sustainability report 2008
SUSTAINABILITY REPORTS ARE THE PRINCIPAL WAY THAT ORGANIZATIONS COMMUNICATE THEIR SOCIAL, ENVIRONMENTAL AND ECONOMIC PERFORMANCE. THE MODEL OF REPORT DEVELOPED BY THE GLOBAL REPORTING INITIATIVE, GRI, AN INTERNATIONAL ORGANIZATION BASED IN HOLLAND, IS CURRENTLY THE MOST COMPLETE AND BEST KNOWN IN THE WORLD. THE PROCESS OF PREPARING THE REPORT HELPS STIMULATE THE INVOLVEMENT OF INTERESTED PARTIES WITHIN THE ORGANIZATION, CONSIDERATION OF PRINCIPAL IMPACTS, DEFINITION OF INDICATORS AND COMMUNICATION WITH RELEVANT STAKEHOLDER GROUPS.

THE GRI WAS CREATED TO GIVE SUSTAINABILITY REPORTS LEVELS OF CONSISTENCY EQUIVALENT TO THOSE ENJOYED BY FINANCIAL REPORTS. THE IDEA OF ESTABLISHING A GLOBAL STANDARD FOR REPORTS THAT ARE NOT EXCLUSIVELY FINANCIAL DATES FROM A 1997 PARTNERSHIP BETWEEN THE UNITED NATIONS ENVIRONMENT PROGRAM (UNEP) AND AN AMERICAN NGO CALLED CERES, THE COALITION FOR ENVIRONMENTALLY RESPONSIBLE ECONOMY, WHICH BRINGS TOGETHER ENVIRONMENTAL, LABOR AND RELIGIOUS ORGANIZATIONS, ASSOCIATIONS INVOLVING SocialLY RESPONSIBLE INVESTMENT PROFESSIONALS AND INSTITUTIONAL INVESTORS.

THE BODY OF GUIDELINES AND INDICATORS CONTAINED IN THE GRI INITIATIVE OFFERS COMPARABILITY, CREDIBILITY, REGULARITY AND LEGITIMACY FOR THE INFORMATION CONTAINED IN COMMUNICATIONS OF DIFFERENT ORGANIZATIONS WITH RESPECT TO THEIR SOCIAL, ENVIRONMENTAL AND ECONOMIC PERFORMANCE. TODAY, MORE THAN TWO THOUSAND COMPANIES PRODUCE REPORTS BASED ON THE THIRD GENERATION OF THE GRI MODEL. SEVENTY OF THEM ARE BRAZILIAN.

SOURCE: GRI.

THIS REPORT MEETS THE REQUIREMENTS OF GRI VERSION G3, LEVEL B CHECKED, AND HAS THUS NOT BEEN SUBJECT TO EXTERNAL VERIFICATION. TO FACILITATE THE LOCATION OF INDICATORS, THEIR NUMBERS APPEAR IN SMALL BOXES [3.13], WHICH PRECEDE THE RELEVANT SUBJECT. SEE “GRI INDICATORS” ON PAGE 102 OF THIS REPORT.
Over the last decade, the sugar-energy sector has not only earned hard currency for Brazil, it has also developed initiatives of relevance for the workers in the sector and for a wide network of stakeholders, not to mention society as a whole. The projects detailed in our 2008 Sustainability Report, which I have the pleasure to present to you, provide a public account of these activities and demonstrate our commitment to the practice of sustainability and everything that this entails:

• Economic development, because the projects we describe create jobs, income and wealth in an unregulated and competitive business environment.
• Social responsibility, because priority is given to projects that can help build a more just society.
• Environmental responsibility, which implies a determination to preserve and respect the environment.

UNICA understands that transparency of information is essential to ensure our credibility as the largest institution representing the sugar-energy sector in Brazil. For this reason, we discuss the subjects that lead our sector to appear in the national and international headlines, whether these reports are flattering or not, while at the same time we recognize the risks and opportunities that are inherent to our sector. We deal with the question of labor, the expansion of sugarcane planting and the threat to the ecological balance and the production of foodstuffs, to give just a few examples. Using the force of logic, based always on facts, we seek to demonstrate the inconsistency of arguments which have been published without scientific basis, or which have been based on questionable facts.

The global production of sugarcane totals approximately 1.4 billion tonnes, concentrated mainly in Latin America, Africa and South and Southeast Asia.

Over 100 countries are producers.
This report is another demonstration of our readiness to debate all questions. We know we face many challenges, but we are also certain that the benefits for economic development of expanding the sugar-energy sector are beyond question: creation of almost a million jobs; investment of US$33 billion in new mills through 2012; the prospect of bioelectricity cogeneration which could within a few years exceed some 11,000 MW-average, similar to the giant Itaipu dam; and stimulus for a dynamic Brazilian machinery and equipment sector.

Our sector is also playing an ever-greater role in the areas of social and environmental responsibility. Of the 170 mills in the State of São Paulo, 151 have voluntarily signed the Agro-Environmental Protocol which the sector agreed with the State Government. In addition, 13,000 sugarcane growers connected to the organization of sugarcane planters in South-Central Brazil (Orplana) have accepted the basic terms of the Protocol. This means that the complete supply chain for sugar and ethanol in São Paulo has committed to respecting the Protocol, which is becoming an international benchmark. In addition to the environmental gains, we should also note the efforts for training and requalification of field workers, seeking to prepare this community for the new realities that await the sector.

In the light of this progress, we describe the more than 600 programs implemented by our members which have contributed to mitigating the impacts of our activities. These programs demonstrate just how far the sector has gone beyond merely legal requirements, both inside and outside the mills, to share our progress with the communities which are home to our operations. In the areas of education, culture, the environment, health and quality of life, amongst others, the activities of UNICA members are helping to build a better life in the various regions where they operate. Our goals are in tune with the requirements of this new era in which society is marked by shared responsibilities: they are wide-ranging and imply improved professional and personal conditions, social inclusion, the fight against violence in our society, democratization of knowledge, environmental education and attitudes which focus on respect for the environment. These initiatives currently consume annual investments of around R$160 million, and their scope can be seen in the specific chapters of this report.

In order to make this report an instrument for dialogue with all those who are directly or indirectly involved in our activities, we took as our starting point the guidelines of the GRI. These attest to the veracity, clarity, and precision of the initiatives described herein.

Through this report, we hope that everyone in Brazil and abroad will learn a little more about who we are and what we do. This, in the name of a better future and also in the name of sustainability, which is the only source of life for the generations who will follow us.

Marcos Sawaya Jank
President and CEO
Brazilian Sugarcane Industry Association (UNICA)
The sugar-energy sector: **productivity**, modernization and development **throughout** the supply chain.
At the end of the 2007/2008 harvest year, sugarcane was planted on a total of 7.8 million hectares, representing 2.3% of Brazil’s arable land. The area devoted to ethanol therefore represents less than 1% of cultivated land.

In March of 2008, consumption of ethanol in Brazil exceeded that of gasoline, thus representing over 50% of liquid fuel consumed by light vehicles. The production and use of ethanol, which drivers can buy at virtually any of the 33,000 filling stations in the country, helps reduce emissions of greenhouse gases.

More than 125 countries import sugar from Brazil, the world’s largest producer and exporter, which is responsible for around 20% of global production and 35% of international trade in sugar. Brazilian production in the 2007/2008 harvest year was 30.7 million tonnes. Roughly two-thirds of the sugar produced in Brazil (18.6 million tonnes) was exported. More than 65% of Brazil’s foreign sales are of unrefined sugar.

Bioelectricity is the most important new product in the sugar-energy sector, with the potential to drive a revolution in the process of technological development. It can boost income, improving the competitiveness and sustainability of sugar and ethanol. As a consequence it can help promote expansion of the market. Together, sugarcane and the ethanol derived from it represent 16% of the Brazilian energy matrix, making sugarcane the country’s second most important primary source of energy, behind petroleum and its derivatives.

UNICA believes that, to reduce the effects of global warming and the shortage of petroleum, it is essential to promote an awareness that the world must look for global solutions, at least in the specific case of fuels, for example going beyond just the domestic production of ethanol from wheat and beetroot in Europe or corn in the United States. Sugarcane ethanol offers the greatest competitive and environmental advantages. It can be produced in over 100 countries, which is far greater than the 13 members of the Organization of Petroleum Exporting Countries (OPEC). Herein lies one of the principal differentials for ethanol, raising it to the status of an alternative energy that is viable for all nations. What’s more, ethanol offers a path to prosperity in tropical and subtropical regions of the planet.
Ethanol is the world’s most widely produced and consumed renewable fuel. Global production more than doubled between 2000 and 2007 and should reach 116 billion liters by 2012. Despite the growing interest in renewable fuels, international trade in ethanol remains small, somewhere around five billion liters, because of restrictions imposed mainly by developed nations.
The skill, tradition and experience of UNICA members allow them to leverage vital segments connected to the production of sugar, ethanol and bioelectricity.
UNICA, the Sugarcane Industry Association, is a not-for-profit organization that acts internationally in the name of Brazil’s leading producers of sugar, ethanol and bioelectricity, who are located in the south-central region of the country. UNICA members are responsible for producing roughly 44% of the ethanol and 52% of the sugar in Brazil. Some work in both areas, others in just one segment of the industry.

Drawing on the experience of earlier organizations, UNICA was created in 1997 to meet the organizational needs of the sector, given the deregulation which took place at the end of the 1990s. The end of government interference marked the start of adaptation to a free market system, which led in 2000 to professionalization of the organization.

UNICA is also keeper of the statistical records of Brazilian production of sugarcane, sugar and ethanol. The organization’s projections for the sugar harvest and ethanol production in the south-central region are recognized internationally for their reliability. This is the result of careful collection of data and partnerships with universities and internationally-recognized organizations.
Principles and commitments

MISSION

4.8 The mission of UNICA is to lead the transformation of the traditional sugar and ethanol sector into one of the country’s principal agribusiness segments: the sugar-energy sector, capable of competing sustainably in Brazil and abroad in the areas of producing and selling ethanol, sugar and bioelectricity.

STRATEGIES

• Further the establishment of sugarcane agribusiness within a competitive, free-market economy.
• Promote the global expansion of the production, consumption and free trade of fuel ethanol.
• Continuously perfect the social and environmental sustainability of the sugar-energy sector supply chain.
• Play a leading role in negotiations to eliminate trade-distorting barriers against sugar and ethanol.
• Promote bioelectricity generation as a reliable alternative for electricity supply.
• Encourage research into new technologies for ethanol, including biorefineries.
• Become a global reference as a source for information and analysis about the sugar-energy sector.

Partnerships that enhance and validate our operations

In addition to maintaining representative offices in the United States, Europe and – shortly – Asia, UNICA participates in the boards, projects and committees of organizations that have similar interests, both in Brazil and around the world. These include:

Brazil – environmental, social
CI – Conservation International.
Friends of the Earth, Brazilian Amazon.
Social Observatory Institute.
SOS Atlantic Forest.
TNC – The Nature Conservancy.
WWF Brazil.

Brazil – agriculture, agribusiness
ABAG – Brazilian Agribusiness Association.
ARES – Responsible Agribusiness Institute.
CTC – Sugarcane Technology Center.
FERAESP – Federation of Registered Rural Workers in the State of São Paulo.
Orplana – Organization of Sugarcane Planters in South-Central Brazil.
SRB – Brazilian Rural Society.

Brazil – business, technical, political
ABIA – Brazilian Food Industry Association.
ABRAGET – Brazilian Thermo-Electrical Generating Association.
ABNT – Brazilian Technical Standards Association.
AEA – Brazilian Automotive Engineering Association.
AMCESP – Central São Paulo State Municipalities Association.
CEBRI – Brazilian Center for International Relations.
FIESP – São Paulo State Federation of Industries.
ICONE – Institute for International Trade Negotiations.

Outside Brazil

BSI – Better Sugarcane Initiative. (*)
GBEP – Global Bioenergy Partnership.
GRI – Global Reporting Initiative.
GSA – Global Sugar Alliance.
ISO – International Sugar Organization.
RSB – Roundtable on Sustainable Biofuels. (*)
UNFCCC – United Nations Framework for Climate Change.
WSRO – World Sugar Research Organization.

(*) Admitted in May of 2008.

PRIORITY

• Establish ethanol as a globally traded energy commodity in the fuels sector.
• Promote demand for ethanol as a clean vehicle fuel and expand its use in other sectors.
• Foment large-scale production of bioelectricity for Brazil’s domestic market.
• Position UNICA and its members as benchmarks for social and environmental sustainability.
• Disseminate scientific data about the competitive advantages of sugarcane ethanol.
Sugar and ethanol mills that are UNICA members invest constantly in research, seeking to improve and perfect operating practices for sustainable development.
One of UNICA’s roles is to integrate the needs and interests of the various stages that make up an extensive supply chain which starts in the sugarcane plantations but has ramifications in various socioeconomic sectors.
Well-thought-out policies to reinforce the role of a motivating agent

In formally, our mission includes inducing change and making sure we remain alert and sensitive to the needs of the future. The aim is to ensure that the sugar-energy sector is rooted firmly within the sustainability movement, promoting training, awareness and change.

The UNICA governance structure is based on a three-level management model: the Board, committees and a professional structure. The Board of Directors comprises the president and 25 representatives of member companies, and is the body responsible for making decisions and setting policy. It establishes the strategic agenda to be developed by the permanent committees, which are focused on matters relating to competitiveness, sustainability and representation. The objective is to discuss and draw up wide-reaching, long-term proposals on strategic questions. The committees are coordinated by a director and comprise board members (or their substitutes) together with directors who hold qualifications in specific areas and support from members of the organization’s professional structure. Non-board members may be invited depending on their expertise in the matter to be discussed.

UNICA’s professional structure includes full-time employees, executives and specialists, plus technical consultants hired for specific projects. This team includes specialists in essential areas such as the environment, energy, technology, international trade, sustainability, regulations, legislation and economics.

This structure is responsible for taking action to support proposals made by committees and to carry out the day-to-day activities of the organization.

Awards and recognition

UNICA received the “International Highlight of The Year” prize awarded to organizations and institutions in the sector by ProCana, an organization whose mission is to promote the sustainable development of sugar-energy agribusiness by making available information and organizing events. The organization publishes the Jornal Cana newsletter to further these aims.

The professional team also works to coordinate the technical commissions, which discuss matters of importance to the sector with the participation of members, non-members and other specialized professionals. The goal is to ensure an efficient operation in tune with the Board, in addition to obtaining the greatest participation by members.

The committee model allows for the creation of sub-committees to discuss matters relevant to the organization and to society. Participants are Board members, representatives from member companies and UNICA staff. The management model also allows for creation of temporary work groups, to monitor important projects or take action in emergency situations.
Sharing information and decisions

The UNICA Board meets weekly, while committees and sub-committees meet monthly. In order to conduct the management of the association with greater transparency, and to avoid conflicts of interest, activities are communicated to the membership in monthly plenary meetings, open to all members, who also receive a weekly summary of initiatives approved by the Board.

