

Report 2000/2001

Safety

Health

Environment

HEINEKEN REPORT 2000-2001 SAFETY, HEALTH & ENVIRONMENT



This report is also available in Dutch

Heineken
NV

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Preface

Quality is the key to Heineken's success. Quality is the yardstick for our products, our financial results, the conditions in which our people work and the contribution we seek to make to society. A healthy business cannot be sustained without concern for people and the environment.

This vision underpins our position in the communities of all the countries in which we have a presence. Several years ago, we started work on our responsibility management programme, through which we intend to anchor our vision structurally in all areas and at all levels within the organisation. Further details of this programme can be found on pages 22-25.

Dialogue – with employees, consumers, people living close to our breweries, shareholders, governmental and non-governmental organisations and others – is an essential element of responsibility management. The purpose of this report, which performs a function as part of that dialogue, is to show how we fulfill our social responsibilities and the results we have achieved.

The scope of the report has been expanded in two respects compared with our first environmental report, which was published in 2000: environmental coverage has been extended beyond Europe to include Heineken companies all round the world and the report now includes safety (in Europe) and health (in Africa). We plan to extend the safety and health coverage of the report to include other regions in 2004. We also intend to present the initial results of our responsibility management programme at that time.

Having formalised Heineken's environmental policy in 1999, we defined our policy on safety and health in 2001. Our integrated safety, health and environmental policy statement can be found on the back cover of this report.

Transparency and accountability are essential to the dialogue we need to conduct if we are to optimise our efforts and achieve the targets we have set. We have taken note of the response to our previous environment report and look forward to receiving your reactions to this edition.

The Executive Board of Heineken N.V.
July 2002



The Heineken company

Heineken N.V. has its roots in Amsterdam, where Gerard Adriaan Heineken bought a brewery named 'De Hooiberg' in 1864. In the ensuing decades, under the leadership of three generations of the Heineken family and pursuing a policy of prudent expansion and consistent brand development, Heineken has grown into one of the world's leading brewing companies. Heineken brews beer at over 110 breweries in more than 50 countries. Heineken is also active in the export of beer and issues licences to third parties. Europe accounts for over half of the sales volume. Heineken N.V. is the most international global brewing company with 40,025 employees.

The principal international brands are Heineken and Amstel. Heineken has the widest global presence of any international beer brand and is the leading brand in Europe. In most markets, the Heineken brand's quality and image allow positioning in the attractive premium segment. Amstel, the second largest beer brand in Europe, is generally positioned in the mid-priced mainstream segment, the largest segment of the market. Our international brands are supplemented and supported by national and regional brands and a range of speciality beers (which differ from lager in flavour, colour or brewing process), light beers (low-calorie beers) and alcohol-free beers. Heineken has a very limited presence in the low-priced segment.

In many countries, Heineken has secured strong market positions and an efficient cost structure through combining the marketing and sale of the international Heineken premium brand and a range of strong local brands.

The shares of Heineken N.V., 50.005% of which are owned by Heineken Holding, are listed on the Euronext Amsterdam, Euronext Brussels and Euronext Luxembourg stock exchanges. Heineken Holding shares are traded on Euronext Amsterdam.

Group volume	2000	2001
(in millions of hectolitres)		
Europe	50.7	55.4
Western Hemisphere	7.4	7.8
Africa/Middle East	9.2	9.9
Asia/Pacific	7.5	7.8
Group volume	74.8	80.9
Affiliated companies	23.1	24.1
Total beer volume	97.9	105.0

Net turnover	2000	2001
(in billions of euros)		
Beer	6.5	7.6
Soft drinks	0.9	0.9
Spirits & wines	0.4	0.4
Other	0.3	0.3
Total	8.1	9.2

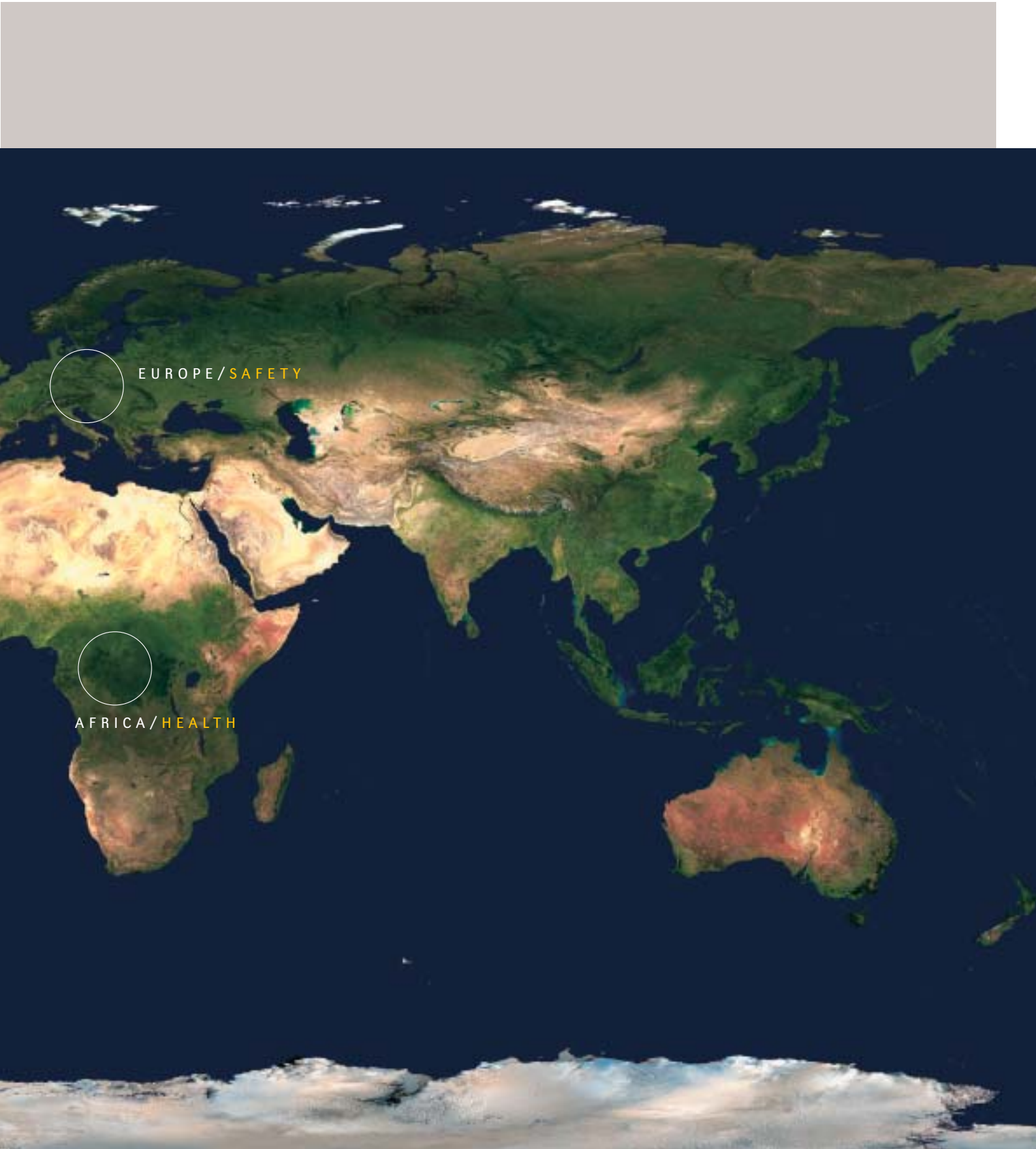


Our objectives and methodology

THE HEINEKEN VALUES & PRINCIPLES WE SEEK TO MAINTAIN A GOOD BALANCE BETWEEN OUR FINANCIAL AND SOCIAL OBJECTIVES BY BREWING AND SELLING BEERS OF HIGH QUALITY IN A RESPONSIBLE MANNER TO CONSUMERS WORLD-



WIDE, WITH THE AIM OF ADDING TO THE PLEASURES OF LIFE. OUR BEERS ARE BREWED AND MARKETED WITH RESPECT FOR LOCAL COMMUNITIES AND THE ENVIRONMENT.



EUROPE / SAFETY

AFRICA / HEALTH

3.1 Responsibility management

Social standards and values have helped to shape our company since the very beginning, and their influence has not diminished as the company has grown. For example, we have been providing medical facilities for our employees and their families for many years in countries where those facilities are limited or non-existent.

How social standards and values are implemented within Heineken differs from operating company to operating company and from country to country. The purpose of our responsibility management programme is to create greater consistency and clarity, both to further communicate our identity and to enable us to evaluate and, where necessary, reinforce our policy.

Within the framework of this programme, the Executive Board formulated the Heineken Values & Principles in 2001, implementation of which is the responsibility of the local management teams. Starting in 2002, these management teams will initiate a dialogue with employees and local external parties, as a basis for translating the Heineken Values & Principles into procedures and activities that are consistent with the culture of the local communities.

Pilot projects based on this approach were launched in 2001 in four countries (Ghana, Indonesia, Poland and Rwanda). In our next report we will give an update on our progress and the results. A more detailed explanation of this programme can be found on pages 22-25.

■ OBJECTIVES FOR 2002-2003
In pursuit of its policy of continuous improvement of its environmental, safety and health performance, Heineken has set itself the following objectives for the next two years:

- Intensification of the energy efficiency programme
- Feasibility study of alternative uses for brewers grains as a source of sustainable energy
- Development of sustainability indicators for (malting)

- barley growing
- Promotion of environmental management within the supply chain
- Further integration of health and safety aspects at our operating companies around the world, on

- the basis of experience gained in Europe and Africa.
- Reporting on progress and results of our responsibility management programme

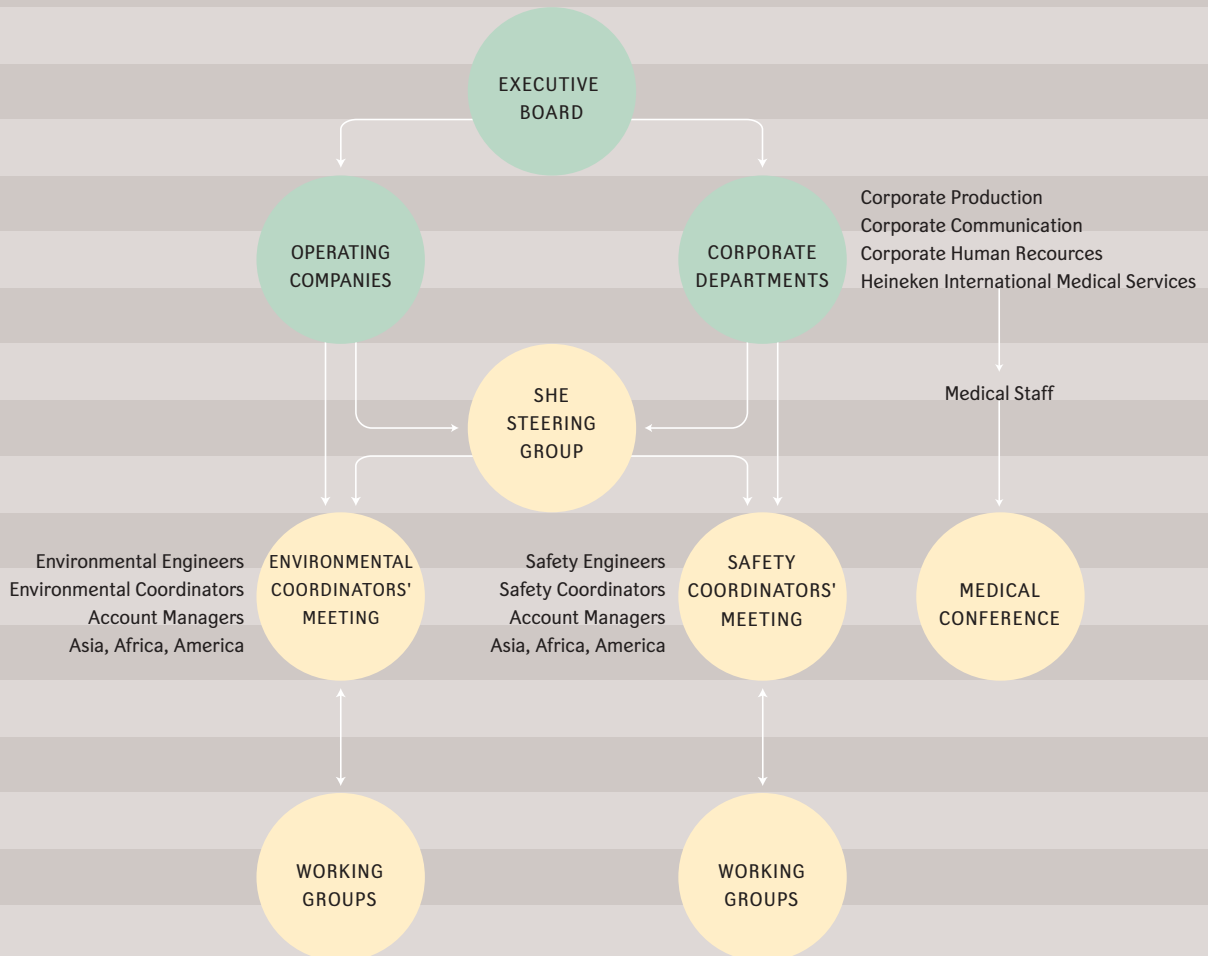
3.2 The Heineken safety, health and environment policy statement

Heineken's environmental policy statement was expanded to include safety and health and was approved by the Executive Board in December 2001. It states that these three themes form an integral part of the company's operations and that Heineken will continuously seek improvement at all levels in the organisation. The complete text of the statement can be found on the back cover of this report.

