



*Water - the challenges  
for the future*



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SABMiller is one of the world's leading brewers with brewing interests or major distribution agreements in over 60 countries across six continents. We produce a portfolio of over 200 brands, six of which are in the world's top 50 beer brands. Last year we brewed 216 million hectolitres of beer and we are also one of the largest bottlers of Coca-Cola products in the world.

**Historically our approach** to water issues has been focused on efficiency in the production process, but more recently we have broadened our scope to include our wider responsibilities; from understanding how much water is used in the growing of our raw materials through to water availability in our local communities. We acknowledge that we must take a holistic approach to water management, in the context that many of our operations are in areas of water stress.

In brewing beer, our water consumption is more efficient than the United Nations Environmental Programme\* (UNEP) industry average of 5.0 hectolitres of water per hectolitre of beer. This has been the key water measure for the brewing industry. However, in a world facing global challenges such as the need to end poverty, address climate change and work within the finite limits of the planet's natural resources, it is now time to look at our total water footprint as well as our own production efficiencies. We would also like to explore the widespread use of another yardstick – that is, what the efficiency measure would look like taking into consideration the reuse of waste water post the beverage production process.

### Water consumption in the value chain

We use water in our operations but water is also used in our value chain. For example how much water is used for growing crops and in packaging production? Just as importantly, what responsibilities should we take for that use? We are at the beginning of an exercise to understand our water footprint beyond the brewing process and believe that many other companies are similarly positioned. There is much the industry, NGOs and the environmental community can do to debate the complexities of water consumption and agree some solutions from a water cycle perspective.

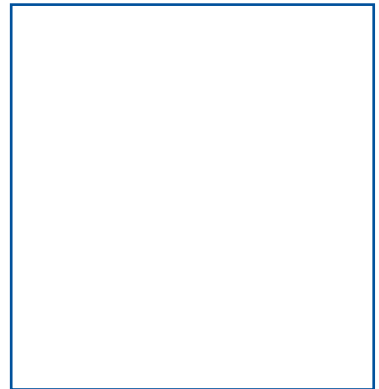


We find ourselves asking some fundamental questions and these are questions that we cannot answer alone. The purpose of this report is to present where our thinking is on water resources and to share some of the questions and issues where we, and in our view, the industry, need to seek consensus.

Feedback, opinions and potential solutions to the challenges we articulate are welcome. Please get in touch with [david.grant@sabmiller.com](mailto:david.grant@sabmiller.com).



**Graham Mackay**  
Chief Executive



For many people water is readily available and relatively cheap, but for others it is an expensive, scarce resource. Industries such as ours, which depend on water quality and availability, have a particular responsibility to manage water effectively. We are focussing on water consumption both in the production process and within our supply chain.

Our operations have done a commendable job in consistently reducing water consumption in the brewing process year by year. Using more recycled water to wash crates and other cleaning processes, creating internal water reduction targets, good equipment maintenance and rationalising cleaning practices have all helped to reduce environmental and cost impacts.

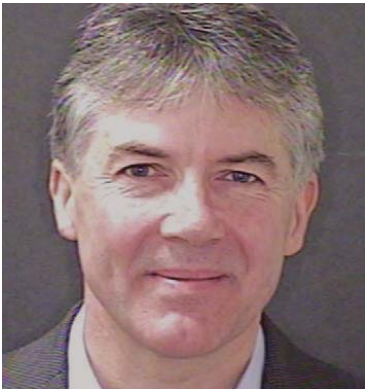
We have only recently begun to appreciate the intricacies of our broader water footprint and we are now moving towards a group-wide structured watershed mapping process to understand the water availability and quality across all our operations for future business planning.

If we are going to make a greater contribution to reduce the amount of water we use per litre of beer, we first need to understand the implications of our wider water footprint.