The internal structure comprises the presidency, which answers to the Board, and the Executive Committee which includes the presidency, the directorates – technical, executive and communication – as well as the administrative and financial manager. The Executive Committee is responsible for coordinating the various areas of the association.

Goals are laid down for medium and long-term plans which are revised annually by the Board. Action plans, budgetary plans and the definition of priorities require periodic revision by the Board.

The Board is the highest instance of decision-making within UNICA and is responsible for choosing the executive directors, as well as monitoring and evaluating their performance and establishing variable remuneration.

Candidates for a directorship must undergo a selection process based on rigid criteria. The process involves creation of a strategic ad-hoc committee, comprising the president of the Board and board members who have connection to and knowledge of the area in which the candidate will act. This committee is responsible for evaluating the profile, career history and aptitude of the candidate for the function in question. The choice must also be ratified by the full Board.

To carry out their functions the executive directors are supported by the Board and its specialized committees. The weekly meetings of the Board with the executive directors are an important opportunity to make eventual adjustments to the daily conduct of the organization and the management of risks, in light of changing circumstances or goals. The meetings of the executive directors and the specialized committees also take place regularly and are an opportunity to check and if necessary adjust the long-term strategies of the organization.

UNICA has standards and pre-established procedures to monitor the performance of the executive directors. These compare results with annual goals established for each of the organization’s three action plans: economic, social and environmental. This process is conducted by the Board and by the executive directors and defines the variable remuneration of members of the directorate.

A large professional structure

**Executive Committee**

- Board
- Presidency

**Technical Directorate**
- Domestic market
- Bioelectricity
- Economics and statistics
- Legal affairs
- Consecance – Council of Producers of Sugarcane, Sugar and Ethanol in São Paulo State
- Quality

**Executive Directorate**
- International support (offices in Brussels, Washington and soon in Asia)
- Governmental institutional relations and representation in Brasília, coordination with other organizations, representative forums
- Environment
- Corporate responsibility
- Labor and unions
- Union relations

**Communications Directorate**
- Communications
- Media relations
- Marketing and advertising
- Institutional relations
- Content management

**Administrative and Financial Management**
- Administrative
- Financial
- IT
- Legal
- Secretarial
Permanent goals for UNICA: Expand the horizons for sugar and ethanol in Brazil; relate transparently with members; encourage the practice of social and environmental responsibility.
Brazilian sugarcane plantations grow the wealth that is earning the country global headlines.
UNICA members offer numerous examples of their desire to act in harmony with the principles of sustainable development. Initiatives include health care, environmental education centers, programs to promote access to education and the spread of culture, support for sport, encouraging workers to participate in projects that improve living standards, and training for new professional functions.
ON THE PATH OF SUSTAINABILITY

2.8 THE SUGARCANE INDUSTRY IS ONE OF THE MOST IMPORTANT ECONOMIC SECTORS IN BRAZIL IN TERMS OF JOB CREATION, DIRECTLY EMPLOYING MORE THAN 750,000 PEOPLE.

EN26 THE SECTOR GENERATES INCOME AND EMPLOYMENT, WHILE UNICA – ACTING IN THE NAME OF ITS MEMBER COMPANIES – OPERATES PROGRAMS, NEGOTIATES AGREEMENTS AND CARRIES OUT OTHER ACTIVITIES AT THE CORPORATE LEVEL. ADDITIONALLY, MEMBER COMPANIES CONDUCT INDIVIDUAL INITIATIVES, WHICH ARE CHANGING RURAL AND URBAN LIFE IN SEVERAL REGIONS. THIS SUSTAINABILITY REPORT COVERS 618 SOCIAL AND ENVIRONMENTAL PROGRAMS CARRIED OUT BY UNICA MEMBERS DURING 2007/2008 (SEE DETAILS STARTING ON PAGE 82). THEY ARE WIDE-RANGING PROGRAMS THAT REQUIRE INVESTMENTS OF APPROXIMATELY R$160 MILLION AND BENEFIT OVER 480,000 PEOPLE LIVING IN AND AROUND TOWNS WHERE MILLS ARE LOCATED.

THESE INITIATIVES WIDEN THE HORIZONS OF CULTURE AND EDUCATION, WHICH ARE THE FOUNDATION OF A COUNTRY’S DEVELOPMENT. THEY PROMOTE ACCESS TO BETTER HEALTH CONDITIONS AND ARE COMMITTED TO IMPROVING EMPLOYABILITY BY OFFERING RURAL WORKERS OPPORTUNITIES FOR TRAINING AND RE-TRAINING TO REDUCE THE IMPACTS OF THE INCREASING USE OF MECHANIZED SUGARCANE HARVESTING. PROJECTS ENCOURAGE A RESPECT FOR THE ENVIRONMENT, WHICH IS THE SOURCE OF LIFE FOR FUTURE GENERATIONS AND ESSENTIAL FOR A HEALTHY AGROBUSINESS. ACTIVITIES ARE TAILOR-MADE FOR EACH OF THE DIFFERENT AREAS WHERE THEY ARE APPLIED.
Members’ social and environmental programs

UNICA members have a commitment to society to promote sustainability. They do this principally through programs in the areas of health, the environment, education, culture, sport, quality of life and professional training.

Health receives most investments

The reality of life in the country is in many subtle ways different from life in urban centers. The rural population often lacks information and educational programs about the fundamentals for a healthy life. However, this population is now benefitting from various spontaneous initiatives led by the private sector.

Highlighting activities undertaken by UNICA members are those directed to preventative medicine, which have the virtue of helping spread health awareness. Campaigns and projects are geared to subjects deemed to be of public utility; they include both topical and permanent projects, directed to workers and their dependents and in many cases to the communities who live in the vicinity of the mills. Examples of subjects treated seriously in these campaigns are prevention of diabetes, high blood pressure, problems caused by smoking, prostate and breast cancer, sexually transmitted diseases and influenza vaccination.

High impact programs

- Nutrition: specialists design meal plans, and workers receive diet supplements.
- Workplace gymastics: normally, this takes place daily in cane fields as well as industrial units.
- Rehydration: projects for replacement of potassium and mineral salts.
- Hearing: workers are examined by audiologists, and there are programs to preserve workers’ hearing capacity.

Investments by area (in R$ millions)

<table>
<thead>
<tr>
<th>Area</th>
<th>Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport</td>
<td>1.1</td>
</tr>
<tr>
<td>Culture</td>
<td>3.9</td>
</tr>
<tr>
<td>Training</td>
<td>5.1</td>
</tr>
<tr>
<td>Quality of life</td>
<td>7.5</td>
</tr>
<tr>
<td>Education</td>
<td>19.9</td>
</tr>
<tr>
<td>Environment</td>
<td>40.7</td>
</tr>
<tr>
<td>Health</td>
<td>79.7</td>
</tr>
<tr>
<td>Total</td>
<td>157.9</td>
</tr>
</tbody>
</table>
Almost R$80 million went to promoting workers’ health in 2007, representing roughly 50% of the total investment in social and environmental programs.
Brazilian agrifood agribusiness and particularly the sugar-energy sector have been providing a variety of examples of just how much they can contribute to sustainable development while continuing to boost output and improve production. Rural producers are seeking new technologies that can increase their productivity and allow for the use of harvesting, planting and raw material processing systems that respect the energy they derive from the soil. This approach can be seen in the environmental projects described starting on page 80, which have received funding exceeding R$40 million and involve many thousands of people.

Projects implemented by UNICA members include energy self-sufficiency in the mills, the control of greenhouse gas emissions, the search for ways to rationalize the use of water resources, research into the biological control of sugarcane pests, centers for environmental education and nursery beds for the production of native species, respecting the regions where ethanol and sugarcane production is located.

There were a total of 103 environmental projects. By giving priority to subjects such as environmental education, these offer the community essential notions about the practice of sustainability.
UNICA member companies conduct various programs in these areas. Examples are: programs to promote adult literacy; programs for professional training and social inclusion; study grants which can lead to university degrees and MBAs, and classrooms equipped for audiovisual learning, with advanced technological instruments for the dissemination of knowledge.

In the areas of education and culture, the projects create an impact that goes far beyond the boundaries of the mills. They involve entire towns in activities that would be unlikely to take place without support from the private sector. Examples of just how much UNICA members respect and value local communities include: programs involving children, seeking to reduce the much-publicized levels of urban violence; activities to preserve the cultural memory in municipalities; theater in the public square, and encouragement for reading.

Almost **R$ 20 million** was destined to educational programs, and around **R$4 million** to cultural programs.

**Education: projects with broad social impact**
- **City for Peace**: a program which seeks to reduce levels of violence, and enjoys the support of various mills. This program has grown so much that it has become an item on school curricula (page 85).
- **Study grants**: these range from basic and high-school education through language courses and even include higher education and MBA courses in addition to other specializations (page 85).
- **Social inclusion**: projects aimed at young people in the community, for example computer courses for different levels of workers, and educational audiovisual courses in various disciplines.
- **Adult literacy.**
- **Educational audiovisual classrooms** (page 91).
- **Programs to encourage reading.**

**Culture: involving entire communities**
- **Theater projects**: professional and amateur groups (many of them set up with help from the mills) provide thousands with access to this important cultural activity (page 89).
- **Local culture**: programs to preserve local culture and to recognize the value of important local buildings and places in the regions around the mills.
- **Folklore**: activities designed to preserve traditional folklore.
- **Mill visits**: guided tours of sugar and ethanol mills, offering a wider vision and greater knowledge of the sugar-energy sector and its social and economic importance.
Investments in education and culture offer new horizons for a country which, in addition to public policies, desires growing involvement of the private sector in both these areas.
Sport and the quality of life: developing new habits in the rural population

These two areas are both central to the sustainability activities carried out by UNICA member companies. Sport received funding of over R$1 million, destined to projects such as the promotion of tournaments in various activities, football tuition and others. Projects bring together workers and the community.

There is also a wide range of initiatives in the area of quality of life, with more than 70 programs receiving funding of over R$7 million. Investments in projects to generate income and provide life insurance for the workers and their families are amongst the various activities aimed at improving rural life in Brazil.

Sports: programs that become sources of health and integration
- Good With a Ball, Good at School: this program is promoted by various mills and seeks to keep children aged 7 through 14 away from a life of drugs and violence (page 89).
- Various sports: incentives to participate in various sports including cycling, tennis and football.
- Sporting tournaments: these involve workers and the community.
- Gymkhanas: these are promoted by the mills for their workers and the community.

There were 30 projects, focused on activities that promote health and integration. In the area of quality of life, programs to promote healthier diets and others with a similar impact benefitted thousands of workers.

Quality of life: gestures that underscore social responsibility
- Multidisciplinary groups to support and provide guidance to expectant mothers.
- Presentations on special dates such as women’s day, children’s day and others.
- Parties: social events to promote integration between workers and the community.

Donations: solidarity in action

In addition to making donations of ethanol and sugar, member companies take an active part in the life of the communities where they are located, by offering financial support for urban infrastructure projects (for example the construction of day care centers, hospitals and homes for senior citizens). Such donations reached a total of R$ 6.2 million.
Training: priority is to employ retrained cane cutters in the mills

UNICA and its members are leading various initiatives in the area of professional training for sugarcane cutters, carried out with support from representatives from civil society and government institutions. These joint actions are further enhanced by projects implemented by individual mills, which in 2007 received investments of over R$5 million, financing different types of courses with a wide social and humanitarian impact.

The main goal of these social programs is to retrain rural workers for functions such as agricultural machinery operator and warehouse assistant, as shown in the chart below. These initiatives also provide training that allows workers to find jobs in other sectors of the economy.

More than 150 training programs
benefitting 31,529 workers in South-Central Brazil.

Number of training projects

<table>
<thead>
<tr>
<th>Training Program</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardening</td>
<td>2</td>
</tr>
<tr>
<td>Study grants</td>
<td>3</td>
</tr>
<tr>
<td>Pre-planting soil preparation</td>
<td>9</td>
</tr>
<tr>
<td>Harvester operation</td>
<td>10</td>
</tr>
<tr>
<td>Agricultural machinery maintenance</td>
<td>12</td>
</tr>
<tr>
<td>Clean sugarcane</td>
<td>13</td>
</tr>
<tr>
<td>Quality of life, nutrition and hygiene</td>
<td>14</td>
</tr>
<tr>
<td>Educational improvement</td>
<td>15</td>
</tr>
<tr>
<td>Electrician, tire maintenance, welder, mechanic</td>
<td>15</td>
</tr>
<tr>
<td>Light and heavy machinery operator</td>
<td>18</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
</tr>
<tr>
<td>Drivers and tractor drivers</td>
<td>25</td>
</tr>
</tbody>
</table>

Other goals of training and professional requalification programs include:

- Career guidance.
- Education: projects for workers to further their schooling and so seek new forms of employment.
- Priority to keep retrained cane cutters employed in the mills.
- Training aimed at improving quality in planting and harvesting.

In search of new horizons
Sugarcane cutters are taking on new roles, thanks to training and professional requalification programs. The aim is to reduce the impact, in terms of unemployment, that could arise with the expanding mechanization of the cane harvest.
Investments in research and new technologies: benefits for the entire supply chain.
Social responsibility permeates all corporate activities headed by UNICA, as well as social and environmental programs run by member companies. Together, these initiatives show new ways forward, based on dialogue about labor conditions in the sector.
The sugar-energy industry employs hundreds of thousands of workers in the countryside. The average salary paid by companies in the sector is the second highest in Brazilian agriculture.

Companies obey all labor legislation specified in the Brazilian constitution; the conventions of the International Labor Organization (ILO) that have been ratified by Brazil; the consolidated federal labor law; law 5.889/73, specific laws; and the regulatory labor norms, in particular regulatory labor norm number 31, of March 4, 2005, which deals with safety and health for workers in agriculture, forestry and fisheries. This is widely considered to be amongst the most advanced legislation of its kind in the world.

One of the main results of this approach is the high degree of formal employment in the sector: 74.2% on average for the country and 91.8% in the state of São Paulo.
Looking out for all the people around us, every day

UNICA is aware of the possible implications of the fall in the number of jobs in the sector, resulting from the introduction of mechanized harvesting. To this end, the association is working together with labor unions and different areas of government to develop training and requalification programs for workers.

- In 2006, UNICA and the Federation of Registered Rural Workers in the State of São Paulo (FERAESP) signed a memorandum of understanding with the goal of improving rural working conditions in the sugar-energy sector. Among the main objectives are the evaluation and recommendation of best practices relating to the following subjects: analysis of working conditions and alternatives for eliminating outsourcing of labor in manual harvesting; standards for worker transportation; transparency in the systems used for measuring work and paying for production in cane cutting; the situation of the migrant worker; and expansion of training programs to increase the use of equipment for individual protection (EPI).

- UNICA members comply as a matter of routine with the various conventions and collective labor agreements that have been signed during annual wage negotiations.

A new and promising dialogue mechanism

UNICA and its member companies are among the main protagonists in another important activity, conceived by the federal government to create better grounds for understanding with respect to employment conditions in the sector: the Dialogue Process to Improve Sugarcane Working Conditions. Discussions take as their starting point those business practices which must be encouraged and incorporated into sector practices, in addition to creating public policies that can make an additional contribution to existing practices.