3.3 The organisation of safety, health and environmental management

The expanded policy statement represents significant progress towards our goal of continuous improvement. The local management teams are responsible for translating it into local policy and formulating concrete objectives. The results achieved by implementing this policy will be published in this report and elsewhere.

Safety, Health and Environment (SHE) management



Policy instructions are formulated at group level by the multi-disciplinary Safety, Health & Environment steering group. On that basis, each operating company defines its objectives and draws up an operational plan, supported by local safety and environmental coordinators who also assist with compliance with applicable legislation and regulations, implementation of safety, health and environmental measures, achievement of targets, monitoring and reporting. Coordination of and consultation on joint activities take place at the annual meetings of the European environmental and safety coordinators. International working groups have been established and meetings are organised to prepare for activities in specific areas.

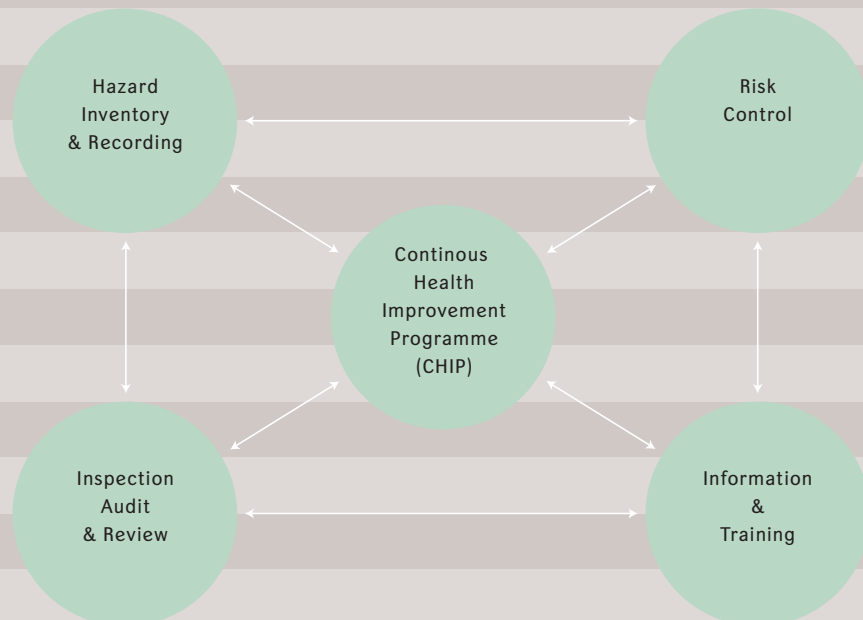
Activities relating to health are developed and coordinated at group level by Heineken International Medical Services, which maintains contact with local medical services, reports to the Safety, Health & Environment steering group and has direct access to the Executive Board in matters concerning its health-related functions.

4.1 Health

Heineken's health policy is primarily concerned with medical assistance for employees and the treatment of accident-related injuries. Heineken also takes its own initiatives and supports those of other agencies in the area of preventive and therapeutic health-care in countries where the public health services are inadequate. On the African continent, for example, we have taken initiatives to provide medication for HIV-positive employees and their immediate families.

We also regard it as an important task to evaluate and, as far as possible, manage factors in the working environment, which may jeopardise the health of our employees. Work-related accidents are recorded in a central database for analysis. We have also made a start with the introduction of the Heineken Health Management System. Its purpose is to link the recording and inventory of situations, which are harmful to health directly to training and provision of information on accident prevention. The object of our information and training efforts is to influence employees' behaviour in order to avoid unsafe and unhealthy working situations. In this way a process of continuous improvement can be sustained.

Heineken Health Management System



4.2 Safety

At two meetings in 2001, the safety coordinators of the European operating companies agreed on uniform procedures for reporting and presentation of figures. Reporting covers all the European production units which come under the responsibility of Heineken management. Internal transport within brewery sites is also included. The figures for accidents relate to Heineken personnel, temporary workers, agency staff and people working on a contract basis. Agreement was also reached on accident frequency and accident severity as performance indicators (see Annex 2).

4.3 Environment

All Heineken operating companies set targets each year for reducing their consumption of electricity, fuel and water. These targets (see Annexes 3 and 4) are incorporated into a three-year plan which sets out the actions needed to achieve the targets. All operating companies have access to the expertise, which exists within Heineken to assist them in formulating their plans. That expertise is available online via a central database and is disseminated through training courses and themed workshops. After approval of the three-year plan and initiation of the required action, the operating companies are responsible for recording data on their environmental performance, employing a uniform procedure. The data they deliver are validated internally by Heineken Technical Services and verified externally.

<p>■ BREWERY COMPARISON SYSTEM All environmental parameters for the Heineken breweries are recorded in a central database: the Brewery Comparison System (BCS).</p>	<p>This system was extended in 2000 to include additional environmental parameters. The system supports local management by providing consistent monitoring</p>	<p>and reporting. It also enables a brewery's performance to be measured against set targets and compared with that of the other breweries, generating input for</p>	<p>adjusting targets and encouraging competition between breweries to improve performance still further.</p>
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4.3.1 Environmental management within the supply chain

Heineken is conscious of its responsibility for environmental management within the supply chain: from the production of the raw materials to the disposal of the waste products. We seek to minimise environmental impact through efficient use of raw materials and selection of the most environment-friendly alternatives. In the area of raw-material production, Heineken initiated a 'barley-malt-beer' supply-chain project in the Netherlands in 1995, with the aim of improving quality and safeguarding barley and malt production integrity. Various projects were set up with growers, collectors, maltsters and brewers to identify areas where improvements might be made in barley and malt production yields, quality and integrity. By involving all links



SUPPLY-CHAIN PROJECTS AIM TO IDENTIFY OPPORTUNITIES FOR IMPROVEMENT BY RECORDING ALL ACTIVITIES THROUGHOUT THE CHAIN, FROM SELECTION OF VARIETIES, SOIL PREPARATION AND USE OF FERTILISERS AND CROP PROTECTION TO DRYING AND STORAGE CONDITIONS AND MALTING AND BREWING PROCESSES.

in the chain and providing direct communication, substantial progress has been made towards all these objectives, while enabling an assessment of the contribution of the farmers have contributed to the improvement and detailing in which way the barley was grown and treated.

Mouterij Albert, our Belgian malting, has been working with various agricultural cooperatives in France in pursuit of similar objectives for several years. A start has been made in Slovakia and Spain on applying on a large scale what we have learned. The supply-chain will be used as the basis for further projects on the sustainable farming of malting barley (see Chapter 5). As well as aspects such as yield, quality and integrity, the research will focus more directly on the effects of barley production on the environment and, where possible, the elimination of any adverse effects. With regard to hops, the other main raw material in beer production, long-term agreements have been reached with a number of hop growers and suppliers. These agreements are on similar lines to the supply-chain projects referred to above. The advantage in this case is that the number of hop growers is very small. Some of our breweries process local raw materials such as sorghum and rice.

In view of the importance of these products to local development and local economies, Heineken stimulates and supports production in several countries.

Heineken is also involved in research into barley production based on modern biotechnology (MBT). This research is not expected to yield practical results within the next 3 to 5 years. Heineken will only use MBT-based products if they offer clear advantages for both the consumer and the environment, comply with the applicable legislation and regulations and are accepted by the public.

Another example of environmental protection within the supply chain is the 'light weighting' project, in which Heineken is participating. This project, which aims to reduce consumption of packaging materials, is repeated every five years so that full benefit can be derived from the latest technologies and options (see also Chapter 6.8).

■ AWARE OF ENERGY

The insight into the current performance of our breweries afforded by an international energy benchmark shows that, while some are at the top of the league, others still have room

for improvement. Our corporate 'Aware of Energy' programme, which seeks to improve the performance of all our breweries, will be introduced in 2002. The aim is to reduce specific energy consumption by around 10%,

through research, setting targets and introducing new measures. The first tasks are to raise awareness among Heineken's staff and introduce procedures based on 'good housekeeping'. But it is also about technologies such as heat

recovery and the use of renewable energy, including biogas. We are planning to report on the progress and results of this programme in our next report.

4.4 Implementation of environmental management systems in the European operating companies

Production at all our locations in Europe must comply with the international ISO 9000 standard and must operate an environmental management system, preferably based on ISO 14001. Breweries in Spain and France achieved ISO 14001 certification in 2000 and 2001. 38% volume of the beer produced in Europe is now in compliance with this standard. The comparable figure for soft drinks and mineral water production is currently 12%. Other breweries in Spain Italy, France and Ireland are currently making preparations to obtain ISO 14001 certification.

4.5 Environment-related capital expenditure and costs

As announced in our previous report, the Environmental Cost working group, consists of a number of European environmental coordinators. It has been set up to formulate clear definitions for environment-related operating costs and capital expenditure, so that they can be incorporated into our financial systems. Three categories of environmental costs have been defined: waste water disposal costs, waste removal costs and environmental management and monitoring costs, which include penalties paid to public authorities. Three categories of income have been defined: income from

by-products, income from waste and income from subsidies. Only capital expenditure intended exclusively for environmental purposes is recognised as environmental investment. A proposal is currently being prepared for implementing these definitions within our financial systems. After approval, it will take some time to make the necessary changes to the systems at our breweries.

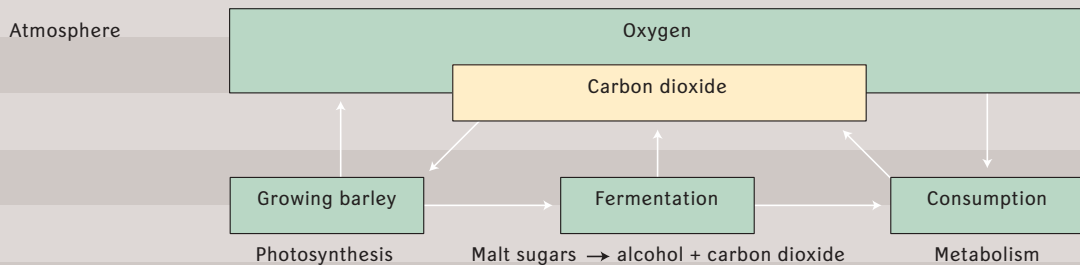
4.6 Carbon dioxide emissions

The rising concentration of carbon dioxide in the atmosphere is one of the causes of the greenhouse effect and is held to be largely responsible for the climatic changes we have witnessed in the past fifty years, according to the Intergovernmental Panel on Climate Change. Heineken is including information on carbon dioxide emissions for the first time in this report.

<p>■ CARBON DIOXIDE EMISSIONS Carbon dioxide is emitted at various stages in the beer production process. Malt sugars are converted</p>	<p>into alcohol and CO₂ during fermentation, for example, but this does not contribute to the greenhouse effect because it is a short-</p>	<p>cycle process: the CO₂ generated during fermentation is extracted from the atmosphere at a similar rate by the barley as it grows. This</p>	<p>is in contrast to burning fossil fuel, which releases over a short period CO₂ which has been locked up in the fuel for millions of years.</p>
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Carbon dioxide is released when fossil fuels are burned. Heineken uses fossil fuels mainly for heating and, in some of our breweries, for electricity generation. Internal transport accounts for a small proportion of our fuel consumption. The reported figures do not include emissions due to activities outside Heineken locations, for example in external transport, nor emissions of short-cycle carbon dioxide (see panel above).

Non-fossil carbon cycle



External dialogue

5.1 Stakeholder relations

Formulation of the Heineken safety, health and environmental policy is based on a number of sources including a dialogue with various interested parties. At group level, Heineken talks to governmental and non-governmental organisations, trade organisations, shareholders and the financial community. At the local level, the management teams at our operating companies maintain contact with public authorities and people living close to our plants. Heineken wants this report to play a part in that dialogue and to this end, like our previous environment report, it includes a reply card for readers to respond. Comments can also be submitted via our website www.heinekencorp.com.

