented in the appendices.

## REMUNERATION

Braskem has a competitive remuneration system for its members, with the goal of attracting and retaining qualified professionals, as well as to allow collective and personalized remuneration management, regardless of gender, race or color.

The remuneration strategy is linked to factors and considerations that make it more equitable (pay proportionally to skills, job training and contribution to results), competitive (in line with market standards), efficient (in terms of cost to the Company) and safe (committed to business continuity). As the goals are met for the short - medium - and long terms, greater results are generated for the Company, which, in turn, distributes them as fixed remuneration in the short-term, variable in the medium-term and as incentives in the long-term, if applicable. This cycle allows the Company to grow and develop in the quest for its perpetuity.

As a large company with a remuneration level above the market average, Braskem believes it is contributing to job creation and the growth and development of its local Communities. See in the chart below the comparison between the lowest wage offered by the Company and the minimum wage in the areas where it does business.

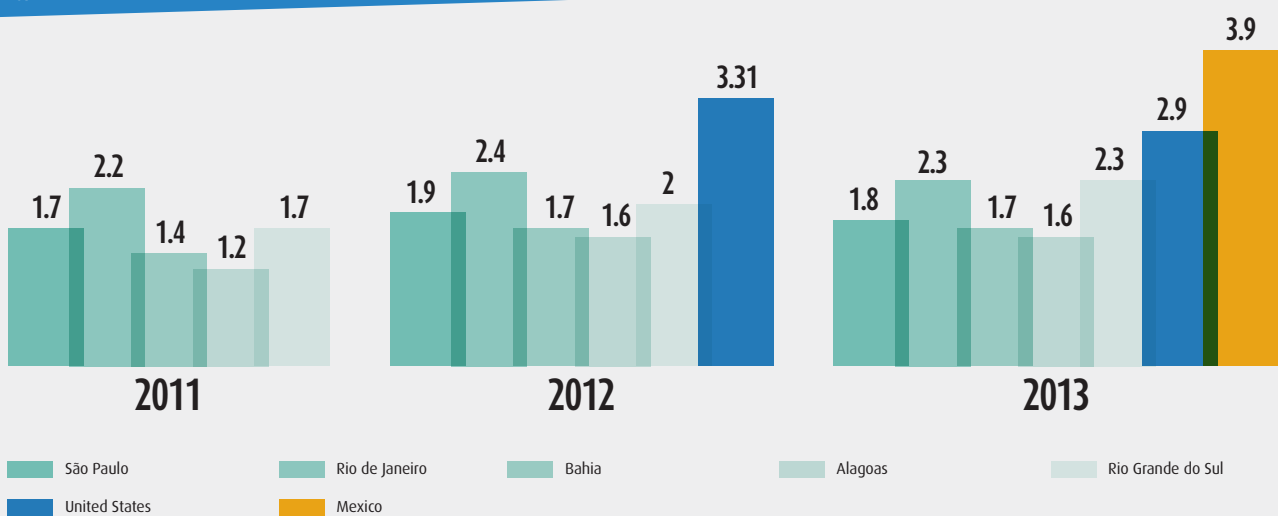




## COMPARATIVE DATA:

RELATIONSHIP BETWEEN THE LOWEST STARTING WAGE AT BRASKEM AND THE LOCAL MINIMUM WAGE

G4-EC5



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 as per union agreement (\*amount relating to the 2012 agreement since the 2013 negotiation had not been concluded at the closing of this indicator); (3) minimum wage in the U.S. and Mexico = national minimum wage.

## SUPPLIERS

Braskem’s Suppliers are required to follow the commitments to professional and ethical behavior expressed in the Company’s Code of Conduct, which sets out the Company’s processes and approach. Suppliers also have access to the Ethics Line Channel, so that they may contribute with information to reinforce the transparency and confidence that should exist in such relationships. The Braskem portal has a dedicated page for this subject: <http://www.braskem.com/site.aspx/suppliers>

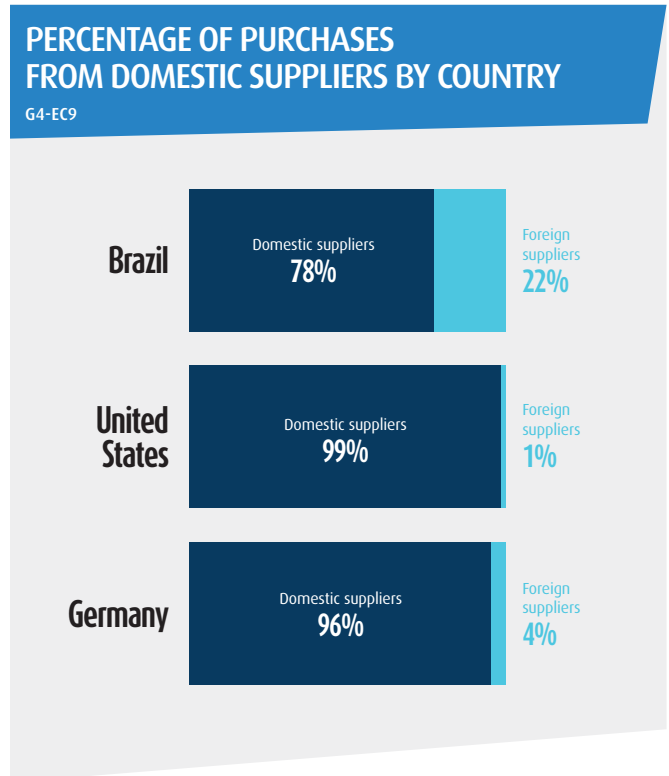
Due to Braskem’s decentralized structure, supplier management follows the same pattern, meaning that each area is responsible for its own spend analysis, quality of products and services purchased, adherence to codes of ethics and conduct, legal regulations and requirements relating to Health, Environment and Safety (HES). With regard to this topic in particular, Braskem has a robust HES culture, which permeates relationships with Suppliers, which are further supported by the Sustainable Development area.

According to Braskem’s purchasing policy, only Suppliers who can demonstrate strong economic and financial health are contracted. Moreover, they must be in compliance with regulatory and tax obligations and have proven technical and administrative qualifications.

### G4-12

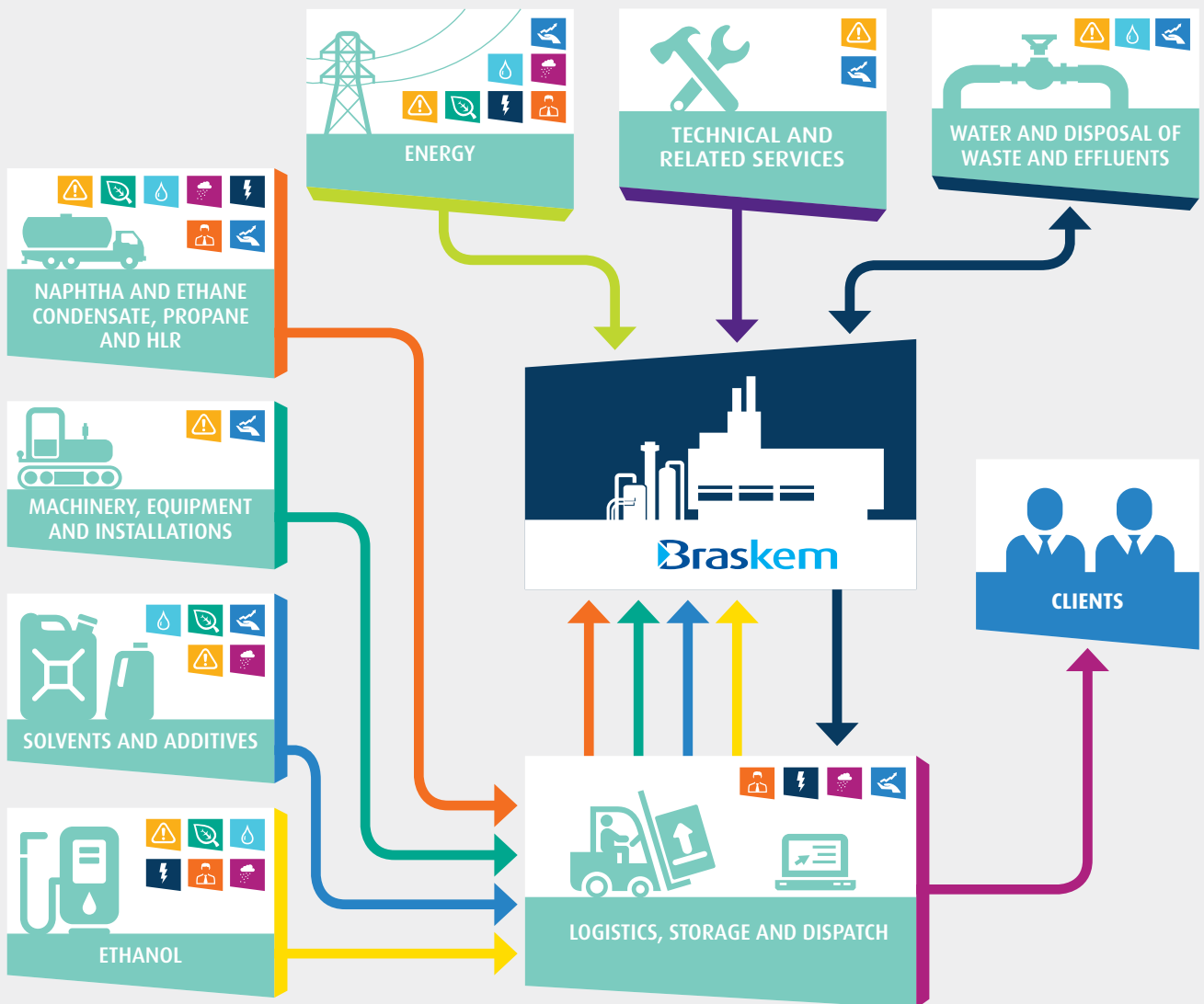
Braskem’s supply chain can be better understood through the following diagram. The company has slightly over 12,000 suppliers, broken down in the diagram according to the Company’s most significant purchase categories.

In the topics that follow, management highlights are shown for each of the main areas responsible for Suppliers.



# SUPPLY CHAIN

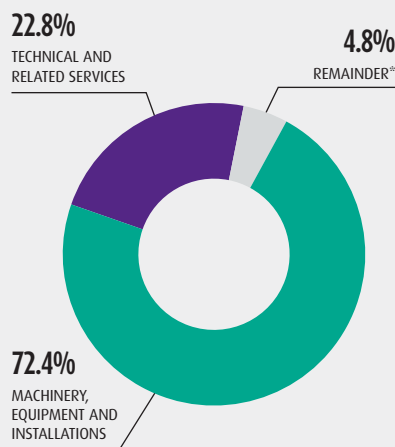
G4-12



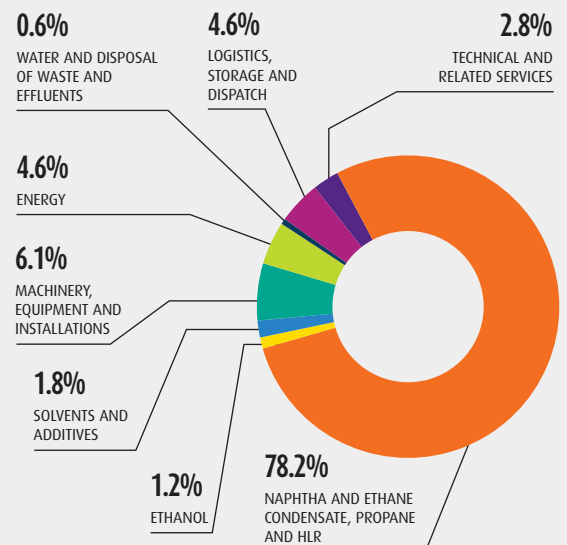
## CORRELATION WITH MACRO OBJECTIVES

- Safety
- Renewable resources
- Water efficiency
- Climate change
- Energy efficiency
- Local development
- Strengthening of sustainable development practices

## SUPPLIER NUMBERS



## RESOURCES SPENT



## **STRATEGIC RAW MATERIALS**

### **FOSSIL-BASED FEEDSTOCKS**

The acquisition of raw materials (naphtha, condensate, ethane, propane and HLR) is the item of greatest impact in the cost of goods sold by Braskem. The main naphtha supplier is Petrobras, a Braskem Shareholder. Therefore, engagement actions on sustainability are not considered necessary, since there is an alignment of values among the companies. In relationships with other Suppliers, for which Braskem is not a significant customer, there is little room to influence practices. To minimize supply issues, the Company maintains contracts for all its strategic raw materials.

### **ETHANOL**

The ethanol Suppliers sign a document whereby they undertake to follow the Code of Conduct for Braskem's Ethanol Suppliers, which draws on good practices for social and environmental management in the segment. This document stipulates, for example, that no forced or child labor will be used and, as of 2014, fire will not be used in areas where harvesting can be mechanized.

Ninety-eight percent of the ethanol volume purchased by the Company in 2013 was acquired from mills that had signed the Code of Conduct (in 2012 the percentage was 95%), exceeding the goal of 90% for the period. Performance in relation to the Code is monitored through third party audits carried.

Following the approach established to manage the Code, the 2012 audit results were shared with the Suppliers, who will work on the improvement opportunities for the next cycle. As the audits are valid for two years, the next round will be held in 2014, when the improvements will be assessed. For information about the 2012 audit results, see the Annual Report for the period at:

<http://rao2012.braskem.com/relatorio.asp?subrelatorio=47&idioma=in>.

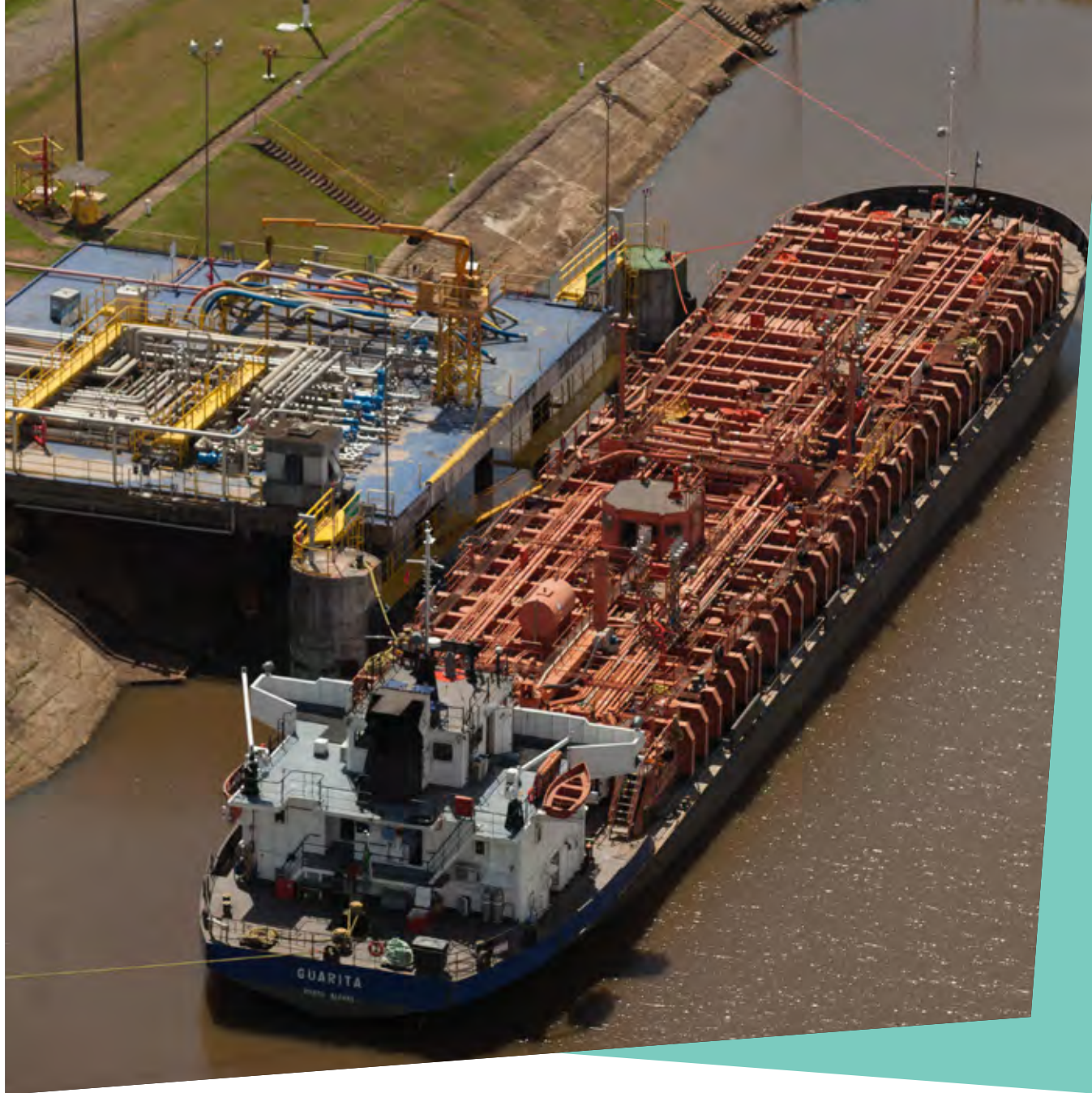
## **LOGISTICS**

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 through Braskem's Supplier performance analysis system and by the Brazilian Chemical Association's (Abiquim) Evaluation System for Safety, Health, Environment and Quality. The Company holds monthly meetings to obtain feedback and annual campaigns to raise awareness.

Each team has its own assessment methods based on its specific needs. In propene logistics, the Accidents / Incidents Prevention Index (PI) is used, as is the Service Level Agreement - SLA, a tool that is also employed by the chlorine-soda team. In Basic Petrochemicals, adherence to programs like Smart Eye on the Road and Carrier of Lives is assessed.

Monthly review meetings and planning of corrective actions are scheduled with Resin Logistics Providers whose results are found to be below the target Supplier Performance Index. Those that fail to meet the target for three consecutive months are removed from the Company's list of carriers. Other programs that are assessed in connection with this area are Smart Eye on the Road, Carrier of Lives and On the Right Track, which cover driver awareness and accident prevention. Annual audits are held by Braskem teams at the carriers' head offices, in addition to Abiquim's biennial audit of all carriers that have their certificate.