Maintaining a formal Dialogue Process represents a key contribution to the success of public policies.
Sugarcane industry: number of workers in Brazil, including both formal and informal employment, in the North and Northeast regions and the State of São Paulo - 2006

<table>
<thead>
<tr>
<th>Region</th>
<th>2002</th>
<th>2006</th>
<th>Variation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sugarcane</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North/Northeast</td>
<td>241.9</td>
<td>263.3</td>
<td>8.8</td>
</tr>
<tr>
<td>Center-South</td>
<td>211.9</td>
<td>269.0</td>
<td>26.9</td>
</tr>
<tr>
<td>Total</td>
<td>453.8</td>
<td>532.3</td>
<td>17.3</td>
</tr>
<tr>
<td><strong>Sugar</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North/Northeast</td>
<td>38.8</td>
<td>53.3</td>
<td>37.4</td>
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<tr>
<td>Center-South</td>
<td>53.2</td>
<td>107.8</td>
<td>102.6</td>
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<tr>
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<td>92.0</td>
<td>161.1</td>
<td>75.1</td>
</tr>
<tr>
<td><strong>Ethanol</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>North/Northeast</td>
<td>6.3</td>
<td>5.5</td>
<td>-12.7</td>
</tr>
<tr>
<td>Center-South</td>
<td>59.2</td>
<td>65.6</td>
<td>10.8</td>
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<tr>
<td>Total</td>
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<td>71.1</td>
<td>8.5</td>
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<tr>
<td><strong>Total Brazil – all three segments</strong></td>
<td>611.3</td>
<td>764.5</td>
<td>25.1</td>
</tr>
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</table>

Source: IBGE/PNAD (Annual Sample Survey of Households).

Growth of sector labor force in South- Central Brazil

Source: IBGE/PNAD (Annual Sample Survey of Households).
Responsibility for the product

PR1 PR2 PR3 Health and safety for the customer: In order to ensure the production of sugar that is fit for human consumption, producing companies have over recent years adopted various standards laid down in Brazilian legislation and regulations, and other controls. These include: Portaria 326 of 30 July 1997 and Resolution RDC No. 275 of 21 October 2002 of the National Health Surveillance Agency (Anvisa); Good Manufacturing Practices; Hazard Analysis and Critical Control Points (HAC-CP); and more recently the requirements of AB NT NBR ISO 22000:2006. The latter is an international norm that includes requirement for good management in the production of safe foodstuffs, and it can be associated with AB NT NBR ISO 9001. Moreover, mills sell their product to major food and beverage companies only after third-party auditing which has been contracted by the purchasers. These audits verify the system set up by the mill to ensure that sugar is being produced in conditions that are appropriate for human consumption.

PR4 PR5 PR6 Labeling of products and services: Sugar produced in Brazilian mills is packed into 50 kg sacks or large sacks of up to 1,200 kg, with the exception of companies that pack sugar for the consumer market in 1 kg and 5 kg bags. In the former case, labeling is very simple. It contains the information necessary to allow for traceability of the product, but does not include any nutritional information because the product is destined for industrial use. Companies that pack sugar into 1 kg and 5 kg bags follow legislation from Brazil’s National Sanitary Vigilance Agency (ANVISA), with respect to nutritional information, shelf life and other requirements.

PR6 Marketing and communication: Marketing activities are carried out only by those companies that sell sugar to the domestic consumer. Companies selling sugar only to industrial clients do not engage in direct marketing, nor do they advertise their products. Sales are carried out by specialized professional staff who deal directly with the purchaser. Food companies also deal directly with the mills to specify exactly how they would like to receive the products. Marketing takes place in Internet sites where each producer, or group of producers, offers information and specifications about available products.

PR7 Compliance with legislation: Mills are subject to monitoring and control by ANVISA and the Ministry of Agriculture, Livestock and Supply. There is no record of any mill being fined for problems relating to product or services safety.
social responsibility
The commitment to environmental conservation can be seen in various ways. These range from officially required activities to initiatives carried out every day by individual mills that seek to produce in a sustainable manner, using the most appropriate technologies to mitigate the impact of their operations.
UNICA AND ITS MEMBER COMPANIES ARE LEADERS IN BRAZIL IN DEVELOPING PROGRAMS TO IMPROVE WORKING CONDITIONS. IN ADDITION THEY ARE DETERMINED TO CONTINUALLY SEEK WAYS TO ENSURE GROWING LEVELS OF ENVIRONMENTAL EXCELLENCE IN SUGARCANE PLANTATIONS AND IN THEIR PRODUCTION PROCESSES.

ONE OF THE SECTOR’S MOST IMPORTANT INITIATIVES IS THE AGRO-ENVIRONMENTAL PROTOCOL WHICH UNICA SIGNED WITH THE SÃO PAULO STATE GOVERNMENT IN 2007. THIS SETS OUT A MAJOR COMMITMENT TO SUSTAINABILITY: THE VOLUNTARY ANTICIPATION OF LEGAL DEADLINES TO ELIMINATE THE PRE-HARVEST BURNING OF SUGARCANE STRAW.
The Agro-Environmental Protocol: voluntary anticipation of the end of burning cane straw

ONE PROPOSAL OF THE PROTOCOL IS TO RECOGNIZE AND ENCOURAGE GOOD ENVIRONMENTAL PRACTICES BY COMPANIES IN THE SECTOR, BY MEANS OF A CERTIFICATE OF ENVIRONMENTAL COMPLIANCE AWARDED BY THE STATE ENVIRONMENT SECRETARIAT.

The Agro-Environmental Protocol foresees the adoption of a series of technical procedures, planned in such a way as to ensure sustainable production in the sugarcane industry. With the adoption of the program, companies will undergo an annual process of technical evaluation led by the Protocol Executive Committee, which is made up of the State Secretariat of Agriculture and the Environment and by UNICA executives.

Amongst the various provisions of the Protocol, the most important is the commitment to bring forward the legal deadlines to eliminate the burning of sugarcane straw prior to harvesting. Burning is a traditional practice that makes it much easier to harvest cane manually. Legislation determines that burning shall be eliminated by 2021 but under the Protocol burning will be complementally eliminated by 2014 in areas where mechanization is possible. In areas where mechanization is not possible, for example where the slope of the land is too steep, the Protocol is even more radical, bringing forward the end of burning from 2031 to 2017.

The Protocol also determines that as of November 2007, all new sugarcane plantations must be on land that can be harvested 100% mechanically. Roughly 91% of the mills which are members of UNICA have received a Certificate of Environmental Compliance.

In addition to bringing forward the elimination of sugarcane straw burning, the Protocol deals with other relevant matters such as soil and water resource conservation, the protection of woodland around river sources and banks, the protection of river headwater areas, the reduction of atmospheric emissions and care in the use of herbicides and pesticides, amongst others.

Mechanized cane-cutting should continue expanding in the 2008/2009 harvest year and overtake the area harvested manually after burning.
Location of sugarcane production in Brazil

87% of production is located in the South-Central region.

Sources: INPE (Brazil’s National Institute for Space Research - Campinas); IBGE (Brazilian Institute of Geography and Statistics); CTC (Center for Sugarcane Technology).
Answers to urgent questions that worry the world

The expansion of sugar cane is not a threat to the rainforest. Brazil continues to be one of the world’s great food providers and will not stop producing food to generate biofuel. These are facts; they are well founded and rely on statistics gathered by recognized agencies of both government and civil society.

Far from the Amazon Rainforest

According to INPE, Brazil’s National Institute for Space Research, 65% of recent sugarcane expansion has taken place in mainly degraded pastureland in South-Central Brazil. According to government estimates, there are around 25 million hectares of low-productivity pasture which can be brought under the plow. This process has been taking place and gathering speed in São Paulo as beef production has been modernizing. As a consequence, both beef and sugar cane production have expanded.

Deforestation in the Amazon is the result of a series of social, economic and political questions that are specific to the region and are not related to the growth of the sugarcane sector. Agro-climatic conditions in the Amazon region are not appropriate for sugarcane; neither does the region have adequate logistical infrastructure.

According to ARES, the Institute for Responsible Agribusiness, the Amazon region includes the following territorial definitions: the Legal Amazon (521.74 million hectares); the Brazilian Amazon biome (419.7 million hectares), and the Amazon Forest (298 million hectares of an original area of 367 million hectares). These numbers are subject to revision and to new policy definitions. Each of the above concepts must be understood and each requires different public policies and private strategies. The same can be said for a demographic analysis: the population is 22.5 million in the Legal Amazon; 18 million in the Amazon biome; and 6.7 million (rural population) in the forest. These segments of the population need the support of appropriate legislation, NGOs and private enterprise if they are to live in harmony with the forest in a sustainable manner.

Recently the Imazon NGO completed one of the most comprehensive studies ever undertaken of rural landholding in the Amazon region. This showed that just 4% of the total area is privately held with title deeds recognized by Incra, the federal agency responsible for controlling rural land use; 32% is supposedly held by private owners but without valid title deeds; 43% lay in protected areas and 21% referred to areas that were theoretically public, but lying outside the protected areas. The absence of policies for sustainable development which take into account the specific conditions of each forest area and the requirements of the respective populations, together with the lack of clear definitions with respect to land occupation and the rights of land ownership, are amongst the main causes of deforestation and predatory occupation.

Increasing productivity without expanding the planted area

Brazilian sugarcane ethanol is more productive in terms of liters of fuel per hectare of land than the ethanol produced from other raw materials. New varieties of sugarcane developed in Brazil, together with the future introduction of hydrolysis of sugarcane straw and bagasse, have the potential to increase productivity to as much as 13,000 liters of ethanol per hectare against the current 7,000 liters per hectare. In addition to the immediate implications in terms of reducing costs, this increased productivity will allow for an overall increase in production without the need to expand cultivated areas.

Record grain harvests

Brazil is one of the world’s three largest producers for most of the world’s 15 principal food commodities. While the production of sugarcane has expanded significantly in recent decades, the country has not reduced its production of other foodstuffs. On the contrary, the 2007 grain harvest beat all-time records, exceeding 140 million tonnes. Between 1997 and 2007 grain production virtually doubled. Moreover, the country can easily increase its production of sugarcane without harm to the production of other foodstuffs.
Dialogue with society

“Willingness to engage in a dialogue with society marks a watershed in the way that UNICA and a large part of its membership have chosen to deal with the question of environmental responsibility. This willingness to face up to the historic challenges of the sector truly represents a new paradigm for the sugar-energy sector in Brazil.

I have been most impressed by the way members are speeding up their compliance with the targets in the Agro-Environmental Protocol, and the increasing number of companies making this commitment. The most critical point, that of employment, is once again being dealt with in the wider social context. This has not been a unilateral position. I think it is important to seek a solution to this extremely complex question.

Publishing a social balance sheet using the GRI guidelines represents a fundamental initiative on the part of UNICA, not least because organizations in general do not have much of a commitment to produce such a report. This is exceptional, not least for the GRI itself which must decide how to deal with such a situation. We have before us an action of great relevance for the sector, and an example for the whole country.”

In pursuit of sustainability

“I, in the name of the Global Reporting Initiative, GRI, I would like to congratulate you for your initiative in promoting the use of the GRI report in companies that are members of UNICA. I applaud this encouragement to use these guidelines among your members, and would also thank you for registering UNICA as a Stakeholder Organization within the GRI. The sustainability report is a practical way to help communicate companies’ performance in the environmental, social and economic spheres in a transparent and robust manner.

At the same time, it is a learning process for organizations about how to deal with managing sustainability. Organizations like UNICA can play a vital role in speeding up this practice by adopting and implementing the GRI guidelines. In this way, I hope we can show similar organizations that there are ways to promote sustainability measures and management activities on a large scale. Allow me to congratulate UNICA for its success in this initiative, which will certainly be a strategic differential for the sector and a landmark for Brazilian agribusiness over the coming years.”

Ernst Ligteringen

CEO of the Global Reporting Initiative, GRI; Amsterdam, Holland.

Roberto S. Waack

President of the International Board of the Forest Stewardship Council, FSC; President of the Consultative Council of Ares, the Institute for Responsible Agribusiness; and founding partner of Amata, a forestry company.
environmental responsibility
The environmental advantages of sugarcane ethanol can be seen in the use of organic fertilizers, the sustainable levels of control of soil characteristics and the preservation of water resources.
SUGARCANE ETHANOL IS CURRENTLY THE BEST OPTION FOR SUSTAINABLE LARGE-SCALE PRODUCTION OF BIO-FUELS. THE ENERGY BALANCE OF BRAZILIAN ETHANOL IS 4.5 TIMES BETTER THAN THAT OF ETHANOL PRODUCED FROM BEETROOT OR WHEAT, AND ALMOST SEVEN TIMES BETTER THAN ETHANOL MADE FROM CORN.

FOR EACH UNIT OF FOSSIL ENERGY USED IN THE PRODUCTION OF SUGARCANE ETHANOL, 9.3 UNITS OF RENEWABLE ENERGY ARE GENERATED. WHEN THE RAW MATERIAL IS CORN, THIS RATIO FALLS TO JUST 1.4 UNITS OF RENEWABLE ENERGY.
SUSTAINABLE PRODUCTION

Competitiveness based on economic and environmental factors

**The success of the Brazilian program is based on the proven economic and environmental advantages of sugarcane ethanol, which offers an unbeatable energetic balance. Recent studies show that sugarcane ethanol produces 9.3 units of renewable energy for every unit of fossil energy consumed during its production cycle, a ratio that could improve in coming years. The energy yield of other raw materials such as corn, other grains and beetroot rarely surpasses two units of renewable energy for every unit of fossil fuel consumed during production.**

**Natural characteristics are enhanced by the awareness of the business community**

**Organic fertilizers:** Compared with other crops, sugarcane uses a smaller amount of fertilizer: approximately 0.46 tons per hectare. This is a consequence of the use of vinasse and filter cake, which are industrial byproducts from ethanol and sugar production, as organic fertilizers. Additionally, the use of sugarcane straw, left on the field after mechanized harvesting, optimizes the fertilization process and helps protect the soil.

**Reduced use of agricultural chemicals:** A significant part of the pests and diseases that attack sugarcane are being fought with the use of biological controls and advanced programs for genetic improvement, which help to identify the varieties of sugarcane most resistant to disease.

**Soil conservation:** Brazilian sugarcane plantations exhibit a relatively low level of soil loss. This is a consequence of the semi-perennial nature of sugarcane, which is replanted just once every six years. The tendency will be for the capacity to conserve and retain soil in plantation areas to increase significantly in coming years, as a result of the use of sugarcane straw after mechanized harvesting.

**Preservation of water resources:** Brazilian sugarcane plantations require virtually no irrigation because rain is abundant and reliable, principally in the South-Central Region of the country which is the main sugarcane producing region and where annual rainfall averages 1,500 millimeters. Residue from cane processing can provide water for irrigation equal to around 80 – 120 millimeters of rain. This is normally used for backup irrigation of the sugarcane given that harvesting takes place during the dry period. This offers good agronomic results for cane production, reducing the need for new water sources.