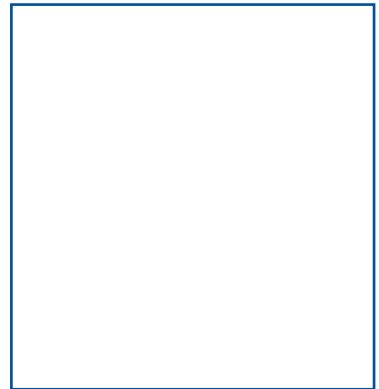
We anticipate that the quantity and quality of available water will move even higher up the environmental and business agenda over the next few years. We will not lose focus on reducing the amount of water needed to produce a unit of beer in the breweries but we will also work more closely with our supply chain and with our local communities to make a positive impact, particularly in Africa where the symptoms of climate change will be more keenly felt.

**Graham Mackay**  
Chief Executive of SABMiller plc

A handwritten signature in brown ink, appearing to read 'G Mackay', located below the printed name and title.



**Neil MacGilp**  
Technical Director



Conservation of water is one critical element of SABMiller's commitment to deliver best in class performance within our sustainable development framework. With over 160 brewing operations across all populated continents, many in regions where rainfall is low in comparison with population and industry demand, we have an unavoidable obligation to set water conservation right at the top of our global agenda. Indeed, a small number of our operations in Africa and India are already facing acute water shortages, due to a combination of factors, supporting our view of the importance of sound water resource management.

Internal benchmarking of our operations is now routine, and all aspects of water usage/reuse/recovery and waste throughout our processes, are regularly discussed among our global technical leaders to drive all operations to match the highest performance sites. In addition we are in close contact with global leaders in both academia and external industry to ensure we have early sight of emerging cutting-edge water conservation practice and techniques.

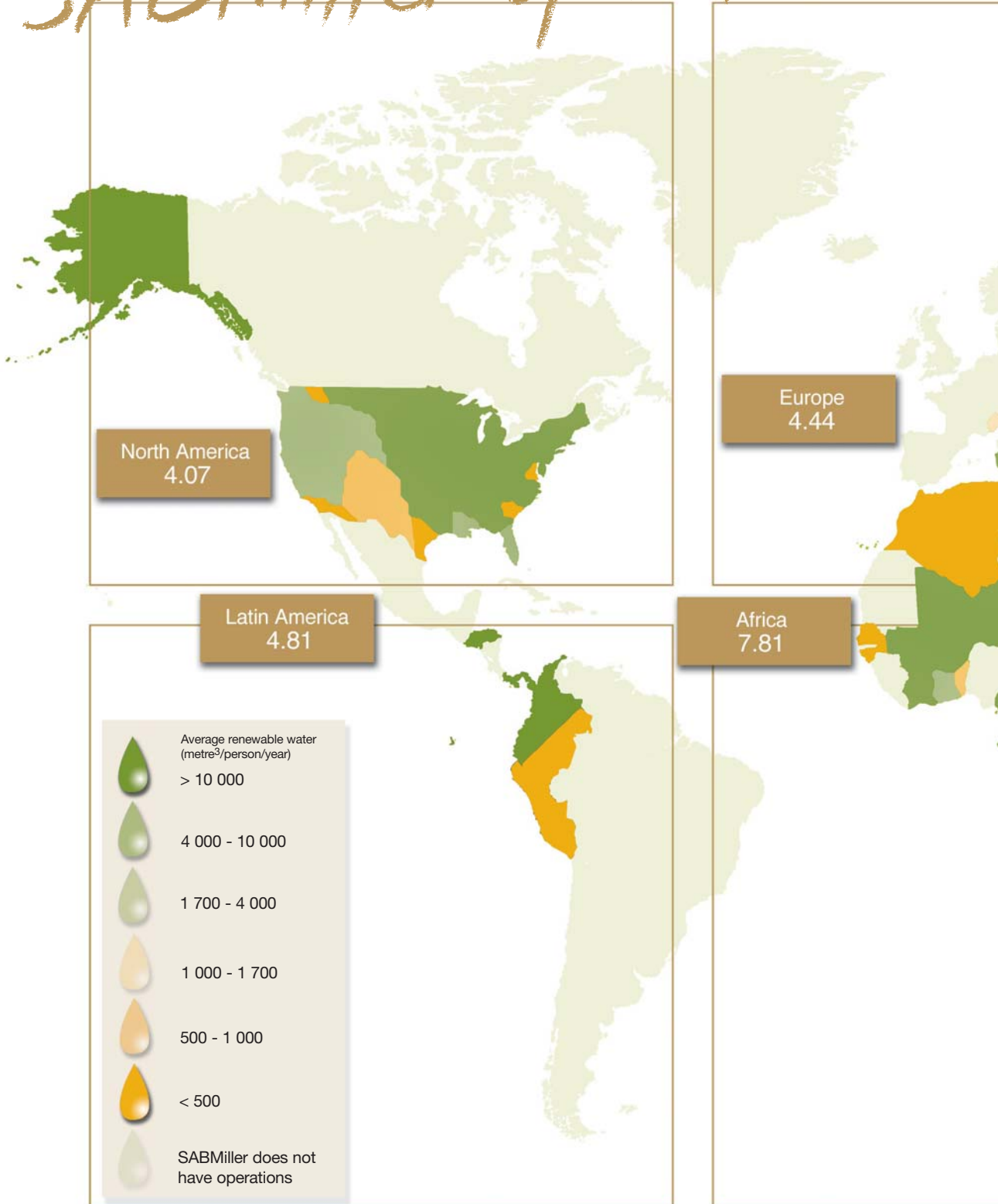
As this report indicates, we have many challenges with regards to continually improving our water resource management, including setting targets at operational and group levels.