For the transport of dangerous goods, Braskem has a contract with the leading company in chemical and environmental emergencies in Brazilian road transportation – SUATRANS, which performs audits at the service headquarters and simulations on major cargo trucking routes. This way, full support is guaranteed in emergency situations of dangerous goods transport, in accordance with the Brazilian Regulatory Standards, thereby strengthening Braskem's operations in the social and environmental fields.



For information about the Supplier Performance Index, please see the 2012 Annual Report at:

<http://rao2012.braskem.com/relatorio.asp?subrelatorio=48&idioma=in>

For information about the program On the Right Track, please visit:

<http://www.braskem.com.br/site.aspx/braskem-voluntary-commitments>

[http://www.namaocerta.org.br/ing\\_index.php](http://www.namaocerta.org.br/ing_index.php)

For information about the program Eye on the Road, please visit:

<http://canais.abiquim.org.br/olhovivo/o-programa.asp>

For information about the program Carrier of Lives, please visit:

[www.vidaurgente.org.br/site/int\\_projetos-int.php?codigo=107](http://www.vidaurgente.org.br/site/int_projetos-int.php?codigo=107)

## PROCUREMENT

The Procurement area is responsible for contracting a significant number of Suppliers to provide industrial and administrative services, as well as materials and supplies used across the Company's business units. With Braskem's growth and globalization, the Procurement area has worked on the global analysis of supplier markets to meet the Company's needs, focusing on synergies among its business units.

2013 was impacted by rising costs, both of services and strategic imported feedstocks, because of labor cost rises and the depreciation of the Brazilian Real against the US Dollar. The impact was minimized by the policy of ongoing partnership and support for development of new Suppliers and technology, as well as the renewal of supply agreements.

The Procurement area's action plan included efforts to identify improvement opportunities arising from the Company's growth and its presence on the European and American continents.

## COMMUNITIES

Braskem's goal in relation to the Communities surrounding its operations is to improve human development overall, which includes productive social inclusion, as well as environmental and cultural aspects. It relies, for this purpose, on a Corporate Social Responsibility team and regional Team Members from the Institutional Relations area, who act as the link between local Communities and the Company. The social projects developed are set out below. To learn more about how Braskem manages the impacts of its operations on the Communities surrounding the industrial sites, please visit Health, Environment, and safety management/ Impacts on Communities.

## SOCIAL PROJECTS

G4-EC7 | G4-S01

From 2011 to 2013, the management of Corporate Community Investments developed by Braskem has evolved to enable the concentration of efforts on initiatives aimed toward greater social impact. Thus, the portfolio of social projects went from 30 less-comprehensive initiatives, conducted in 2011, to 12 projects better aligned to the proposed objectives and able to generate more benefits to society.

**Corporate Community Investment Projects:** carried out through voluntary private investment in social projects focused on addressing public interest matters, through initiatives that planned and monitored systematically. The strategy of the projects is focused on high impact results and social transformation that can be perpetuated through Community involvement. The three main projects promoted in Brazil in 2013 were Edukatu, Forest Factory and ser+realizador.

- **Edukatu:** carried as a partnership between Braskem and Akatu Institute (an NGO that is active in promoting consumer awareness). Edukatu is a platform for networking and learning debates on responsible consumption between students and teachers of Brazilian elementary schools, with space dedicated to the use and disposal of plastic. To get to know Edukatu's online platform, please visit <http://edukatu.org.br/> (available in Portuguese only). Results obtained in 2013: 1,516 people from 583 schools in 27 States of Brazil and 191 universities, NGOs and municipal departments participated in the platform, running 94 projects and other activities. In addition, more than 3,000 people gained greater awareness through participation in campaigns and events.

- **Forest Factory:** a project that focuses on the environmental education and capacity-building, jointly developed with the Forest Factory Institute (an NGO dedicated to the production and planting of seedlings of Atlantic Forest species, with emphasis on reforestation of springs and riparian woods). The project resulted in the production of around 100,000 seedlings in 2013, 70% less than in 2012; this reduction was due to surplus stocks available for planting from the previous year. Production and planting sites: São João Forest, greenhouse and head office of the Forest Factory at Sauípe Park (BA); Amizade Park in Paulínia (SP); Taquara Park in Duque de Caxias (RJ) Escola Park in Santo André (SP), a tree nursery inaugurated in 2013. More than 10,000 people took part in the environmental education actions in 2013 (up from 1,250 in 2012) and 517 people were trained (vs. 143 in 2012). The Forest Factory project achieved recognition from UNESCO for the conservation of biodiversity and sustainable development.







*Forest Factory: over 10,000 people took part in the environmental education actions*

**G4-EN28**

• **Ser+realizador:** launched in December 2013, during the 4th edition of Expcatadores (Brazilian congress for waste collectors), the brand unifies Braskem's social projects aimed at promoting social and economic inclusion and entrepreneurship of those working with recyclable materials, contributing to the efficiency of solid waste management and environmental sustainability in its areas of operation. Ser+realizador is carried out in the Brazilian states where Braskem has an industrial presence: Alagoas, Bahia, São Paulo, Rio Grande do Sul and Rio de Janeiro (launched in 2013 in partnership with the SuperVia concessionaire, controlled by Odebrecht TransPort). The Company's first initiative to support recycling projects dates back to 2009, in Rio Grande do Sul. Projects then began to be consolidated and expanded to other states, enabling the professional development of waste collectors and enhancement of cooperatives' materials sorting

and processing approaches. Through a nationwide partnership with Sebrae, consulting and training is offered to cooperatives, as well as investments in infrastructure and equipment. Results achieved in 2013: 511 waste collectors were trained, and the 202 that have been supported by Braskem for more than one year have increased their income. Cooperatives estimated to have sent about 477,000 kg of waste to recycling, of which 10% was classified as plastic waste. Two cooperatives - The Coolabore and Recicla Rio Networks - were licensed in Cataforte 3, a program of the Brazilian National Development Bank (BNDES), through which they will each receive investments of approximately R\$ 5 million. In addition, more than 23 thousand people gained greater awareness through technical visits to cooperatives and recyclers, as well as through educational activities in schools, residential areas and events.



Forest Factory: 1,000 seedlings planted in 2013

**Odebrecht Foundation:** supported the Integrated Development and Growth with Sustainability Program in the Mosaic of Environmental Protection Areas of the Southern Bahia Lowlands (PDCIS), fostered by the Odebrecht Foundation. The PDCIS' challenge is to turn a rural area with extensive environmental assets into a prosperous and dynamic region, by helping talented youth stay in the area through productive social inclusion. Actions involving 805 Communities were carried out, directly benefiting 23,000 people and indirectly another 85,000. The initiatives include support for: (1) Cooperative of Cassava Starch Producers of the State of Bahia, where 109 cooperative members achieved an average monthly income of R\$ 1,000; (2) the Rural Family House of President Tancredo Neves, which benefits 95 young rural entrepreneurs and, through the Land Access Fund provides financial assistance to young people; and (3) the Land Conservation Organization, which reached the end of 2013 with 854 families being trained, 49 acres of forests recovered and 57 springs preserved/restored. To learn more about the Foundation's projects, please visit: <http://www.fundacaodebrecht.org.br/PDCIS/en/Apresentacao/>

**Social projects carried out using tax-incentives:** these sponsorship projects are supported by Braskem in order to generate positive impacts on education, sports and culture. About 15 projects were supported in 2013 using this approach. Among them were the Frontiers of Thought, a space for conferences and debates led by thinkers, scientists and guest artists; Architects of the Future, the main forum in Brazil dealing with the design and management of cities, whose main theme is the architecture and transformation of urban life; and the Art of Recycling, consisting of exhibition panels, videos, works of artists and testimonials whereby visitors can learn about the daily lives of people in the recycling universe (several locations in São Paulo).



*Ser+realizador: social and economic insertion of recyclable material collectors*

### Focus on Mexico: Community Production Projects

Braskem-Idesa is carrying out five production projects in the Communities surrounding its site, involving approximately 100 people. The projects are: cleaning products, fish farms, poultry farms, uniforms, and recycled materials. The initial results are expected in 2014.

To learn about all of Braskem's social projects, please visit [www.braskem.com.br/site.aspx/Society](http://www.braskem.com.br/site.aspx/Society)

### INVESTMENT

Braskem's Social investment in Brazil in 2013 totaled R\$ 17.5 million, consisting of:

- Corporate Community Investment Projects: R\$ 6.3 million
- donation to the Odebrecht Foundation: R\$ 7 million
- sponsorships complemented by tax incentives (public interest projects): R\$ 3.8 million tax incentive plus R\$ 400,000 of match funding

Complementing this total, 414 Team Members donated more than R\$ 712,000 through the program Tribute to the Future, directing a deductible portion of their Income Tax to social projects.

## GOVERNMENT

For Braskem, the concept of sustainable development includes, in addition to activities in the economic, social and environmental spheres, the active contribution with governments and civil society representatives to the formulation of public policy and other initiatives aimed at a broad approach to sustainability.

With this view, the Company has participated in international forums, engaging in the debate on climate change and the responsibility of the corporate sector to propose ways to promote sustainable development (please see Collaborative Initiatives and Voluntary Commitments).

Another public affairs matter to which Braskem has contributed, through industry associations, is market defense for the chemical and plastic value chains. In this context, the Company maintained its leadership position on several initiatives focused on strengthening domestic production against imports that have increasingly expanded their market share in Brazil. These include commercial defense and tax reduction measures, among others, aimed at both Braskem products and those of the plastics value chain.

The approval of the Special Chemical Industry System (known as Reiq) by the Federal Government in 2013 is an example of a successful request posed by the petrochemical sector. Implementation required nearly two years of meetings, discussions and arguments with the technical teams of the legislative and executive branches. The Reiq provides for the exemption of PIS-COFINS tax for the purchase of raw materials for the first and second generation of petrochemicals, benefiting about 50 companies, including Braskem.

Another major topic under discussion in the environmental sphere is the Brazilian National Solid Waste Policy (NSWP), now in force, with implementation points still under debate. The topic that most directly affects the plastic production chain is reverse logistics, a mechanism whereby businesses and municipalities must contribute to the collection and recycling of packaging materials and ensure proper disposal of waste.

With this focus in mind, Braskem has become a member of the Enterprise Coalition, a group of 21 associations linked to three business sectors, which account for about 75% of the packaging market in Brazil. The Coalition developed a proposal for achieving the goals set by the Federal Government to reduce the volume of dry recyclable waste disposed of in landfills.

Based on the tripling of the country's existing recycling structure and in connection with the implementation of curbside collection, which falls exclusively under the authority of municipal governments, the proposal was submitted to the Government in December of 2012. In June of 2013, the Environment Ministry issued its opinion and recommendations. The Coalition filed a new position in August, and three months later the Ministry issued a contrary opinion, which reopened negotiations among the parties. On March 10, 2014, the Coalition submitted a further revised proposal.

Post-consumer plastics is a strategic issue for Braskem and its stakeholders. The social project named "ser+realizador", developed to support recycling cooperatives, is a way to contribute (see Social Development / Communities).

The NSWP theme is also part of the Company's agenda in conjunction with its Clients. An example of a positive result is the partnership among Braskem, the Brazilian Packaging Society, Colônia Beer and WiseWaste (a product development company that uses waste as raw material), which, in 2013, structured the project for recycling the plastic seals from the new Colônia Beer packaging, manufactured with Braskem's resins. The pilot recycling project involves information to consumers, providing collection points and training of waste collectors cooperatives. The goal is the return of recycled plastic to the industry itself, which will produce new plastic materials therefrom, closing the product cycle.

### **Braskem's fronts of institutional**

**operations:** international forums and sector-specific associations for debating topics such as climate change, responsibility of the business sector when proposing paths for the promotion of sustainable development and the defense of the competitiveness of the chemical and plastic production chain.







## **HEALTH, ENVIRONMENT AND SAFETY MANAGEMENT**

Management efficiency allows for advances in HES.



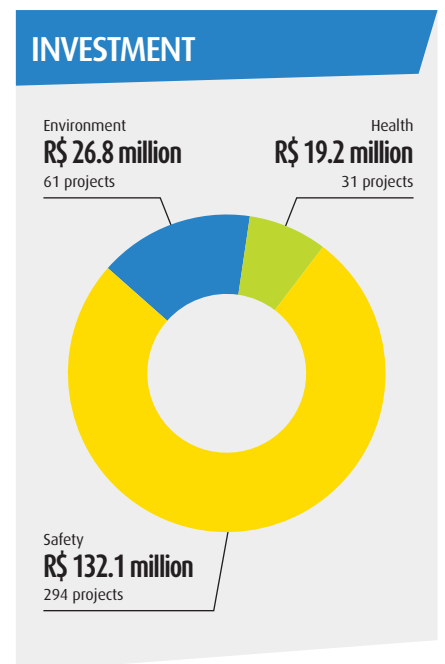
## HEALTH, ENVIRONMENT AND SAFETY HIGHLIGHTS

The areas of Health (Occupational Hygiene and Health), Environment and Safety (Occupational and Process) (HES) are managed in Braskem through an integrated approach. Therefore, health and safety programs have been brought together in this report in the same chapter as environmental activities and results.

Among the 2013 highlights is the fact that the Company maintained its best ever injury rate: 1.04 accidents (with and without lost time) per million person-hours worked. Twenty-one industrial plants with a total of 17.7 million person-hours worked without registering any lost-time accidents in 2013, an improvement over 2012, a year in which this result was obtained at 16 plants.

Considering the eco-efficiency indicators, the best-ever result was achieved in waste generation. The rest experienced an increase of up to 3% from 2012 to 2013, however, comparing the 2013 results with 2002, all except water consumption obtained significant reductions.

To promote continuous improvement in HES results, Braskem invested R\$ 178 million on 386 projects, as shown in the table to the right:







The Company uses the ISI – Investment Sustainability Index – to support investment decisions. Factors such as water consumption, effluent generation, recycling, energy consumption, waste generation and CO2 emissions are considered, to allow the prioritization of projects with measurable environmental gains.

Health, Environment and Safety activities are integrated in the SEMPRES system – Excellence in HES – a management program created in 2005 to prevent and minimize risks, as well as personal, environmental and materials losses. SEMPRES is composed of 16 Strategic Elements, a set of guidelines and requirements to be followed by Team Members and Third parties in all units of the Company.

In order to guarantee compliance with the norms, teams are trained and internal audits are periodically performed, with action plans being set to address gaps. The implementation of these action plans is monitored by Health, Environment and Safety Committees.

Five stages of implementation of the norms, guidelines and requirements of SEMPRES are defined for the industrial sites, focusing on workplace and process safety, environment and occupational health. Each site has set a plan for how it will progress in the stages of implementation by 2018, taking into account the profile of its operations and related risks.

In 2013, SEMPRES audits were carried out in every unit of Braskem, in conjunction with the Integrated Management System (IMS), including barrier inspections, which enabled progress in Process Safety management. All plants reached the planned stage of progress.

#### GOLDEN RULES

With a view to reinforce internal discipline and the concept of safety as an essential value in day-to-day decision-making, behaviors and attitudes, Braskem has a set of nine Golden Rules. These rules were created to save lives, strengthen the culture of prevention and seek continuous improvement.

The Company's Industrial Committee monitors the application of the rules and shares lessons learned. The rules are implemented in all sites in Brazil.

For more information about the Golden Rules, visit <http://rao2012.braskem.com/relatorio.asp?relatorio=77&idioma=in>

## WORKPLACE HEALTH AND SAFETY

### G4-LA5

Committees composed of managers and representatives of their teams monitor the issues referring to the occupational health and safety of the Team Members. In the industrial units and offices in Brazil, there are also internal Accident Prevention Comissions (Cipa), in line with Federal law. A third type of committee is organized by the corporate HES area and has the participation of representatives from the units in the country, to address issues such as chemical safety, impacts and risks.

In the units in the United States, although there are no associated legal requirements, committees are formed by Team Members with a view to enhance HES conditions, based on Braskem's SEMPRES and Braskem+ guidelines. Local plants are registered and certified in the VPP (Voluntary Protection Program), supported by OSHA (Occupational Safety and Health Administration), the North American certifying agency which focuses on occupational safety and health. With regard to VPP, Braskem sets up a committee of Team Members that acts in programs to improve HES conditions.

In the German plants there is no specific committee to deal with HES matters, which are handled in a decentralized manner. Results are ensured through local unit management.



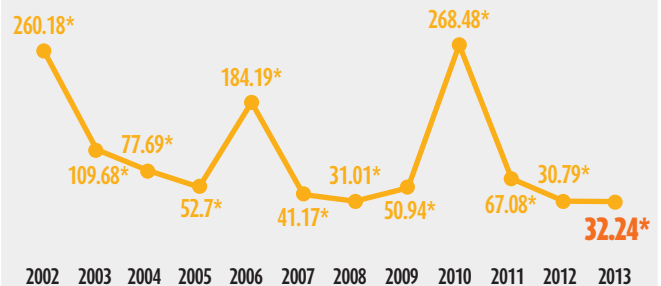
## WORK-RELATED ACCIDENTS

### G-4 LA6

In 2013, no fatal work-related accidents occurred. Considering Team Members and Partners per million person-hours worked (PHW), the injury rate was 1.04 accidents (with and without lost time) per million person-hours worked (the goal was 0.80). The lost time injury rate was 0.39 (0.35 in 2012), and the severity rate was 32.24 (30.79 in 2012). Eleven of the people involved in the 16 lost time accidents which occurred in 2013 had returned to their work activities by December 31.