With respect to the water used in the industrial processes to produce sugar and ethanol the sector is today drawing less than 2 m$^3$ of water per tonne of cane from underground and surface sources, compared with 15 m$^3$/tonne around three decades ago and 5 m$^3$/tonne 20 years ago. In 2005, the average water demand was 1.8 m$^3$/tonne. The sector hopes to reduce still further its consumption of water with the rationalization of processes and the development of new technologies such as the dry cleaning of the sugarcane.

When sugarcane ethanol is used instead of gasoline in vehicles, it is possible to reduce greenhouse gas emissions by up to 90%. 

EN18
Energy balance

The values show the amount of energy contained in a given quantity of ethanol, for each unit of fossil energy consumed in its production.

Compiled by: UNICA

Relative emissions of greenhouse gases, based on the complete lifecycle of each product

Emissions avoided when ethanol replaces gasoline.

Note: emissions calculated well-to-wheel
Compiled by: Icone and UNICA
Bagasse as an **energy** source: less pollution, greater prosperity.
Allocating billions of dollars to expand existing mills and build new ones; creating jobs; seeking international certification for sugarcane ethanol; creating new areas of expansion for the sugar sector; and participating in forums and organizations that have global reach – these are just some of the ways that UNICA and its members are working to promote the sector, always within the context of seeking greater development for Brazil.
In the 2007-2008 harvest year, Brazilian production of sugarcane reached 490 million tonnes. This was used to produce 30.5 million tonnes of sugar and 22.5 billion liters of ethanol, and also generated 1,800 MW-average of bioelectricity. Estimates for 2015-2016 point to production of 829 million tonnes of sugarcane, resulting in 41.3 million tonnes of sugar, 46.9 billion liters of ethanol and 11,500 MW-average of bioelectricity. This means that in just eight years, ethanol production will double and bioelectricity generation will increase by almost 600%.

Brazilian sugarcane is the basic raw material input for a wide range of products with high added value, including foodstuffs, animal ration, biofuel and electricity, produced in modern integrated biorefineries. Bioplastics are the newest item on this list.

Annual revenues of the sugar and ethanol sector in Brazil total around R$45 billion.
Production of ethanol in Brazil exceeded 22 billion liters in the 2007-2008 sugarcane harvest, an increase of 25% over the previous period. As in earlier years, most of this production – 85% – went to the domestic market. The remaining 3.6 billion liters were exported.

Two main factors have driven the success of ethanol in Brazil: the compulsory mixture of ethanol in gasoline, and the expansion of the market for cars with flex-fuel engines. Brazilian regulations specify a mixture of between 20% and 25% of anhydrous ethanol in gasoline, with the exact percentage being defined by the situation of supply and demand. Approximately nine in every 10 new cars use flex-fuel technology. By the end of 2008, approximately seven million light vehicles, representing roughly 25% of the total national fleet of automobiles and light commercial vehicles, were flex powered, a percentage that should reach 50% in 2012 and 65% in 2015. The automobile industry has made substantial investments in flex-fuel technology: 10 major automakers offer more than 60 models of flex-fuel cars at prices equivalent to the same version with a gasoline engine.

More income and foreign revenue for Brazil

ETHANOL AND SUGAR PRODUCED IN BRAZIL SUFFER FROM INTERNATIONAL PROTECTIONIST TRADE BARRIERS. IN THE DOMESTIC MARKET, HOWEVER, THE OUTLOOK IS VERY PROMISING, THANKS TO THE SUCCESS OF THE ETHANOL PROGRAM AND THE VARIETY OF RICHES PRODUCED IN SUGARCANE FIELDS.

International controversies

Over the course of the last year, there has been intense controversy about ethanol because of the decision by a number of developed countries to substitute a small part of their petroleum with biofuel. The United States approved a law under which 15% of gasoline must be substituted by ethanol (136 billion liters in 2022, more than seven times the current Brazilian production). The European Commission approved a directive calling for the substitution of 10% of fossil fuels by renewable fuels. These laws and policy determinations are in principle positive, but they are coupled with high import tariffs, non-tariff barriers and arguments that are not based on scientific evidence. Together these inhibit the expansion of sugarcane ethanol in the international market.

UNICA is supporting studies to use an ethanol mixture, with 5% of additives, in urban bus transport.

Substituting diesel

The use of ethanol in Brazil is currently limited to light vehicles. Studies are under way for the use of ethanol in public transportation, with buses powered by a mixture of 95% ethanol and 5% of an additive that enhances ignition (E-95). The study is based on a pilot project which is coordinated by the National Reference Center for Biomass (CENBIO) which is partly sponsored by UNICA. The main reason to consider substituting diesel with ethanol is the great potential gain for the environment. Estimates suggest that exchanging 1,000 diesel-powered buses for similar models using ethanol would reduce CO2 emissions by almost 96,000 tonnes per year, equivalent to the emissions of 18,000 gasoline-powered automobiles. Another important advantage is the elimination of the emission of toxic particles which are currently released in diesel-engine fumes.

Ethanol is also under evaluation for use in motorcycles with flex-fuel engines. These should be on the market by the middle of 2009. Similarly, aviation will benefit from ethanol: the Ipanema, a small plane manufactured by Embraer, operates on 100% ethanol. Among the benefits are a reduction in the operational cost, better performance and lower emission of pollutants, in particular those generated by lead-based additives.
2.7 Brazilian automotive market by type of fuel (%)

Sales of automobiles and light vehicles

The majority of Brazil’s sugar and ethanol mills are located at the heart of the regions with the greatest demand for electric power.
**Bioelectricity: a promising and necessary revolution**

Bioelectricity generated from sugarcane biomass is a particularly interesting option for Brazil, where most power comes from large hydroelectric stations. Most of the sugarcane biomass is available at harvest time, which coincides with the annual dry season. The period when hydroelectric stations must reduce their generation of electricity because of the drop in the level of reservoirs. This means that bioelectricity helps increase energy security in the country.

Sugarcane mills and ethanol distilleries in the State of São Paulo are self-sufficient in terms of electric power. This comes either from co-generation or from bioelectricity, which is electricity generated from vegetable biomass. In the sugar-energy sector this implies co-generation – the generation of electrical and mechanical energy using biomass as the primary source.

Bioelectricity is produced by burning bagasse, which is the fibrous dry residue of sugarcane after it has been crushed. This is already done in sugarcane mills and ethanol distilleries. However, it is possible to produce much more energy if the bagasse and the sugarcane straw (the leaves and the tips of the stalks) are burned in high-efficiency boilers. In this way, two-thirds of the energy of the sugarcane can be used to generate electricity.

With the advent of mechanized harvesting, straw will no longer go to waste. It will be collected and burned with the bagasse in high-efficiency boilers (pressure exceeding 60 bar). This will allow more sugar and ethanol mills to produce excess bioelectricity, and sell it.

Sugar and ethanol mills currently have the potential to generate surplus energy equivalent to 1,800 MW-average, based on 2007-2008 harvest values. This corresponds to 3% of Brazil’s electricity requirement. Estimates suggest that by increasing the use of sugarcane biomass (bagasse and straw) and by using high-efficiency boilers, this could reach 11,500 MW-average in 2015, representing 15% of the country’s total power requirement.

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**Brazilian energy matrix – sources (% 2007)**

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<thead>
<tr>
<th>Source</th>
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<tbody>
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<td>Uranium</td>
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<td>Coal</td>
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<td>Natural gas</td>
<td>9%</td>
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<tr>
<td>Other biomass</td>
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<tr>
<td>Hydro-electricity</td>
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</tr>
<tr>
<td>Sugarcane</td>
<td>16%</td>
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<tr>
<td>Petroleum and derivatives</td>
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</table>

Prospects that benefit the sector as a whole


UNICA formed a partnership with APEX-Brasil to establish ethanol as a global energy commodity. The agreement contemplates shared funding of around R$16.45 million through the end of 2009 to promote Brazilian ethanol as a clean and renewable fuel around the world.

Among the activities foreseen under this agreement are improving ethanol the supply structure, commercial intelligence studies and projects to promote ethanol in high-impact events like fairs and seminars, and work to enhance the image of ethanol via a public relations effort aimed at key opinion makers around the world.

In addition to having direct benefits for UNICA members and other areas of the sugar-energy sector, this project will benefit the sugarcane ethanol supply chain, which includes biotechnology research for new strains of sugarcane, suppliers of inputs and equipment, rural producers, trading companies, logistical structure and service providers.

Heading for the second generation

Second-generation biofuels are in general produced from cellulose and hemicellulose, found in agricultural and forestry residue and organic waste. Other processes are emerging, such as gasification, which will be capable of producing hydrocarbons from biomass such as sugarcane bagasse.

Research into hydrolysis technology is moving ahead rapidly in several countries. The prevailing technical and academic opinion is that second-generation ethanol will be commercially viable in a period of five to 10 years.

The partnership with Apex-Brasil creates new prospects for Brazilian ethanol abroad, benefitting an extensive supply chain and creating new ways for the country to earn export revenues.
Sugarcane, cane straw and bagasse represent particularly attractive raw materials for producing second-generation ethanol in Brazil, because they will allow fuel production to increase without expanding the planted area.
Seeking to grow the ethanol market

UNICA WANTS TO PLAY AN ACTIVE LEADERSHIP ROLE TO HELP BRING ABOUT THE CHANGES NEEDED FOR GREATER COMPETITIVENESS AND SUSTAINABILITY. EXAMPLES OF THIS ARE ITS ONGOING DIALOGUE WITH ENVIRONMENTAL AND SOCIAL NGOs AND PRESENCE ON THE BOARDS OF NATIONAL AND INTERNATIONAL FORUMS.

UNICA is seeking to promote the expansion of the ethanol and sugar markets in various manners, including by supporting government initiatives to eliminate protectionist foreign trade barriers.

UNICA also defends the universalization of production and use of ethanol, making it a freely-traded global commodity; the increased use of ethanol as a gasoline additive; and the use of ethanol as a primary fuel for advanced-technology vehicles, for example flex-fuel cars.

In the Brazilian domestic market, UNICA supports the mixture of ethanol with gasoline; new uses for the fuel (in motor bikes, airplanes and buses); an ethanol-based chemicals industry; and the sustainability that will come from expanded use of biomass in the Brazilian energy matrix. Given the environmental value of sugarcane products, UNICA is encouraging diversification in countries that grow sugarcane, so that these also become involved in ethanol production and energy co-generation based on burning the sugarcane bagasse.

With respect to the sugar sector, UNICA argues for adoption of measures necessary to expand the global market. To this end, it participates actively in international organizations that fight for a free market in the sector. In Brazil, it seeks to counter the excessive growth in the use of synthetic sweeteners.

The goal is to expand the self-regulation of the sector, which started with the end of government regulation in 1997. UNICA also seeks to improve statistics for the sector and to continue improving mechanisms for production, commercialization and financing, in addition to improving the institutional environment via tax reform.

International certification of biofuels

The demand for certified products is a growing global trend to ensure sustainability of productive processes. In the case of biofuels and specifically sugarcane ethanol, UNICA argues that initiatives to discuss certification systems should be conducted via multilateral and multi-stakeholder processes, which therefore involve all elements of the supply chain together with social and environmental NGOs which work in the area. In this way, it will be possible to make legitimate and transparent progress towards the definition of principles, criteria, indicators and methods of evaluation for technological, environmental, social and economic matters based on scientific knowledge and easily measurable processes.

UNICA also supports the creation of global forums which include the balanced participation of producers from various countries, to define a process of economic, social and environmental certification for ethanol. They would cover all types of raw materials used in the production of biofuels (sugarcane, maize, beetroot, wheat, residual materials, etc), and adhesion would be voluntary. Only global initiatives that bring together NGOs plus all the elements of the ethanol supply chain will be able to avoid the proliferation of unilateral and discriminatory processes of certification.

With this in mind, UNICA is actively involved in the most important current initiatives for verification and certification of biofuels. These include:

**Roundtable on Sustainable Biofuels (RSB)**

The Roundtable on Sustainable Biofuels is one of the most important initiatives for defining sustainability standards for biofuels, and UNICA has a seat on the board. The RSB is a multi-stakeholder forum which includes various NGOs (WWF, National Wildlife Federation, Friends of the Earth – Amazônia Brasileira, Mali-Folkecenter and the United Nations Foundation); universities (Energy Center, the University of Berkeley and the University of Keio); government representatives (the Energy Ministry of Switzerland, the Environment Ministry of Holland); international organizations (the UN Conference on Trade and Development, UNCTAD) and the private sector (British Petroleum, Shell, the Swiss Federation of Petroleum Companies, Petrobras, Toyota, Bunge, the World Economic Forum and UNICA).

There are four working groups within the RSB. These are dedicated to evaluating the analysis of the lifecycle of greenhouse gases; the potential environmental and social impacts of the production of biofuels; and the implementation of certification. The criteria under discussion involve respect for local and international legislation; the consultation, planning and monitoring of biofuel investment projects; the reduction of greenhouse gas emission; respect for human and worker rights;
contribution to rural and social development; food security; biodiversity protection; soil conservation; water and air preservation; and technologies for continuous improvement.

**The Better Sugarcane Initiative, BSI**

This is a forum which involves around a hundred institutions and specialists in the sector – retailers, investors, traders, producers and NGOs – with the goal of discussing the sustainable production of sugarcane, establishing principles and criteria to be applied regionally and the promotion of better management practices.

Technical working groups focus on production (agriculture and the environment); processing (products and byproducts); and social responsibility. UNICA participates in the steering committee.

**Global Bioenergy Partnership (GBEP)**

This is an international initiative sponsored by the G8+5 and the UN’s FAO, with the participation of Brazil, Canada, China, France, Germany, Italy, Japan, Mexico, Holland, Russia, the United Kingdom, the United States, the International Energy Agency, UNCTAD, and the UN Environmental Program (UNEP). The goals are to produce the Global Bioenergy Partnership Report, GBEP, which examines the current state of development of bioenergy in the G8+5 countries; facilitate the sustainable development of bioenergy and field studies; and harmonize methodologies for analysis of greenhouse gas emissions.

Governmental institutions, representatives of the private sector and civil society act as partners with GBEP in this process, which is essentially oriented to energy security, food security and sustainable development. UNICA is an advisor to the Brazilian government in the GBEP.

**The Sugarcane Dialogue Group**

is developing a new socio-environmental agenda

The Sugarcane Dialogue Group (GDC, Grupo de Diálogo de Cana-de-Açúcar) was formed by UNICA at the end of 2007. Its goal is to develop a new social and environmental agenda for the sector. The group brings together the sugar, ethanol and bioelectricity industries in South-Central Brazil with unions, NGOs and organizations that represent civil society, in an effort to improve the atmosphere of dialogue about sustainability in the sugarcane industry.