We have a new self assessment management system which measures our operations' performance within our sustainable development priorities, including water management. Individual operations are measured on a four level stairway – from level 1 which represents a minimum standard to level 4 which is best in class. During 2007 and 2008 we will improve our learning from best practice around the group and investigate new water efficient technologies.

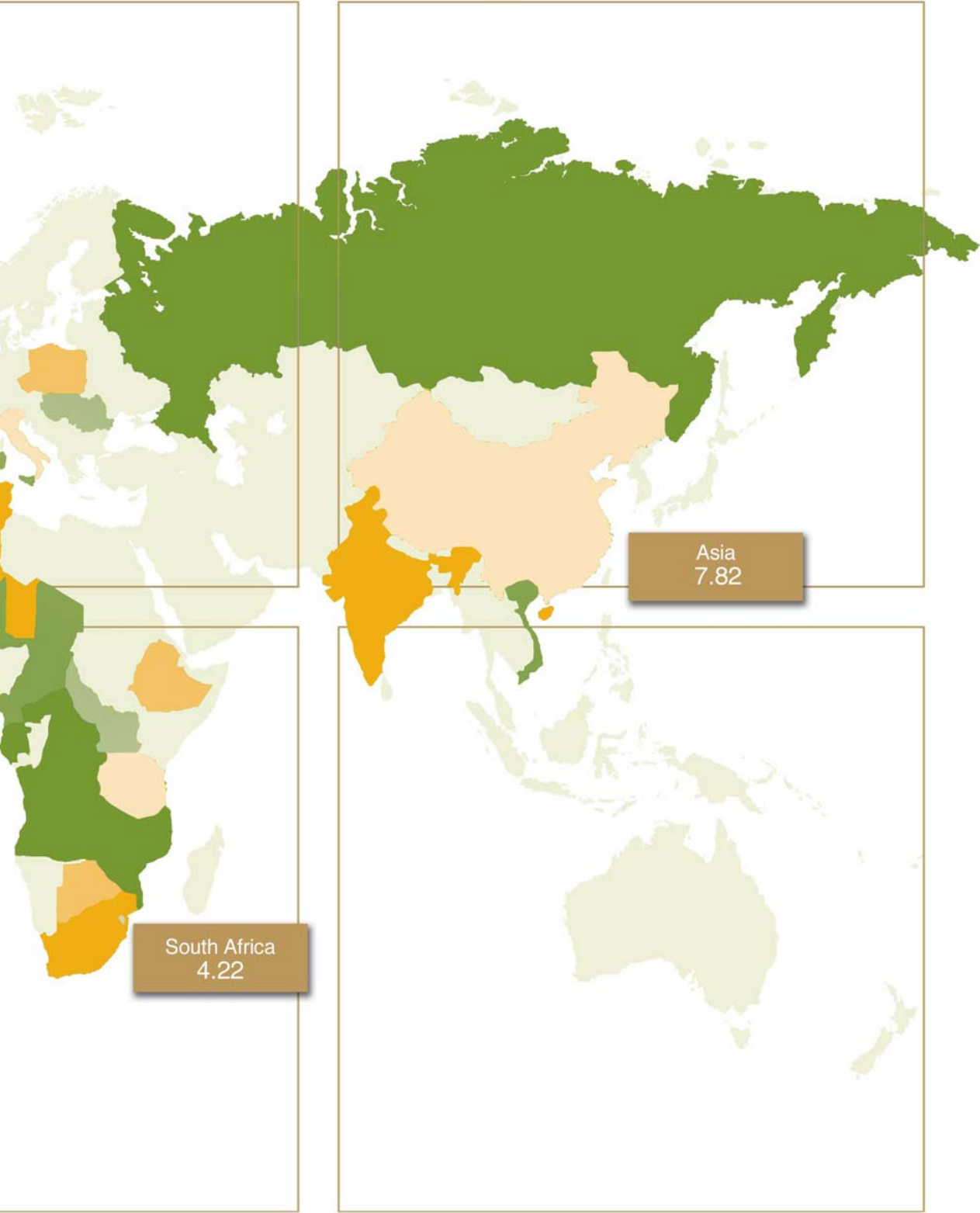
**Neil MacGilp**  
SABMiller Technical Director