The responses we received to our previous environmental report have been taken into account in the preparation of this report. The previous report has also been discussed with external organisations and their main suggestions have been taken on board. For example, this report deals explicitly with carbon dioxide emissions resulting from the use of fossil fuels and discusses our efforts in the field of agriculture. One factor that is giving cause for concern is that, despite the relative improvements we have made, our environmental impact is increasing in absolute terms, mainly due to the growth in production and the acquisition of companies whose environmental performance is often not up to our standards. These companies are undergoing improvement programmes.

5.2 External consultants

Sustainability

We have conducted discussions with Universiteit Nyenrode, the Dutch business school, regarding the subject of sustainability for some time and, to test our ideas, we asked Nyenrode in 2001 to advise on the best way of introducing this concept within our organisation. Nyenrode also benchmarked the substance of our policies against the views of a number of external organisations and companies. This process helped to shape our responsibility management programme.

Verification of environmental reporting

Upon request from Heineken, KPMG Sustainability has provided recommendations for improved quality of registration and aggregation of environmental data. This has resulted in a number of improvements in our internal Environmental Reporting Manual has been expanded and our validation procedures have been refined.

KPMG Sustainability has also verified selected data presented in this report, in accordance with the procedures defined in Annex 1.



'AWARE OF WATER' IN ACTION

ACCESS TO AN ADEQUATE SUPPLY OF CLEAN, FRESH WATER IS ESSENTIAL TO HEALTH, TO FOOD PRODUCTION AND THEREFORE TO THE WELFARE AND PROSPERITY OF PEOPLE AROUND THE WORLD. SUSTAINABLE WATER MANAGEMENT – USING WATER WITHOUT DEPLETING THE SUPPLY – HAS BEEN IDENTIFIED BY THE UNITED NATIONS AS ONE OF THE PRINCIPAL CHALLENGES FACING THE WORLD IN THE 21ST CENTURY. HEINEKEN IS A STRONG ADVOCATE OF SUSTAINABLE WATER MANAGEMENT, NOT LEAST BECAUSE WATER IS THE MAIN INGREDIENT OF BEER AND WE, AS A COMPANY, THEREFORE DEPEND ON IT DIRECTLY. HEINEKEN SEES IT AS ITS DUTY TO USE WATER RESPONSIBLY, CAREFULLY AND EFFICIENTLY. THE 'AWARE OF WATER' CAMPAIGN, WHICH WAS LAUNCHED IN 1999, IS DESIGNED TO RAISE AWARENESS AMONG HEINEKEN EMPLOYEES. AS PART OF THIS CAMPAIGN, WORKSHOPS ARE ORGANISED TO TRAIN STAFF TO FORMULATE WATER-SAVING PLANS. IMPLEMENTATION OF THESE PLANS HAS ALREADY ACHIEVED SUBSTANTIAL SAVINGS: WATER CONSUMPTION HAS FALLEN BY AROUND 14% SINCE 1999, FROM 6.6 HL/HL TO 5.57 HL/HL IN 2001. GOOD RESULTS HAVE ALSO BEEN REPORTED BY OUR MALTINGS. THE FIRST IN A SERIES OF WASTE-WATER TREATMENT PLANTS HAS BEEN BUILT IN AFRICA. TOTAL CAPITAL EXPENDITURE OF €33 MILLION IS PLANNED OVER A SIX-YEAR PERIOD.

Sustainable malting barley production

For Heineken, sustainability involves the development of sustainable barley and hop farming, as well as efficient use of water and energy. To help us formulate basic principles and definitions and establish measurement parameters (indicators), we invited a large number of experts from industry, research institutions, universities and other external organisations to take part in a workshop entitled 'Sustainable Barley Program: In Search of Building Blocks', which was organised by Heineken in collaboration with IMSA Amsterdam. By way of preparation, discussions were held with all the individual participants in advance of the workshop. The basic concepts and principles have now been defined and are being translated into a practical plan of action. To help us develop measurable indicators, we shall make use of the contacts established and knowledge gained in the course of the supply-chain projects, before proceeding with the large-scale introduction of the policy within the next few years.

5.3 Membership of international organisations/forums*CEO Panel*

Heineken was one of the initiators of the CEO Panel, consisting of the chairmen of the executive boards of fourteen international companies operating in the food, water and other industries. The panel was formed on a voluntary basis with the aim of initiating programmes and activities to promote sustainable water use. The panel met for the first time in 1999, to prepare for the second World Water Forum, which was held in The Hague in March 2000. The panel is currently working on its contribution to the



third World Water Forum, which will be held in Kyoto in March 2003. The issues to be addressed range from education and information to agriculture and integrated water management.

World Business Council for Sustainable Development

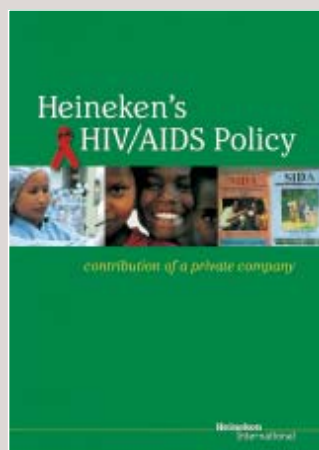
Together with around 150 other international companies, Heineken is a member of the World Business Council for Sustainable Development (WBCSD). The Council aims to be a leading advocate of sustainable development and to encourage eco-efficiency, innovation and socially responsible business practices. Heineken finds the WBCSD to be a valuable source of knowledge and experience.

Global Business Council

This organisation, of which Heineken is a member, seeks to establish relationships between governments, the United Nations, multinational non-governmental organisations and organisations working in the field of HIV/AIDS. Its object is to combine resources in order to combat the global HIV/AIDS epidemic more effectively.

World Economic Forum

Heineken International Medical Services is a participant in the Global Health Initiative of the World Economic Forum, which consists of the leaders of multinational companies. A working group has been set up within the WEF consisting of specialists from various disciplines and countries, with the object of combating more effectively poverty related diseases such as malaria and tuberculosis.



A learning company

Heineken and responsibility management

A responsible world citizen

Heineken wants to be a responsible company. That aspiration is inherent in our striving to be the best-performing international brewing group in the world. We apply high standards and values. Our objective is to maximise our results while minimising any negative effects which our activities may have on people or the environment. Sustainable development – meeting the needs of the present generation without compromising the ability of future generations to meet their own needs – is a central tenet, which guides our company's operations.

The Heineken Values & Principles

Heineken's core values – respect, enjoyment and passion for quality – have evolved with the company. They are inextricably linked with the three generations of the Heineken family who laid the company's foundations and built it into the business it is today, and they still form the basis of our relationship with society and our corporate social responsibility policies.

Awareness of social responsibilities is not a recent phenomenon for Heineken. In the past, the way in which policies have been implemented by our operating companies has varied from one country to another. A review of our existing policies has been conducted over the past few years, in the light of the experiences of other multinational companies and the views of governmental and non-governmental organisations. This research produced concrete policy documents covering a wide range of social issues. These documents, which provided the starting-point for our internal and external dialogue, were used in turn as the basis for the Heineken Principles, a set of standards and values, which are at the basis of our activities and our business conduct. At the end of 2001, the Executive Board declared these Heineken Principles, together with our traditional values, to be an integral part of our business strategy.

BUSINESS PRINCIPLES

General

Heineken is actively aware of its social responsibilities, participating in societies all over the world, and lives up to them.

For the continuity of the Company, Heineken strives for a leading financial, environmental and social performance. To this end, investments in its workforce, its brands and its breweries are essential to the Heineken Company.

Heineken feels part of the communities in which it operates. It aims to make a valuable and sustainable contribution to local and global societies.

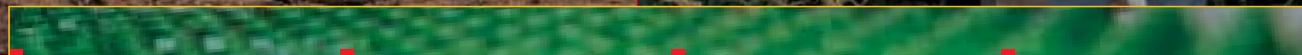
Heineken has committed itself to providing an excellent and sustainable return on the investment made by its shareholders. It values the support of all its investors and seeks to communicate with them regularly and openly, provid-

ing reliable and timely financial and other information.

Rule of Law

Heineken maintains a worldwide policy of compliance with laws and regulations.

Heineken respects local cultures. It will adapt to local situations whenever possible, however, without prejudice to the Heineken Values & Principles or local laws and regulations.



Quality

Heineken assures that its products are produced according to the highest food safety standards. In the case a product does not fully meet these standards, Heineken will not hesitate to take appropriate action. As for the use of raw materials, it is Heineken's policy to only use ingredients that are safe for human consumption.

Behaviour

In relationships with employees, customers and other stakeholders, reliability and integrity are essential preconditions. Heineken expects its employees to refrain from acts that may damage these preconditions. Heineken strives to provide a high level of enjoyment to its customers and consumers. Heineken will market and distribute its products in a

responsible way. Therefore Heineken will act in good faith when persuading a consumer to choose one of its products. This means that vulnerable groups will not be targeted. Heineken aims to provide comprehensive information about the advantages and the disadvantages of its products in order to facilitate a balanced consumer choice. Heineken will be truthful to employees, customers, con-

sumers, governments, financial institutions or other stakeholders. All information it gives will be correct and transparent. **Employees** Heineken aims to positively contribute to the well being of its employees. It will take appropriate measures to continuously improve safety and health aspects within its facilities. Heineken will



maintain a medical policy aimed at providing access to medical services for its employees and their families.

Heineken will keep in place a policy that is aimed at the development of skills in line with the natural talents of its employees. For the appointment or career prospects of employees, Heineken will pay attention only to the suitability of the candidate (education, personality, skills,

working experience) and his or her legitimate demands. Heineken will base its decisions regarding (future) employees solely on the basis of objective criteria. It respects reasonable personal convictions or qualities of (future) employees.

Heineken supports fundamental human rights in line with the legitimate role of business within society. It secures the human rights of

its employees within its facilities. In the case of external violations of the human rights of its employees, Heineken will provide assistance to its best abilities. Heineken believes that children should be able to play and learn. This means that Heineken will not employ children within its facilities. Heineken will develop programmes to eliminate the employment of children by its business partners.

Conflicts of Interest
Heineken expects its employees to avoid conflicts between business and private interests, as well as the acceptance or donation of personal gifts that could influence the integrity of business decisions.

Competition
Heineken believes in the principle of fair competition. It will keep in place policies and programmes aimed at

Responsibility management

Through responsibility management, we aim to put the Heineken Values & Principles into practice, so that they can serve as a guide for the conduct of all our companies and employees. Ultimately, what matters is what we do, not what we think. Our responsibility management programme seeks to respect the significant cultural differences between the countries in which we operate. At the local level, we are engaging in dialogue with staff and external stakeholders, to translate the Heineken Values & Principles into procedures and activities which are appropriate to local requirements, laws and cultures. The first group of local management teams will commence work in 2002 and the last in 2004. However, because societies are constantly changing, this work will not end after 2004. We are aware at all times that we must continue to learn from our experience and from the views of our stakeholders. Responsibility management is a continuous process, in which ongoing dialogue with internal and external stakeholders will help refine the objectives and possibly extend the scope in future.

The themes of the responsibility management programme

ALCOHOL	CORRUPTION	GIFTS
CHILD LABOUR	DEALING WITH CULTURAL DIVERSITY	HUMAN RIGHTS
COMMUNITY INVOLVEMENT	EMPLOYEE REPRESENTATION	NON-DISCRIMINATION
COMPETITION	ENVIRONMENT	SAFETY AND HEALTH
CONFLICTS OF INTEREST	EQUAL RIGHTS AND OPPORTUNITIES	SEXUAL HARASSMENT

giving guidance to employees to ensure that they understand competition laws and act in compliance with them.

Corruption

Heineken believes that corruption must be eliminated from society. It will maintain appropriate policies and programmes aimed at reducing and avoiding corruption.

Environmental Issues

Heineken aims to exercise due care with respect to the environment. It will pay specific attention to the consumption of raw materials, water, energy and other resources within its processes, as well as minimising waste emissions to the environment.

Compliance

It is everybody's individual responsibility to give a correct

interpretation to these principles. Communication, the development of tools, individual advising and monitoring are Heineken's responsibilities. The Executive Board, General Managers, Cluster Directors, Corporate Directors and local Management Teams have a specific responsibility, which is amongst others, expressed by exemplary behaviour and by initiating

and assessing activities. No employee will suffer negative consequences of bringing a breach or suspected breach of these principles to the attention of a senior manager.