### SEVERITY RATE

DAYS LOST AND DEDUCTED FROM LTIS 1,000,000 HOURS WORKED

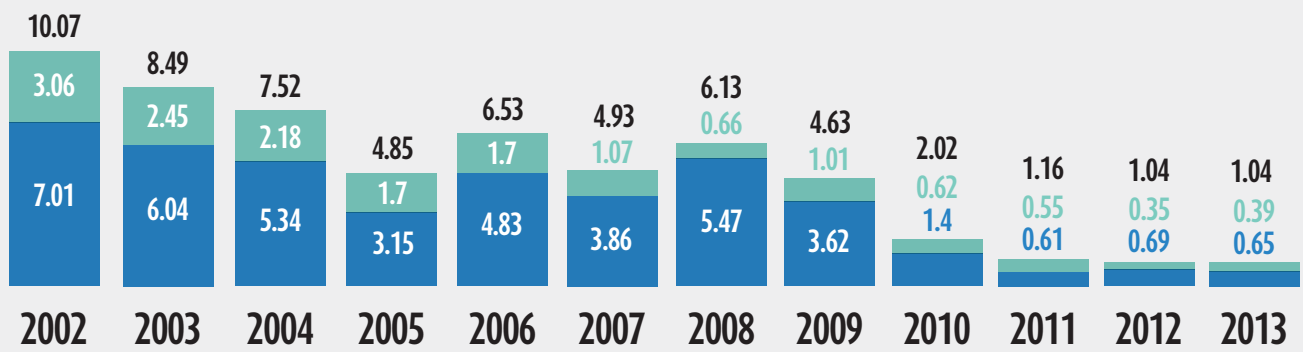


Note: the severity rate was recalculated in 2010, in compliance with national and international technical norms (ABNT / NBR - 14280 and OSHA, respectively).  
\*Values adjusted to follow the revised severity rate calculation approach.



Workplace safety, a priority for Braskem

## INJURY FREQUENCY RATE



■ No lost time (per million PHW)  
■ With lost time (per million PHW)



## OCCUPATIONAL HYGIENE AND HEALTH

There were no cases of occupational deaths or illnesses in 2013, nor was there absenteeism associated with such illnesses. A relevant effort was the creation of the Strategic Plan of Action for the Continuous Improvement of Benzene Management, the actions of which are approximately 75% concluded, such as the setting up of best practices for associated risk management.

Also in 2013, the Strategic Occupational Hygiene and Health Plan was created and validated for 2014 and 2015, which calls for actions in line with corporate HES goals, such as the implementation of the Six Sigma project for reduction of occupational illnesses and the continual improvement of the Workplace Quality of Life Program.

## PROCESS SAFETY

### G4-S02

2013 was marked by the integration of barrier audit processes and systemic requirements such as the SEMPRES implementation criteria for Process Safety. With the increased rigor, diversity and scope of the indicators assessed, these initiatives allowed the identification of the best process safety management and results improvement opportunities over the short – medium – and long term.

The following process safety risk management results were obtained in Braskem's industrial operations in 2013:

- barrier audits were carried out in all of the Company's plants, meeting the goals set out for the progress of the stages of implementation of SEMPRES;
- investment of R\$ 30 million on projects to minimize 44 high potential risk scenarios across Braskem's plants;

- development and availability of 120 SRM licenses, a process risk analysis software with direct interface with SAP and Meridium (barrier integrity and reliability monitoring system). The new tool will allow productivity gains of around 30% in the performance of risk analyses;
- creation of the integrated quantitative risk analyses group in Brazil, obtaining direct gains of over R\$ 3 million and indirect gains of R\$ 20 million in reduction of corporate risks;
- definition of the new risk management strategy at Braskem, with an optimization of 30% in quantitative risk analyses. In line with international standards, the process is expected to secure R\$ 1 million per year, through increased efficiency in mapping and management of risk scenarios, with direct corporate gains, such as prioritizing recommendations and identifying non-essential investments, as well as gains in the lifecycle of the plants;



*Workplace exercises at the Triunfo Technology and Innovation Center (RS)*

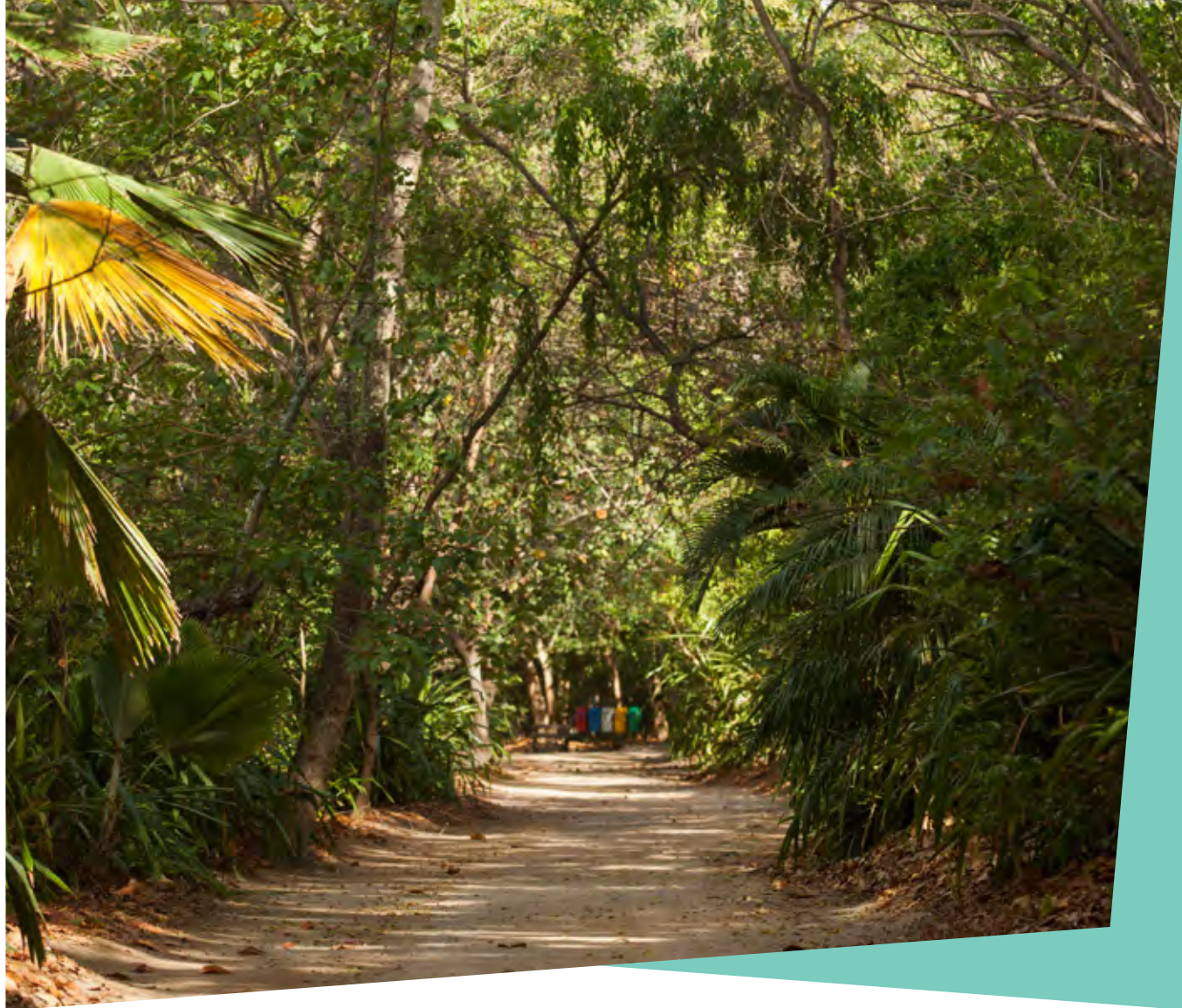
- definition of the process safety targets for 2014 and subsequent years, focusing on the Tier 1 event frequency rate, which corresponds to the most serious level of process accidents, according to technical criteria such as amount leaked, damage generated and link to process. Monitoring of the number of events of this type and their severity rate;
- detailed analysis of the main process safety events, allowing specific investment and management actions required in subsequent years to be identified.

Strategy and governance of process safety in logistics will be consolidated in 2014, according to the systemic model of Braskem's HES. The strategy will consider actions developed in previous years for the various logistics modes.

### RISK RATING

Activities were continued to meet Braskem's commitment of promoting continuous improvement in the risk rating (an index for process safety defined by insurance companies), so as to reach, by 2015, a Company average of at least 90 points, with all plants above standard as stipulated by the Company's leadership.

External audits performed in 2013 on the industrial plants, by insurers and reinsurers involved in the insurance program, indicate an improvement in the Company's risk rating, with emphasis on Braskem plants in the United States and Europe.



*Maceió Green Belt (AL): protection of the Communities*

## **IMPACTS ON COMMUNITIES**

### **G4-S02**

The main potential impacts on Communities surrounding industrial units are linked to the consumption of natural resources, generation of effluent and waste, atmospheric emissions and the transport and use of our final product. On the local level, the Company has a monitoring program based on legal requirements, with a pro-active approach. All potentially impacted natural resources, such as air, water (surface and underground) and soil, are monitored. Deviations in any of the readings result in immediate actions.

One common situation at all the 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, in emergency situations, to avoid their being released directly into the atmosphere or 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. And so, flame may appear visually high and with the potential of releasing black smoke.

Impacts in the various stages of the product lifecycle are managed by means of actions such as the use of process technologies that reduce emissions to air, the monitoring of resource consumption rates and waste generation, and the proper treatment and disposal of effluent and waste. Specific risk analysis tools are used, with the necessary risk mitigation measures being taken.

In certain regions, Braskem's units are surrounded by a green belt, a further level of protection, which keeps people at a distance, thus reducing their exposure to risks. The green belt also protects species of the local fauna and flora and absorbs particulate matter from the plant, improving air quality.



## OPEN DOORS

### G4-S01

All of Braskem's units have mechanisms for engaging the local Community, such as Community Consulting Councils, toll-free telephone numbers, Community Alert and Local Emergency Preparation Program (Apell), among others. The communication process with Communities is ongoing, which allows them to set forth their needs. The issues most often addressed are: safety (including evasion procedures in case of an emergency), environmental impacts and planned improvement actions. Social and environmental impact studies are performed at the beginning of the operation, as part of the licensing process.



## CHEMICAL SAFETY

G4-PR1 | G4-PR2 | G4-PR3 | G4-PR4

Braskem continues partnering with Abiquim in the implementation of the GPS (Global Product Strategy), supporting companies in the safe management of their chemical products. The GPS is an initiative of the ICCA (International Council of Chemical Associations) to promote the recognition and communication of risks to people and the environment, resulting from the use of chemical products.

In compliance with the REACH (Register Evaluation Authorization and Restriction of Chemicals) system, required for products sold in Europe, in 2013, the toluene evaluation report was issued within the scope of the CORAP (Community Rolling Action Plan). The CORAP is a committee that designates the Member State that will evaluate substances under evaluation status by the ECHA (European Chemical Agency). In the case of toluene, the Member State was Finland. The conclusion and the opinion issued by the Finnish chemical agency (Tukes) were positive, and toluene maintains its present status as a registered substance, with no need for alteration of its means of commercialization. In 2014, the work of evaluation of MTBE and 1.3 butadiene will begin and in 2015, of ortho-, meta- and para-xylenes.

Substances with restrictions or recommendations for substitution on a global level were identified and mapped for validation by the substitution plans.

## PRODUCT RESPONSIBILITY

G4-PR1

Impacts on health and safety caused by Braskem's products (due to their flammability, toxicity and corrosiveness) are evaluated in every phase of their lifecycle.

### HEALTH AND SAFETY IN HANDLING

G4-PR2

In 2013, 23 non-conformities were documented regarding product safety, 19 of which were considered minor, being cases of incomplete or non-submission of documentation for polymer resins, which are non-hazardous products. All other non-conformities were cases of safety in the handling of products. An action plan was defined to deal with the above-mentioned issues in 2014. There were no fines or penalties related to non-compliance.





## **LABELING AND PRODUCT INFORMATION FOR CLIENTS**

### **G4-PR3**

In Brazil, the Chemical Product Safety Data Sheets and the labeling of Braskem products are prepared on the basis of Brazilian standard NBR 14725. All of the safety sheets for products manufactured and marketed by Braskem are updated and made publicly available on the Internet, at the following address:

[www.braskem.com/site.aspx/Products-Usa-Eng](http://www.braskem.com/site.aspx/Products-Usa-Eng)

The safety sheets cover instructions for transporting, handling and disposing of the product. Inspection programs, internal and external audits, SEMPRES audits and action plans resulting from the findings of these audits are designed to guarantee the implementation of the guidance set out in these sheets. In Brazil, there are also internal guidelines and procedures which establish the practices to be applied.

No information on outsourcing or component origin are included, as there are no associated legal requirements and substances with potential significant socio-environmental impact that are not used (for example, conflict minerals, i.e. those that come from regions where human rights in mining, transport or commercialization are disrespected).

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

### **G4-PR4**

With regard to product labeling and information, there were no cases of non-compliance with regulations which resulted in warnings or fines, nor were there cases of non-conformity to voluntary codes.

## ENVIRONMENT

Braskem continued its investments and its implementation of initiatives to reduce the generation of liquid effluent and waste, as well as of the consumption of energy and water, and the intensity of its GHG emissions. In terms of environmental performance, with the exception of waste generation, all other eco-indicators remained stable or showed inferior performance as compared to that of the previous year, as follows:

- Generation of liquid effluents: 1.22m<sup>3</sup>/t (1.17 in 2012)
- generation of solid, liquid and viscous waste: 2.20 kg/t (2.28 in 2012)
- Energy consumption: 10.67 GJ/t (10.55 in 2012)
- Greenhouse gas emission: 0.63 tCO<sub>2</sub>e/t (equal to 2012)
- Water consumption: 4.30 m<sup>3</sup>/t (4.23 in 2012)

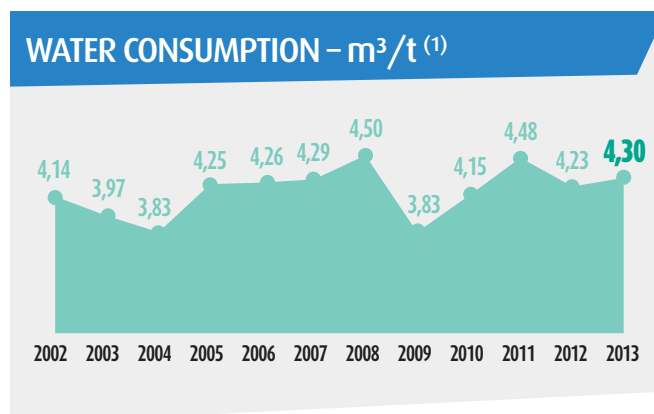
As for the reuse of water, the Company showed significant advances. Some regions with water stress are being less impacted thanks to these initiatives. Water stress is a phenomenon that occurs when human water consumption is greater than 40% of the renewable fresh water sources of any determined watershed.

The environmental performance of Braskem in 2013 was impacted by general maintenance shut-downs of industrial plants and by the interruption of electricity supply (blackouts) in Brazil.

## WATER: USE AND DISPOSAL

G4-EN8 | G4-EN10

Braskem manages water consumption by monitoring its intensity of use, that is, the ratio between water consumption and production. Improvement activities carried out throughout the year were not enough to reduce this indicator, which reached 4.3 m<sup>3</sup>/t of manufactured product in 2013, an increase of 1.7% over the previous year. The result was 0.2% above target.



(1) The water consumption intensity index was not audited, while the Total Water Withdrawal by Source data, presented in the table below, was. This is because the two values have different collection bases and mechanisms. The index takes into account only water used in production processes, divided by total production, excluding finished product transferred internally within Braskem.

In absolute terms, Braskem consumed 70.8 million m<sup>3</sup> of water, 67.8 million m<sup>3</sup> of which were consumed by Brazilian plants and 3 million m<sup>3</sup> by the international units consumed. In addition to the maintenance shut-downs, the consumption of water was impacted in the South and Southwest regions of Brazil as warmer climate than expected led to an elevated rate of evaporation in the cooling towers.



Water and effluent treatment plant at the PP unit in Santo André (SP)

The water used by Braskem comes from different sources. In 2013, water withdrawal by source presented the following profile:

## TOTAL WATER WITHDRAWAL BY SOURCE <sup>(1)</sup>

G4-EN8

Water withdrawal <sup>(2)</sup>	Brazil	United States	Germany	Total
Total volume of ground water withdrawn (m <sup>3</sup> /year)	7,170,735	10,848	—	7,181,583
Total volume of rain water directly collected and stored (m <sup>3</sup> /year)	80,469	—	—	80,469
Total volume of effluents collected from other organizations (m <sup>3</sup> /year)	359,960	—	—	359,960
Total volume withdrawn from municipal water supplies or others (m <sup>3</sup> /year)	26,941,210	2,284,496	55,604	29,281,310
Total volume of surface water withdrawn, including wetlands, rivers, lakes and oceans (m <sup>3</sup> /year)	43,238,034	274,742	275,460	43,788,236
Steam purchased from sources outside the company (t) <sup>(3)</sup>	1,386,310	149,295	22,842	1,558,447
Total volume of water withdrawn (all sources) (m <sup>3</sup> /year)	79,176,718	2,719,381	353,906	82,250,005
Water transferred to other companies (m <sup>3</sup> /year)	11,392,267	3,561	—	11,395,828
Total water consumption	67,784,451	2,715,820	353,906	70,854,177

<sup>(1)</sup> The total withdrawn is the sum of all water brought to the Company's property and originating at various sources (surface, ground, rain and municipal water supply system), for any use.

<sup>(2)</sup> Not all water withdrawn by the Company is consumed internally, as Braskem sells part of the water it withdraws.

<sup>(3)</sup> Data reported in tons of steam.

In 2012, information was collected on water sources significantly affected by Braskem's withdrawal in Brazil (see <http://rao2012.braskem.com/relatorio.asp?subrelatorio=41&idioma=in>).

In potentially critical regions, water reuse projects are being developed (see following section). Braskem's operations in Germany and the USA do not significantly affect watersheds.



Braskem consumes 65% of the capacity of Aquapolo, which reduces the demand for drinking water when supplying the Capuava petrochemical center in Mauá (SP)

## WATER REUSE

The Aquapolo Ambiental and Agua Viva projects, developed in 2012 with Braskem's support, for the reuse of effluents, presented the following results in 2013:

- **Aquapolo Ambiental:** a partnership between SABESP (the Sao Paulo municipal water company) and Odebrecht Environmental. The implementation of this industrial water reuse project was made possible by Braskem, which is consuming 65% of Aquapolo's capacity, reducing its demand for potable water in the supply of the Capuava petrochemical complex in Mauá (SP). Almost all the water used at the UNIB 3 plant, in the ABC region of Sao Paulo, comes from waste water. This means that, in 2013, the Company avoided withdrawing almost 10 billion liters of water from natural resources.
- **Água Viva:** developed in partnership with Cetrel, which deals in the area of effluents and residues in the Camaçari (Bahia) complex, Água Viva's goal is to allow the reuse of rain water and treated waste water. The Água Viva project has been maturing, improving the quality of the water supplied.