A handwritten signature in dark ink, reading "Neil MacGilp". The signature is written in a cursive, slightly slanted style.

# SABMiller operations



Global map of SABMiller operations and regional water efficiency ratios (hectolitres of water used to produce a hectolitre of beer), highlighting countries with water vulnerability.



**Setting the scene** According to the World Business Council for Sustainable Development (WBCSD), less than 3% of the world's water is fresh. Of this 3%, over 2.5% is frozen in Antarctica, the Arctic and in glaciers. So only 0.5% is accessible for all our water needs.

Water stress is a term used when there is not enough water for agricultural, industrial and domestic use. The WBCSD suggests that when annual per capita renewable freshwater availability is less than 1,700 cubic metres, countries will suffer from occasional or persistent water stress. Below 1,000 cubic metres, water scarcity will seriously impact economic development and human health. Current estimates indicate that in less than 25 years, two thirds of the world's population will be living in water-stressed countries.

As many organisations researching and reporting on climate change believe that a degree of global warming is likely, even with future interventions from developed and developing countries, this prediction is likely to get worse. These organisations anticipate a range of other environmental impacts as a result of global warming, such as droughts and reduced crop yields, particularly in sub-Saharan Africa.

In agriculture the level of rainfall has a direct impact on the need for irrigation. In some developing countries, for example, irrigation can account for over 90% of water taken from natural resources. This compares to England where until recently, less than 1% of water for human usage was accounted for by agriculture. Across the world, 8% of water is used domestically, 22% by industry and 70% by agriculture.



As a company and as an industry – we have developed a unique understanding of water. Should we continue to principally focus on our operating efficiency? Or should we work with key partners along the entire value chain to find more ways to help us continue to prosper, whilst using this resource in a far more creative way? We need partners who are willing to engage with us and seek long term, creative partnerships that yield benefits for all involved.

## Operating in water stressed regions

A number of our production plants operate in regions that have been classified as having water stress (1,000–1,700 m<sup>3</sup>/capita/annum) or water scarcity (less than 1,000m<sup>3</sup>/capita/annum). The majority of these sites are in developing countries such as South Africa, Botswana, India and China, but also significantly in some European countries such as Italy and Poland.