Industry representatives within the GDC include: UNICA, Copersucar, Casa, Açúcar Guarani, Crystalsev and Adecoagro. Civil society representatives include: the Federation of Registered Rural Workers in the State of São Paulo (FERAESP); the Social Observatory Institute (which is connected to CUT, a major national labor confederation); the Global Reporting Initiative, GRI; Conservation International, CI; the Nature Conservancy, TNC; the Worldwide Fund for Nature, WWF-Brasil; SOS Atlantic Forest and Friends of the Earth – Brazilian Amazon. The Institute for Responsible Agribusiness, Ares, was chosen by the group to serve as dialogue facilitator.

**Priorities for the GDC:** the forestry code and productive rural areas; the energy matrix and climate change; and working conditions and mechanization (the effects on workers, and retraining).
### Prospects for the expansion of production in Brazil

<table>
<thead>
<tr>
<th></th>
<th>2007/08</th>
<th>2015/16</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production of sugarcane</strong></td>
<td>490</td>
<td>829</td>
<td>1,038</td>
</tr>
<tr>
<td>(millions of tonnes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Planted area</strong></td>
<td>7.8</td>
<td>11.4</td>
<td>13.9</td>
</tr>
<tr>
<td>(millions of hectares)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sugar</strong></td>
<td>31.0</td>
<td>41.3</td>
<td>45.0</td>
</tr>
<tr>
<td>(millions of tonnes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Domestic consumption and stock</strong></td>
<td>12.4</td>
<td>11.4</td>
<td>12.1</td>
</tr>
<tr>
<td><strong>Surplus for export</strong></td>
<td>18.6</td>
<td>29.9</td>
<td>32.9</td>
</tr>
<tr>
<td><strong>Ethanol</strong></td>
<td>22.5</td>
<td>46.9</td>
<td>65.3</td>
</tr>
<tr>
<td>(billions of liters)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Domestic consumption and stock</strong></td>
<td>18.9</td>
<td>34.6</td>
<td>49.6</td>
</tr>
<tr>
<td><strong>Surplus for export</strong></td>
<td>3.6</td>
<td>12.3</td>
<td>15.7</td>
</tr>
<tr>
<td><strong>Bioelectricity potential</strong></td>
<td><strong>1,800</strong></td>
<td><strong>11,500</strong></td>
<td><strong>14,400</strong></td>
</tr>
<tr>
<td>(MW-average)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Share of the Brazilian</strong></td>
<td>3%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td><strong>electricity matrix</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Production in the Northeast for harvest-year 2007/08 was estimated from data available in April of 2008; bioelectricity potential calculated based on 75% of bagasse and 50% of straw available.

Preparation: UNICA, Copersucar e Cogen.
**ECONOMIC DEVELOPMENT**

**Pointers for the future**

IT IS ESTIMATED THAT BRAZILIAN PRODUCTION OF SUGARCANE FOR ALL PURPOSES, INCLUDING SUGAR, ETHANOL AND BIOELECTRICITY, WILL REACH ONE BILLION TONNES BY 2020. IN THE SAME PERIOD THE PLANTED AREA WILL INCREASE TO 14 MILLION HECTARES. PRODUCTION WILL INCREASE BY PROPORTIONALLY MORE THAN THE PLANTED AREA THANKS TO ONGOING IMPROVEMENTS IN THE LEVELS OF PRODUCTIVITY.

- Investments to build new mills and expand existing ones should total US$33 billion through 2012. The majority of new projects involve Brazilian investors, but the share of foreign investors in the capital of companies in the sector is projected to increase from the current 7% to 12% by 2012/2013. In the South-Central region alone, 29 new mills began operating during 2008.

- Brazil and the United States signed a Memorandum of Understanding in 2007 for a joint project to harmonize international specifications for fuel ethanol.

- Biofuels produced in a sustainable manner are essential to meet the growing challenges of energy security, environmental degradation and global warming. However, significant progress in this process will be possible only with the reduction of trade barriers that are imposed by developed countries. Until there is greater awareness of this basic fact, we will continue to live with one of the great contradictions of our time: fossil fuels are traded freely, but renewable fuels face highly protected markets. Roughly 20 countries supply around 200 countries with fossil fuels, whereas over 100 countries could achieve the status of potential renewable fuel suppliers.

**Activities made possible in the US-Brazil protocol**

- Working bilaterally and multilaterally to establish world standards and codification for biofuels, via a partnership between the National Institute of Norms and Technology, of the United States, and the National Institute for Metrology, Normalization and Industrial Quality (Inmetro) of Brazil. The work includes the International Biofuels Forum, which also involves China, India, South Africa, the European Union and other countries.

- Promoting technical and scientific cooperation between the two countries to develop the next generation of biofuels, principally by means of research into cellulosic ethanol.

- Extending the benefits of biofuels to less developed nations, starting with Central America and the Caribbean – the Dominican Republic, El Salvador, Haiti and St. Kitts & Nevis. As a next step, the program will be extended to other regions.

Together, **Brazil** and the **United States** account for **75%** of global ethanol production.

**Signs of prosperity**

<table>
<thead>
<tr>
<th>Investments in new mills 2008-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>New productive units – industrial</td>
</tr>
<tr>
<td>New productive units – agricultural</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Share of foreign capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007/08</td>
</tr>
<tr>
<td>22 productive units – responsible for 36 million tonnes of sugarcane</td>
</tr>
<tr>
<td><strong>7% of sector capital</strong></td>
</tr>
</tbody>
</table>

Amounts estimated based on investments announced through the start of 2008. Compiled by: UNICA.
Ethanol can become an important global commodity

“The search for energy sources that offer an alternative to petroleum derivatives, sources that are more environmentally correct and contribute to reducing global warming, means that ethanol has a very good chance of becoming an important global commodity. However for this to happen we must consider some fundamental matters. First, we need to have more countries producing ethanol for export. Second, those countries which are potential consumers must take the heroic decision to adopt legislation requiring the mixture of ethanol in gasoline, because without such laws the petroleum industry will never allow it. In third place, we have to establish a global strategy that clearly incorporates this vision, and this must be backed up by a Brazilian strategy—something else that does not exist. Finally, we need to do exactly what UNICA is doing, which is to demystify the questions that are being used to demonize ethanol.

Only when these four matters have been adequately addressed will we have a product that enjoys significant penetration in the global market. I think this is inevitable because the cost of petroleum will increase with the difficulties of producing in new wells, meaning that a significant section of humanity will not be able to afford petroleum derivatives. The environmental question, global warming and sustainability policies will also have growing importance.

In Brazil, technologies developed by various public and private bodies will allow for significant expansion in the production of ethanol per hectare and in falling production costs. Not just ethanol but also its byproducts—electricity, pelletized bagasse, animal ration fortified with fermentation residue—will make sugarcane increasingly valuable as a raw material, while ethanol will also enjoy additional value as a raw material for other products in the ethanol chemical sector.

There are various economic advantages to ethanol. The first of these is to stimulate an industrial sector that has become a major global benchmark. Today Brazil has production capacity unrivaled by any other country in the sector. This gives us a leadership position which we need to use skillfully, potentially joining with other countries that could be partners in production. The second advantage is technological knowledge, which has great value because of the question of sustainable development. We could also use this knowledge to generate some lasting royalties. The third advantage is the reduction in petroleum dependence. Here there is a sub-item to think about, which is the possibility of selling gasoline with some ethanol mixed in. The fourth advantage is having an exportable product, generating significant wealth for the Brazilian trade balance.

The fifth and most important advantage is not yet an economic reality, but it is contributing to a change in the world energy matrix. The central question of agro-energy is the possibility of changing global geopolitics because, unlike food, which can be grown anywhere in the world, agro-energy can be produced only where there is abundant sunshine, between the tropics of Cancer and Capricorn. This is the region containing much of Latin America, Africa and the poor part of Asia which, it’s interesting to note, is the region of origin of sugarcane, which is the best raw material for producing ethanol. It’s my belief that agro-energy can transform these poorest and emerging countries into the world’s principal suppliers of energy, be it the form of biofuel, bioelectricity or bagasse straw for the fireplaces in Nordic homes. Additionally, agro-energy produces jobs, wealth and income. This changes geopolitics, not least because the financing for this process could come from the countries which require the energy, countries north of the tropic of cancer, thus creating a global synergy, changing the global energy matrix and improving world geopolitics. Brazil can be one of the leaders in this process.”

**Roberto Rodrigues**

Former minister of Agriculture, Livestock and Supply under President Luiz Inácio Lula da Silva; former secretary of Agriculture in São Paulo State. Currently coordinator of the Agribusiness Center at the Getúlio Vargas Foundation, FGV; president of the Superior Agribusiness Council at the São Paulo State Federation of Industry (FIESP); and co-chairman of the Inter-American Biofuels Commission.
One of UNICA’s goals in the realm of social and environmental corporate responsibility is to keep its members informed about the principles and criteria being used internationally to guide the preparation of sustainability reports.
UNICA CREATED ITS SOCIO-ENVIRONMENTAL NUCLEUS IN 2001, SUPPORTED BY PARTNERSHIPS WITH INTERNATIONALLY RESPECTED INSTITUTIONS. THROUGH THIS NUCLEUS, UNICA HAS SOUGHT TO EXPAND THE INVOLVEMENT OF ITS MEMBERS IN ACTIONS THAT FAVOR SUSTAINABLE DEVELOPMENT. THE NUCLEUS ALSO INTERACTS WITH MEMBERS OF THE SUPPLY CHAIN, THE MEDIA AND NGOS.

THE GOALS OF THE NUCLEUS ARE:

• TO PUBLISH ANNUALLY THE SOCIAL AND ENVIRONMENTAL INITIATIVES OF MEMBERS.

• TO EXPAND THE SCOPE OF SUSTAINABILITY REPORTS, SEEKING TO INVOLVE ALL MEMBERS AND OTHER IMPORTANT PLAYERS IN THE PROCESS.

• TO IMPROVE THE CONSISTENCY OF THE INDICATORS, MAKING THEM INCREASINGLY RELEVANT TO ALL INTERESTED PARTIES.

• TO IMPROVE THE PROCESS OF RESEARCH, COMPILATION AND DISSEMINATION OF DATA.

• TO EXERCISE TRANSPARENCY IN THE PROCESSES OF PREPARING REPORTS, BRIEFINGS AND OTHER REPRESENTATIVE DOCUMENTS FOR THE SECTOR.

• TO IMPLEMENT PROGRAMS OF SUSTAINABLE PARTNERSHIP IN THE SUPPLY CHAIN.

• TO ENCOURAGE MEMBERS TO INVEST IN PROJECTS FOR RETRAINING SUGARCANE CUTTERS.

• TO REINFORCE THE STAFFING OF THE ORGANIZATION BY ADDING PROFESSIONALS WHO CAN INTERACT WITH THE MILLS TO EXPAND ENVIRONMENTAL PROGRAMS.

• TO DRAW UP, TOGETHER WITH AND IN AGREEMENT WITH THE MEMBERS, A CODE OF ETHICS AND CONDUCT.

• TO PARTICIPATE IN THE COLLECTION AND PREPARATION OF SECTORIAL INDICATORS.
Partnerships that show the way forward

UNICA has partnerships with well-known Brazilian and international institutions. The goal is to inform members about the main points of corporate responsibility. These partnerships include training courses in social and environmental responsibility for workers at all levels, together with encouragement for self diagnosis and the preparation of sustainability reports.

The Brazilian Institute for Social and Economic Analysis (IBASE)
Since 2003, UNICA has encouraged and given guidance to members to prepare an annual social report. The indicators adopted in the IBASE model (social, environmental and economic performance) help promote analyses which may be compared over time for the company itself and with others in the same sector. UNICA holds annual regional seminars to advise its members in completing such a report and in how to use the results as a tool to improve management, seeking continuous improvement of the indicators.

The World Bank Institute
The partnership between UNICA and the institute involves various initiatives. Each of the programs listed below is initially presented to directors of member companies, and incorporates support instruments such as distributing instructional booklets, holding seminars and practical classes, and other activities that involve the participation of specialists in each mill. In some programs particular care is taken to invite employees from different areas of the company for training sessions. Djordjija Petkoski, the person responsible for World Bank Institute programs, attends seminars and presentations for company executives.

- Program for Corporate Social Responsibility and Sustainable Competition: the goal is to awaken a socio-environmental awareness (in addition to an economic awareness) and encourage practices that lead to sustainability. There were 600 participants in 2008.

- Next-Generation Leaders: 2,400 students in 11 São Paulo universities (economics, administration and agronomy) who received training in social responsibility programs.

- Corporate Social Responsibility for Executives: this program involves 120 members of the boards of member companies. The goal is to make participants aware of the challenge of implementing sustainability in daily activities.

- Sustainable Partnerships: a program created to train 2,000 companies that do business with UNICA members, to evaluate their common interests and the interdependence of the various stakeholder groups while improving management of socio-environmental factors. Participants are managers of UNICA members and managers of companies in the supply chain, together with media, local government representatives and NGO leaders.

The Ethos Institute
UNICA established a partnership with the Ethos Institute to implement the Ethos Indicators of Socio-Environmental Responsibility, with the objective of measuring the performance of the sugar-energy sector at the corporate level. The result was a self-diagnosis of each of the member companies. This is an important instrument to encourage the adoption of practices in tune with the principles of sustainable development.

Ricardo Young, the president of the institute, made presentations to the UNICA Board and to a plenary session with the presence of directors of member companies, seeking to underline the importance of using the indicators. Two instructors and UNICA executives in charge of social responsibility spent two days at each mill with a group of workers. People from all departments and different hierarchical levels were selected to make the diagnosis as accurate as possible. The resulting diagnosis was presented to the presidents of member companies in individual meetings. Presentations were open to all groups that participated in the process.
Social responsibility – Macro projects developed by UNICA, shown by stages

- **Using the IBASE model**
  - Between 2003 and 2005, 47 mills participated
  - In 2006, 2007 and 2008, 70 mills participated

- **The World Bank Institute**
  - Program for Corporate Social Responsibility and Sustainable Competition
  - Next-Generation Leaders
  - Corporate Social Responsibility for Executives
  - Sustainable Partnerships
    - 109 member companies participated between 2005 and 2008

- **The Ethos Institute**
  - Indicators of Business Responsibility
    - First stage: 32 member companies took part
    - Second stage: 30 member companies took part

- **GRI**
  - GRI Report
    - At the end of 2008, 10 mills were preparing their reports based on GRI indicators.

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**The TEAR Project: building sustainable networks**

This project is promoted by the Ethos Institute and the Inter-American Development Bank’s Multilateral Investment Fund (FUMIN), and has as its main goals increasing the competitiveness and sustainability of small and medium companies (suppliers) and expanding their market opportunities, thus contributing to the development of the country. The Vale do Rosário company was invited by the Ethos Institute to participate in the project as a representative of the sugar-energy sector, and 10 suppliers to the mill were exposed to the program which seeks to implement measures for socially responsible business. A total of 24 seminars were held in Ribeirão Preto and four regional seminars were held for other sectors.