The aggregated information on our environmental performance which we published for the first time in our 1998-1999 report was confined to our European operations. In this report, we are publishing global data on the environmental performance of our production facilities for the first time. Water and energy use, carbon dioxide emissions, packaging, waste and incidents are covered in this chapter. These are the most relevant parameters for our industry, while the other parameters are generally a derivative of these. Additional data can be found in Annex 4.

■ The data for Europe are presented separately (in Annex 3), to facilitate comparison with our 1998-1999 report. The specific and absolute environmental performance

parameters exhibit variations, both positive and negative, due to variations in production volume (related to beer consumption which in turn is affected by

weather, special events etc.), weather conditions (affecting heating and refrigeration) and other factors. While the factors underlying these variations are

known to us, it would be beyond the scope of this report to discuss them all here. Therefore, only selected developments/events of particular interest are covered.

Our breweries achieved the targets as stipulated in the 1998-1999 report for water and energy consumption in 2001. Our maltings achieved the target for water, but the soft-drink plants fell short.

This year we also publish our results in the area of safety and health for the first time. The report on safety covers only the European production units and the report on health relates only our activities in Africa. We are planning to report on progress with the implementation of our safety reporting system in countries outside Europe in 2004.

6.1 Production

The main raw materials used in the brewing process are water, malting barley and hops. Energy is needed for heating, cooling, boiling and filtering. The beer is packaged in bottles, cans or kegs and is usually transported by road or by water to our customers. As well as breweries, Heineken also operates a number of maltings and soft-drink plants.

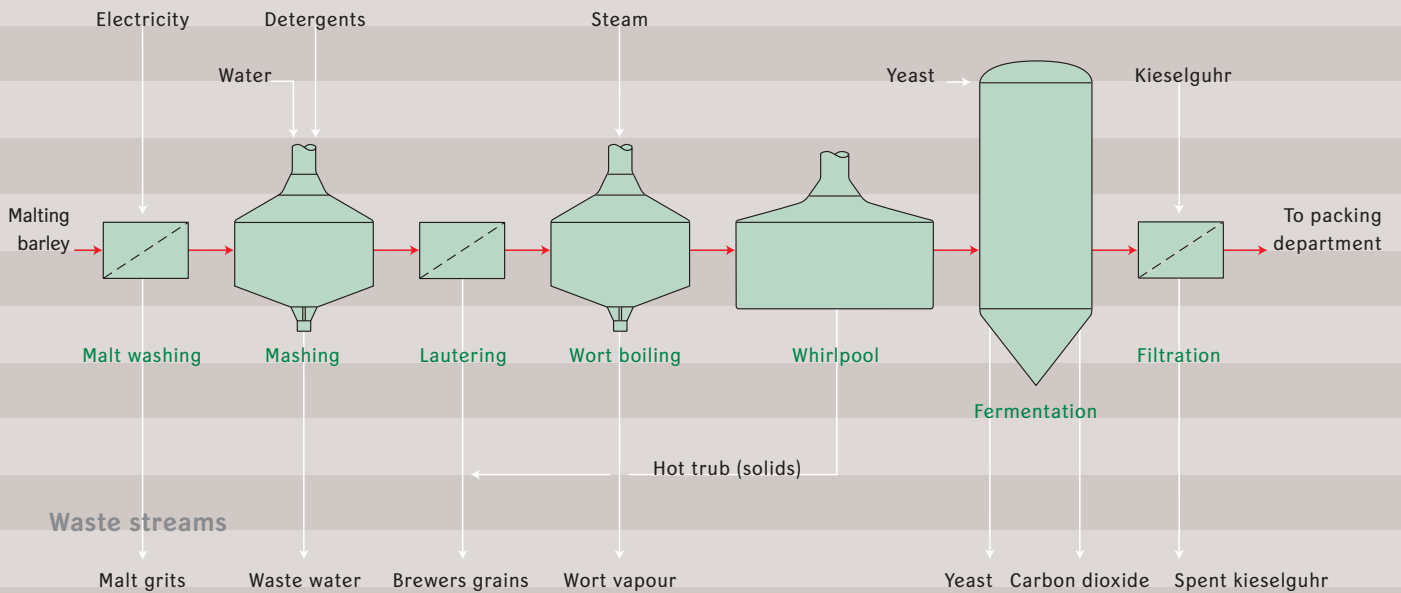
Production units **85**

(See Annexes 5 and 6)

<i>single purpose of which:</i>	<i>61</i>	<i>multi-purpose of which:</i>	<i>24</i>
• breweries	55	• breweries & soft-drink plants	15
• maltings	2	• breweries & maltings	7
• soft-drink plants	4	• breweries, maltings & soft-drink plants	2

Brewing

Inputs



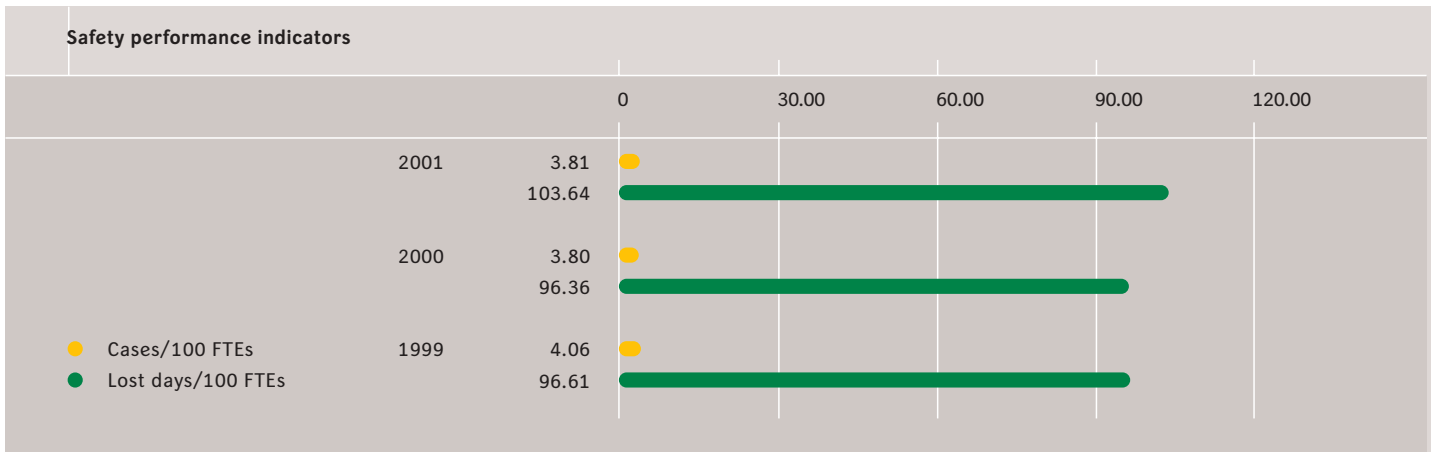
Waste streams

The production processes impact the environment in various ways: raw materials and consumables are required and these result in emissions, into the atmosphere and surface water and they generate solid waste. Other activities in the production chain also have an environmental impact, including raw material production and transport. All these activities also carry risks to safety and health.

- **RISK INVENTORY AND EVALUATION** A risk inventory and evaluation exercise was carried out at Bralima (Kinshasa, Democratic Republic of Congo) in 2001, with the assistance of an international consultant. After analysing the risks in all departments of the brewery and ranking them by frequency and potential consequences, the brewery formulated an action plan to address these. A total of 102 actions were identified, most of which were relatively easy to implement, for example through training and instruction, effective process management and revised procedures.

6.2 Safety (Europe)

There were three fatalities at work among employees of our European production units in 2000 and 2001, two in traffic accidents and one in an accident involving a forklift truck. Nine Heineken employees became 100% disabled in 2001. The principal causes were hand, shoulder and ankle injuries and burns caused by chemicals.



The accident frequency (number of cases divided by number of full-time equivalents) has fallen slightly since 1999, but the average severity (lost days per incident) has increased a little. The improvements can be attributed partly to training, which has raised safety awareness, and partly to better working conditions.

6.3 Health (Africa)

Heineken provides both therapeutic and preventive healthcare, often in combination. The doctors and other medical staff at our African breweries provide care not only for Heineken personnel, but also for their families, because public healthcare provision in many African countries is very limited. Our efforts to prevent the spread of HIV/AIDS take the form of assistance at local level with information campaigns, often with the support of third parties such as the World Health Organisation and non-governmental organisations. Some of our initiatives, including the distribution of condoms, the promotion of good hygiene practices and provision of 'safe' blood for transfusion, have been taken up by other agencies. In 2001 we started making anti-retroviral drugs available for employees and members of their immediate families, widening the scope of our existing programme to provide medication for HIV-positive woman to prevent transmission of the disease from mother to child. The programme was launched in Rwanda and Burundi and will be extended to other African countries from 2002 onwards. In countries where Heineken provides HAART (Highly Active Anti-Retroviral Therapy), employees and their families are given an opportunity to take HIV tests on a voluntary basis, the results of which are kept confidential.

Having discussed the results achieved in the areas of safety and health, we now turn our attention to the various environmental aspects.

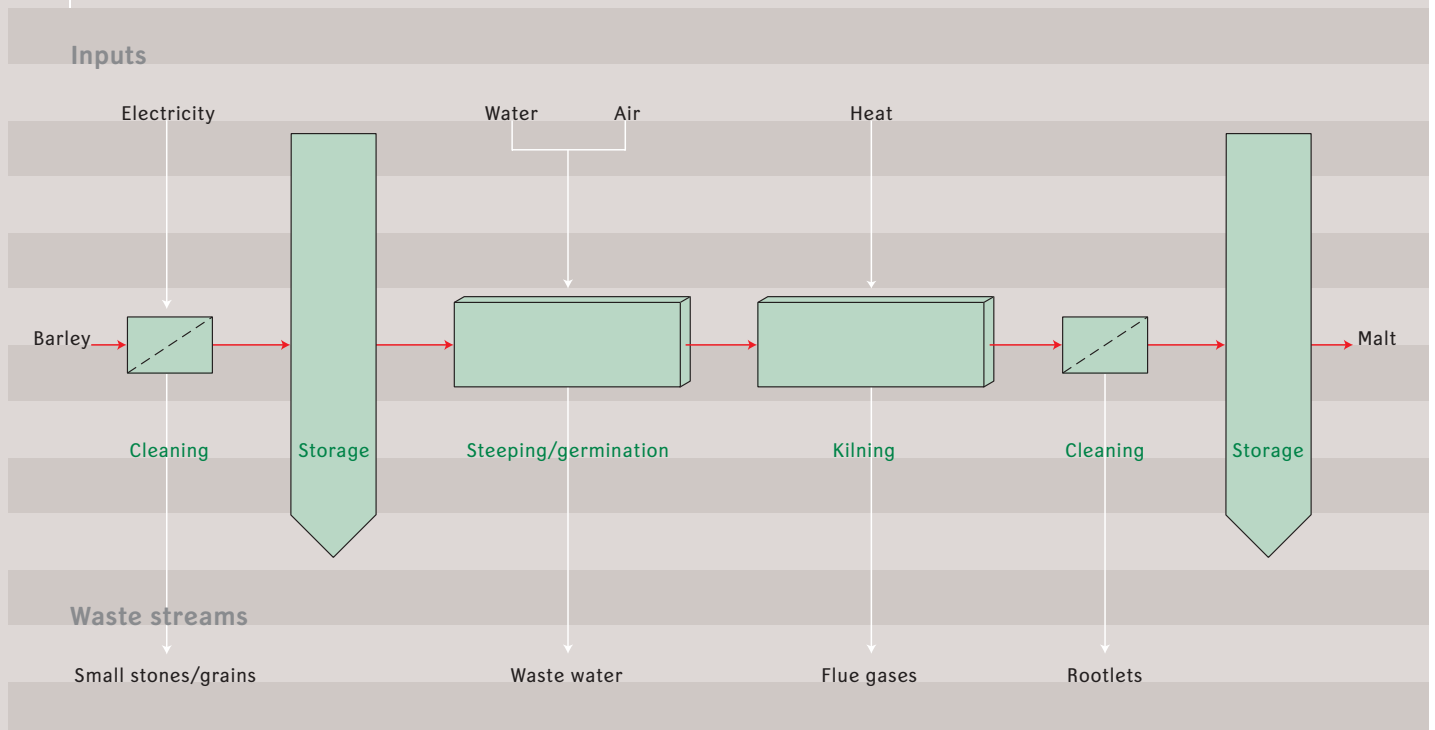
6.4 Water

Water is in quantity the most important raw material used in the production of beer and soft drinks. It is also used for cleaning process tanks, packaging materials (kegs, cans and bottles), production plants and pipelines. Water is used in our maltings for the conversion of barley to malt.