The Aquapolo and Agua Viva projects, among others, allowed the reuse of 13 billion liters of water in 2013, which is equivalent to the water consumption of 178 thousand people.

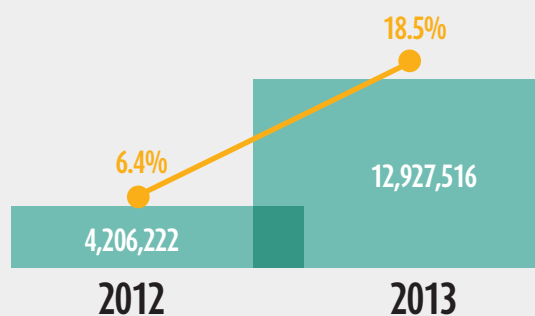
## PERCENTAGE AND TOTAL VOLUME OF WATER RECYCLED AND REUSED

### G4-EN10

Braskem measures the percentage of water recycled and reused in its operations by means of two indicators. The first focuses on the effort applied in the development of projects which aim to recover effluent sent to treatment, so that it can be used in the industrial process, or projects to improve the internal process, recovering any discarded water. Effluents from outside the plant which are treated and utilized in Braskem's processes are also taken into account, as in the case of Aquapolo (by reusing, the Company does not need to collect water from natural resources). This indicator has been monitored monthly by the industrial plants, since 2012, and does not take into consideration forms of reuse inherent to the production process, such as recycling of condensates already existing since the beginning of the operation of the plant and recycling in cooling towers.

## WATER REUSE

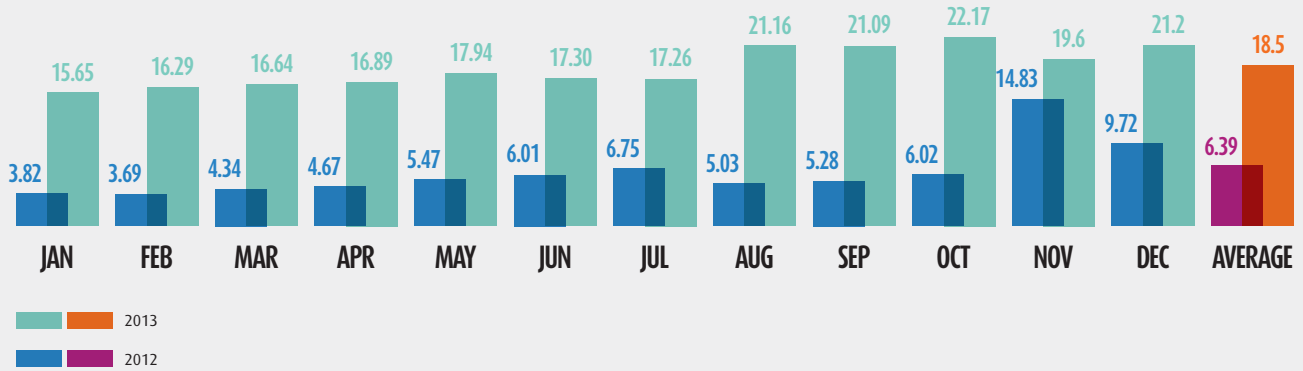
NOT COUNTING INHERENT PROCESS REUSE



■ Volume of water recycled / reused by Braskem (m³ / year)  
 ■ Percentage of water recycled / reused compared to the total volume of water consumed by Braskem

## WATER REUSE

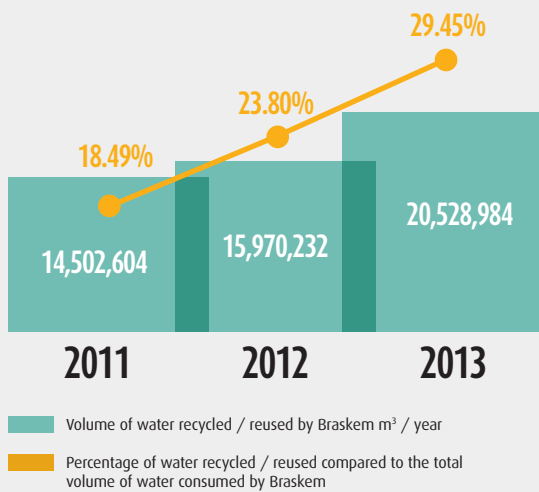
PERCENTAGE OF WATER USED THAT ORIGINATED FROM REUSE OR RECYCLING



The second indicator considers all recycling that occurs at the plants, whether or not it is inherent to the production process, with the exception of recycling in cooling towers. This indicator has been measured on an annual basis, as a result of applying GRI guidelines.

## WATER REUSE

COUNTING INHERENT PROCESS REUSE



## WATER CONSERVATION

In addition to seeking solutions to increase water efficiency in its operations, partnering of Braskem with its Clients results in products that make life better. Here are a few examples of solutions that help save water:

- **Mulching:** the use of this plastic covering in agriculture aids in retaining humidity in the soil, providing water and energy savings in irrigation;
- **Water tanks:** in places where water is scarce, water tanks made of HDPE help to store this natural resource in an economical and safe manner, keeping it fit for consumption for a longer time;
- **Geomembranes:** these make the soil impermeable and impede the contamination of the water table. They are widely used in building dams or diverting rivers, for the purpose of storing or taking water to regions where it is scarce.



Wastewater treatment plant at the PVC unit in Maceió (AL)

## EFFLUENTS

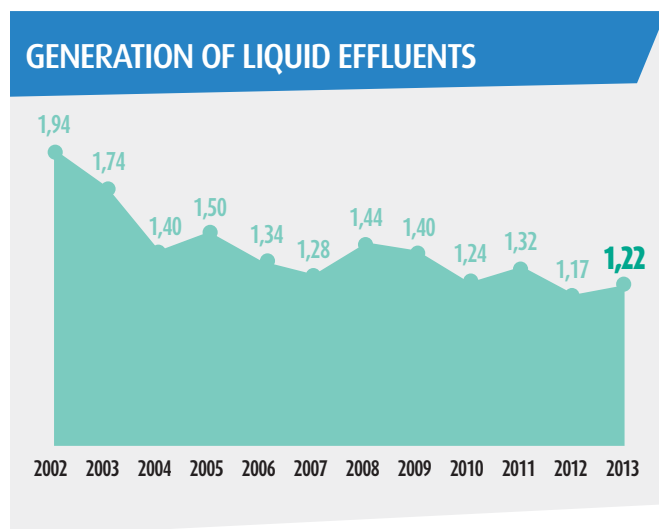
### G4-EN22

All effluents generated by Braskem are treated before they are returned to the environment, including those that cannot be returned directly to the waterways. In such situations, specific procedures are used after treatment, such as disposal to the ground. Specifications of treated effluents are specific to each region and are normally defined in the operating licenses of each unit, or by environmental legislation, considering local, state and federal policies.

The Company's rate of liquid effluent generation in 2013 was 1.22 m<sup>3</sup>/t of manufactured product, which represents an increase of 4.3% compared to 2012.

In 2013, Braskem generated 19.7 million m<sup>3</sup> of effluents, 72% of which was organic (organic + sanitary) and 28% inorganic – 18.3 million m<sup>3</sup> were generated by Brazilian plants and 1.4 million m<sup>3</sup> in the United States and Europe. The 2013 generation target was met, which means that Braskem avoided generating 0.5 million m<sup>3</sup> of effluents compared to what it would have generated in 2013 (in a business-as-usual scenario).

Braskem's discharge of effluents in 2013 was distributed among its regions of operation as indicated in the table to the right. The 2012 data may be consulted in the appendices.



Note: planned and unplanned discharges of effluents include all sewage, not just the portion related to production, since it is impossible to directly measure and/or estimate the non-industrial portion in most industrial plants. This index takes into account total liquid effluents divided by total production, excluding finished products transferred internally within Braskem.

## TOTAL DISCHARGE OF WATER, CLASSIFIED BY QUALITY AND DESTINATION (2013)

Location	Destination of effluent	Volume of effluent discharged (m <sup>3</sup> /year)	Treatment method	Biochemical oxygen demand in discharge (BOD) (kg/year)	Total suspended solids in discharge (TSS) (kg/year)	Other significant quality parameters (kg/year)
<b>BRAZIL</b>						
Rio de Janeiro	Coelho Canal	676,405	Biological	52,615	43,278	NA <sup>(1)</sup>
Bahia	Cetrel - External Wastewater 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
São Paulo	Ponte Funda Creek	98,529	Sent for external treatment	NA <sup>(1)</sup>	NA <sup>(1)</sup>	NA <sup>(1)</sup>
	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 fats in UNIB 3 CK and IN, respectively: 26,941 kg and 161 kg
<b>USA</b>						
La Porte	Houston navigation canal	175,216	Primary treatment and coloration	NR <sup>(2)</sup>	NR <sup>(2)</sup>	NR <sup>(2)</sup>
Marcus Hook	Delaware River via POTW	243,489	Primary treatment, biological and coloration	<10mg/L	<10mg/L	NR <sup>(2)</sup>
Neal	Big Sandy River	399,120	Primary treatment and coloration	8,3 mg/L	17,8 mg/L	NR <sup>(2)</sup>
Seadrift	Victoria Barge Canal	308,275	External treatment	NR <sup>(2)</sup>	NR <sup>(2)</sup>	NR <sup>(2)</sup>
Oyster Creek	Oyster Creek	108,956	External treatment	NR <sup>(2)</sup>	NR <sup>(2)</sup>	NR <sup>(2)</sup>
<b>GERMANY</b>						
Schkopau	Saale River	73,759	External treatment	NR <sup>(2)</sup>	NR <sup>(2)</sup>	NR <sup>(2)</sup>
Wesseling	Rhine River	112,538	Primary and biological treatment	17 mg/L	NR <sup>(2)</sup>	NR <sup>(2)</sup>

**Notes:**

(1) NA: data not available as it is not a legal requirement;

(2) NR: parameters not reported since they are insignificant.

(3) 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.

## ENERGY AND CLIMATE CHANGE (GHG MANAGEMENT)

### ENERGY

G4-EN3 | G4-EN5 | G4-EN6

Several initiatives associated with the Energy Efficiency macro objective were implemented in 2013 (see highlights below), some of which were designed to optimize the efficiency of operational processes, through better use of resources and fuels, considering type and quality, as well as medium and long term actions to adapt production processes.

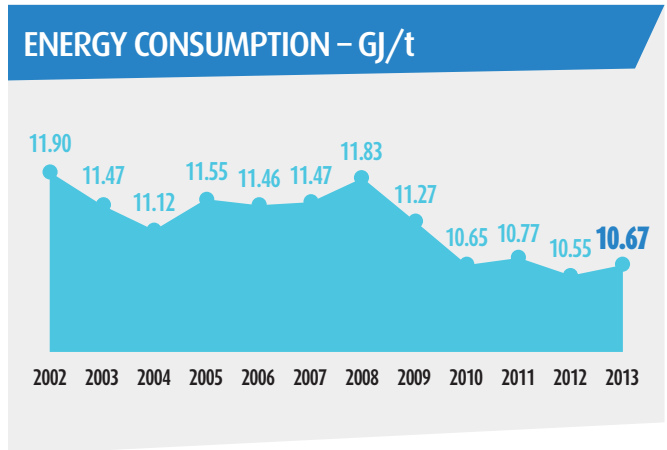
In spite of all efforts, the energy consumption index was 10.67 GJ/t of manufactured product, which represents an increase of 0.2% over the previous year. The result was 3 % above the annual target.

### ENERGY INTENSITY

G4-EN5

In 2013, 173 million GJ of energy were used to manufacture products<sup>(1)</sup> across Braskem, of which 9% consisted of electrical energy, 15% natural gas, 3% coal and 73% other fuels.

<sup>(1)</sup> The remainder is used in vehicles and flare gas, which does not produce energy.



Note: this index takes into account only energy used for production processes, divided by total production, excluding finished product transferred internally within Braskem.

### HIGHLIGHTS OF ENERGY EFFICIENCY INITIATIVES

G4-EN6

- Improvements in productivity and energy optimization in pyrolysis furnaces in the UNIBs, generating financial savings of R\$ 33 million.
- Improvements in the boilers at the UNIBs, such as the reactivation of soot blowers and control of excess air, generating savings of R\$ 1,3 million.
- Improvements in turbogenerators in the UNIBs, generating savings of R\$ 7 million.



## G4-EN3

From 2011 to 2013, Braskem used the following fuels in Brazil:

<b>ENERGY CONSUMPTION BY BRASKEM <sup>(1)</sup></b>				
<b>(BROKEN DOWN BY SOURCE)</b>				
		<b>2013</b>	<b>2012</b>	<b>2011</b>
<b>Non-renewable energy sources (Gj)</b>				
<b>Direct</b>	Coal	6,336,223	6,483,423	4,941,701
	Natural gas	16,958,117	23,293,820	22,671,597
	Fuel distilled from crude oil <sup>(2)</sup>	145,071,431	142,120,194	128,704,117
<b>Indirect</b>	Electricity <sup>(3)</sup>	4,168,729	5,521,483	4,588,233
	Steam			
<i>Subtotal non-renewable sources</i>		<i>172,534,500</i>	<i>177,418,920</i>	<i>160,905,648</i>
<b>Renewable energy sources (Gj)</b>				
<b>Direct</b>	Ethanol	682,110	879	1,145
	Hydrogen	669,663	520,709	414,955
	Flare gas green ethene	373,101	443,505	834,549
	Biodiesel	10,490	1,928	1,475
<b>Indirect</b>	Electricity <sup>(3)</sup>	16,145,415	16,479,988	14,888,035
<i>Subtotal renewable sources</i>		<i>17,880,779</i>	<i>17,447,008</i>	<i>16,140,158</i>
<b>Total</b>		<b>190,415,279</b>	<b>194,865,928</b>	<b>177,045,806</b>

(1) This detailed energy data does not include operations in the United States and Germany, due to difficulties in data collection. They will be reported as of 2014.

(2) The following are included: gasoline, diesel, LPG, CNG, LNG, butane, propane, ethane etc.

(3) In the 2011 data, electricity was classified as non-renewable and renewable sources in the same proportion as was found in 2012, due to the lack of data. This is a conservative estimate, given that the use of non-renewable sources in the Brazilian energy matrix increased in 2012. All steam was considered to have come from non-renewable sources. In 2013, the information available in the 2013 Brazilian National Energy Balance (base year 2012) was used to break down electricity between non-renewable and renewable sources.

Braskem's increase of coal consumption has occurred in a planned and controlled manner. To increase consumption, the Company has been negotiating with its Supplier to obtain a better quality coal, with lower ash content (greater heating value) and less sulfur. The basic premise followed in the increase of coal consumption is that the amount of sulfur dioxide and nitrogen oxide emissions, as well as the concentration of particulate matter must not exceed the environmental standards defined for the region. Following this premise, Braskem may increase the use of a more economically viable fuel, which also creates jobs in its state of origin (Rio Grande do Sul).

Also noteworthy is the increase in the consumption of renewables, for example, ethanol, hydrogen and electricity from renewable sources. This generates important positive impacts in Braskem's GHG emissions.

About 80% of Braskem's energy consumption occurs at its Basic Petrochemical units (UNIBs). Improvements that reduced energy consumption generated savings of R\$ 102 million over the period (see "Highlights of energy efficiency initiatives"). As a result of these improvements, Braskem avoided consuming 7.8 million gigajoules in the year.



## GREENHOUSE GAS EMISSION MANAGEMENT

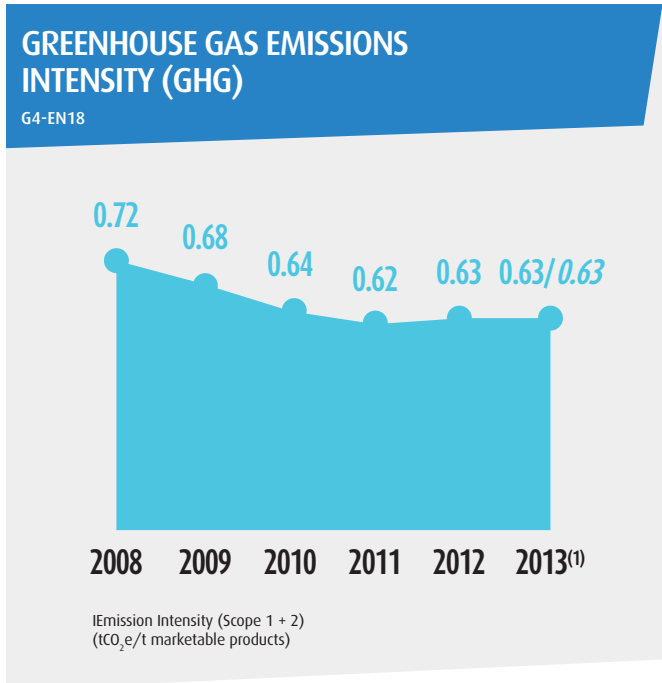
G4-EN15 | G4-EN16 | G4-EN18 | G4-EN19

In line with the Climate Change macro objective, in 2013, initiatives to reduce the intensity of greenhouse gas (GHG) emissions were implemented in the area of industrial operations, and in market and product development. The carbon intensity remained at the same level as 2012 (0.63tCO<sub>2</sub>e/t) and reached a reduction of 12.5% compared to the 2008 base year.

GHG emission intensity, considering only scope 1, showed a positive performance, even with events that impacted the Company's energy consumption, such as the blackout in the Brazilian Northeast in September. Considering only the scope 2 emission intensity, the results were negatively impacted by the increase in the Brazilian grid factor, due to the operation of thermal power stations as a result of dry weather conditions. Thus, the GHG emissions intensity, scopes 1 + 2, maintained the same performance as the previous year, due to the increased efficiency of the Company's carbon management.