**The Global Reporting Initiative (GRI)**

UNICA gave directors of member companies a general description of this organization in 2005. The following year the first presentation was made to mill staff members at a seminar in São Paulo (SP), focused on the importance of the reports. Four regional meetings were held in 2007 in the cities of Piracicaba, Araçatuba, São José do Rio Preto and Ribeirão Preto (all in São Paulo State) to deliver and explain materials relating to the GRI. UNICA held a meeting in Ribeirão Preto in 2008 with the participation of Gláucia Térreo, the coordinator of GRI activities in Brazil. Some 90 representatives of member mills were present for this eight-hour seminar. In 2007/2008, around 10 member companies were preparing their reports in line with GRI procedures.
UNICA members and their workforce were the most important sources for preparing the 2008 Sustainability Report. In addition to the structure, which is significantly expanded in comparison with earlier versions, this report uses the GRI guidelines.
Methodology used for preparing this report

INFORMATION WAS COLLECTED ABOUT SOME OF THE MOST RELEVANT SOCIO-ENVIRONMENTAL PRACTICES ADOPTED BY MEMBERS.

• UNICA visited its members to produce this sustainability report, interviewing directors and those responsible for relevant areas. To reinforce this process, an explanatory booklet was prepared and seminars conducted in the regions where members are located, to show the correct way to complete questionnaires about socio-environmental programs.

• In a second stage, UNICA directors wrote to each member company, underlining the importance of participating in the report and urging that they encourage those responsible within their companies to collect information about social and environmental projects and to complete the questionnaires they had already received. UNICA also created a special communication channel, offering members speedy attention to clear up any doubts, seeking to standardize the information supplied on the questionnaires.

• A standard questionnaire was sent by e-mail to the directors of member companies to collect information about social and environmental projects. The questionnaire covered themes grouped by area, including: culture, the environment, quality of life, education, sport, health, training and donations. For each of the listed programs members were asked to detail the scope, target age groups, investments and partnerships.

Questions or comments

This is the second UNICA sustainability report, covering the period between May 2007 and April 2008. It is produced in English and Portuguese editions and is destined primarily to stakeholders and other interested groups relating to UNICA. The first report focused on the year 2007. Questions concerning matters covered in this document may be addressed to UNICA at the following e-mail address: gri@unica.com.br.

Our universe of relationships

UNICA and its members have an extensive series of relationships, including: government; suppliers; investors; the services sector; clients; NGOs; research and teaching institutions; unions; multilateral organizations; environmental agencies; national and international media; and representatives of civil society in Brazil and abroad. The majority of the initiatives developed by members in partnership with these various groups are covered in this report and are described starting on page 80. However, an organization the size of UNICA involves a complex web of relationships, so it is probable that not all existing activities have been included.

This document was prepared with the involvement of 95% of member companies. Our goal is to expand this in the next edition, to reach 100% of UNICA member companies.

Conciliating interests

Member companies and their teams are the principal stakeholders in UNICA, and they participated in the preparation of this report. It respects the requirements that were expressed at several meetings held to clarify the objectives of the publication and to encourage member involvement. It is, therefore, a document prepared with the agreement of those who participated in it.
Inclusive and sustainable globalization

“One of the priorities of the World Bank is to support inclusive and sustainable globalization as one of the ways to overcome poverty and promote growth that respects the environment, while creating opportunities and giving hope to individuals. Globalization offers incredible opportunities, but it should not leave most of the people behind.

Complete social development must be associated with the requirements of sustainable growth, driven by the private sector and supported by public policies. We also recognize that poverty is an economic, social, cultural, political and moral phenomenon, and we believe that companies must address this in an integrated manner, so contributing to global prosperity.

It is obvious that even a single company, acting alone or collectively with others, can and should exercise a critical role to help make inclusive and sustainable globalization a reality. The program developed by UNICA and the World Bank Institute (WBI) is an excellent example of this, and of how the WBI acts with companies to help them work more effectively in social and environmental questions and in their corporate strategies.

The goal is to increase the capacity of companies and business associations to deal with questions of corporate social and environmental responsibility, thus contributing to a better understanding of the vital role which the private sector can play in developing productive public-private partnerships.

Since the start of the program in 2005, around 3,000 participants have been trained in corporate social and environmental responsibility, expanding the horizons of the executives with respect to essential matters such as multi-stakeholder partnerships, governance, fighting corruption, sustainable development, and social and environmental responsibility.”

Djordjija Petkoski
Head of business, competitiveness and development at the World Bank Institute.
In all there are 618 projects, which required investments of around R$160 million and benefit over 480,000 people. Areas covered by the activities described in this report include: health, environment, education, culture, sport, quality of life and training.
UNICA WISHES TO SHARE WITH ITS VARIOUS STAKEHOLDER GROUPS AND WITH SOCIETY IN GENERAL THE VARIOUS INITIATIVES THAT UNDERSCORE THE COMMITMENT OF ITS MEMBERS TO RESPONSIBLE CORPORATE BEHAVIOR. NATURALLY, THE PROGRAMS HERE DESCRIBED DO NOT REPRESENT 100% OF THE ACTIVITIES CARRIED OUT BY UNICA MEMBER COMPANIES. MANY MILLS IMPLEMENT SPECIFIC PROJECTS THAT ARE TAILOR-MADE TO THEIR OWN REGIONAL NEEDS.

3.5 HOWEVER, THIS REPORT DOES OFFER A SUMMARY OF THE MOST IMPORTANT WORK BEING DONE TO PROMOTE SUSTAINABLE CORPORATE DEVELOPMENT.
A Sweeter Life in School
Support for school parties and donations of sugar as a diet supplement. For children in the public school system.

Grupo Balbo, LDC Bioenergia, Pedro Agroindustrial, Viralcool.

The Association of Parents and Friends of Challenged Children, APAE
Donations and participation in activities of the institute.

Nutritional Guidance
Individual clinical consultations with nutritionists and preparation of dietary plans for workers.

Campaign to Prevent HIV-AIDS and STD
Preventative activities carried out with workers.
Alcoeste, Brenco, CBAA, Cerradinho, Cocal, Equipav, Grupo Balbo, LDC Bioenergia, Novamérica, Paraíso Bioenergia Ltda., Santelisa Vale, Usina Batutais, Usina Caeté, Usina Colombo, Usina Ferrari, Usina Ipiranga, Usina Iracema, Usina Mando, Usina Moema, Usina Pitangueiras, Usina Santa Adélia, Usina Santa Cruz, Usina Santa Isabel, Usina São Domingos, Usina São José, Usina São Luiz S/A, Usina São Martinho, Usina Vertente, Viralcool, Virgolino de Oliveira, Zilor.

Prenatal Courses
Guidance about the prenatal period, breastfeeding, infant health etc. for workers and their dependents.
Cerradinho, Grupo Balbo, Novamérica, Paraíso Bioenergia Ltda., Pedro Agroindustrial, Usina Bella Vista, Usina Caeté, Usina Colombo, Usina Ferrari, Usina Ipiranga, Usina Iracema, Usina Mando, Usina Moema, Usina Pitangueiras, Usina Santa Adélia, Usina Santa Cruz, Usina Santa Isabel, Usina São Domingos, Usina São José, Usina São Luiz S/A, Usina São Martinho.

Wake Up to Life
For children with hearing deficiencies and learning difficulties, with assistance and guidance from multidisciplinary teams. Partnership with APAE.
Usina São Domingos.

Equine Therapy
Stimulating the bio-psychosocial development of challenged children and those with special needs; under the auspices of APAE, using a therapeutic method involving horses and an interdisciplinary team.
Usina Santa Isabel, Usina São Luiz S/A.

Workplace Gymnastics
Physical exercises in the workplace; preventative health care for workers.


Vaccination Campaigns
Against flu, yellow fever, respiratory infections and other ailments.

Mutual and Specialized Support Group (GAME)
Information on next page.
Santelisa Vale.

Helen Keller Institute for Healthy Eyesight
The partnership with the institute promotes tests and ophthalmological care for preschool and school age children in the public school network and low-income adults over 50 years of age.
LDC Bioenergia.

The Maria de Nazaré Home
A project for treatment of chemical dependents, carried out in partnership with Lar São Francisco D’ Assis da Providência de Deus. Patients receive occupational therapy working in a garden nursery whose produce is sold to help pay for the upkeep of the home.
Cerradinho.

Rehabilitation Medicine
Companies participate in rehabilitation processes, acquisition of prosthetic limbs and other actions – for workers and their dependents.
Equipav, Grupo Balbo, Pedro Agroindustrial, Usina Boa Vista, Usina Iracema, Usina Santa Isabel, Usina São Luiz S/A, Usina São Martinho, Viralcool, Zilor.

Adapted Swimming
A form of swimming therapy for the physically challenged, with specialized instructors and participations in competitions, championships etc. Usina Santa Isabel.

Workplace gymnastics, benefit programs for medical and dental care, rehabilitation medicine and diet supplement programs are just some of the activities that promote respect for the working community.
School Lectures
Guidance for students in basic education on health-related matters.
Partnership: Sermed Saúde.
Grupo Balbo.

Programs for Control and Prevention
Workers take exams to detect and receive guidance about cervical, breast and prostate cancer, cholesterol, blood-sugar, triglycerides, diabetes and PSA.

Project to Supplement Infant Diets
Medical attention, vaccination and supply of powdered milk for children of workers.
Grupo Balbo, Usina Iraçema, Usina Pitangueiras, Usina São Domingos, Usina São José da Estiva, Usina São Luiz S/A.

Zero Hunger Project
Support for small farmers and welfare organizations. Partnership: Birigui city authorities (SP).
Equipav.

Project for Women
An annual meeting for the entire female workforce, during a working day, to present questions related to education and health.
Cocal, Grupo Balbo, Pedro Agroindustrial, Usina São João, Usina São Luiz S/A, Viralcool.

Infant Care
Support services for infant development.
Grupo Balbo, Pedro Agroindustrial.

Support for Science Fair
The process of producing ethanol and its importance as a clean and renewable fuel are the theme developed each year by students in the school science fair.
Grupo Balbo, Usina Santa Cruz, Zilor.

A Greener City
The company partners with the Rotary Club in a project to plant over 100,000 saplings in the towns where it has operational units. The saplings are produced in a company nursery; the company also prints instructional booklets delivered to the target groups for the project, which include school students.
Açúcar Guarani.

Selective Collection and Recycling
Selective garbage collection and recycling, plus dissemination of information via presentations to increase awareness for workers and their communities.

Biological Pest Control
A method of agricultural defense which seeks natural predators in the environment to control pest populations, thus using pesticides less intensively.
All member companies take part in these initiatives.

Programs for environmental education and laboratories for control of agricultural pests are important indications of respect for the environment, because they lead to lower usage of agricultural chemicals.
Internal Commission for Energy Conservation (CICE)
The work is focused on identifying water consumption and drawing up actions that can improve awareness and rationalize the consumption of water resources.
Cerradinho, Cosan, Equipav, Grupo Balbo, Usina Boa Vista, Usina Iracema, Usina São João, Usina São Martinho.

Environmental Education
Activities related to environmental questions that can be carried out in public schools, sugar mills and within the community, involving children and adults.

Particle Emission and Organic Fertilizer
Boilers are equipped with washers: exhaust gases are released into the atmosphere without any polluting particles. The ash and filter cake are returned to the field as organic fertilizer.
Todas as associadas promovem essas iniciativas

Events Commemorating Tree Day
Saplings of native tree species are donated to local communities and there are educational activities about the need to conserve the environment.

Environmental Reference Guide and Environmental Dictionary Ambiental
For workers, local communities, suppliers and students at public schools.
Paraíso Bioenergia Ltda., Usina Colombo, Usina Santa Adélia.

Wildlife Inventory
Periodic surveys carried out with the help of workers to compile photographic records of animals, footprints, nests etc.
Grupo Balbo, Usina Monte Alegre.

Paper Cut
The responsible use of paper and toner
Cocal, Usina Colombo, Usina São Luiz S/A.

Production of Organic Coffee and Sugarcane
Planting with natural fertilizers; involves the community.
Grupo Balbo, Açúcar Guarani.

Environmental Promotion Program
Planting saplings, with the goal of protecting and conserving the flora and fauna of surrounding areas.
All member companies take part in this initiative.

The Sweet Tomorrow Project
Children in the city of São Francisco Xavier (SP) plant 300 trees.
Usina São Manoel.

The Giúgo Monkey Project
The twin goals are to conserve remaining areas of the Atlantic rainforest and the Giúgo Monkey (Callicebus) which is threatened with extinction.
CBAA.

Project for Monitoring Air Quality
This brings together workers and outsourced suppliers with the aim of controlling emission from the fleet of diesel powered vehicles, while at the same time increasing awareness and training drivers and those responsible for the transportation sector about the need to rationalize the use of this fuel.
Alcoeste, Nardini, Zilor.

The Natureza Project
The goal is to restore woodlands around water sources and to preserve biodiversity in the replanted areas.

Ribeirão Santa Rita Vivo Project
Activities included: cleaning and silt removal in the Santa Rita Stream; renovation of the dam and the crossing point; planting 12,000 saplings along the Bala Stream which flows into the Santa Rita. Another 10,000 saplings were planted in a second phase. Participants included public schools and the Caefa youth organization. Project partners included: Fernandópolis city authorities; environmental police; the local town council; and the State Department for the Protection of Natural Resources.
Alcoeste.

Rediscover Your State
Organized visits for groups of school students from towns along the coast of São Paulo State.
Grupo Balbo, Pedra Agroindustrial, Usina Colombo, Usina Santa Cruz, Usina Santa Isabel, Usina Santa Fé, Usina São Luiz S/A, Usina São Martinho.

Crop Rotation Using Legumes
Crop rotation is an agricultural practice that consists in alternating different crops on the same area of ground in a predefined sequence. The system improves the physical, chemical and biological characteristics of the soil; it helps in the control of weeds, illness and pests; it replaces organic material and protects the soil.
Açúcar Guarani, Brenco, Cerradinho, Cocal, Cosan, Destilaria Paranapanema, Equipav, Grupo Balbo, LDC Bioenergia, Nardini, NovaAmerica, Paraíso Bioenergia Ltda., Santelisa Vale, Usina Caeté, Usina Colombo,

Community vegetable gardens and projects to preserve what’s left of the Atlantic Rainforest are among the environmental projects which involve participants of various ages in a wide-ranging effort to improve community awareness.
Cities for Peace is an example of the power that social and educational programs have to change society. The program seeks to plan and carry out activities to promote a culture of non-violence in cities, and is built on the voluntary dedication of teachers and community leaders. These professionals work to expand and facilitate dialogue between various groups in society. Among the activities carried out, it should be noted that culture for peace has been included in the teaching curriculum at municipal schools, with the training of 150 teachers. In all, Cities for Peace involves 20,000 people; 400 volunteers in each of the 13 cities where it operates, 200 “peace agents” (who help expand the message) and workers in the sponsoring companies. Some 5,000 children in the public school network are covered by the program.