Specific water consumption by our breweries in 2001 was 5.7 hl of water per hl of beer, a decrease of 7% compared with 2000. This reduction was partly due to the installation of water meters at our Zagora (Bulgaria) plant, which has enabled us to monitor water consumption more accurately. The introduction of water recycling at our Massafra (Italy) plant also resulted in decreased water consumption. The breweries that have not yet reached their targets will continue their water-saving efforts. Now that a large number of our breweries have reached the target of 7 hl/hl, an even lower target will be set for the years ahead.

Specific water consumption at our maltings was reduced from 5.6 m³/tonne in 2000 to 5.0 m³/tonne in 2001. Our malting in Bulgaria, where water-savings have been achieved in the steeping process, accounted for a large proportion of this improvement. Specific water consumption for soft-drink production remained fairly constant at 3.6 hl/hl.

Malting



Europe



*ŻYWIEC BREWERY POLAND
STANISLAW CZERWONIAK
SAFETY COORDINATOR*



Safety



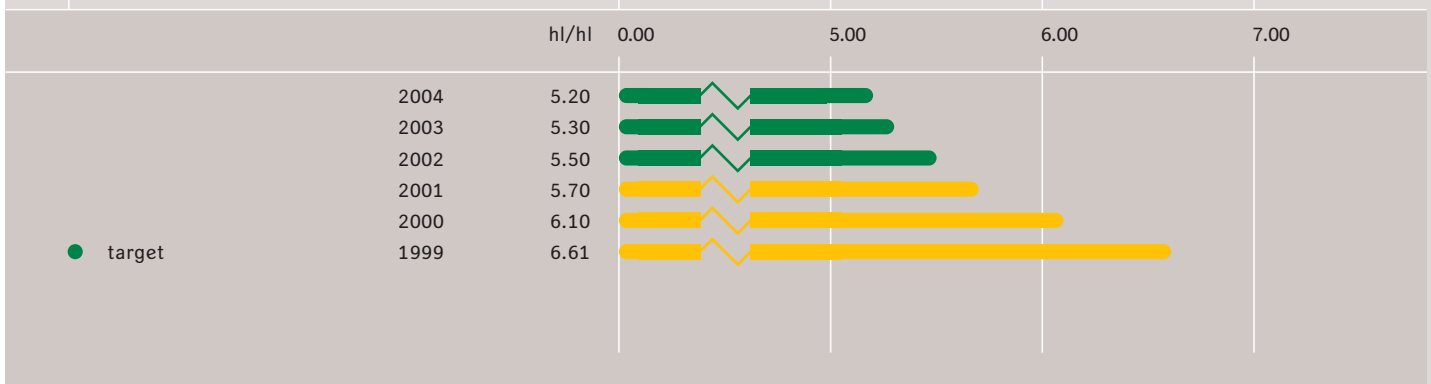
6.4.1 Waste water

Part of the water used by our production facilities is converted into beer and soft drinks. The rest is discharged as waste water and contains organic materials, the concentration of which is expressed by the chemical oxygen demand (COD). The specific COD load ('specific' in the sense of 'per unit of product') is an internal parameter for the degree of waste water contamination before treatment. This parameter is determined by losses of product and by-products.

The specific COD load of the waste water discharged by our breweries decreased from 1.3 kg per hl of beer in 2000 to 1.2 kg in 2001. These reductions were achieved by various breweries through process improvements and by more accurate measurement of the degree of contamination. Process improvements at our breweries in Poland, for example, achieved substantial reductions in extract losses.

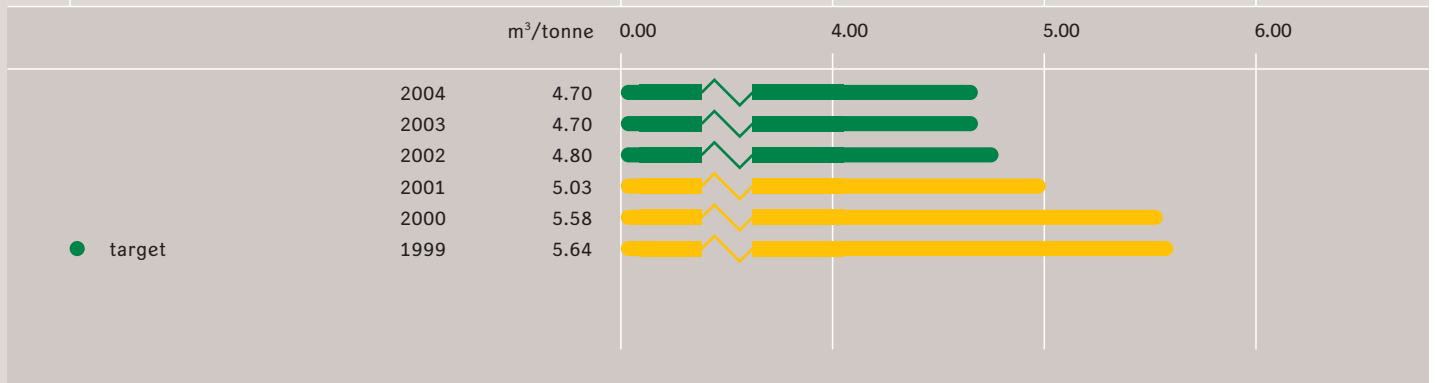
The specific COD load presented by the waste water discharged by our maltings decreased from 9.7 kg per tonne of malt in 2000 to 6.5 kg in 2001, reflecting improvements in the production processes achieved through more efficient monitoring and better analysis procedures. A new anaerobic waste-water treatment plant entered service at our brewery/malting in Seville (Spain) in 2001. The specific COD load for our soft-drink production units remained unchanged at 0.2 kg per hl of product. Some waste water is treated at on-site plants and some is treated externally. At 29 locations it is discharged into surface water without treatment. We are planning to build waste-water treatment plants at some 20 production locations in the years ahead. The effluent from our breweries, maltings and soft-drink production units (treated and untreated) which is discharged into surface water imposes a total COD load of 23,400 tonnes.

Specific water consumption – breweries



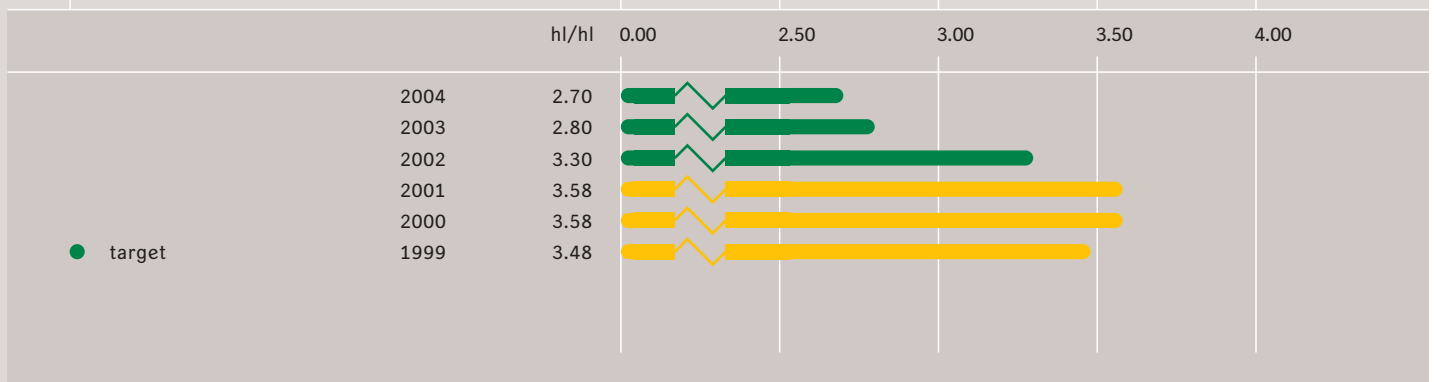
RESULTS

Specific water consumption – maltings



On-site treatment + discharged to surface water	24 locations
On-site (pre)treatment + external treatment	11 locations
External treatment	21 locations
No treatment/(in)direct discharge to surface water	29 locations
Total	85 locations

Specific water consumption – soft-drink plants



RESULTS

Specific electricity consumption – breweries



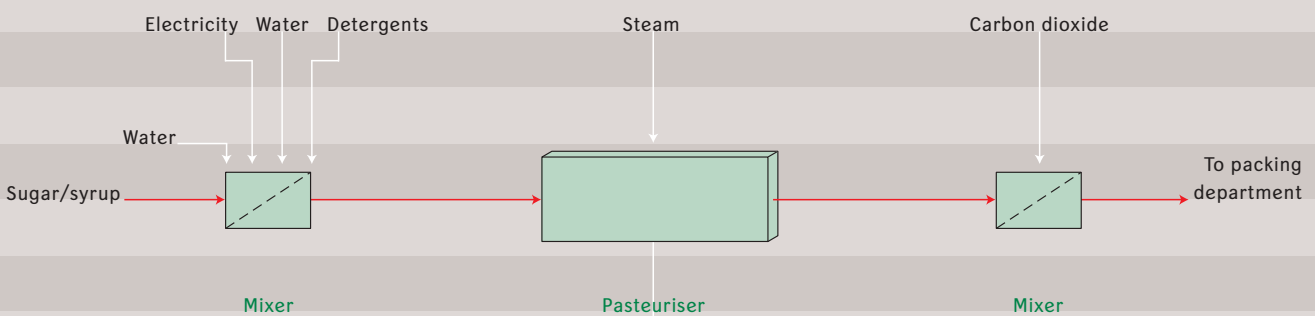
6.5 Electricity

Heineken uses electricity mainly for refrigeration, waste-water treatment, compressed air production, carbon dioxide recovery and liquefaction, powering production, office equipment and lighting.

Specific electricity consumption by Heineken’s breweries has remained more or less constant in the past two years, at 10.7 kWh per hl of beer in 2000 compared with 10.6 kWh in 2001. Savings can often be made when old equipment is replaced. For example, the replacement of an old keg-filling line in Warka (Poland) with a modern

Soft drinks

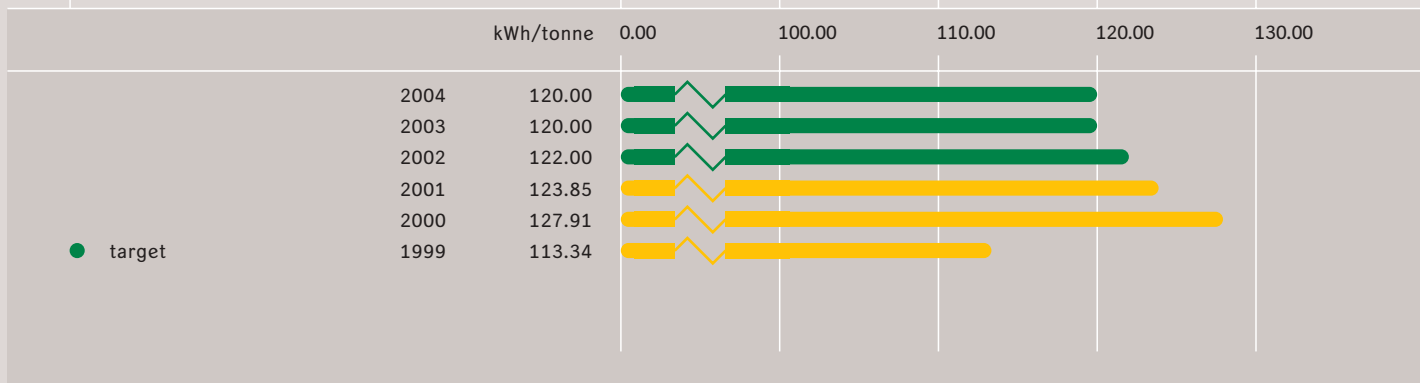
Inputs



Waste streams

Waste water

Specific electricity consumption – maltings



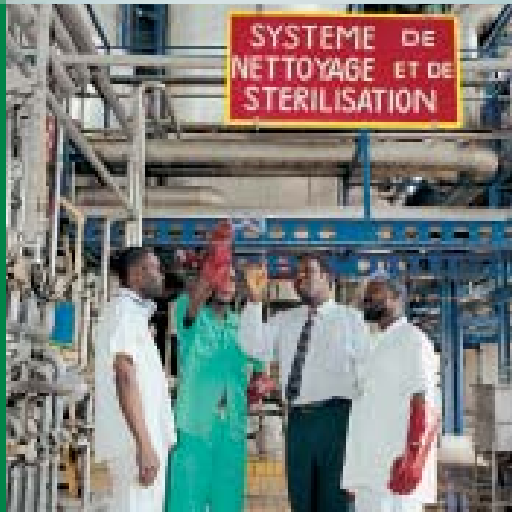
unit saved more than 1 kWh/hl. Electricity consumption has also been reduced in Lagos (Nigeria) and Singapore. In Lagos this was a result of the implementation of energy-saving plans and the introduction of low-energy equipment.