Braskem's 8th corporate GHG emissions inventory, for the base year 2013, includes all categories of the three scopes applicable to the operations: direct emissions, originating from the process, and indirect emissions, relating to both the purchase of energy, for all the industrial plants and corporate centers, and all other major goods and services. The inventory is performed in accordance with the GHG Protocol methodology, verified by KPMG, an independent third party. As of 2013, all of the Company's process emissions, and not only GHG emissions, were covered. Also in 2013, an emissions data management system was implanted, integrated with Braskem's data system, increasing the reliability of the GHG emissions inventory.

As the IPCC released updated emissions factors, GHG emissions have been reported using both the updated and the previous factors. To analyse the trend over the years, the values calculated with the previous factors should be used. In 2014, once the historic data is updated with the new factors, all values will be reported using only these.



(1) Results for 2013 are shown in two version, the first with the conversion factor from before 2014 (to allow for direct comparison with other years) and the second, in italics, with the 2014 conversion factor.

Note: Braskem calculates its GHG emissions intensity dividing GHG emissions scopes 1 and 2 by total production. This basis is different from the one applied in the other eco-indicators of intensity, in which finished products transferred internally within Braskem are not considered.



### GHG MANAGEMENT DISTINCTIONS

- The GHG emissions inventory obtained the Gold Classification for the third straight year in the Brazilian Program of the GHG Protocol.
- Braskem was listed on ICD<sub>2</sub> and on ISE, sustainability indices of the Sao Paulo Stock Exchange (BM&FBovespa), achieving the benchmark position in the Climate Change dimension of the ISE.
- The Company was recognized by the CDP as the best of the 58 Brazilian companies that participated, both in terms of carbon performance and disclosure.

## GHG EMISSIONS

G4-EN15 | G4-EN16

Emission Sources	Emissions (tCO <sub>2</sub> e)		
	2013 <sup>(1)</sup>	2012	2011
<b>Direct Emissions (Scope 1)</b>			
Combustion emissions	3,580,128 / 3,571,598	3,305,001	3,068,989
Fugitive emissions	6,142,638 / 6,177,130	6,236,106	5,954,759
Waste disposal effluent Treatment (internal)	20,420 / 22,293	23,617	23,155
<b>Total Scope 1</b>	<b>9,743,186 / 9,771,021</b>	<b>9,564,723</b>	<b>9,046,917</b>
<b>Indirect Emissions (Scope 2)</b>			
<b>Total Scope 2 (energy purchases)</b>	<b>874,146 / 874,146</b>	<b>770,519</b>	<b>872,257</b>
Other indirect emissions (Scope 3)			
<b>Total Scope 3</b>	<b>11,512,889 / 10,112,901</b>	<b>11,999,834</b>	<b>11,347,227</b>

(1) Results for 2013 are shown in two versions, the first using the conversion factor from before 2014 (to allow for direct comparison with other years) and the second, in italics, using the 2014 conversion factor.

Note: GHG emissions are shown in metric tons of CO<sub>2</sub> equivalent, independent of any GHG trades such as purchases, sales or transfers of offsets or licenses.



To improve its GHG emissions performance, Braskem carried out 35 initiatives in Brazil during 2013, leading to an emission reduction of almost 90 thousand tons of CO<sub>2</sub>e in the year. See the list of initiatives in the appendices.

#### Impact of the changes in emissions factors

- The impact of the Brazilian national grid increased significantly in 2013 (about 44%), bringing about a significant rise in scope 2 emissions. These emissions grew by 13% compared to 2012. The increase in the national grid is a result of increased use of thermoelectric power stations in Brazil during the period, as a result of dry weather.
- Revisions in GWPs (international conversion factors) negatively impacted Braskem's emissions, but in intensity, the impact was less than 1%.

Every year Braskem has been strengthening its efforts to engage stakeholders across its value chain on climate change, seeking to raise awareness and further understanding of this matter. With a greater focus on Suppliers, it has been enhancing its initiatives in conjunction with the CDP Supply Chain, focusing on large suppliers, and with CEBDS (Brazilian Business Council for Sustainable Development), focusing on small and medium suppliers. These initiatives aim to build capacity, interest and motivation for GHG emissions inventories to be issued, with energy consumption and emission reduction opportunities being identified.

The following table on other indirect emissions summarizes the scope 3 emissions data collected by Braskem – these are the emissions that occur outside the Company's operations, in its value chain.



## OTHER INDIRECT GREENHOUSE GAS EMISSIONS (GHG) (SCOPE 3)

G4-EN17

Emission Sources (1)	Emissions (tCO <sub>2</sub> e)		
	2013 <sup>(3)</sup>	2012	2011 <sup>(2)</sup>
1 – Acquired goods and services	6,274,001 / 6,279,823	6,088,693	5,655,642
2 – Capital assets	98,382 / 98,382	159,997	43,582
3 – Activities relating to fuels and energy	530,279 / 530,280	494,165	404,524
4 – Upstream transportation	289,464 / 321,168	659,512	169,112
5 – Waste generated by operations	40,787 / 44,202	71,430	111,485
6 – Business travel	4,701 / 4,699	8,080	9,605
7 – Employee Commuting (to and from work)	12,030 / 12,042	7,285	8,192
8 – Operation of rented assets	2,873 / 2,875	4,482	4,814
9 – Downstream transportation	313,048 / 292,875	766,816	587,748
10 – Processing of sold products	3,395,802 / 3,395,802	2,970,324	3,552,457
12 – Final disposal of sold products	550,794 / 550,794	531,195	800,066
15 – Investments	727 / 730	237,855	nd
<b>Total Scope 3</b>	<b>11,512,889 / 11,533,672</b>	<b>12,001,846</b>	<b>11,347,227</b>

ni: not inventoried

(1) Each category presents a set of possible emission sources; numbering is in the order presented by the GHG Protocol Corporate Value Chain Standard. Categories 11, 13 and 14 do not apply to Braskem. Any GHG trades, such as purchases, sales or transfers of offsets or licenses are excluded.

(2) Emissions for 2011 were estimated for the international units, based on the 2012 intensity, because of the lack of availability of actual data.

(3) Results for 2013 are shown in two versions, the first using the conversion factor from before 2014 (to allow for direct comparison with other years) and the second, in italics, using the 2014 conversion factor.

## RISKS AND OPPORTUNITIES

### G4-EC2

Financial implications and other risks and opportunities for Braskem, as a result of climate change, are related to different factors, such as the Brazilian National Policy on Climate Change, the fees or costs of carbon, emissions reporting, standards and regulations for product efficiency and the supply chain. These were described in the Annual Report for 2012 – <http://rao2012.braskem.com/relatorio.asp?subrelatorio=42&idioma=in>.

In 2013, new factors were identified and are described below.

**Industry Plan (Brazil)** – details of the GHG Work Plan for Industry were approved in a meeting of the Industry Plan Technical Committee (CTPIIn), instituted at the federal level to create a plan to reduce production-related GHG emissions. This is part of the National Policy on Climate Change and is included in the Greater Brazil Plan, created to promote the development of Brazilian industry and technology. The plan provides financing at lower than average interest rates, as well as fiscal incentives to businesses who commit to GHG reduction goals. The objective is to reduce projected emissions by 5% by 2020, in specific sectors. Initially, the aluminum, lime, cement, iron and steel, paper and cellulose, chemical and glass sectors have been included.

**Carbon tax** – the legislative branch of the USA is considering a tax on carbon. Resources received would be earmarked for the development of clean technologies and compensation for consumers, in case product prices increase. Although there is little chance of it being approved in its original form, the bill indicates that climate change continues to be a relevant international issue. In addition to its operational improvement efforts, Braskem also contributes to the mitigation of emissions by manufacturing products from renewable feedstocks.

**Coal and the energy grid in Rio Grande do Sul** – coal reserves in the south of Brazil, estimated at 23 billion tons, can guarantee the supply for a very large thermoelectric complex. During the present Ten-Year Energy Expansion Plan, which goes to 2019, it would be possible to increase thermoelectric generation from mineral coal from the present 1,765 megawatts to nearly 4,500 megawatts, as long as no barriers to its participation in auctions planned to meet demand for the period are created. Over the last two years, mineral coal-fueled the period projects were barred from participating in new energy auctions.

Braskem is working in conjunction with Suppliers to obtain the better quality coal, which has led to significant gains for the Company. Among them, a highlight is the increase in the consumption of this resource to the detriment of others that are less competitive, with the guarantee that atmospheric emissions will remain at present levels. In 2013, Braskem began a See Balance® study that will compare coal to several other fuels, in terms of the sustainability aspects associated to its use.

## CARBON FOOTPRINT

In 2012, Braskem published the carbon footprint of five families of products (HDPE, LDPE, LLDPE, PP and PVC) (see results in the 2012 Annual Report: <http://rao2012.braskem.com/relatorio.asp?subrelatorio=42&idioma=in>).

The carbon footprint allows one to evaluate the total greenhouse gas (GHG) emissions, that is, it shows the amount of carbon dioxide equivalent released in the production of any determined product.

Knowing the carbon footprint of its products helps the Company compare them with other alternatives, as well as identify the stages responsible for the highest levels of GHG emissions in the production chain and make business decisions. The data will also have benefits for Clients, the plastics transformation industry, who can then calculate the carbon footprint of their products.

### Other emissions

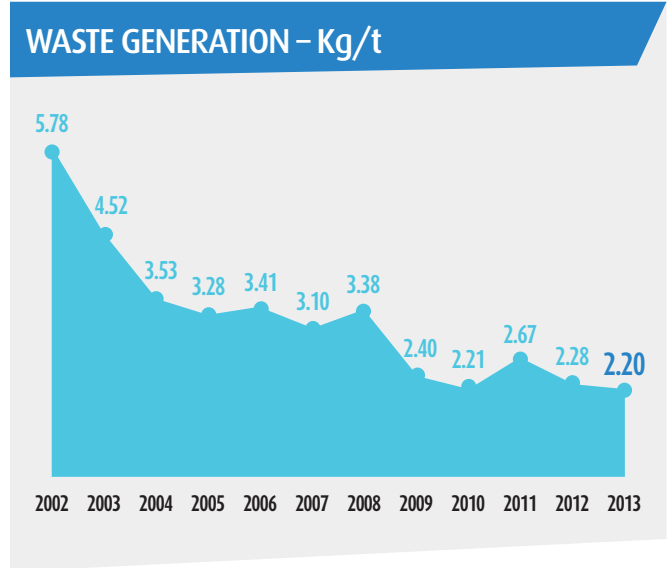
#### G4-EN20 | G4-EN21

In addition to GHG emissions, Braskem also manages other atmospheric emissions for which it is responsible, substances that destroy the ozone layer and local pollutants (NOx, SOx, etc). See data in Appendices.



## WASTE

In 2013, the rate of solid, liquid and viscous waste generation was 2.20 kg/t of manufactured product, representing an improvement of 3.5% compared to the previous year. After identifying the types of waste generated, Braskem seeks solutions for those that may be used for composting, reuse, recycling or recovery, turning certain industrial waste into business opportunities, which improves this indicator's results. In 2013, Braskem was able to recover 7.5 million kg of waste generated, which is equal to 21% of all waste generated in the year (same calculation base as the waste generation intensity indicator).



Note: this index was not audited, however the disposal data presented in the "TOTAL WEIGHT OF WASTE, CLASSIFIED BY TYPE AND METHOD OF DISPOSAL" table was, because these datasets use different collection mechanisms. The index takes into account waste generated, divided by total production, excluding finished product transferred internally within Braskem.

## TOTAL WEIGHT OF WASTE, CLASSIFIED BY TYPE AND METHOD OF DISPOSAL

G4-EN23

Waste (thousands of kg)	2013		2012		2011	
	Hazardous waste	Non-hazardous waste	Hazardous waste	Non-hazardous waste	Hazardous waste	Non-hazardous waste
Composting	112	194	409	125	697	277
Reuse	136	154	130	115	158	15
Recycling	1,611	18,247	3,208	4,529	2,659	4,920
Recovery (including energy)	2,077	1,092	3,573	592	2,730	704
Incineration	17,071	192	10,632	920	13,795	27
Sanitary/industrial landfill	2,157	8,995	5,049	9,063	2,842	8,334
Underground injection of waste	—	8,568	—	1,933	—	279
On-site storage	186	1	334	140	388	15,040
Others <sup>(1)</sup>	4,501	5,149	4,040	—	2,329	1,889
<b>Total</b>	<b>27,851</b>	<b>42,592</b>	<b>36,519</b>	<b>17,417</b>	<b>25,597</b>	<b>31,485</b>

(1) Others: autoclave; vacuum thermal demercuration; co-processing of waste in rotating clinker furnaces for cement manufacturing; decontamination of soil by thermal desorption.

Waste generation at the plants is not proportional to production. It is affected by seasonal events, such as maintenance shut-downs, equipment cleaning, among others.



## SIGNIFICANT SPILLS

G4-EN24

Two significant spills were recorded in 2013. In both cases there was an environmental impact and the environmental authorities were notified. Braskem acts proactively to mitigate potential and actual impacts caused by spills in its plants.

SIGNIFICANT SPILLS <sup>(1)</sup>				
LOCATION	DESCRIPTION	VOLUME (L)	MATERIAL SPILLED	IMPACT AND CORRECTIVE ACTIONS
Rio Grande do Sul	Spill in the product lines and drainage network of effluents at the green ethane unit.	Under investigation. It has not yet been possible to determine the volume, as the spill was chronic and there were still primary sources at the finalization of this reporting.	Ethanol	The analysis of a sample of wells in the site periphery did not show signs of contamination. In 2014 an investigation will be carried out in the operational area (where the contamination is concentrated), to demarcate the plumes. An instrument-based method for inspecting the subterranean network (PIG) is being evaluated for the identification of the spill points.
Bahia <sup>(2)</sup>	Explosion followed by a fire on the Golden Miller ship, docked at the public gas loading terminal in the port of Aratu-Candeias, as it was completing a load of propane. The fire may have been fed by fuel oils and lubricants in the reliquefying unit (compressor house). Two of the crew members had minor injuries.	18 big bags with nearly 400 kg of oily waste had been logged. The total has still not been made available by the responsible party (assembler)	Oils (hydraulic, diesel and fuel) from the ship, as a result of water used for fire-fighting entering the tanks. There was no loss in the propane and/or butadiene tanks (products sold by Braskem).	The effects vary in intensity, type, and duration, based on several factors. Containment and removal measures are underway. Air quality monitoring in the area does not indicate any impact. Fishing was suspended for two day at the event site, for the protection of individuals.

(1) Spills reported to the environmental authorities are considered significant if they caused contamination of the soil and the subsoil, and if there a provision of financial resources was made to treat the problem.

(2) Although Braskem is not responsible for this event, it has been mentioned as the Company's a participant of the Port's Integrated Emergency Plan.

## ENVIRONMENTAL PROTECTION

To control potential environmental impacts, Braskem has a management system designed to conform to all pertinent laws for atmospheric emissions, industrial effluents and solid waste. In addition, the Company carries out semi-annual groundwater, surface water, sediment, atmospheric emission and air quality, and fauna and flora monitoring activities at the environmental areas adjacent to the complexes in Rio Grande do Sul, Alagoas and Bahia.

### ENVIRONMENTAL PROTECTION INVESTMENTS AND EXPENSES

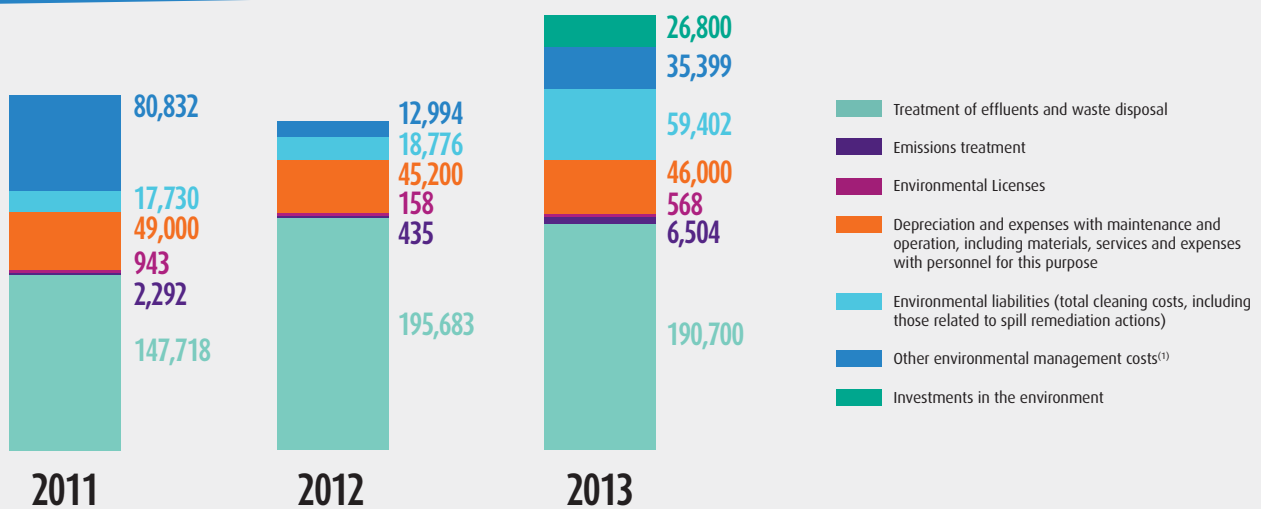
G4-EN31

In 2013, Braskem made the following environmental protection expenditures:

## TOTAL INVESTMENTS AND EXPENSES RELATED TO ENVIRONMENTAL PROTECTION, CLASSIFIED BY TYPE

(THOUSANDS OF BRAZILIAN REALS/YEAR)

G4-EN31



(1) Energy and water for administrative areas, environmental monitoring that include groundwater management, extra expenses for green purchases, external certification of management systems, external services and other costs, personnel for general environmental management activities, personnel used for education and training.  
Note: investments in the environment began to be reported in 2013.