The essential nature of water to health and economic development in the future is indicated by the fact that the Millennium Development Goals (MDGs) include targets to halve the proportion of the population who do not have access to drinking water and basic sanitation by 2015.

**Water within our sustainable development framework** In 2006 we completed a review of our corporate accountability policies and programmes to ensure that they were meeting the needs of the societies where we operate and of the business itself.

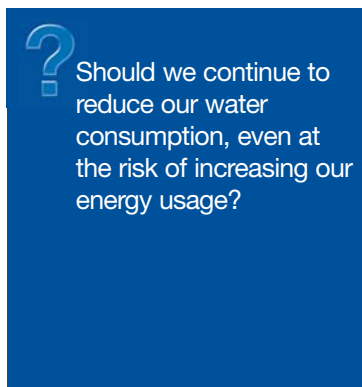
We have a long history of embracing social and environmental issues so our review was a fine-tuning rather than an overhaul of our policies and practices. We wanted a robust framework to ensure consistency from our operations from a sustainable development point of view, recognising the benefits of local empowerment and of local cultures.

The result was a new framework which encompasses 10 social and environmental priorities. The framework outlines the priorities in the context of the issues themselves as well as how they are relevant to our operations. Each priority is supplemented by a position paper and the one on water is detailed at the end of this report. More information on all our priorities can be found in the 'Our responsibility' section at [www.sabmiller.com](http://www.sabmiller.com)

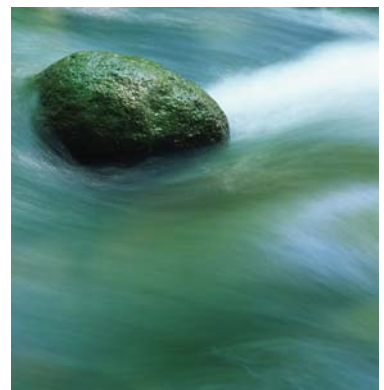
We have also developed a self-assessment process for the individual operations to measure themselves against these 10 priorities. This was trialled in 2006 and has been launched in 2007. The expectation is that we will have more accurate, consistent data across the group so we can better understand the performance and importance of each priority in each market. This will enable us to manage future targets as part of our overall business plans.

### **The need to make more beer but use less water**

The availability of water as an accessible natural resource and the cost to clean waste water have combined to ensure that we have continually sought ways of reducing



Should we continue to reduce our water consumption, even at the risk of increasing our energy usage?



the use of water. In 2005 we used 4.75 hectolitres of water for each hectolitre of beer, in 2006 this ratio was 4.60:1 and in 2007 we achieved 4.56:1. We will continue to seek to reduce this ratio, particularly in breweries where equipment is being renewed and where we can benefit from greater efficiencies.

However we also need to assess the overall environmental impact. If we are reducing water consumption but increasing energy usage through new technology, this may have a neutral or even negative environmental impact. When water use efficiencies are improved radically, the more concentrated waste water has to be cleaned more thoroughly before reuse or discharge, requiring more energy intensive equipment.

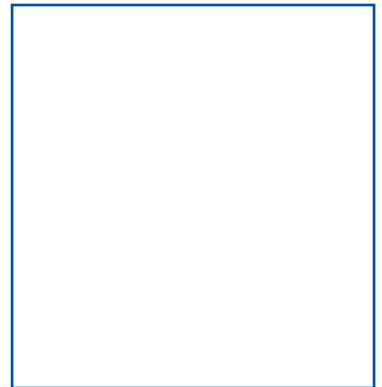
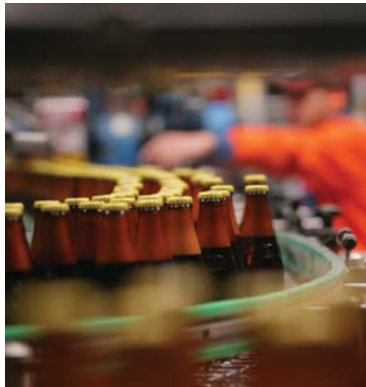
As another example, if we used 'dry' cooling systems instead of evaporative cooling systems in the refrigeration plant, we could save up to 0.38 hectolitres of water per hectolitre of beer produced. However, the 'dry'

cooling system is likely to use 25% more energy.