Specific electricity consumption has also declined at our maltings, from 127.9 kWh/ tonne in 2000 to 123.9 kWh/tonne in 2001, partly due to good housekeeping. Electricity consumption for soft-drink production has remained virtually constant at 4.6 kWh/hl.

Specific electricity consumption – soft-drink production



Africa



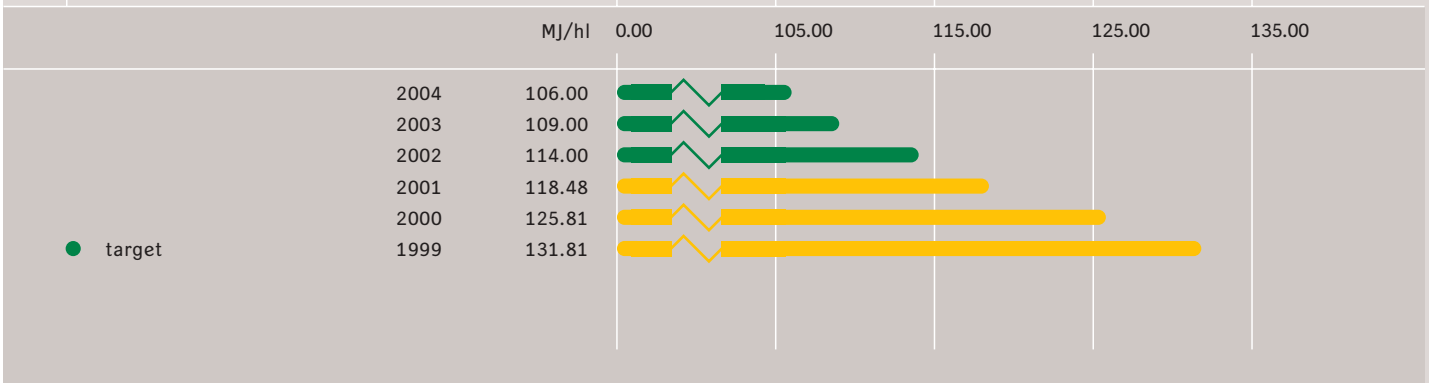
*BRASSERIES, LIMONADERIES
ET MALTERIES DU CONGO
DR KITENGE, PHYSICIAN*



Health



Specific thermal energy consumption – breweries



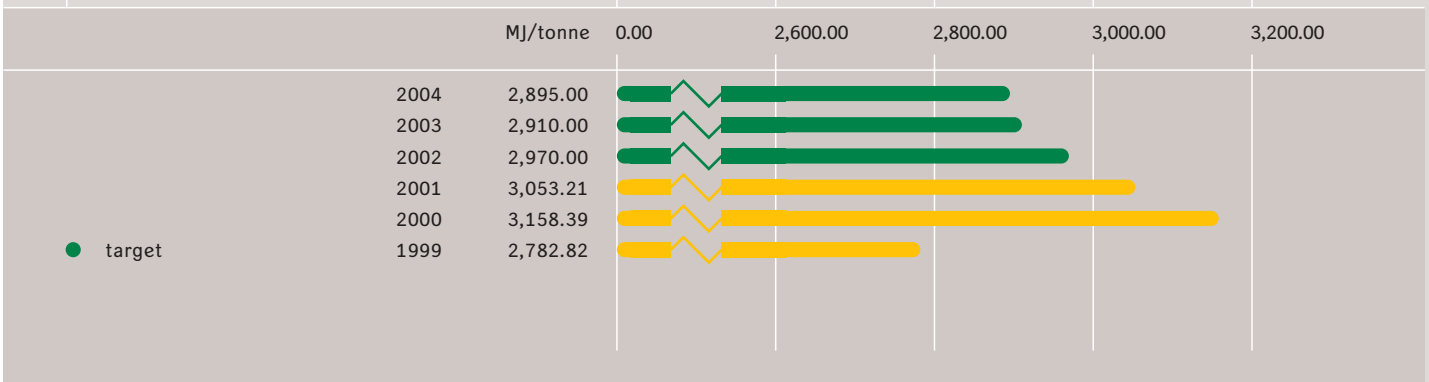
6.6 Thermal energy

Thermal energy is needed at various stages in the brewing process, mainly for boiling wort, washing bottles and pasteurisation. The heat is obtained from fossil fuels – chiefly from gas or oil and, in a few cases such as in China, from coal.

Specific thermal energy consumption by our breweries decreased by 7% in 2001, from 125.8 MJ/hl to 118.5 MJ/hl beer. Most of the savings were achieved by employing heat recovery methods, for example at St. Omer (France) where a thermal wort vapour compression system has entered service. Further more the switch from coal-firing to more efficient oil-firing (Poland) and introducing ‘good housekeeping’ measures (China) also contributed to the reduction.

Thermal energy is needed in maltings for kilning malt and in soft-drink plants for bottle-washing and pasteurisation. Specific heat consumption by our maltings decreased to 3,053 MJ/tonne in 2001, down 3% on the year before.

Specific thermal energy consumption – maltings





In Greece, for example, savings were made by controlling the process on the basis of heat demand. Specific thermal energy consumption at our soft-drink plants remained fairly constant, at 37.4 MJ/hl in 2000 and 38.1 MJ/hl in 2001.

6.7 Carbon dioxide

This is the first time Heineken has reported on carbon dioxide emission resulting from fossil fuel combustion at its sites. Fossil fuels are used mainly for heat generation, but at some plants they are also used to generate electricity. A small proportion is used for internal transport.

Specific carbon dioxide emission for 2001 was 8.3 kg/hl for our breweries, 2.4 kg/hl for our soft-drink plants and 168 kg/tonne for our maltings. While energy consumption has fallen, carbon dioxide emission has increased slightly, from 63 g/MJ to 68 g/MJ. This increase was due to change in energy usage. At the brewery, 's-Hertogenbosch (Netherlands), for example, additional gas had to be used to raise steam because less heat was supplied by the neighbouring combined heat and power plant.

6.8 Packaging

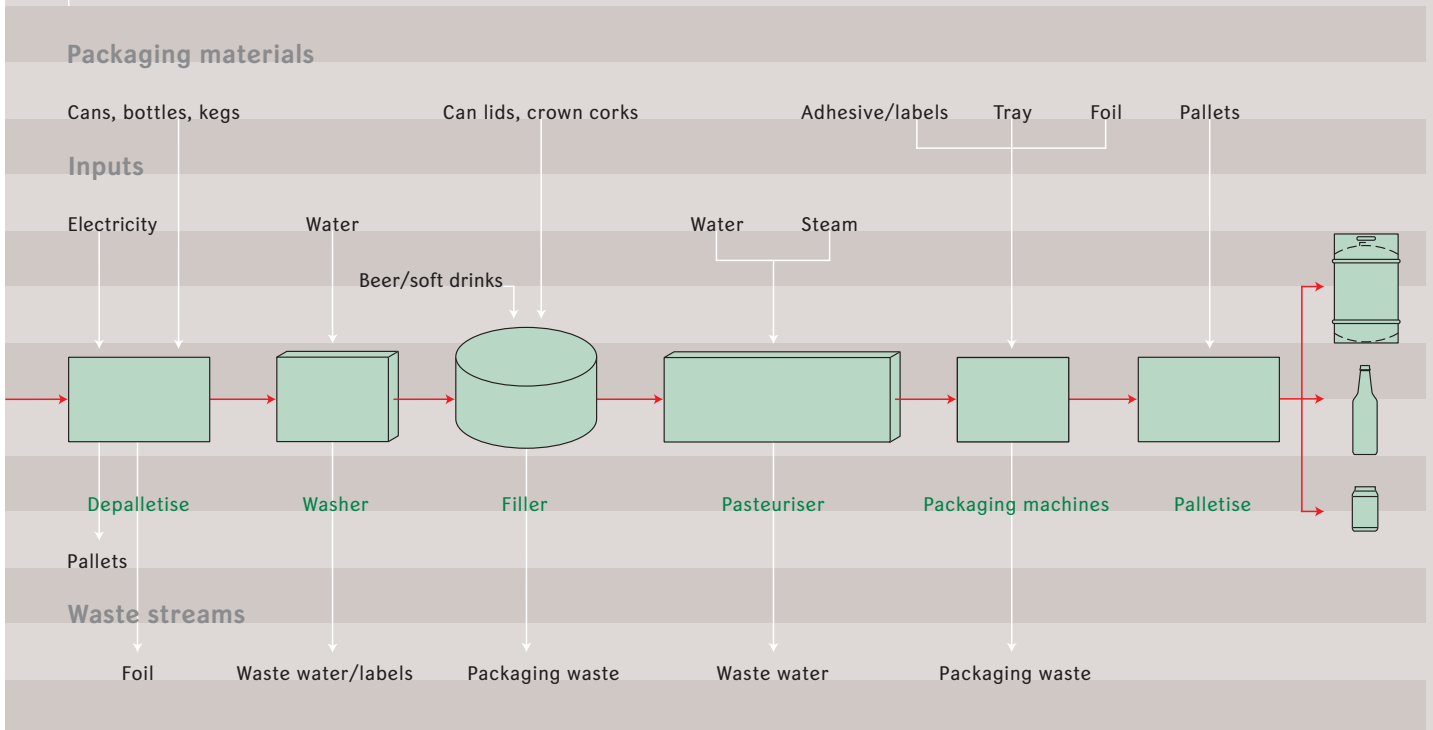
Revised packaging procurement standards have been introduced which seek to ensure the responsible use of materials, minimise environmental impact and restrict the use of heavy metals, PVC and other materials. PVC is no longer used in standard crown cork closures in the Netherlands, France, Switzerland, Italy and Greece.

Packaging choices (one-way bottles, returnable bottles, cans or PET bottles) are made at national level, in consultation with public authorities, wholesalers, producers and consumers. Heineken is developing and/or assisting in the development of new packaging concepts, many of which are tested for environmental acceptability by means of

life-cycle assessments. Material usage can be reduced, for example, by applying process control at our suppliers' premises and wastage can be minimised by avoiding potential problems. Working with our suppliers, we have been able to reduce the thickness of steel used in crown cork closures, achieving a material saving of 13% in three years. The packaging waste generated at our production facilities is collected separately and recycled as much as possible. By these efforts, we have succeeded in reducing the volume of waste at our Schiltigheim plant in France by a factor of seven since 1993. Similar programmes were initiated at our plants in Mons-en-Baroeul and Marseilles (France) in 2000.

We are also helping to find solutions to the problem of post-consumer waste. We encourage recycling through optimum packaging design and appropriate choice of materials. Clear disposal instructions are printed on our packaging to reduce litter. Wherever possible, we take direct action and support the activities of national and local organisations. For example, we have placed waste containers at a number of beaches in the Netherlands, at holiday resorts in France and at large stores in New Caledonia. Although we have no internal information on how our packaging materials are disposed of in the market, the industry-wide figures presented on the next page show the packaging material mix and the recycling percentages.

Packaging



Beer production/consumption analysed by type of packaging 2001

Country	Keg %	Returnable bottle %	One-way bottle %	Can %	Total %
Belgium	39.6	46.9	2.2	11.4	100
France	23.3	11.5	56.0	9.2	100
Greece	4.0	73.0	3.0	20.0	100
Ireland	78.0	4.2	3.4	14.4	100
Italy	17.6	12.0	62.0	8.4	100
Netherlands	31.0	57.0	–	12.0*	100
Spain	33.2	28.9	23.1	14.8	100
Switzerland	33.2	34.8	24.1	7.9	100
United Kingdom	61.7	1.5	10.9	25.9	100

* including one-way bottle

Source: CBMC Statistics 2001

No data available for Bulgaria, Hungary, Poland, Macedonia and Slovakia

Post-consumer recycling

Country		%
Belgium	B	78
France	F	50
Greece	GR	33
Ireland	IRL	21
Italy	I	36
Netherlands	NL	63
Spain	E	23
United Kingdom	UK	26

Source: PRO Europe, September 2001, supplemented by Heineken data

No data available for Bulgaria, Hungary, Poland, Macedonia, Slovakia and Switzerland

Caribbean



ANTILLIAANSE BROUWERIJ N.V.
ELDRID CAROLINA
ENVIRONMENTAL COORDINATOR



Environment





LIGHTWEIGHT PACKAGING REDUCING THE AMOUNT OF MATERIAL USED FOR PACKING BEER IS THE GOAL OF OUR 'LIGHTWEIGHTING' PROJECT, WHICH IS REPEATED APPROXIMATELY EVERY FIVE YEARS TO SUSTAIN A CONTINUOUS PROCESS OF IMPROVEMENT. IN RECENT YEARS HEINEKEN HAS TAKEN THE LEAD IN REDUCING THE AMOUNT OF GLASS USED IN BEER BOTTLES, WITH THE DEVELOPMENT OF A NEW LIGHTWEIGHT ONE-WAY BOTTLE WHICH IS JUST AS STRONG AS OUR EXISTING BOTTLES, BUT AROUND 10% LIGHTER. AS WELL AS SAVING MATERIALS, THE NEW BOTTLE ALSO SAVES ON TRANSPORT COSTS. TWO OF THE NEW LIGHTWEIGHT BOTTLES WERE INTRODUCED AT THE END OF 2001 AND HEINEKEN NEDERLAND IS PLANNING TO INTRODUCE A THIRD NEW BOTTLE FOR EXPORT BEER IN 2003.