*Monitoring of the ground water, surface water, sediments, atmospheric emission, air quality and fauna and flora takes place at the environmental stations located adjacent to the centers in RS, AL and BA*

#### **Habitats protected or restored in the vicinity of the plants in Brazil**

##### **G4-EN13**

Social, environmental, educational and cultural projects are carried out in protected areas and around the Company's industrial units, in regions rich in biodiversity. The Company therefore identifies, monitors and reports the risks associated with its industrial activities, to prevent and/or minimize their potential impact. Between 2011 and 2013, 972 hectares have been protected and 50 hectares restored.





## ABOUT THE REPORT

This Braskem Annual Report was prepared in accordance with the Core level of the Global Reporting Initiative (GRI) G4 Reporting Guidelines.



## ABOUT THE REPORT

This Braskem Annual Report was prepared in accordance with the Core level of the Global Reporting Initiative (GRI) G4 Reporting Guidelines. Information about consultations with stakeholders of the Company and the identification of relevant issues for publication are described in the introduction of this document. Considerations:

- The data published refer to Braskem's operations, located in Brazil, the United States and Germany, for the period from January 1 to December 31, 2013.
- Data referring to the Ethylene XXI project (Braskem-Idesa), in Mexico, were included in the indicators of Social Development / 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.
- Data referring to business offices were reported only in the G4-10 profile item, because their Team Members represent 0.5% of the Company's workforce.

- As was the case with the 2012 report, the operations of quantiQ, a company controlled by Braskem, and which was being offered for sale during most of 2013, were not consolidated. This decision was reviewed due to market timing concerns, and therefore consolidation will be begun in future reports. The number of Team Members is small compared to Braskem's total workforce (3.5% of the total).
- Also not taken into account in this report are the assets resulting from the acquisition of two plants in Brazil and two in Argentina from Solvay, which occurred in December 2013, as it is still subject to approval by market regulatory authorities in both countries.

The external assurance of this report was carried out by KPMG.

### CONTACT INFORMATION FOR QUESTIONS, SUGGESTIONS OR CRITICISMS

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## KEY INDICATORS 2013

### ECONOMIC DEVELOPMENT

	2013	2012	2011
Production - Main Products (t)			
PE	2,580,290	2,539,476	2,391,136
PP	3,413,079	3,403,351	2,575,676
PVC	582,579	497,366	438,895
Caustic Soda	437,334	450,589	366,923
Basic Petrochemicals	6,486,105	6,404,589	6,010,227
Consolidated net revenue (R\$ billions)	41	36.2	32.5
EBITDA (R\$ billions)	4.8	4	3.7
Total investment (R\$ billions)	2.7	1.7	2.1
Patents applications (total accumulated in 2013: 764)	112	63 <sup>(2)</sup>	30 <sup>(1)</sup>

### SOCIO-ENVIRONMENTAL DEVELOPMENT<sup>(3)</sup>

	2013	2012	2011
Number of Team Members <sup>(4)</sup>	8,096	7,364	6,934
Injury frequency rate (with and without lost time, Team Members and Partners, per million person-hours worked)	1.04	1.04	1.16
Energy consumption (GJ/t of product)	10.62	10.59	10.77
Total energy consumption for production (GJ) <sup>(1)</sup>	190,415,279	194,865,928	177,045,806
GHG emissions (tCO <sub>2</sub> e/t of product)	0.63 / 0.63	0.63	0.62
Direct GHG emissions (scope 1) (tCO <sub>2</sub> e)	9,743,186	9,564,458	8,871,695
Indirect GHG emissions (scope 2) (tCO <sub>2</sub> e)	874,146	782,603	216,240
Indirect GHG emissions by Third parties (scope 3) (tCO <sub>2</sub> e)	10,092,119	11,764,492	7,134,076
Water consumption for production (m <sup>3</sup> /t product)	4.30	4.23	4.48
Total water consumption (m <sup>3</sup> /year)	70,854,177	71,250,390	80,837,490 <sup>(5)</sup>
Generation of liquid effluents (m <sup>3</sup> /t of product)	1.22	1.17	1.32
Total generation of liquid effluents (m <sup>3</sup> /year)	19,735,053	21,061,530 <sup>(1)</sup>	nd
Generation of solid, liquid and viscous waste (kg/t of product)	2.20	2.28	2.67
Total generation of hazardous waste (thousands of kg)	27,850	36,519	25,597 <sup>(1)</sup>
Total generation of non-hazardous waste (thousands of kg)	42,592	17,417	31,485 <sup>(1)</sup>
Corporate Community investment (R\$ million) <sup>(1)</sup>	17.5	12.6	16
Volume of ethanol acquired from refineries signatories of the Code of Conduct (%)	98	95	85

(1) German and USA operations not included.

(2) Data revised as a result of changes to the patent document control system.

(3) Socio-environmental data for the project in Mexico are reported only in terms of the number of Team Members, given that the project is still in the construction phase.

(4) Data for 2011 do not include Germany. Data for 2013 include quantiQ and Team Members already hired for future operations in Mexico. All years include international business offices.

(5) Does not include Germany.

## SUSTAINABLE DEVELOPMENT MACRO OBJECTIVES

MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
<b>Safety</b>	Be recognized as a reference in chemical, labor and process safety in the global chemical industry	<p><b>2012-2015:</b> lead the implementation of GPS – Global Product Strategy in Latin America.</p> <p><b>2012-2015:</b> promote continual improvement in the risk rating, an index for process safety, defined by insurance companies, so as to reach an average of at least 90 points in Braskem, with all plants being above standard.</p> <p><b>2014-2015:</b> identify alternatives to replace substances that deplete the ozone layer.</p> <p><b>2012-2015:</b> keep the waste generation rate stable and remain as a sector reference.</p>	<ul style="list-style-type: none"> <li>• No fatal work-related accidents recorded and best ever injury rate maintained: 1.04 accidents (with and without lost time) per million person-hours worked.</li> <li>• Implementation of the annual audit framework of SEMPRE – Braskem’s Integrated Health, Environment and Safety System.</li> <li>• Elimination of 41 potential high-risk scenarios.</li> <li>• R\$ 151 million invested in workplace safety, process safety and health.</li> <li>• Creation of the integrated quantitative risk analysis group in Brazil, obtaining direct gains of over R\$ 3 million and indirect gains of R\$ 20 million in reduction of corporate risks.</li> <li>• Best historical result in waste generation intensity, accumulating a 62% improvement from 2002 to 2013. 7.5 million kg of waste was re-used (21% of the total).</li> </ul>
<b>Economic and financial results</b>	Be among the three largest producers of thermoplastic resins in the world and guarantee profitability that will sustain the perpetuity of the business, retaining the classification of Investment Grade. Additional details can be found in Growth strategy / Strategic objectives.	<p><b>June 2015:</b> start of the Ethylene XXI project (Braskem-Idesa, in Mexico), with a capacity of 1 million tons of gas-based PE.</p>	<ul style="list-style-type: none"> <li>• Braskem-Idesa reached 58% completion of the construction phase. Although the plan was for 68% completion, this is not expected to delay the beginning of operations. Approximately 10 thousand persons worked on the project in 2013 – 90% of whom are from neighboring Communities.</li> <li>• Acquisition (subject to the approval of the regulatory authorities) from Solvay, of two plants in Brazil and two in Argentina, which will increase the production capacity for PVC by 42% and of soda by more than 60%.</li> <li>• Announcement of the expansion of a linear low density polyethylene (LLDPE) production line at the Petrochemical Complex in Camaçari (Bahia), with an additional annual capacity of 120 thousand tons. Of this total, 100 thousand tons will be part of the Braskem Flexus family, the Company’s brand of metallocene-based polyethylene.</li> </ul>



MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
Post consumption	Be recognized as an important agent that contributes to the recycling of plastics.	<p><b>2012-2015:</b> to define a business and partnership model for the first energy recovery (from recycled waste) unit in Brazil.</p> <p><b>2012-2015:</b> strengthen the socio-environmental project which supports 15 mechanical recycling cooperatives in the Brazilian states of Rio Grande do Sul, Sao Paulo, Rio de Janeiro, Bahia and Alagoas.</p> <p><b>2013-2015:</b> make the Energy Valuation Unit (UVE) in Mauá (Sao Paulo/Brazil) viable, in partnership with Odebrecht Environmental.</p> <p><b>2012-2013:</b> continue to support the chemical recycling project.</p>	<ul style="list-style-type: none"> <li>• Review of Braskem's position regarding recycling. Mechanical recycling has become a priority, followed by chemical recycling and energy recovery.</li> <li>• Lecture cycle was completed on the subject of the Brazilian National Solid Waste Policy (PNRS) to train commercial teams. 65 Team Members took part in 2013.</li> <li>• Conclusion of research on chemical recycling technologies, with the support of the University of Rio de Janeiro-UFRJ.</li> </ul>
Renewable resources	Be recognized as a leader in the manufacture of chemical products and thermoplastic resins from renewable raw materials and remain as the largest producer in the world of thermoplastic resins from renewable sources.	<p><b>2012-2015:</b> continuation of projects in Innovation and Technology (I&amp;T) for new products and processes based on raw materials from renewable sources.</p> <p><b>2014-2015:</b> launch a sustainability management model for Starch Suppliers.</p>	<ul style="list-style-type: none"> <li>• Investment to connect factories in the Petrochemical complex in Triunfo (Rio Grande do Sul/Brazil) and equipment acquisition to launch the low density green polyethylene (LDPE) line at the beginning of 2014. The annual production of the new resin will be nearly 30,000 tons.</li> <li>• Signed agreement with Genomatica, a North American biotechnology research company, for the joint development of bio-based butadiene. If the partnership yields positive results, a pilot plant and demo plant will be built over the coming years.</li> <li>• 2013 Sustain Award: "I'm green™ Polyethylene" green polyethylene was the winner in the Products category of the sustainable products and services ranking of the 6th Forum for Sustainable Development – Sustain 2013.</li> <li>• Even with the increase on 2012 in the volume of ethanol acquired for the production of Green PE, a high percentage of supply from signatories of Braskem's Code of Conduct for Ethanol Suppliers was maintained – with an average of 98% for the year, exceeding the goal of 90%. Refineries representing 85% of the ethanol purchased between July, 2011 and June, 2012 were audited by third parties.</li> </ul>

MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
<b>Water efficiency</b>	Continue to be a reference in the use of water resources in the global chemical industry.	<p><b>2012-2015:</b> continue improving Braskem's water use rate and percentage of water reuse.</p> <p><b>2012-2015:</b> give continuity to 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 to eliminate impacts.</p>	<ul style="list-style-type: none"> <li>• Aquapolo and Agua Viva water reuse projects operated throughout the year, allowing Braskem to avoid extracting 13 billion liters of water from the environment. This volume is the equivalent of that consumed by 178 thousand people.</li> <li>• The liquid effluent generation indicator improved by 38% over the 2002 to 2013 period, but the water consumption rate increased 3% in the same period.</li> </ul>
<b>Climate change</b>	Be amongst the best large chemical companies in the world in terms of greenhouse gas emissions (GHG) intensity and a major sequestrator of GHG emissions, as a result of the use of renewable raw materials.	<p><b>2012-2015:</b> reduce the intensity of emissions.</p> <p><b>2012-2015:</b> maintain progress in CDP's "transparency" and "results" categories.</p> <p><b>2012-2015:</b> obtain our first carbon credits (deadline extended because of the instability of the carbon market and the decline in credit attractiveness).</p>	<ul style="list-style-type: none"> <li>• The intensity of GHG emissions (scopes 1 and 2) maintained the same performance as the previous year.</li> <li>• Braskem's greenhouse gas emissions inventory, audited by a third party, obtained the gold classification in the GHG Protocol Brazil for the third straight year.</li> <li>• Braskem reached the position of CDP Brazil leader in 2013, with a score of 99% in transparency and an A in results.</li> <li>• New projects to expand our offer of green products underway (see Renewable Resources, in this table).</li> </ul>
<b>Energy efficiency</b>	Be among the world's best large chemical companies in terms of energy consumption intensity and a major user of renewable energy.	<p><b>2012-2015:</b> continue to reduce our energy consumption intensity.</p> <p><b>2012-2016:</b> continue to evaluate the viability of the energy cogeneration from biomass and urban solid waste.</p>	<ul style="list-style-type: none"> <li>• In spite of efforts spent, the energy consumption rate was 10.61 GJ/t of manufactured products, 3% above the annual goal, representing an increase of 0.2% compared to the previous year. However, this rate shows an overall improvement of 12% between 2002 and 2013.</li> </ul>

MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
<b>Local development</b>	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).	<p><b>2012-2015:</b> take the social inclusion through recycling program to the national level in Brazil, strengthening the mechanical recycling of plastic.</p> <p><b>2012-2015:</b> review Corporate Community Investment programs, to ensure they are aligned with Braskem’s core contributions for the improvement of the Human Development Index (HDI), as well as the Global Compact and the Millennium Goals, in each location where the Company does business.</p>	<ul style="list-style-type: none"> <li>• Braskem’s 2013 Social investments in Brazil: R\$17.5 million, R\$7 million of which were donated to the Odebrecht Foundation, R\$ 6.3 million invested in corporate community investment projects, R\$ 3.8 million in state-incentivised sponsorships and R\$ 400,000 corresponding to match funding.</li> <li>• Secured over R\$ 4 million of external resources for Brazilian social projects, from BNDES, Porto Alegre City, Bunge, SEBRAE, Cargill Foundation, among others.</li> <li>• Formalized the General Cooperation Agreement between Braskem and Sebrae, opening up the investment of 30% by Braskem and 70% by SEBRAE, to encourage the development of small businesses, cooperatives and associations with potential to strengthen the plastics value chain.</li> <li>• Ser+realizador – Social Inclusion through Recycling project: expansion of the project to Rio de Janeiro with the inauguration of a sorting station, in partnership with SuperVia (Odebrecht TransPort company); 100% of the waste collectors that were supported for over a year increased their income; 84 cart drivers in Porto Alegre were relocated to new jobs; 511 waste collectors were trained; 23 thousand persons participated in awareness raising technical visits to co-operatives and recyclers.</li> <li>• Forest Factory: more than 122 thousand seedlings produced; 16.8 ha of planted area with over 100 thousand of the seedlings produced; 517 persons trained and more than 10,000 people participated in awareness raising activities.</li> <li>• Edukatu – Learning Network for Responsible Consumption and Sustainability: garnered institutional support from the Brazilian Ministry of the Environment and the Ministry of Education; 1,516 persons participated in the Network, from 583 schools in 27 Brazilian states and 191 Universities, NGOs and municipal offices; more than 3,000 people participated in responsible consumption awareness raising activities.</li> </ul>

MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
<b>Development of Solutions</b>	Be recognized as a company that supports its Clients in the development of environmental and social solutions; contribute to the perception of plastic as a solution to sustainable development due to its potential to improve people's lives.	<p><b>2013-2014:</b> progress in the use of the LCA tool with over 12 studies (Green PE, raffia sacks, chocolate milk packaging, social and environmental assessment of Bahiamido – a corn starch production cooperative – beer can lids, 200-ml disposable cups and 500-ml fastfood cups, surgical kits, bubbledeck, Vitopaper and manholes).</p> <p><b>2014-2015:</b> launch the program to promote the image of plastic.</p> <p><b>2014-2015:</b> launching of the program to identify environmental and social gains in each market development.</p>	<ul style="list-style-type: none"> <li>• Life Cycle Assessment (LCA) studies being carried out in all Business Units. Of the 38 studies in the pipeline, 19 of them were concluded, 11 are under way and eight are in planning stages.</li> <li>• Inaugural event of the Brazilian Corporate LCA Network, a forum led by Braskem designed to disseminate the use of the LCA tool and the creation of a Brazilian Database (Brazilian LCA Program).</li> <li>• Developed and published a video covering LCA concepts (see <a href="http://www.braskem.com/site.aspx/Multimedia-Details-USA/Life-Cycle-Assessment--LCA-">http://www.braskem.com/site.aspx/Multimedia-Details-USA/Life-Cycle-Assessment--LCA-</a>)</li> <li>• Concluded the LCA guide for executives, in partnership with other companies.</li> </ul>

MACRO OBJECTIVE	2020 GOAL	INITIATIVES BY 2015	PROGRESS IN 2013
Strengthening of practices	Be recognized as a corporate leader in Brazil, as well as a global industry leader, for our contribution to sustainable development.	<p><b>2013-2015:</b> continue to be a part of the DJSI Emerging Markets Index.</p> <p><b>2013-2015:</b> become a benchmark in Environment and Climate Management in ISE.</p> <p><b>2013-2015:</b> structured management in organizations that focus on sustainable development.</p> <p><b>2013-2015:</b> to continue to contribute to the definition and implementation of public policies (examples: PNRS (Brazilian National Solid Waste Policy), Chemical Safety and Global Compact for Sustainable Development).</p>	<ul style="list-style-type: none"> <li>• Braskem listed on the Dow Jones Sustainability Index Emerging Markets, the leading index used by investors interested in companies committed to sustainable development, both for the 2012 – 2013 period as well as the 2013 – 2014 period. As part of this analysis, Braskem was also included in the 2014 edition of the RobecoSAM Sustainability Yearbook, which recognizes the most sustainable companies in every industry in the world.</li> <li>• Braskem was listed for the ninth time in a row on the Corporate Sustainability Index (ISE), with an above average score on the index and in a benchmark position in the climate change category. For the third consecutive time, the Company is also listed on the IC02, which measures transparency and efficiency of GHG emissions of the companies on the IBRX-50. Both the ISE and the IC02 are BM&amp;FBovespa market indexes.</li> <li>• Braskem was recognized for its actions in sustainability, by the following media outlets: Exame Magazine’s Sustainability Guide, Amanhã Magazine, Environmental Analysis and Época Magazine’s Business Annual.</li> <li>• Creation of the Technical Chamber of Materials on CEBDS, with Braskem presiding, to promote lifecycle thinking, innovation in the development of new solutions and appropriate management of waste.</li> <li>• In addition to assuming the presidency of the Brazilian Global Compact Committee, Braskem is now part of a group of LEAD companies, created by the UN to promote corporate attention to the practice of Global Compact Principles.</li> <li>• Support when elaborating the chemical industry contributions guide for the ICCA Energy Climate Change group and participation in COP19, a United Nations multilateral conference on climate change, representing the ICCA in an event that discussed avoided carbon emissions.</li> </ul>

# GRI G4 CONTENT INDEX

GENERAL STANDARD DISCLOSURES			
Indicator	Description	Response and/or Location	External Assurance
<b>STRATEGY AND ANALYSES</b>			
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.	Message from the Business Leader	●
<b>ORGANIZATIONAL PROFILE</b>			
G4-3	Name of the organization.	Introduction	●
G4-4	Primary brands, products, and/or services.	Profile	●
G4-5	Location of the organization's head office.	Profile	●
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.	Profile	●
G4-7	Nature and legal form of ownership.	Profile	●
G4-8	Markets served (including geographic breakdown, sectors served and types of clients/beneficiaries).	Profile	●
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.	Profile Economic and Financial Performance	●
G4-10	Total number of employees by employment contract, gender, and region.	Team Members profile Third-party data were not provided, as the data recording system needs to be improved. This information will be published in the 2014 Annual Report.	●
G4-11	Percentage of employees covered under a collective bargaining agreement.	99.5% of the Team Members in Brazil, 56% in Mexico, 39% in Germany, and 10% in the USA are covered by collective bargaining agreements.	●
G4-12	Organization's supply chain.	Suppliers	●

The symbols used identify the procedures that have been applied to carry out Assurance:

- ▲ Procedures (f)
- Procedures (a) and (e)
- Procedures (a), (b) and (c)

See the description of each procedure in the Limited Assurance Report of the Independent Auditors, on page 148.