There are also other questions around water quality and quantity, including desalination. Where water quality is poor through contamination or where it is scarce, desalination could be a solution. However, there are economic, environmental and community factors which need to be balanced in the context of greater volumes and better quality water. The economic concerns are around the cost of equipment and energy. The environmental concerns arise from an increased carbon footprint from energy and the community factors concern the opportunity to alleviate poor water supply.

**Introducing water within the value chain** Throughout the length of our value chain we have a responsibility for the water used by our suppliers, in our breweries, producing packaging, and what we do with waste water.

The following pages provide a synopsis of our current actions and thinking, where we see our responsibilities and we also pose some questions about the challenges that we, and the industry, face on the various sections of the value chain.



**The water cycle at SABMiller** From focusing on water used in the brewing process, we are now developing a view of our total water footprint to understand our water consumption and whether it complements or clashes with our other priorities such as reducing our energy and carbon footprint, reducing waste and encouraging community relationships.

## Watershed mapping

As part of our commitment to understand the wider water footprint, we are encouraging our operations to gather information on water availability and quality in the context of future requirements. We are also looking at the issues of irrigated crops, ground and surface water and rainfall harvesting and how these affect the business across the supply chain. There is some local knowledge but this awareness needs to be extended to all our operations and collated so that we have a group-wide perspective.

In Uganda, for example, our operations are conducting a five year forward looking assessment of water availability from Lake Victoria bearing in mind climatic projections and a planned dam building programme.

Miller in the US is working with water boards in a number of regions to develop long term plans to understand the future water supply.

Watershed mapping has been completed for three sites in India to quantify the risks associated with capacity expansion. The data will also be used to assess the opportunity to manage these watersheds for the long term sustainability of the community in partnership with other stakeholders.

Our operations in the Czech Republic are conducting long-term hydrogeological studies on the ground water use so that they can gain a clearer understanding of their impacts and consequent water management approach.



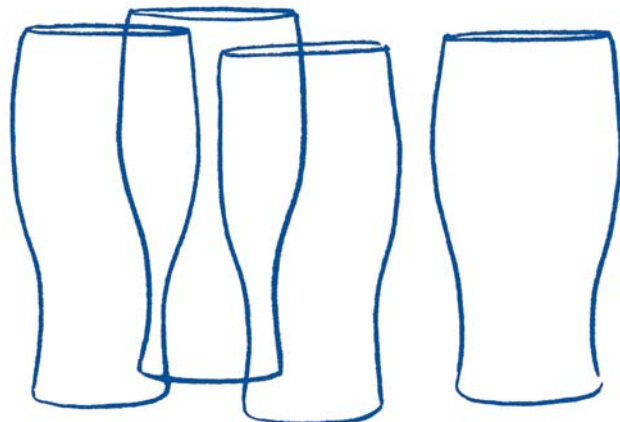
How important is watershed mapping? What is its contribution to understanding and managing water stress?



In South Africa, our beer and soft drinks operations are working with water Catchment Management Agencies (CMAs) in those catchments where we have operations. The CMAs have been established through a Department of Water Affairs and Forestry initiative which aims to map out future water demand and availability.

## SABMiller commitment

We are committed to sound water management practices throughout our global operations in a manner that takes account of local geographical, environmental and social factors.



**Supply chain relationships** Contrast the 4.56 hectolitres of water we use per hectolitre of beer we produce against our estimate of 55 hectolitres of water required to grow the irrigated barley in a hectolitre of beer (Business for Social Responsibility 2005). This emphasises the point that we cannot focus purely on water used in the brewing process if we are to have a positive impact on water consumption. We are committed to investing more time in understanding water consumption patterns in agriculture, particularly in countries where there is more likely to be water stress.