Cities for Peace and the Continuous University Education Program are examples of projects designed to help change education in the country, with the help of an ever-growing number of volunteers.
Programs involve a series of activities to reinforce the education of the children of mill workers. These include donations of teaching materials and stimulus for reading. Social responsibility programs include adult literacy.
Benefits Programs

The benefits vary from company to company. Amongst them are medical, audiological, dental, ophthalmological and pharmaceutical assistance; life insurance, meals and family food support; food and transport vouchers; private pension schemes, sickness and burial support; educational support, breakfast, Christmas hampers, financial loans, subsidized sales and access to credit cooperatives.

Integration Between School and Company
High school students learn about agribusiness activities in company visits. Partnership: ABAG.
Alcoeste, CBAA, Cerradinho, Cocal, Equipav, Grupo Balbo, Paraíso Bioenergia Ltda., Pedra Agroindustrial, Santelisa Vale, Usina Batatais, Usina Caeté, Usina Colombo, Usina Ipiranga, Usina Santa Fé, Usina Santa Isabel, Usina São José de Estiva, Usina São Luiz S/A, Viralcool, Virgolino de Oliveira, Zanin, Zilor.

Integration of New Employees
Companies promote the integration of new employees by means of lectures and guidance.
All members participate in this initiative.

High-Performance Leaders (LAP)
Companies encourage workers to develop on the job and create conditions to facilitate this, via lectures and seminars. Participation open to all workers.
All members take part in this initiative.

School Materials
Discount arrangements with stationers and donation of educational materials for workers and their children.

MBA
An MBA course is conducted in the company for executives and senior analysts, in partnerships with FUNDACE/USP.
Cosan, LDC Bioenergia, NovaAmérica, Usina Moema, Usina Pitangueiras.

Young Apprentice
This program is designed to provide technical education for students aged 16 and up, leading to a future career in the mills. Conducted in partnership with Senai. The aim is to help young people develop self knowledge and perception of their potential, relating the learning in the company to what they have learned at school.

Centers for Education and Pre-Employment
Infant education projects to encourage development and preparation for the labor market, involving hundreds of children of workers and other children in the community.
Cosan.

The Aurélio Nardini Prize
Created to promote integration between company and community, highlighting the commitment to education. This prize is aimed at students in the municipal and state school networks.
Nardini.

The Continuous University Program
Full time study grants and help with expenses for workers’ children aged 17 to 24.
Zilar.

Program to Encourage Study
Encouraging workers to resume their education.
Pedra Agroindustrial, Usina São Luiz S/A, Zilar.

Young people and children figure high on the list of social priorities for projects by UNICA members; they are targets for programs that provide professional training and encourage study.
The Young Entrepreneur Program
This program seeks to develop entrepreneurship amongst students in basic education and high school education at public sector schools in Iracemápolis (SP). In addition to financial sponsorship, the company makes available staff members who voluntarily provide lessons. Partners: the Limeira Development Institute (IDEL) and Junior Achievement.
Usina Iraçema.

The Sol Plus Program
Educational activities for workers to transmit the principles of security, order and cleanliness (SOL in the Portuguese acronym) in the workplace, to help promote a better working environment and quality of life.
Della Coletta.

Agribusiness at School
The goal of this project is to teach the basic concepts of agribusiness to students in the first year of high school in public and private schools.
Usina Mandu, Usina São Luiz S/A, Zanin, Zilor.

Apprenticeship Program
Apprenticeship courses for the children of workers and other adolescents from the Children Sweet Energy project.
Cerradinho.

Educational assistance project.
Support in basic education, high school and higher education for children of employees.
NovAmérica, Paraíso Bioenergia Ltda., Usina Monte Alegre, Usina Santa Lúcia.

The Children Sweet Energy project
This program operates daily within the mill for children and adolescents, both the children of workers and other from the community in general. The goal is to encourage good educational attitudes, preparing young people for professional life. Partners: Senac, Sesc, Legião Mirim, Polícia Militar, CMDCA, Conselho Tutelar, ONGs, comunidades e prefeituras.
Cerradinho.

The Happy Kids Project
This project operates in Brasilândia (MS) and offers back-up schooling, sporting activities, arts and handicrafts outside of school hours for children of workers and from the community in general.
CBAA.

Education for Work
This project seeks to prepare young people for the labor market. Partner: Senac in Barretos (SP).
Açúcar Guarani.

Educational Project
Children in Pinal (SP) receive meals, school uniforms, transport, materials, medicine, medical and dental assistance.
Usina Boa Vista.

The Encanto Infantil project
The goal is to help shape future citizens by means of activities related to personal, professional and environmental education. For children of workers and from the community in general.
Breno.

Work Experience Project
Students spend a week in the mills, getting to know the day-to-day operations of each department. Partners: Senac.
Cerradinho.

Scout Troops
Presentations about the environment, activities like tree planting and visits to river sources, amongst others in line with the educational methods of the Scouts. Open to young people from the community.
Breno.

Young People in Action
A project to help young people at risk, based on interaction with the community.
Usina Caeté.

Reading Project: “Lendo com a Estiva na Moenda das Letras”
School age children are encouraged to read, write and interpret texts.
Usina São José da Estiva.

The “Lights, Action!” Project
Stimulus and activities to promote development of adolescents using socio-educational methods of community service.
Usina Santa Isabel

The “Patrulheiros” project
An operating agreement with Associação Oficina Mãe–Patrulheiros, in Iracemápolis (SP) and Brigada Mirim Ambiental in Quirinópolis (GO), who work to promote development of adolescents in the community.
Usina Boa Vista, Usina Iraçema.

Career Guidance
Presentations about different professions for high school students.
Usina Santa Fé.

The “Pro-Youth” Project
The mill hires adolescents to carry out administrative services. The young person can take part in a job selection process for up to one year after leaving the project. A partnership with the Association for Support and Protection of Young People in Pradópolis (SP).
Usina São Martinho.

The Young Citizen Project
Sporting activities and additional lessons to stimulate ideas of citizenship. For the children of workers and from the community in general.
Usina Caeté.

Sponsorship for various activities, football schools and championships that emphasize integration between millworkers and the community are just some of the activities within the area of sports.
Contribute; encourage; and build character: these ideas are frequently expressed in cultural programs that benefit not just workers but society as a whole.
Citizenship Activity
Various cultural and sporting activities for children and adolescents in Buritizal (SP). The company helped with the acquisition of sporting equipment and assistance in the planning, operation and evaluation of activities.
Pedra Agroindustrial.

Support for Sport
Sponsorship and encouragement for athletes to take part in races.
Cerradinho, Cevasa, Cocal, Cosan, Della Coletta, Nardini, NovÁmerica, Pedro Agroindustrial, Usina Caeté, Usina Santa Cruz, Usina São José da Estiva.

Good on the Ball, Good at School
Information on page 89.
Usina Iracema, Usina São José da Estiva, Usina São Luiz S/A.

In-house Championships
Football, cards, tennis and rugby.

Construction of a Multi-function Sports Facility
The goal was to offer a better quality of life for patients interned at a chemical dependence recuperation institution in Quirinópolis (SP). Partner: BNDES.
Usina Boa Vista.

The Matilat Nardini Race
A foot race in Catanduva (SP), which seeks to encourage the practice of sport. The race provides winners with entry into the São Silvestre International Race held New Year’s Eve in São Paulo. The company also sponsors an athletics team.
Nardini.

The Academy Project
For workers and their children.
Cerradinho, Equipav, NovÁmerica, Santelisa Vale, Usina São João, Zilor.

Cycle for Health Project
For children and adults; promotes bicycle trips. Partners: city authorities in Lençóis Paulista and Quatá (SP).
Zilor.

Sport and Quality of Life
Sporting championships for workers and their families.
Cocal, Usina São Luiz S/A, Zilor.

Social projects are aimed at different age groups. One of the main characteristics is the great variety of initiatives.
TV Classrooms

The goal of the TV Classrooms program is to allow workers at the mills and members of the community of any age group to continue their education, thus ensuring that they have a better chance of remaining in the labor market. Courses offered include basic literacy and subjects covered in basic and high school education. Classrooms normally have audiovisual equipment. Classes are monitored by teachers hired by the companies.

Workers can access programs in various areas, ranging from training and professional requalification to programs for improving workplace safety.

Libraries
Companies offer libraries for workers and their families, with novels and subscriptions to magazines and newspapers.
Açúcar Guarani, Grupo Balbo, NovAmérica, Pedro Agroindustrial, Viralcool, Virgolino de Oliveira.

Toy Rooms
Donations of toys, games and educational items to schools, day care and other such centers.
Partners: city authorities.
Açúcar Guarani, Cocal, Grupo Balbo, Usina São Manoel.

Know the Company
Presentations showing how sugar and ethanol are produced, explaining environmental conservation and sustainability in the sugarcane industry.

Contribute to Encourage
This program supports the development and education of children in care centers. Partners: Apae, Unesp, Padre Albino Saúde, the Dona Lola Zancaner children’s home in Catanduva (SP), Projeto Prevenir de Pindorama (SP), Projeto Espaço Amigo and Peti in Catiguá (SP), the Zellinda Tereza Cacciari Fernandes and Professora Maria Lucia Vallejo Vivaldini day care centers and the Elias Nechar technical school.
Usina São Domingos.

Choir
Participation of workers and members of the community.

Discover Your Creativity
Children create designs for company Christmas cards.
Della Coletta, Usina São José da Estiva.

Santelisa Vale Cultural Facility
Social and cultural inclusion for young people and adults. The theater school is renowned for its productions.
Santelisa Vale.

Children’s Station
The goal is to bring together the children of workers through play and leisure
Usina Iracema, Usina São Martinho.

Cultural Station
The aims are to integrate families and give them access to culture through “Youth and Orchestra” presentations of the Ribeirão Preto (SP) Symphony Orchestra, sponsored by the group.
Usina São Martinho.

Estiva Cultural
Stimulate an interest in culture through stage plays and workshops.
Usina São José da Estiva.

Cultural Events and Concerts
Presentation of community cultural events – concerts, theater plays and musicals – with fundraising of food, cleaning materials and resources which are donated to community projects such as the Mobile Playroom for children interned in the Santa Casa de Assis hospital (SP).
NovAmérica.

Newsletter
Distributed to workers, their relatives and the community.
All members companies take part.

Serrana Cultural Foundation
The building and the furniture of the foundation were donated by the company, which also makes an annual contribution for its upkeep.
Pedra Agroindustrial.
A wide spectrum of Quality of Life programs benefit workers and the communities as a whole. They include worker dormitories, support for institutions such as day care centers, homes for senior citizens and other actions to promote workers’ well being.
Courses

These include training for operators of sugarcane harvesters and light and heavy equipment; auto mechanics and maintenance assistants; drivers; fueling station attendants; assistants in plant technology; assistant firefighters; inspectors; tractor drivers; cane loaders; assistant electricians and car welders; automotive electricians; electromechanical and hydraulic assistants; manual tool operators; staff for organization and cleaning, soil preparation, biological control of sugarcane beetle, workplace hygiene and training managers, among others.

The Born Again Project
Offers sports activities, leisure and help with school work for children in Sidrolândia (MS).
CBAA.

Theater Projects
See text on page 89.
Cerradinho, Cosan, NovAmérica, Santelisa Vele, Usina Boa Vista, Usina Iracema, Usina São Martinho.

Energy Radio
Information and culture for workers on the way to work.
Abengoa Bioenergia Brasil.

Art on the Road
Project focusing on developing culture in the community, through musical presentations, traveling theater and art exhibitions. Set up in partnership with the Ministry of Culture.
NovAmérica.

Showing Workers They’re Important
Celebrating International Women’s Day, Mothers’ Day and Fathers’ Day.
Della Coletta, Equipav, Nardini, Usina Usimás.

Training
Courses

Cane cutters gain new career horizons thanks to retraining projects run by companies concerned with maintaining the employability of workers.
### Total number of projects, by type

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport</td>
<td>30</td>
</tr>
<tr>
<td>Culture</td>
<td>55</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>73</td>
</tr>
<tr>
<td>Health</td>
<td>95</td>
</tr>
<tr>
<td>Environment</td>
<td>103</td>
</tr>
<tr>
<td>Education</td>
<td>108</td>
</tr>
<tr>
<td>Qualification</td>
<td>154</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>618</td>
</tr>
</tbody>
</table>
Youth and Adult Literacy
Teaching workers to read and write so they can gain access to technical training courses.
LDC Bioenergia, Usina Mendu, Usina São José, Zilor.

Continuing Education
Support for workers in degree, post-graduate, technical and language courses.

Clean Cane Program
Equips cane cutters with new skills by focusing on their development as citizens and workers, with the prospect of professional growth and improved social wellbeing. The course offers basic notions of security, education and the environment, and introduces questions relating to equipment, tools and raw materials quality (types of mineral and vegetable impurities). In partnership with Senar, the National Rural Learning Service.

Training and Professional Development
Programs for technical, technological training and professional development and behavioral development and training for workers.

In-house Advancement
Search for new talent inside the company.

Courses
See page 93.

Development of High Performance Teams
Promoting personal and professional development for Agricultural Services and Agricultural Team Leaders.
Usina Colombo, Usina Irapema, Usina São Luiz S/A.

Educational Survey
Research into educational level of workers.

Pearls Project
The aim is to select curriculums of rural workers who can be upgraded to jobs in the agricultural or industrial area. Cerradinho, Grupo Balbo, Zanin.

Internal Promotions
Rural workers are reassigned to other activities or sectors. Partnership with several organizations.

Training and Quality of Life
Development of worker competence (group work, communications, etc.) and instilling knowledge in areas relating to health, security and environment.

Education via TV
Partnership with city halls to prevent dropping out of school.

Behavioral training

Total number of people covered, by area

<table>
<thead>
<tr>
<th>Sport</th>
<th>9,010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>10,319</td>
</tr>
<tr>
<td>Education</td>
<td>15,866</td>
</tr>
<tr>
<td>Qualification</td>
<td>31,529</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>50,777</td>
</tr>
<tr>
<td>Health</td>
<td>83,340</td>
</tr>
<tr>
<td>Culture</td>
<td>279,418</td>
</tr>
<tr>
<td>Total</td>
<td>480,259</td>
</tr>
</tbody>
</table>
Community Voices

Representatives from communities impacted by social and environmental projects introduced by Unica member companies discuss the benefits they bring.

Academic Training
“I joined the Usina São Martinho through the AAPM project, via the Projov program. Two years later I was hired as an administrative assistant. I could then see the importance of an academic qualification. Soon after being hired, and encouraged by work colleagues and the company, which gave me a study grant, I studied accounting. Today, I am a graduate and am currently doing a postgraduate course (also with financial support from the company). I am now a Financial Analyst, with great hopes for the future.”

Danilo José Lima
Ex-participant in Projov

Ethics and Citizenship
“We should certainly praise the efforts of those organizations that really are interested in promoting the construction of a better society. We can see what happened in our region in the sugar-ethanol sector, where significant environmental projects were implemented and other social investments made, benefitting children, young people and adolescents. We can clearly see that the main aim of these organizations is to promote and give dignity to social and environmental sustainability.”

Aparecida Ribeiro Santos
Colégio Ressurreição Nossa Senhora do Calvário High School, Catanduva (SP).