## GENERAL STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	External Assurance
<b>ORGANIZATIONAL PROFILE</b>			
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.	Profile	●
G4-14	Description of whether and how the precautionary principle is addressed by the organization.	In principle, and in accordance with its Health, Safety, Environment, Quality, and Productivity Policy, Braskem does not produce, handle, utilize, market, transport, or dispose of any product unless it can do so in a safe manner and with a minimal impact on the environment.	●
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 Obs: the above-mentioned associations are voluntary and multi-stakeholder in nature.	●
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 and multi-stakeholder in nature.	●
<b>IDENTIFIED MATERIAL ASPECTS AND LIMITS</b>			
G4-17	a. List of all entities included in the consolidated financial statements or equivalent documents in the organization. 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.	a. See Note 2.1.2.a of the Financial Statements, available at <a href="http://www.braskem-ri.com.br/Download.aspx?File=600A4fBcliTNZ4HqLgHEfw==">http://www.braskem-ri.com.br/Download.aspx?File=600A4fBcliTNZ4HqLgHEfw==</a> 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.	Sustainability strategy	●
G4-19	Material aspects identified in the process of defining the content of the report.	Sustainability strategy	●
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.	Sustainability strategy	●

## GENERAL STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	External Assurance
<b>IDENTIFIED MATERIAL ASPECTS AND LIMITS</b>			
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 organization: Climate change, Post-consumption, Local development and Safety (safe use of the product). Braskem monitors indicators associated with these subjects outside of the organization provided that the third-party database is available and reliable. Examples of monitored data: scope 3 emissions, plastics recycled by supported recycling cooperatives, benefits to partners of social investments, and safe use of the products. The entities are geographically widespread, with the exception of local development, which is focused in the communities surrounding Braskem 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).	About the report Specific restatements 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.		●
<b>ENGAGEMENT OF STAKEHOLDERS</b>			
G4-24	Listing of stakeholders engaged by the organization.	Sustainability strategy	●
G4-25	Basis for identification and selection of stakeholders with whom to engage.	Sustainability strategy	●
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.	Sustainability 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.	Sustainability strategy	●



## GENERAL STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	External Assurance
<b>REPORT PROFILE</b>			
G4-28	Period covered by the report (for example, accounting year or calendar year), for the information presented.	About the report	●
G4-29	Date of the most recent previous report (if any).	2012	●
G4-30	Frequency with which reports are issued (annually, biannually, etc.).	Annual	●
G4-31	Contact data in the event of questions relating to the report or its content.	About the report	●
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 G4 Content 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.	KPMG Report External verification is carried out at the request of the Leadership and is included in the set of annual goals of the Leadership responsible for preparation of the report.	●
<b>Governance</b>			
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).	The chairman of the board of directors is not an executive director.	●
<b>Ethics and integrity</b>			
G4-56	Values, principles, standards, and norms of behavior in the organization, such as codes of conduct and ethics.	Odebrecht Entrepreneurial Technology 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).	Corporate governance /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.	Corporate governance /Ethics and integrity	●

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: All				
Macro Objectives: All				
G4-DMA	Disclosures on management approach	<p>a. Materiality of Aspects: <a href="http://www.braskem.com/sustainabilitymateriality">http://www.braskem.com/sustainabilitymateriality</a></p> <p>b. Management, targets and initiatives About the report / Sustainable development macro objectives, and <a href="http://www.braskem.com.br/site.aspx/braskem-voluntary-commitments">http://www.braskem.com.br/site.aspx/braskem-voluntary-commitments</a></p> <p>c. Management evaluation: Social Development. Team Members. Performance Management</p>		■
Material Aspects: Economic Performance				
Macro Objectives: Economic and Financial Results				
G4-EC1	Direct economic value generated and distributed	Economic and Financial Performance		▲
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	<p>Energy and climate change (GHG management)/Risks and opportunities</p> <p>Additional information about this indicator is available in the CDP 2013 report at <a href="https://www.cdproject.net/sites/2013/35/2135/Investor%20CDP%202013/Pages/DisclosureView.aspx">https://www.cdproject.net/sites/2013/35/2135/Investor%20CDP%202013/Pages/DisclosureView.aspx</a></p>		●
G4-EC4	Financial assistance received from government	Economic and Financial Performance	The data is not broken down by country, as no significant aid is received outside of Brazil.	▲
Material Aspects: Market Presence				
Macro Objectives: Local Development				
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	Team Members/Remuneration	Breakdown by gender is not provided as Braskem's standard entry level wage is the same for men and women.	●
G4-EC6	Proportion of senior management hired from the local community at significant Locations of operation	<p>Half of the leaders in Brazil are local, meaning that they were born in the same state in which they are currently located. The state with the greatest number of local leaders is Rio Grande do Sul, 70%, followed by Bahia, 56%, São Paulo, 49%, Alagoas, 25% and Rio de Janeiro, 11%. In Germany, The United States, and Mexico, the representation of local leaders is 48%, 25% and 35%, respectively.</p> <p>Braskem considers senior management to consist of all positions above Manager.</p>		●

The symbols used identify the procedures that have been applied to carry out Assurance:

- ▲ Procedures (f)
- Procedures (a) and (e)
- Procedures (a), (b) and (c)

See the description of each procedure in the Limited Assurance Report of the Independent Auditors, on page 148.

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Indirect Economic Impacts				
Macro Objectives: Local Development				
G4-EC7	Development and impact of infrastructure investments and services supported	Communities	This information is not broken down because all investments were in kind (donated money or equipment) and all services offered were free.	●
G4-EC8	Significant indirect economic impacts, including the extent of impacts	Solutions for Clients and Development of expansion projects		●
Material Aspects: Purchasing Practices				
Macro Objectives: Local Development				
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	Suppliers Braskem has defined local suppliers to be those who are located in the same country as the Braskem unit that acquired its products or services.		■
Material Aspects: Materials				
Macro Objectives: Renewable Resources				
G4-EN1	Materials used by weight or volume	The principal non-renewable* direct materials used by Braskem are: naphtha, condensate, etano, propane, HLR, and sodium chloride. Braskem also uses ethanol manufactured from sugar cane 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, petroleum, coal, gas, etc.	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 investment 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 through the use of 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.		●

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Energy				
Macro Objectives: Energy Efficiency				
G4-EN3	Energy consumption within the organization	Energy and climate change (GHG management)	It has not yet been possible to report this indicator for the international plants due to the difficulty of obtaining data in the necessary format. Deadline for inclusion: 2014.	●
G4-EN5	Energy intensity	Energy and climate change (GHG management)		■
G4-EN6	Reduction of energy consumption	Energy and climate change The calculation of reductions was carried out 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	Solutions for Clients Reductions are estimated by comparing the 'before' and 'after' scenarios for the use of the resins in question.		■
Material Aspects: Water				
Macro Objectives: Water Efficiency				
G4-EN8	Total water withdrawal by source	Water		●
G4-EN9	Water sources significantly affected by withdrawal of water	Water		■
G4-EN10	Percentage and total volume of water recycled and reused	Water		●
Material Aspects: Biodiversity				
Macro Objectives: n/a (material 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 takes place when new units are built in areas where there was no previous industrial activity, such as in Mexico, where Braskem-Idesa built a petrochemical complex. The measures to reduce impacts on local biodiversity were described in the 2012 Annual Report ( <a href="http://rao2012.braskem.com/relatorio.asp?subrelatorio=44">http://rao2012.braskem.com/relatorio.asp?subrelatorio=44</a> ). The current status is described in, Development of expansion projects		●
G4-EN13	Habitats protected or restored	Environmental protection		■
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	There is only one species at risk of extinction affected by Braskem's operations, the <i>Ceratozamia miqueliana</i> (flora, status critical), in Mexico. Development of expansion projects		■

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Emissions				
Macro Objectives: Climate Change				
G4-EN15	Direct greenhouse gas (ghg) emissions (scope 1)	Energy and climate change Braskem reports data from operations at which it has operating control.		●
G4-EN16	Energy indirect greenhouse gas (ghg) emissions (scope 2)	To become familiar with the complete methodology, see the Braskem report made to the Brazilian GHG Protocol Program: <a href="http://registropublicodeemissoes.com.br/index.php/participant/41">http://registropublicodeemissoes.com.br/index.php/participant/41</a>		●
G4-EN17	Other indirect greenhouse gas (ghg) emissions (scope 3)			●
G4-EN18	Greenhouse gas (ghg) emissions intensity	Energy and climate change (GHG management)		●
G4-EN19	Reduction of greenhouse gas (ghg) emissions	Energy and climate change (GHG management)		●
Macro Objectives: Climate Change, Safety				
G4-EN20	Emissions of ozone-depleting substances (ods)	Energy and climate change (GHG management)		■
Macro Objectives: Energy, Safety				
G4-EN21	NO <sub>x</sub> , SO <sub>x</sub> and other significant air emissions	Energy and climate change (GHG management)		●
Material Aspects: Effluents and Waste				
Macro Objectives: Water Efficiency				
G4-EN22	Total water discharge by quality and destination	Water: use and disposal		●
Macro Objectives: Safety				
G4-EN23	Total weight of waste by type and disposal method	Waste		●
G4-EN24	Total number and volume of significant spills	Waste		●

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Products and Services				
Macro Objectives: Application Development				
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	Solutions for Clients		●
Macro Objectives: Post Consumption				
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	Braskem works with waste collector cooperatives in Brazil to encourage recycling of its products and packaging. See the volumes recycled in, Communities. These volumes still do not represent a significant percentage of the total sold by Braskem.		●
Material Aspects: Conformity				
Macro Objectives: Strengthening 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 to comply with any non-monetary sanctions during the period in question. For the purposes of this report, the same materiality criterion was adopted as was used in the Reference Form instituted by the Securities Commission ("CVM") under the terms of Normative Ruling CVM 480/2009 – R\$ 60 million. For environmental matters, the value of R\$ 10 MM was adopted.		●
Material Aspects: General				
Macro Objectives: Climate Change, Energy, Water				
G4-EN31	Total environmental protection expenditures and investments by type	Environmental protection		●
Material Aspects: Employment				
Macro Objectives: Economic and Financial Results				
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	Team Members/New hires and dismissals		●

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Workplace Health and Safety				
Macro Objectives: 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	Workplace health and 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	Workplace health and safety	The data recording system for health and safety does not break down the data by gender. The method used to monitor absenteeism is being revised, and therefore it was not possible to obtain this item of data. Deadline for inclusion: Annual Report 2015	●
Material Aspects: Local Communities				
Macro Objectives: Local Development				
G4-S01	Percentage of operations with implemented local community engagement, impact assessments, and development programs	Growth strategy/Braskem-IDESAs Communities Process safety/Impacts on Communities		●
G4-S02	Operations with significant actual and potential negative impacts on local communities	Growth strategy/Braskem-IDESAs; Process safety/Impacts on Communities		■
Material Aspects: Anti-corruption Measures				
Macro Objectives: Strengthening of Practices				
G4-S05	Confirmed incidents of corruption and actions taken	Corporate governance/Ethics and integrity		■
Material Aspects: Public Policies				
Macro Objectives: Strengthening of Practices				
G4-S06	Total value of political contributions by country and recipient/beneficiary	The area of Public Policy is material for operations in Brazil. Because 2013 was not an election year, only insignificant amounts were donated. The total donations made by the Company in the most recent election year are available on the Open Policy site: <a href="http://www.politicaaberta.org/entidade/42150391000170/BRASKEM_S/A">http://www.politicaaberta.org/entidade/42150391000170/BRASKEM_S/A</a>		■

## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Unfair Competition				
Macro Objectives: Strengthening of Practices				
G4-S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Zero		■
Material Aspects: Conformity				
Macro Objectives: Strengthening 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 to comply with any non-monetary sanctions during the period in question. For the purposes of this report, the same materiality criterion was adopted as was used in the Reference Form instituted by the Securities Commission ("CVM") under the terms of Normative Ruling CVM 480/2009 – R\$ 60 million. For environmental matters, the value of R\$ 10 MM was adopted.		■
Material Aspects: Client Health and Safety				
Macro Objectives: Safety				
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Chemical safety/Product Responsibility		●
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	Chemical safety/Product Responsibility		●
Material Aspects: Labeling of Products and Services				
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	Chemical safety/Product Responsibility		■
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	Chemical safety/Product Responsibility		■



## SPECIFIC STANDARD DISCLOSURES

Indicator	Description	Response and/or Location	Omissions	External Assurance
Material Aspects: Marketing Communications				
Macro Objectives: Strengthening 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		■
Material Aspects: Conformity				
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 to comply with any non-monetary sanctions during the period in question. For the purposes of this report, the same materiality criterion was adopted as was used in the Reference Form instituted by the Securities Commission ("CVM") under the terms of Normative Ruling CVM 480/2009 – R\$ 60 million. For environmental matters, the value of R\$ 10 MM was adopted.		■
Material Aspects: Non-discrimination				
Macro Objectives: n/a, additional indicator				
G4-HR3	Total number of incidents of discrimination and corrective actions taken	Corporate governance/Ethics and integrity		■
Material Aspects: Mechanism for Reporting Human Rights Complaints and Claims				
Macro Objectives: n/a, additional indicator				
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	Corporate governance/Ethics and integrity		■

The symbols used identify the procedures that have been applied to carry out Assurance:

- ▲ Procedures (f)
- Procedures (a) and (e)
- Procedures (a), (b) and (c)

See the description of each procedure in the Limited Assurance Report of the Independent Auditors, on page 148.

## CORRELATION WITH THE GLOBAL COMPACT

GLOBAL PACT PRINCIPLES	CHAPTER AND RELATED GRI INDICATORS REPORTED BY BRASKEM
<b>Principle 1</b> Businesses should support and respect the protection of internationally proclaimed human rights	Corporate governance /Ethics and integrity Safety of processes G4-HR12, G4-S01, G4-S02
<b>Principle 2</b> Make sure that they are not complicit in human rights abuses	Corporate governance /Ethics and integrity Suppliers
<b>Principle 3</b> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Corporate governance /Ethics and integrity Regarding the report/Index G4-11
<b>Principle 4</b> The elimination of all forms of forced and compulsory labor	Corporate governance /Ethics and integrity Strategic suppliers/raw materials
<b>Principle 5</b> The effective abolition of child labor	Corporate governance /Ethics and integrity Strategic suppliers/raw materials
<b>Principle 6</b> The elimination of discrimination in respect of employment and occupation	Team Members / Team Member profile Team Members/Compensation Team Members/Hiring and layoffs Corporate governance /Ethics and integrity G4-10, G4-EC5, G4-EC6, G4-LA1, G4-HR3
<b>Principle 7</b> Businesses should support a precautionary approach to environmental challenges	Energy and climate change Solutions for Clients Environmental, health, and safety management G4-EC2, G4-EN1, G4-EN3, G4-EN8, G4-EN15, G4-EN16, G4-EN17, G4-EN20, G4-EN21, G4-EN27, G4-EN31
<b>Principle 8</b> Undertake initiatives to promote greater environmental responsibility	Environmental, health and safety management Solutions for Clients G4-EN1, G4-EN2, G4-EN3, G4-EN5, G4-EN6, G4-EN7, G4-EN8, G4-EN9, G4-EN10, G4-EN11, G4-EN12, G4-EN13, G4-EN14, G4-EN15, G4-EN16, G4-EN17, G4-EN18M, G4-EN19, G4-EN20, G4-EN21, G4-EN22, G4-EN23, G4-EN24, G4-EN27, G4-EN28, G4-EN29, G4-EN31
<b>Principle 9</b> Encourage the development and diffusion of environmentally friendly technologies	Solutions for Clients Environmental, health, and safety management G4-EN6, G4-EN7, G4-EN19, G4-EN27, G4-EN-31
<b>Principle 10</b> Businesses should work against corruption in all its forms, including extortion and bribery	Odebrecht Entrepreneurial Technology Corporate governance /Ethics and integrity G4-56, G4-S05, G4-S06



# LIMITED ASSURANCE REPORT ISSUED BY INDEPENDENT AUDITORS

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 2013 Annual Report, related to the year ended December 31<sup>st</sup>, 2013.

## RESPONSIBILITIES OF BRASKEM’S MANAGEMENT

The management of Braskem is responsible for preparing and adequately presenting the information in the 2013 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 2013 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 2013 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 2013 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 2013 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 2013 Annual Report, other engagement circumstances and considerations regarding areas and procedures associated with the material sustainability information disclosed 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 Annual Report 2013. This analysis defined the indicators to be tested in detail;
- (b) understanding the reporting process and management of material aspects and performance indicators;
- (c) analysis of processes for the preparation of the 2013 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 non-financial indicators:

- 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 2013 Annual Report;
- analysis of evidence supporting the indicators;
- visits to four of Braskem's operational units for application of these procedures, as well as of items (b) and (c);

(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 2013.