6.9 By-products and residual waste

By-products and waste materials are shown in the process flowcharts as waste streams. Between 90% and 95% of our by-products are recycled cost-effectively and with minimum environmental impact. Brewers grains and trub are used in animal feed, surplus yeast is used in the pharmaceutical industry and excess carbon dioxide from the fermentation process is used by other beverage producers.

By-products which cannot be used are designated as industrial waste, which is incinerated by local waste-processing facilities or is sent to landfill. In large parts of the world, however, opportunities for waste recycling are practically non-existent.

The industrial waste generated by Heineken decreased by several percent from 108,000 tonnes in 2000 to 101,000 tonnes in 2001. The regions outside Europe accounted for the bulk of this waste. The largest reduction from 2000 to 2001, amounting to over 6,000 tonnes, was recorded in Asia. In Papua New Guinea, for example, a local market was found in 2001 for part of the output of brewers grains, which until then had been sent to landfill, reducing the volume of industrial waste by around 3,000 tonnes. A reduction of 8.5 tonnes was achieved in Europe, due to more efficient separation of waste streams and the sale or closure of five plants. A waste separation programme was launched in Slovakia, designed to recover a higher percentage of recyclable waste, and a local market was found there for surplus yeast. Useful applications are also being found in the Netherlands for a growing number of waste products, including the sludge produced by the waste water-treatment plants. Almost all of the building waste generated by maintenance work in the Netherlands is recycled. A separate category of waste is formed by a small quantity of non-process-related hazardous waste, including batteries, used paint, fluorescent tubes and used oil.

6.10 Incidents

Despite our efforts to protect the environment, a number of incidents occurred in 2000 and 2001:

2000

- When, after complaining repeatedly about the discharge of waste water from the nearby brewery, the local community in Enugu (Nigeria) announced that it intended to take legal action, Heineken agreed to divert the waste water to a second, new brewery, which was then at the planning stage, for treatment at its waste-water treatment plant. Pending completion of the new brewery, close contact was maintained with the local community.
- In Lagos (Nigeria) a minister from a church close to the brewery complained that waste water was polluting his water source. A local independent environmental consultant retained by Heineken to investigate the situation found the minister's allegation to be incorrect, but advised that the waste water should be discharged at a different point. Since construction of a new water treatment plant is planned, this recommendation has not been taken up.
- In November, a storage tank being filled with sulphuric acid at Mons-en-Baroeul (France) overflowed because it was not fitted with a liquid level controller, allowing around 10 m³ of acid to enter the waste water stream. The authorities were notified immediately and there were no personal injuries or material damage. The tank in question has now been fitted with a level controller.

2007

- A storage tank for surplus yeast exploded at the brewery in Marseilles (France), causing only material damage.
- The Zoeterwoude (Netherlands) brewery twice exceeded the statutory limits for treated waste-water quality, due in part to problems with the anaerobic reactor at the treatment plant. These incidents were reported to the local authority.
- There was a fracture in the line carrying waste water from our 's-Hertogenbosch (Netherlands) brewery to the off-site treatment plant. The emergency procedure came into play immediately: a temporary repair was made to the pipe and the existing buffer capacity was used to store the waste water. Arrangements were then made with the water authority to deliver the waste water direct to the municipal treatment plant until a permanent repair could be effected.
- A quantity of boiler fuel was released into the waste-water stream as a result of a defective valve at our plant in Athens (Greece). The contaminated water was intercepted by the on-site treatment plant and the incident caused no environmental damage.
- The prescribed limits for treated waste-water quality were exceeded in Indonesia and the competent local authority was notified.

6.11 Preview

As mentioned above, we have set ourselves a number of targets for the period 2002-2003 which are consistent with our striving for continuous improvement of our safety, health and environmental policy. We plan to extend our safety policy to regions outside Europe and to apply the experience we have gained with our health policy in Africa to other regions. We also intend to launch an energy-efficiency improvement programme, based on the lessons we have learned from the Aware of Water programme.

We shall of course be reporting on activities within the framework of our responsibility management programme, which will address a number of socially relevant issues, supported by dialogue with stakeholders. One of the practical results of this programme will be the development of sustainability indicators for malting barley production.

Annexes

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1 Verification report by KPMG Sustainability

Introduction

We have been engaged by Heineken N.V. to perform specific procedures with respect to selected performance data in the 'Safety, Health, and Environment (SHE) Report 2000-2001' of Heineken N.V. The SHE Report 2000-2001 is the responsibility of the Management of Heineken N.V. Our responsibility is to issue this Verifiers report, detailing our findings resulting from the procedures performed.

Nature and scope of procedures performed

The objective of our engagement was to perform specific procedures as listed below. We performed our procedures based on the principles underpinning the International Standards on Auditing as issued by the International Federation of Accountants. As these procedures do not constitute an audit or review, this Verifiers Report does not provide assurance, except regarding the aspects examined by us, the findings on which are included in this report.

Procedures performed

We carried out the following procedures:

- 1 Examining, at corporate level, the internal reporting system used to collect, review and aggregate the 2000 and 2001 performance data from the production sites listed in Annexes 5 and 6, and the related internal controls.
- 2 Testing the aggregation process for the 2000 and 2001 environmental and safety performance data from the individual production sites listed in Annexes 5 and 6, to the totals presented in Annexes 3 and 4 and related graphs on pages 28 to 40 in chapter 6 of the SHE Report.
- 3 Selecting and visiting eleven of the production sites, listed on page 26 to assess the local reporting systems and the reliability of the selected performance data for 2000 and 2001. In 2001 and 2002 we visited sites in The Netherlands, Belgium, Greece, Poland, Slovakia, Italy, Spain, Indonesia, and Nigeria. Our assessment included the following environmental data: water, thermal energy, electricity, CO₂, hazardous and remaining waste, waste water quantity and COD. At the sites in Belgium, Slovakia, and Spain we also assessed the 2000 and 2001 safety data.
- 4 Examining whether the safety, health and environment information in the text of the SHE Report 2000-2001 is supported by underlying documentation at corporate level.

Considerations and limitations

Environmental data are subject to more inherent limitations than financial data given their nature and the determination methods used. It is important to view the 2000 and 2001 performance data in the context of the explanatory information in Annex 2.

Results of procedures performed

Based on the procedures performed, we reached the following conclusions, which should be read in conjunction with the limitations explained in Annex 2:

- 1 The internal reporting system and internal controls at corporate level provide a sound basis for collecting, reviewing and aggregating the environmental performance data from the production sites listed in Annexes 5 and 6. For safety data the reporting systems and validation procedures are in an early stage of implementation and need to be further developed.
- 2 The 2000 and 2001 environmental and safety performance data reported in Annexes 3 and 4 and related graphs on pages 28 to 40 in chapter 6 of the SHE Report have been correctly aggregated from the environmental and safety reports of the individual production sites. For safety data the application of the aggregation procedures needs to be further secured.
- 3 The visits to the selected production sites resulted in a number of revisions to the reported performance data. After these revisions, nothing came to our attention that the selected 2001 performance data reported by these individual sites, contain material misstatements. Heineken has decided not to revise the 2000 performance data, but to indicate in the text of the SHE Report where errors in 2000 data influence the data trend.
- 4 The safety, health and environment information in the text of SHE Report 2000-2001 is supported by underlying documentation at corporate level.

Additional comments

We consider the extension of the SHE Report 2000-2001 to cover Heineken's global production locations for the environmental data and the start made with reporting health and safety information as major steps forward in their public reporting. Also, we are pleased that Heineken has started communicating how they respond to their social responsibility by presenting the responsibility management programme. Heineken has planned to extend health and safety reporting to the other geographical regions in the next report. We have recommended to Heineken to further extend health and safety reporting to cover non-production activities and to provide more details in the next report on related safety, health and environment issues in the supply chain.

KPMG Business Advisory Services B.V.
Amsterdam, 28 June 2002

Basis of reporting

Scope

The safety and environmental figures presented in this report relate to the years 1999, 2000 and 2001 for the production units of the Heineken operating companies and participating interests which are included in the consolidated financial statements (see Annexes 5 and 6), except for Thai Asia Pacific Brewery whose production units are included in the SHE report.

The safety figures relate only to the European region. 'Production units' means breweries, maltings and soft-drink plants and combinations of these. Where soft drinks account for less than 10% of a brewery's total production volume, the performance data relating to soft drinks are included in the brewery's data. The figures do not include distribution departments which are not located at production sites nor do they include corporate offices. The volume figures presented in this report, based on production, may differ slightly from the figures presented in Heineken's financial report, which are based on sales. This difference is accounted for by exports and the volume produced under licence.

Reporting systems

The breweries report environmental data to the Brewery Comparison System (BCS) and the maltings report information on their water, electricity and thermal energy consumption to the Malting Comparison System (MCS). Both systems are managed centrally by Corporate Production Policy & Control (abbreviated to Corporate Production). The other environmental data for maltings and soft-drink plants are recorded by local systems. Safety data are still recorded at local level at present, but the BCS will be modified in 2002 to include the relevant safety parameters.

Reporting is in accordance with the instructions and definitions issued by Corporate Production, using report forms provided by that department. Since 2001, all production units have used the standard report form. Newly acquired production units are linked into this reporting system as soon as possible, so that data collection can start without delay. Information on these units for their first reporting year can be found in Annexes 4 and 5. The individual safety and environmental reports by the production units were validated by Heineken Technical Services safety and environmental experts, who checked the completeness and accuracy of the reported data and assessed the basis of the changes, with a view to improving the quality of the data and the information provided. A selection of the checked and aggregated data was then verified by KPMG Sustainability.

Safety reporting

The safety reporting system is used by the production units to record accidents at their locations and report on the consequences for both their own staff and contractors' personnel, as the basis for accident-prevention measures. Corporate Production has

defined four parameters which must be reported at local level, to serve as the basis for measuring the results achieved by each production unit of our breweries, maltings and soft-drink plants. These results are expressed in two performance indicators.

Safety parameters and indicators

Parameters

Fatal accidents	own staff and contractors' personnel
-----------------	--------------------------------------

Accidents resulting in disability	own staff
-----------------------------------	-----------

Lost day cases	own staff and contractors' personnel
----------------	--------------------------------------

Lost days	own staff, in calendar days
-----------	-----------------------------

Performance indicators

Accident frequency	own staff, number of accidents resulting in lost days per 100 full-time equivalents
--------------------	---

Accident severity	own staff, lost days per 100 full-time equivalents
-------------------	--

Traffic accidents involving employees travelling on Heineken's behalf are also included in the reported figures. Accidents travelling to or from work are not included, unless required by law, as is the case in some countries.

Environmental reporting

The purpose of environmental reporting is to clarify the environmental effects of producing malt, beer and soft drinks at our production locations. These effects include depletion of resources, atmospheric emissions, discharge of treated and untreated waste water, waste disposal and nuisance. To measure the results achieved in these areas, Corporate Production has defined a number of parameters for our breweries, maltings and soft-drink plants. Performance is measured in terms of production, expressed in hectolitres of beer or soft drinks or tonnes of malt, to facilitate comparison of the results.

Environmental performance parameters

Water	Water consumption and amount of waste water discharge
Waste-water quality	Organic content in effluent after treatment. Amount of suspended solids, nitrogen and phosphorus in the waste water
Energy consumption	Consumption of electricity and heat
Atmospheric emissions	Emissions of CO ₂ , NO _x , SO _x ; refrigerants (CFCs and (H)CFCs, NH ₃) that are in use and have been lost; halons that are in use and have been lost
Solid waste	Hazardous waste, waste-water treatment sludge, residual industrial waste
Nuisance	Number of complaints

Limitations

The reliability of the data is subject to certain limitations, despite the fact that the safety and environmental experts at our production units have reported to the best of their knowledge, in good faith and in accordance with agreed procedures and their figures have been validated by the Heineken Technical Services unit. Heineken is continuing to work on formulating and applying uniform definitions and instructions for reporting purposes, in order to improve the accuracy and comparability of the data.