Social Inclusion
“We, of the Association of Physically Challenged People in Lençóis Paulista (Adepilp), know that to donate is a praiseworthy act, but we also understand that to say thank-you is more than a duty, it’s a commitment just as important as that which Zilor has with us, collaborating with the donation of recyclable materials. We would like to emphasize that the material donated by the company is the foundation of our project Transforming Recyclable Waste into Social Currency, which benefits 48 families. Thanks to the initiative, these families have been included into society. As well as the social advantages, there is also reduced environmental impact thanks to less build-up of rubbish in the countryside. We would like to express our thanks both for the donations, which demonstrate trust in our project, an also for the active role in promoting citizenship.”

José Carlos de Oliveira
Founding member and coordinator of the project Transforming Waste into Social Currency, of Adepilp.

Cultivating Solidarity
“The community thanks the Usina Açucareira São Manoel for the jobs offered, which help build up our town’s economy. We also acknowledge the trust placed in our social organizations, helping them without discrimination, and for the commitment to educating new citizens. The consequence of this will be building a better society in the near future.”

Leila Z. Sangalli
Casa Santa Maria Institution for Child and Juvenile Protection
Socio-Cultural Scope
“Nova America’s Project Future is an excellent example of social action, because it includes two aspects that I believe are important for the development of a community: the cultural and the social. On the cultural side, the project brings the community marvelous presentations such as concerts, theater plays and dance. On the social side, it helps groups like ours, through donations of food and hygiene and cleaning materials collected at these presentations.”

Heloisa Ferreira de Freitas Alvarenga
Coordinator of the São Francisco de Assis Home for Girls (Assis, SP).

Better Working Conditions
“The Moema Mill had the sensibility to be aware of the difficulties that workers face in their family life. It set up various projects including Cities for Peace (see page 85). These use seminars and promote courses to train Peace Agents, aiming to help workers in their homes. There are also reforesting programs. The goal is to give workers better living conditions.”

Augusto de Oliveira
Member of the Support Group for Cities for Peace and an assistant health worker in Orindiúva (SP).

A Bridge to the Future
“The AAPM is a bridge to the future, because it is through our first job that we plan our lives and choose what we really want to be. Participating in the program was very important for my personal and professional development. I am now working as a cost analyst in the control department. I hope that new paths open up for me and new opportunities appear so that this seed, planted when I was an apprentice, can blossom into a tree full of good fruit.”

Juliana de Mello Garcia
Former Young Apprentice of AAPM.

Focus on Education
“The Cosan projects are viewed as something positive by the community, and it’s a pity that they don’t reach everyone. The great hope for the population is to have their children studying at the Foundation. The Cosan name carries a lot of weight; it impresses people and links the organization with a serious company that offers opportunities. Seeing my son attending the Foundation is very rewarding.”

Maria Isaltina Pelegrino de Souza
Community of Barra Bonita (SP).

Professional and Personal Development
“The project of the Association for Support and Protection for Young People, AAPM, was very important. I started to gain a vision of the market, to be responsible about work and also with people. In the same way, the Projov project is excellent preparation and an encouragement for young people.”

Ronie Edson Schiavi
Former Young Apprentice of AAPM.

First Job
“The project of the Association for Support and Protection for Young People, AAPM, was developed with the idea of giving adolescents an opportunity to get their first jobs. It was through this program that during my trial period I was introduced to a more dynamic world and some great people, who contributed to my development. I learned to get on with and understand different people and to work in a team. This program helps young people identify their possibilities and pursue their goals. Today, almost seven years after being hired, I work in the financial control area and have a degree in foreign trade. Now I’m studying tax law.”

Luiza Garcia de Aro
Former Young Apprentice of AAPM.
“Sustainable development is that which satisfies the needs of the present without compromising the ability of future generations to meet their own needs”, a definition published in the Bruntland Report, “Our Common Future”. The report was prepared in 1987 by the UN’s World Commission on Environment and Development.
IN 2000, WORLD LEADERS REPRESENTING THE 191 MEMBER STATES OF THE UNITED NATIONS COMMITTED THEIR COUNTRIES TO ACHIEVING THE MILLENNIUM DEVELOPMENT GOALS. THESE SPELL OUT THE DETERMINATION TO ESTABLISH A NEW WORLD ORDER, ONE THAT IS MORE FAIR AND EQUAL.

TAKEN TOGETHER, THE SOCIAL AND ENVIRONMENTAL PROGRAMS OF UNICA MEMBERS ARE CONTRIBUTING TO ACHIEVING THE MILLENNIUM DEVELOPMENT GOALS, AS LAID DOWN BY THE UNITED NATIONS.

OUR SOURCE FOR STATISTICAL INFORMATION IN BRAZIL IS THE SITE OF THE UN DEVELOPMENT PROGRAM, UNDP, A GLOBAL DEVELOPMENT NETWORK THAT IS ACTIVE IN 166 COUNTRIES.
Reducing infant mortality

Brazil reduced its infant mortality rate (deaths of children less than one year old) from 4.7% in 1990 to 2.5% in 2006. The Northeast was the region with the biggest drop in deaths between zero and five years but infant mortality was still nearly double the national average, according to the 2008 report “The State of the World’s Children” from Unicef, the United Nations Children’s Fund.

Women in Brazil study more than men but have fewer employment opportunities; they receive less than men working in similar jobs and occupy the worst functions. In 2005, 35% of men had formal employment contracts, compared with 26.7% of women.

Some of the activities that are helping change the situation are: nutritional education programs; nutritionists who plan balanced menus for workers and their families; distribution of milk to workers’ children; medical consultations; vaccination; investments; donations for hospitals and other infrastructure.

Eliminate extreme hunger and poverty

Brazil met the goal of reducing by half the number of people who live in extreme poverty: from 8.8% of the population in 1990 to 4.2% in 2005. Even so, 7.5 million Brazilians earn less than one dollar per day. In 2005, the government pledged to reduce the number of people living in extreme poverty to 25% of the total existing in 1990 and to end hunger in Brazil by 2015.

The more than 700,000 people with registered jobs in the sugar-energy sector; the increasing prevalence of rural workers with legal work contracts; salaries that match the second-best average in Brazilian agribusiness; and investments in professional training for workers – all these indicate a determination to help build the new economic order envisaged by the UN.

Promoting gender equality and self-sufficiency for women

Women in Brazil study more than men but have fewer employment opportunities; they receive less than men working in similar jobs and occupy the worst functions. In 2005, 35% of men had formal employment contracts, compared with 26.7% of women.

UNICA and its associates practice non-discriminatory policies, as well as operating special health and quality-of-life programs for female workers.

Achieving universal basic education

In Brazil the figures are for 2005: 92.5% of children and young people aged seven through 17 are enrolled in basic education. In the cities, this rises to 95%. The goal of universal access to basic education has been virtually achieved but attendance rates are still low amongst the very poor and the children in the North and Northeast regions.

UNICA members are devoting considerable resources to education. Amongst their programs, the ones that stand out include: encouragement to return to study; literacy courses; donation of school materials to the workers and their dependents (sometimes extended to the whole community); and study grants for technical and university courses.

The Millennium Development Goals

1. Eliminate extreme hunger and poverty
2. Achieving universal basic education
3. Promoting gender equality and self-sufficiency for women
4. Reducing infant mortality
5

Improving maternal health

According to the Brazilian government’s National Progress Report on the Millennium Development Goals there was a 12.7% drop in maternal deaths between 1997 and 2005 (from 61.2 to 54.3 deaths per 100,000 births), but the report acknowledges there is under-notification. Maternal mortality fell in the North and Southeast regions but rose in the Northeast, Center-West and South of the country, according to Unicef.

UNICA members hold special programs for pregnant women (workers and workers’ wives). These provide information on mother and baby health, breastfeeding, prenatal exams and other aspects.

6

Fighting HIV/AIDS, malaria and other diseases

Brazil was the first developing country to provide free treatment for HIV/AIDS in the public health system. More than 180,000 people receive medicine supplied without cost by the government. According to Unais (a UN program), the prevalence of HIV in Brazil is 0.5% and there are 620,000 people infected.

The practice of preventative medicine has been welcomed by UNICA members. Programs aimed at prevention of HIV/AIDS, information campaigns about different types of cancer (such as breast and prostate cancer) and ailments like hypertension, diabetes and others are routine at many mills.

7

Ensuring environmental sustainability

The country has reduced the rate of deforestation and the emission of greenhouse gases while increasing the use of renewable energy sources.

In addition to the projects carried out by member companies, UNICA implements corporate initiatives that underscore the commitment to sustainability. In the same way, the inherent characteristics of sugarcane ethanol, a source of clean and renewable energy that helps reduce greenhouse gas emissions, make the product a global alternative that is consistent with the principles of sustainable development.

8

Establishing a global partnership for development

Brazil was the leading force in creating the G-20 group of nations in the Doha Round of free trade negotiations, within the World Trade Organization. The country is widely seen as proactive in promoting global partnerships.

Our determination to work tirelessly for the development of the sector and of Brazil can be seen in our participation in organizations with which we share common interests in Brazil and abroad, agreements and joint actions with class associations, national and international NGOs, government and civil society.
How UNICA, represented by its members, is helping to build a more ethical world

Meetings with UNICA’s principal stakeholders, its member companies, who were sympathetic to the reasons for preparing this report, led to its “B” classification within the GRI, level “G3 checked”, as stated on page five of this report. We would stress that this is the first time an association has published a sustainability report anchored in these indicators. It constitutes a source of pride for this group of companies within the Brazilian sugar-energy sector.

The following index provides the number and description of the GRI indicators – called “Standard Disclosure” items in GRI terminology – and shows the page or pages of the 2008 Sustainability Report which deal with each topic.

Standard Disclosures

Strategy and Analysis

1.1 Statement from the most senior decision maker of the organization about the relevance of sustainability to the organization

1.2 Description of key impacts, risks, and opportunities

Organizational Profile

2.1 Name of the organization

2.2 Primary brands, products, and/or services

2.3 Operational structure

2.4 Location of organization’s headquarters

2.5 Countries where the organization operates

2.6 Nature of ownership and legal form

2.7 Markets served

2.8 Scale of the organization (number of employees, net sales, total capitalization, quantity of products or services provided)

2.9 Significant changes during the reporting period regarding size, structure, or share ownership

2.10 Awards received in the reporting period

Report Parameters

Report profile

3.1 Reporting period for information provided

3.2 Date of most recent previous report

3.3 Reporting cycle (annual, biennial, etc.)

3.4 Contact details

Report Scope and Boundary

3.5 Process for defining report content

3.6 Boundary of the report (e.g., countries, divisions, subsidiaries, joint ventures, suppliers)

3.7 Declaration of any specific limitations on the scope or boundary of the report

3.8 Basis for preparing the report
### Report Scope and Boundary

| 3.9 Data measurement techniques and the bases of calculations | .................................................. 77 |
| 3.10 Explanation of the effects of any re-statements of information provided in earlier reports (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods) | .................................................. 107 |
| 3.11 Significant changes from previous reporting periods | .................................................. 76 |

### GRI Content Index

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As an association, UNICA entitled this “Economic Development”

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Our Members

2.9

Companies that became members of UNICA during the period when the Sustainability Report was being prepared

- Aclana (Infinity Bio Group)
- Andrade (Guarani Group)
- Brenco (Independent)
- Cerradinho II (Cerradinho Group)
- Cridasa (Infinity Bio Group)
- Guarani (Moema Group)
- Navirai (Infinity Bio Group)
- Noroeste Paulista (Independent)
- Paranaapanema (Independent)
- Santa Elisa Continental
- Santa Isabel II (Santa Isabel Group)
- Tanabi (Guarani Group)
- Vale do Vacaria (Independent)
- Viralcool II (Viralcool Group)
- Virgolim Oliveira/J. Bonifácio (Copersucar)
| A | Apae | An NGO for parents and supporters of physically challenged children. |
| B | BNDES | The Brazilian Social and Economic Development Bank. |
| B | Bioelectricity | Electric power produced using vegetable biomass as the primary source. |
| B | Biomass | From the energy point of view, biomass is all renewable resource that originates from organic material (animal or vegetable), which can be used to produce energy. |
| B | Biorefinery | An industrial installation to convert biomass into a wide range of products (solid and liquid fuels, sweeteners, etc) with low levels of waste and low emissions of greenhouse gases. |
| C | Cefa | Organization to support youth training. |
| C | Cesp | São Paulo Energy Company. |
| C | Cide | A Brazilian federal tax on importation and domestic sale of fuel. |
| C | Cofins | A Brazilian federal contribution (effectively a tax) to help finance social security. |
| C | Consecana | The Council of Sugarcane, Sugar and Ethanol Producers, present in various Brazilian states. |
| C | Corporate governance | The system whereby companies establish policies, codes of ethics and conduct for the relationships between shareholders, the board, directors, independent auditors, the finance committee, clients, civil society, government agencies, etc. |
| E | EPI | Equipment for Individual Protection. |
| E | FAO-UN | The Food and Agriculture Organization of the United Nations. |
| E | Fertirrigation | An agricultural technique for simultaneously applying water and fertilizers via an irrigation system. |
| E | Filter cake | Produced by filtering sugarcane juice – impurities in the juice are removed and returned to the soil in the form of organic fertilizer. |
| E | 5S | A method for organizing a workplace, based on a list of five Japanese words. Roughly: Sorting; Setting in order; Systematic cleaning; Standardization; Sustaining the discipline. |
| G | G8+5 | A multilateral group comprising the countries in the G8 (Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States) and leading emerging economies (South Africa, Brazil, China, India and Mexico). |
| G | ICMS | A Brazilian federal tax on the circulation of goods and sale of services. |
| G | NR31 | A Brazilian regulatory standard published by the Ministry of Labor governing working conditions for health and safety in agriculture, forestry and fishing. |
| G | Paula Souza Center | An organization linked to the São Paulo State Government’s Development Secretariat, with the mission of boosting sustainable development in the state. |
| P | Peti | A Brazilian federal program to eliminate child labor. |
| P | PIS | A Brazilian federal contribution (effectively a tax). |
| R | Riparian vegetation | A term for various types of vegetation including narrow strips of forest along river banks. |
| S | Senac | Brazilian National Service for Commercial Training. |
| S | Senai | Brazilian National Service for Industrial Training. |
| S | Senar | Brazilian National Service for Rural Training. |
| S | Sesc | Brazilian Social Service for Commerce. |
| S | Sesi | Brazilian Social Service for Industry. |
| I | Stakeholders (partes interessadas) | Stakeholders are broadly defined as those groups or individuals: (a) that can reasonably be expected to be significantly affected by an organization’s activities, products, and/or services; or (b) whose actions can reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives. This includes entities or individuals whose rights, in the terms of the law or international conventions, give them legitimacy to make claims on the organization. |
| U | STD | Sexually transmitted diseases. |
| U | Unesp | São Paulo State University. |
| V | Vinasse | A byproduct from the distillation of fermented sugarcane juice during the production of ethanol and alcoholic drinks. It is not alcoholic but does contain non-fermented substances such as residues of sugar and water. |
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