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, we have not identified any relevant information that leads us to believe that the information in Braskem's 2013 Annual Report is not fairly stated in all material respects in accordance with the Global Reporting Initiative Sustainability Reporting Guidelines (GRI-G4), and with its source records and files.

São Paulo, May 23, 2014

KPMG Risk Advisory Services Ltda.  
CRC 2SP023233/O-4

Eduardo V. Cipullo  
Accountant CRC 1SP135597/O-6

# CORPORATE INFORMATION

Addresses and contact information for the Braskem industrial and commercial units.

## BRAZIL

### SOUTHEAST

#### UNIB 3 CK ABC

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#### 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  
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#### UN PP 5 DCX

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#### UN PP 3 PLN

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#### RJ Office

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#### SP Office – Villa Lobos

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### SOUTH

#### PP 1 RS

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#### UNIB 2 RS

BR 386, Rod. Tabai/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

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#### PE 5 RS

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#### PE 6 RS

BR 386 – Rodovia Tabai-Canoas – Km 419, Via de Contorno 1178 – Polo Petroquímico, Lote 29 – Passo Raso – Triunfo, RS, CEP: 95853-000

#### RS Office

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Phone: 55 51 3216-2626

#### SC Office

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### ALAGOAS

#### CS 1 AL

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#### PVC 2 AL

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#### Mining

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#### Cinal

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### BAHIA

#### UNIB 1 BA

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#### PE 2 BA

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## GLOSSARY

**Above standard:** above standard – one of the company classification categories used by insurance companies, based on process safety risk criteria.

**Biodiversity:** variety and variability that exist among living organisms and the ecological complexities in which they occur. Such diversity includes ecosystems, animals, plants, fungi, microorganisms and genetic diversity.

**Biopolymer:** a thermoplastic resin produced from renewable raw materials.

**Crackers:** industrial installations in which naphta is transformed into derivatives such as ethene, propene and other coproducts.

**Ecoefficiency:** the ratio between the use of resources needed for the manufacture of a certain product and the volume produced. Expresses productivity from the environmental point of view.

**Eco-indicators:** environmental performance indicators

**GHG Protocol:** a program designed to encourage companies to create and publish their inventories of greenhouse gases.

**Greenfield:** a term to identify projects that start from scratch, that is, that are a start-up development of an enterprise (literally meaning a “green field”).

**Green Plastic:** an expression used to identify resins produced by Braskem from renewable source raw material, in this case, sugar cane.

**Investment grade:** investment grade – a classification attributed to companies or countries considered to be good payers.

**Joint venture:** an association among companies for the purpose of expanding their economic bases for business activities.

**Materiality:** relevance, relevant issues

**PIC:** Incentive Plan for the Plastic Chain

**Scope 1:** direct emissions of greenhouse gases, coming 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:** emissions of greenhouse gases originating from the acquisition of electrical or thermal energy consumed by the Company.

**Scope 3:** indirect greenhouse gas emissions. Involves all other emissions resulting from the direct activities of the Company, but which occur in sources that do not belong to or are not controlled by the Company.

**Six Sigma:** Six Sigma – a set of practices developed to improve processes.

**Stakeholders:** target groups, interested parties, relationship audiences – these are groups or audiences with which Braskem maintains some type of relationship with regard to its corporate operations and activities.

**Team Members:** a term used in the companies of the Odebrecht Organization, among them Braskem, to refer to their employees.

## ACRONYMS

**Abiquim:** Brazilian Chemical Industry Association

**ABS:** acrylonitrile butadiene styrene

**ACC:** American Chemistry Council

**LCA:** Life Cycle Assessment

**BBB-:** represents an “investment grade,” that is, a classification that characterizes a company or country for investors. The classification is made by risk agencies and represents the ability to pay debts on time.

**BM&FBovespa:** Stock Market, Commodities and Futures

**BNDES:** National Bank of Economic and Social Development Bank

**BNDESPAR:** National Economic and Social Development Bank Shares

**RTO:** workplace accident requiring time off

**CDP:** global sustainability program

**CEBDS:** Brazilian Business Council for Sustainable Development

**Cempre:** Corporate Commitment to Recycling, a non-profit association dedicated to the promotion of recycling, with a focus on integrated waste management.

**CO<sub>2</sub>:** carbon dioxide

**CO<sub>2</sub>e:** carbon dioxide equivalent (the sum of emissions of all greenhouse gases converted to CO<sub>2</sub>)

**EBITDA:** Earnings before interest, taxes, depreciation and amortization

**ETBE:** Ethyl Terc-Butyl Ether (gasoline additive)

**FEL:** a method for analyzing the viability of projects from the technical, economical and market point of view.

**CMDS:** chemical product safety information sheet

**GHG:** greenhouse gases

**Gj:** Gigajoules

**LPG:** liquid petroleum gas

**GPS:** Global Product Strategy

**GRI:** Global Reporting Initiative (a network that created the global standard methodology for economic, social and environmental performance reports for organizations)

**GWP:** Global Warming Potential

**PHW:** person-hours worked

**ICCA:** International Council of Chemical Associations

**Idesa:** a Mexican petrochemical company

**SPI:** Supplier Performance Index

**HDI:** Human Development Index

**IPCC:** Intergovernmental Panel of Climate Change (UN)

**PSI:** Private Social Investments

**kWh/t:** kilowatt-hours per ton

**kg/t:** kilograms per ton

**MTBE:** Methyl Terc-Butyl Ether (gasoline additive)

**AP:** Action Program

**PDCIS:** Integrated and Sustainable Development Program for the Mosaic of Environmentally Protected Areas of the Southern Lowlands of Bahia

**GDP:** Gross Domestic Product

**PE:** polyethylene

**LLDPE:** linear low-density polyethylene

**Green PE:** polyethylene produced from a renewable source of raw material (sugar cane)

**PNRS:** Brazilian National Solid Waste Policy

**PP:** polypropylene

**PVC:** polyvinyl chloride

**REACH:** Register Evaluation Authorization and Restriction of Chemicals

**RepTrak™ Pulse:** a method for studying the reputation and expectations of companies and organizations

**NRTO:** workplace accident not requiring time off

**SAN:** styrene acrylonitrile

**SAP:** integrated operations, business, and corporate activities management software

**Sebrae:** Brazilian Support Service for Micro and Small Companies

**THC:** Total Hydrocarbons

**SEMPRE – Excellence in HES:** Braskem's Health, Environment and Safety management program designed to prevent and minimize risks as well as personal, environmental and material losses.

**HES:** Health, Environment and Safety

**SHEQAS:** Health, Environment and Safety and Quality Assessment System.

**TEO:** Odebrecht Entrepreneurial Technology – a system of beliefs and values of the Odebrecht Organization

**IR:** injury rate

**UNIB:** Basic Petrochemicals Unit

**UNPol:** Polymers Unit

**UTEC:** Braskem's own brand of ultra-high molecular weight resin

**UNUSE:** United States and Europe Unit

**UNVin:** Vinyls Unit





## APPENDICES

# APPENDICES

## NEW HIRES AND DISMISSALS

G4-LA1

### NEW HIRES IN 2013

Country	Region	Men					Women					Total	Total Rate
		Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	Rate	Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	Rate		
Brazil	South	59	35	2	96	6.6%	21	6	0	27	8.6%	123	6.9%
	Southeast	69	75	4	148	8.5%	53	40	2	95	15.8%	243	10.4%
	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%
USA		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%
México		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%

### DISMISSALS IN 2013

Country	Region	Men					Women					Total	Total Rate
		Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	Rate	Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	Rate		
Brazil	South	15	31	60	106	7.3%	11	9	3	23	7.3%	129	7.3%
	Southeast	25	88	57	170	9.8%	28	52	3	83	13.8%	253	10.8%
	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%
USA		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%
México		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%

## TOTAL TURNOVER RATE – 2013

Country	Region	Men	Women	Total
Brazil	South	6.9%	8.0%	7.1%
	Southeast	9.2%	14.8%	10.6%
	Northeast	7.1%	8.3%	7.3%
	Sub-total	7.7%	11.1%	8.4%
USA		8.7%	14.5%	9.8%
Germany		9.3%	15.0%	11.3%
México		41.1%	41.7%	41.2%
Total Global*		10.2%	13.1%	10.8%

## NEW HIRES IN 2012

Country	Region	Men				Women				Total
		Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	Under 30 years	From 30 to 50 years	Over 50 years	Sub-total	
Brazil	South	30	8	0	38	81	25	2	108	146
	Southeast	69	43	0	112	63	72	5	140	252
	Northeast	45	14	0	59	51	60	4	115	174
	Sub-total	144	65	0	209	195	157	11	363	572
USA	Texas	0	0	2	2	2	4	0	6	8
	Pennsylvania	7	12	1	20	14	27	11	52	72
	West Virginia	0	0	0	0	3	5	2	10	10
	Sub-total	7	12	3	22	19	36	13	68	90
Germany		8	17	0	25	4	11	0	15	40
Total Team Members		159	94	3	256	218	204	24	446	702

## DISMISSALS IN 2012

Country	Region	Men	Women
Brazil	South	77	23
	Southeast	155	59
	Northeast	120	32
	Sub-total	352	114
USA		2	1
Germany		1	0
Total Team Members		355	115

Note: the data exclude international sales offices and quantiQ.

## EFFLUENTS

G4-EN22

TOTAL DISCHARGE OF WATER, BY QUALITY AND DESTINATION - BRAZIL (2012)						
Location	Destination of effluent	Volume of effluent discharged (m <sup>3</sup> /year)	Treatment method	Biochemical oxygen demand at discharge (BOD) (kg/year)*	Total suspended solids at discharge (TSS) (kg/year)*	Other significant quality parameters (kg/year)*
Rio de Janeiro	Coelho Canal	709,449	Biological	7,350	71	
	Biological Treatment Plant UNIB4	76,626	BIOX / biological treatment	Not available	Not available	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 fats phosphate, 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 Wastewater Treatment Plant	1,034,008	Stabilization ponds	1,758	26,884	1,272 oils and fats
	REPLAN - External Wastewater Treatment Plant	878	Not available	Not available	Not available	Not available
São Paulo	Perequê River	94,827	Primary	9,231	51	5,988 oils and fats
	Tamanduateí River**	8,761,353	Physical, physical-chemical and biological	316,477	1,293	3,155 oils and fats

**Notes:**

\*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.

\*\* 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.





## ENERGY AND CLIMATE CHANGE (GHG MANAGEMENT)

G4-EN19

REDUCTION OF GREENHOUSE GAS (GHG) EMISSIONS					
State	Type of Emissions	Voluntary or Mandatory	Reduction of Emissions Initiative	Reduction of Emissions (t CO <sub>2</sub> e)	Economic Return (thousands of Brazilian Reals per year)
Rio Grande do Sul	Generation of electricity, steam or heat	Voluntary	Reduction in the energy index in Aromatics (area 23 and 04).	13	1,195
	Other process fuels (ex. flare)	Voluntary	Reduction in the amount of gas burned in the UNIB flare: PE 4 (RS) stopped burning its flare in UNIB 2 (RS), 114.2 tons of gas due to the standardization of the procedure of sending the off-gas from PE4 Spherilene to UNIB.	114	Not available
	Other process fuels (ex. flare)	Voluntary	Reduction in the technical index of monomer of PP1 (RS), reducing purges to the flare.	10,660	Not available
	Generation of electricity, steam or heat	Voluntary	Reduction in the consumption of steam in PP2 (RS) by the creation of the steam control algorithm for deactivating the catalyst.	389	Not available
	Generation of electricity, steam or heat	Voluntary	Reduction of the consumption of steam for the PL2 flare at UNIB 2 (RS).	5	1,330
	Generation of electricity, steam or heat	Voluntary	Reduction in the consumption of EE at PP 1 (RS) by reducing the operation time of pumps P-5301A/B in parallel.	28	Not available
	Other process fuels (ex. flare)	Voluntary	Increased performance of recycling compressor at PP 2 (RS), reducing purges to flare.	191	Not available
	Generation of electricity, steam or heat	Voluntary	Increased recovery of exhaust energy from the gas turbine at UNIB 2 (RS).	1	431
	Other process fuels (ex. flare)	Voluntary	Gains in availability of plant PP2: reduction of plant shutdowns, which reduced the need for purges to the flare.	199	Not available
	Generation of electricity, steam or heat	Voluntary	Reduction in the consumption of GC in the pyrolysis furnaces (111F01, 111F02, 111F05, 111F06 and 11F09) and smoke tests at UNIB 1 (RS).	19	Not available
	Generation of electricity, steam or heat	Voluntary	Reduction in the consumption of EE of the cooling tower pumps at PP 2 (RS).	236	Not available
	Generation of electricity, steam or heat	Voluntary	Reuse of the Low Pressure Condensate of Olefins 2 without Polishing, at UNIB 2 (RS).	3	Not available
Other process fuels (ex. flare)	Voluntary	Optimization of the operation/regeneration cycle of 50PK502, reducing purges to the flare at PP 2 RS.	17	Not available	

## REDUCTION OF GREENHOUSE GAS (GHG) EMISSIONS

State	Type of Emissions	Voluntary or Mandatory	Reduction of Emissions Initiative	Reduction of Emissions (t CO <sub>2</sub> e)	Economic Return (thousands of Brazilian Reals per year)
São Paulo	Generation of electricity, steam or heat	Voluntary	Deactivation of air conditioning system (EB-901) - EA-990A/B - PHASE 2 at UNIB 3 (ABC).	Not available	1,289
	Generation of electricity, steam or heat	Voluntary	Gains in cleaning of convection for pyrolysis furnaces at UNIB 3 (ABC).	Not available	1,677
	Generation of electricity, steam or heat	Voluntary	Energy optimization of columns DA-209/DA-211/DA-210N and DA-1205 at UNIB 3 (ABC).	Not available	4,274
	Generation of electricity, steam or heat	Voluntary	Reactivation of the soot-blowing systems at UNIB 3 (ABC).	Not available	1,079
	Generation of electricity, steam or heat	Voluntary	Recovery of energy in the hot area – phase 2 at UNIB 3 (ABC).	Not available	6,055
	Generation of electricity, steam or heat	Voluntary	Reduction in fuel gas consumption in furnaces of A-400/450 at UNIB 3 (ABC).	Not available	1,508
	Generation of electricity, steam or heat	Voluntary	Reduction in steam consumption at UNIB 3 (ABC).	Not available	3,046
Rio de Janeiro	Generation of electricity, steam or heat	Voluntary	Optimization of furnace operation – compatibility of charging at UNIB 4 (DCX).	Not available	1,644
	Generation of electricity, steam or heat	Voluntary	Recovery of energy from low pressure condensate at UNIB 4 (DCX).	Not available	1,271
	Generation of electricity, steam or heat	Voluntary	Reduction of excess O <sub>2</sub> in furnace burns during C <sub>9</sub> + - part 2 burn at UNIB 4 (DCX).	Not available	227
	Generation of electricity, steam or heat	Voluntary	Reduction in NG with improved efficiency of furnaces at UNIB 4 (DCX)	Not available	4,413
Bahia	Generation of electricity, steam or heat	Voluntary	Equationing of the heat balance at UNIB (BA) in TG-E.	41,081	576
	Generation of electricity, steam or heat	Voluntary	Reduction in electrical energy consumption: underway, change in the anode technology, substituting Runner anodes with SLM. This is not an investment, but an action to improve the cell maintenance routine.	247	Not available
	Generation of electricity, steam or heat	Voluntary	Continuation of the Six Sigma project for the reduction of steam consumption by 15 kgf/cm <sup>2</sup> g, in the polymer plant. In 2013, there was a reduction of 7,938.76t, by using this system to identify and implement actions for the purpose of optimizing consumption and reducing losses in the field.	1,272	5,303
	Generation of electricity, steam or heat	Voluntary	Reduction in energy consumption of the C8 Loop (phase II).	13,609	2,168
	Generation of electricity, steam or heat	Voluntary	Energy optimization of the Catalytic Reform Unit at UNIB 1 (BA).	5,681	723
	Generation of electricity, steam or heat	Voluntary	Energy optimization of block C4 at UNIB 1 (BA).	4,894	Not available
	Generation of electricity, steam or heat	Voluntary	Other Initiatives at UNIB 1 (BA): reduction of energy consumption in Isoprene / profitability boost of BTX block / energy optimization of the Stripper column DA-401.	9,800	Not available
Alagoas	Generation of electricity, steam or heat	Voluntary	Deactivation of A-711 - distilling of Raw DCE to control pressure, in the opening of the PV711011 the vent gases of the distillation column were sent to be incinerated at A-714, at CS 1 (AL).	13	Not available
<b>TOTAL</b>				<b>88,471</b>	<b>38,210</b>

Note: the amounts invested in the initiatives were not reported. Some gains were also not reported.

## OTHER EMISSIONS

### EMISSION OF OZONE-DEPLETING SUBSTANCES (ODS)

EN20

In 2013, Braskem consumed HCFC 22 and HCFC 141b gases, both shown in Appendix C, Group I of the CONAMA 267/2000 Resolution. Braskem does not use substances from Appendices A and B.

The industrial plants have been systematically reducing the use of these substances.

#### 2013 EMISSIONS

HCFC 22	175.7 t
HCFC 141b	4.8 t

### EMISSIONS OF NO<sub>x</sub>, SO<sub>x</sub> AND OTHER SIGNIFICANT ATMOSPHERIC EMISSIONS

EN21

#### ATMOSPHERIC EMISSIONS

(tons) <sup>(1)</sup>	2013	2012
NO <sub>x</sub>	12,157	8,756
SO <sub>x</sub>	6,582	5,880
Particulate matter	1,547	1,088
Volatile organic compounds	2,707	1,756
Carbon monoxide (CO)	3,412	2,076
THC	2,696	5,045
Toxic air pollutant	549	142

(1) In 2012, data was reported only from La Porte, Marcus Hook and Neal, among the Braskem units in the USA. No atmospheric emissions data were made available from the units in Germany.

The 2013 data refer to the following units: UNIB 1, UNIB 2, UNIB 3, UNIB 4, PE2, PE7, PP4, CS1, CS2, PVC 1, PVC 2 and the units in the United States and in Germany. The UNIB4 data do not include emissions from the flare.

Two factors influenced these results in 2013: all plants with significant emissions submitted their data, and energy consumption in the year was higher.



**Braskem**