Definitions

Differences in the interpretation of definitions have occurred in some cases. On the basis of our internal validation findings, we do not expect these differences at the aggregated level to be greater than $\pm 5\%$. The definitions of effluent and waste-water treatment sludge volume have been revised in 2001 (see environment report).

Completeness

Reporting was late, incomplete or not received at all in some cases. In order to provide a realistic representation of total Heineken's environmental impact, the missing data have been estimated in accordance with our internal procedures. Some data have been estimated by our operating companies. It is not always known to corporate office in which cases this has been done.

Accuracy

The accuracy of the data depends on the method of measurement, the calculation procedure and whether estimates have been used. Sampling method and frequency can also affect accuracy.

Because Heineken did not start recording accidents involving contractors until 2000, estimates had to be made for 1999. In the case of some multi-purpose production units (for example, breweries incorporating soft-drink plants), total figures for such parameters as energy consumption and waste water volume have been allocated on the basis of estimates. Because the COD, nitrogen and phosphorus contents and concentration of suspended solids are not measured or are not measured at the same frequency by all production units, they have had to be estimated in many cases. The quantity of refrigerant is difficult to establish because it is used in dynamic systems in which it can occur in both the liquid and gaseous phases. Refrigerant losses are determined on the basis of the quantities added to replenish systems, which is less accurate than direct measurement of actual losses (systems are not topped-up at regular intervals and may be replenished one year and not another, giving rise to variations in the reported data). Where (H)CFCs are used in air-conditioning systems in non-production departments, losses have in some cases been allocated to production. The volume of residual waste generated by production units outside Europe is estimated in many cases. At a number of production units, waste is removed from the site in containers of a given volume, and inaccuracies can arise in translating volume to weight. In the absence of local legislation in some countries outside Europe, the definition of hazardous waste is not always clear. In some cases, hazardous waste is safely recycled and is no longer designated as hazardous.

Comparability

After each reporting round, the safety and environmental data, measured as accurately as possible, are aggregated and presented in the SHE report. Where material errors have been found in the 2000 data, the aggregated data have not been revised. Where such errors affect trends, this is mentioned in the text or data table. The comparability of the data depends on the extent to which estimates have been used in determining the performance indicators. Where estimates have been used in interpreting trends, this is stated in Chapter 6.

Data overview – Europe

Absolute figures		Heineken Group			Breweries		
Environmental parameters	Unit	1999	2000	2001	1999	2000	2001
Production	hl	–	–	–	49,805,271	56,686,145	55,686,814
Production	tonne	–	–	–	–	–	–
Water	m ³	32,977,896	36,345,476	33,861,385	29,973,941	32,471,585	29,959,154
Waste water	m ³	24,120,088	26,934,468	25,831,306	22,229,386	23,728,044	22,633,491
Electricity	kWh	557,188,633	649,320,539	631,875,623	506,878,385	577,143,410	555,519,106
Thermal energy	MJ	7,008,344,895	8,176,508,317	7,681,314,837	6,048,027,819	6,667,010,874	6,088,212,679
CO ₂ emissions	kg	405,374,507	441,974,627	450,201,873	346,226,277	360,351,696	362,607,233
NO _x emissions ²	kg	458,287	857,276	466,843	413,234	632,228	410,156
SO _x emissions ²	kg	675,259	1,049,381	758,597	659,015	955,941	601,136
Organic content before treatment	kg COD	63,442,130	72,591,760	64,594,583	61,266,299	67,378,050	60,728,588
Organic content in effluent ¹	kg COD	–	–	4,784,300	–	–	–
Nitrogen content in effluent ¹	kgN	–	–	218,544	–	–	–
Phosphate content in effluent ¹	kgP	–	–	112,331	–	–	–
Suspended solids in effluent ¹	kg d.m.	–	–	1,202,631	–	–	–
Hazardous waste	kg	581,191	648,286	506,655	–	–	–
Treatment sludge	kg d.m.	6,495,503	10,690,418	4,718,513	–	–	–
Residual waste	kg	35,486,652	28,574,792	19,916,221	–	–	–
NH ₃ in use	kg	482,995	523,985	497,394	–	–	–
NH ₃ losses	kg	60,165	73,384	44,175	–	–	–
(H)CFC in use	kg	15,340	17,660	16,360	–	–	–
(H)CFC losses	kg	798	1,760	1,204	–	–	–
Halons in use	kg	7,024	6,112	5,913	–	–	–
Complaints	number	103	71	91	–	–	–

Specific figures		Breweries					
Environmental parameters	Unit	1999	2000	2001	2002 ³	2003 ³	2004 ³
Water	hl/hl	6.02	5.73	5.38	5.28	5.13	5.06
Electricity	kWh/hl	10.18	10.18	9.98	9.60	9.44	9.31
Thermal energy	MJ/hl	121.43	117.61	109.33	106.60	102.80	100.20

Specific figures		Maltings					
Environmental parameters	Unit	1999	2000	2001	2002 ³	2003 ³	2004 ³
Water	m ³ /tonne	5.61	5.56	5.00	4.75	4.69	4.65
Electricity	kWh/tonne	112.92	127.69	123.58	121.80	120.00	119.60
Thermal energy	MJ/tonne	2,771.25	3,152.28	3,045.57	2,960.00	2,903.00	2,888.00

¹ Discharged into surface water² Because significant errors were found in the SO_x and NO_x data for two production units (Seville and Chirpan) in 2000, the increase/decrease in the figures does not reflect operational changes³ Target

Data overview – world

Absolute figures		Heineken Group			Breweries		
Environmental parameters	Unit	1999	2000	2001	1999	2000	2001
Production	hl	–	–	–	63,150,688	71,116,604	71,209,200
Production	tonne	–	–	–	–	–	–
Water	m ³	45,640,104	48,121,031	45,229,436	41,764,690	43,383,704	40,623,064
Waste water	m ³	34,462,782	36,102,081	34,504,940	31,325,047	32,203,155	30,750,039
Electricity	kWh	754,241,968	848,913,095	839,239,835	691,787,036	763,214,917	751,531,996
Thermal energy	MJ	9,386,487,352	10,558,829,556	10,126,801,216	8,323,630,490	8,947,476,854	8,436,671,278
CO ₂ emissions	kg	617,822,954	659,878,522	683,982,545	554,752,558	570,829,233	589,068,816
NO _x emissions ²	kg	622,891	1,025,689	646,504	569,616	794,837	584,278
SO _x emissions ²	kg	2,460,752	2,376,098	2,093,359	2,283,492	2,223,110	1,877,834
Organic content before treatment	kg COD	88,970,265	99,462,512	92,723,782	86,098,343	93,604,843	88,337,153
Organic content in effluent ¹	kg COD	–	–	23,381,296	–	–	–
Nitrogen content in effluent ¹	kgN	–	–	769,605	–	–	–
Phosphate content in effluent ¹	kgP	–	–	395,236	–	–	–
Suspended solids in effluent ¹	kg d.m.	–	–	5,177,366	–	–	–
Hazardous waste	kg	747,121	803,982	675,089	–	–	–
Treatment sludge	kg d.m.	9,154,723	13,377,979	8,094,234	–	–	–
Residual waste	kg	109,924,091	107,632,727	101,067,100	–	–	–
NH ₃ in use	kg	626,866	667,388	633,734	–	–	–
NH ₃ losses	kg	86,353	97,917	70,079	–	–	–
(H)CFC in use	kg	31,596	33,636	33,086	–	–	–
(H)CFC losses	kg	14,514	9,078	9,687	–	–	–
Halons in use	kg	13,468	12,631	10,592	–	–	–
Complaints	number	172	144	133	–	–	–

Specific figures		Breweries					
Environmental parameters	Unit	1999	2000	2001	2002 ³	2003 ³	2004 ³
Water	hl/hl	6.61	6.10	5.70	5.50	5.30	5.20
Electricity	kWh/hl	10.95	10.73	10.55	10.10	9.80	9.60
Thermal energy	MJ/hl	131.81	125.81	118.48	114.00	109.00	106.00

Specific figures		Maltings					
Environmental parameters	Unit	1999	2000	2001	2002 ³	2003 ³	2004 ³
Water	m ³ /tonne	5.64	5.58	5.03	4.80	4.70	4.70
Electricity	kWh/tonne	113.34	127.91	123.85	122.00	120.00	120.00
Thermal energy	MJ/tonne	2,782.82	3,158.39	3,053.21	2,970.00	2,910.00	2,895.00

¹ Discharged into surface water² Because significant errors were found in the SO_x and NO_x data for two production units (Seville and Chirpan) in 2000, the increase/decrease in the figures does not reflect operational changes³ Target

Operating companies in Europe

Position as at 2001

Breweries	Country	Breweries	Data included from
Affligem Brouwerij BDS	Belgium	1	2000
Amstel Brewery Hungary	Hungary	1	
Ariana	Bulgaria	1	
Athenian Brewery	Greece	3	
Heineken España	Spain	5	3 in 2000
Heineken Ireland	Ireland	1	
Heineken Italia	Italy	6	
Heineken Nederland	Netherlands	4	
Heineken Slovensko	Slovakia	4	2 in 2000
Heineken Switzerland	Switzerland	2	
Pivara Skopje	Macedonia	1	
Sogebra	France	5	
Zagorka	Bulgaria	1	
Żywiec Group	Poland	6	

Maltings	Country	Plants	Data included from
Athenian Brewery	Greece	2	
Heineken España	Spain	1	2000
Heineken Slovensko	Slovakia	3	1 in 2000
Mouterij Albert	Belgium	1	
Pivara Skopje	Macedonia	1	
Sogebra	France	1	
Zagorka	Bulgaria	1	2000

Mineral water plants	Country	Plants	Data included from
Athenian Brewery	Greece	1	

Soft-drink plants	Country	Plants	Data included from
Pivara Skopje	Macedonia	1	
Vrumona	Netherlands	1	

Operating companies outside Europe

Position as at 2001

Breweries	Country	Breweries	Data included from
Antilliaanse Brouwerij	Netherlands Antilles	1	
Asia Pacific Breweries Singapore	Singapore	1	
Bralima	Democratic Republic of Congo	4	
Bralirwa	Rwanda	1	
Brarudi	Burundi	2	
Brasseries de Bourbon	Réunion	1	
Brasseries du Congo	Congo	2	
Brasseries du Logone	Chad	1	
Brasserie Lorraine	Martinique	1	
Cambodia Brewery	Cambodia	1	
Commonwealth Brewery	Bahamas	1	
DB Group Ltd.	New Zealand	4	
Ghana Breweries	Ghana	2	
Grande Brasseries de Nouvelle Calédonie	New Caledonia	1	
Hainan Asia Pacific Brewery	China	1	
Multi Bintang Indonesia	Indonesia	2	
Nigerian Breweries	Nigeria	5	
Shanghai Asia Pacific Brewery	China	1	
South Pacific Breweries	Papua New Guinea	2	
Surinaamse Brouwerij	Surinam	1	
Thai Asia Pacific Brewery	Thailand	1	
Vietnam Brewery	Vietnam	1	
Windward & Leeward Brewery	St. Lucia	1	

Maltings	Country	Plants	Data included from
Nigerian Breweries	Nigeria	1	

Soft-drink plants	Country	Plants	Data included from
Bralima	Democratic Republic of Congo	5	
Bralirwa	Rwanda	1	
Brarudi	Burundi	1	
Brasseries de Bourbon	Réunion	1	
Brasseries du Congo	Congo	2	
Brasserie Lorraine	Martinique	1	
DB Breweries	New Zealand	1	
Grande Brasseries de Nouvelle Calédonie	New Caledonia	1	
Nigerian Breweries	Nigeria	3	
South Pacific Brewery	Papua New Guinea	2	

Glossary

BCS	Brewery Comparison System, the reporting system by which the environmental parameters for the Heineken production units are recorded
COD	Chemical oxygen demand, a measure of the content of organic matter in waste water
Eco-efficiency	The optimum use of raw materials from the environmental viewpoint
FTE	Full-time equivalent
GRI	Global Reporting Initiative, an initiative designed to introduce greater uniformity to companies' environmental and sustainability reporting
HAART	Highly active anti-retroviral therapy
(H)CFC	Halogenated chlorofluorocarbon
Heineken University	The training facility for Heineken staff
hl	hectolitres
ISO	International Standardisation Organisation
Kieselguhr	A chalk-like filter material consisting mainly of the ground remains of prehistoric unicellular marine algae
kWh	Kilowatt hour
MJ	Megajoule
PET	Polyethylene terephthalate
PVC	Polyvinyl chloride
Supply chain	The product chain from raw material to end-product
SHE	Safety, health and the environment
Wort	A sugar-containing liquid produced by dissolving malt in water under the influence of heat