We have a considerable way to go before we have a more complete picture of water usage across our supply chain. Through the water priority within the sustainable development framework, greater emphasis is being given to the wider impact of our operations across the world. In some countries, for example, where we currently work with suppliers to improve quality standards we intend to discuss their water footprint.

### Trialling water initiatives with farmers

As the major proportion of water used in producing beer is in the growing of the raw materials, we are doing more to optimise the consumption of water in this process.

In South Africa the SAB Hop Farms in the George area are irrigated using permanent irrigation systems drawing water from farm dams that are filled from boreholes, rivers, or furrows out of rivers, when that water is available during the year.

The hops can be irrigated in three ways – by drip, micro-jet or overhead sprinkler systems. Overhead sprinklers are the least used as they are only 65% water efficient, the drip system is around 90% efficient if the soil is suitable but if it is not, the micro-jet system at 85% efficiency is used. Therefore the selection process is farm specific and mainly dependent on the type of soil.

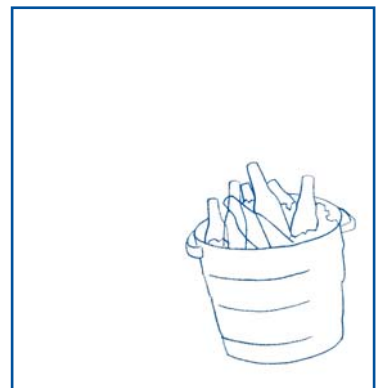
A neutron probe takes the field capacity and wilting point of the crop into account to produce

What role should a company play to foster sound water management principles in its supply chain?



**SABMiller commitment**

We will stimulate and support water conservation across a broader section of industry by helping supply chain partners to improve efficiencies while at the same time reducing risk and costs.



measurements of water availability. Readings are taken in most fields three times a week which indicates if, when and how much water is required to maintain the correct balance at any given time. This has considerable benefits for the efficient use of water.

All irrigated fields are checked every day for burst pipes and any other problems. The ISO 140001 system used on the farms requires monitoring of borehole delivery in

case of 'unusual' trends. All of the farms' irrigation systems, dams, furrows and water turns are registered with the new South African Water Act. Their performance, as measured against the requirements of the Act, is monitored annually by an approved professional engineer.

**Plant water use and waste water management** Even though we have committed to focus more on the greater volume of water we use outside the brewing process, most notably in the supply chain, we must not lose the momentum we have created in managing our water consumption when we brew beer.

## Water in the brewing process

The water/beer ratio has reduced significantly in the last 25 years or so. Then it was common for between 25 and 30 hectolitres of water to be used to produce one hectolitre of beer. Compare this to the 4.56 ratio of water we use today. However this is a weighted average consumption ratio across the SABMiller group and the ratios vary from 3.64 in Fort Worth in the US to 7.19 in Ghana at the higher end of the scale. The poor efficiency at our brewery in Ghana can be explained by a combination of an interrupted municipal supply and low production volume against plant design capacity, whereas Fort Worth produces at volumes close to capacity and is a relatively new plant with the latest water efficiency technology.

Historically in Fort Worth all pasteuriser supply water is reused. Eighty percent of its condensate (liquid from condensed steam) is returned to the boilers and 400,000 gallons (1.82 million litres) of water a month has been saved by reducing times of rinse cycles. Fort Worth is continuing its plan to reduce water consumption this year. The brewery will save 500,000 gallons (2.275 million litres) a month by reducing water for the powerhouse cooling tower system and an estimated 1.5 million to 2 million gallons (6.825 million to 9.1 million litres) a month by supplying rinse water to the powerhouse cooling tower system instead of the pasteuriser reclaim.



Based on an average industry consumption ratio of five hectolitres of water to produce a hectolitre of beer, it is estimated that 28% of the water is used in beer processing, 26% is used in preparing the product itself and 40% is used in the packaging plant (this high percentage is likely to reflect the large quantities required to clean returnable bottles as well as water needed to rinse and clean bottles and cans and in the pasteurisation process). The remaining 6% is used for ancillary operations in the plant.

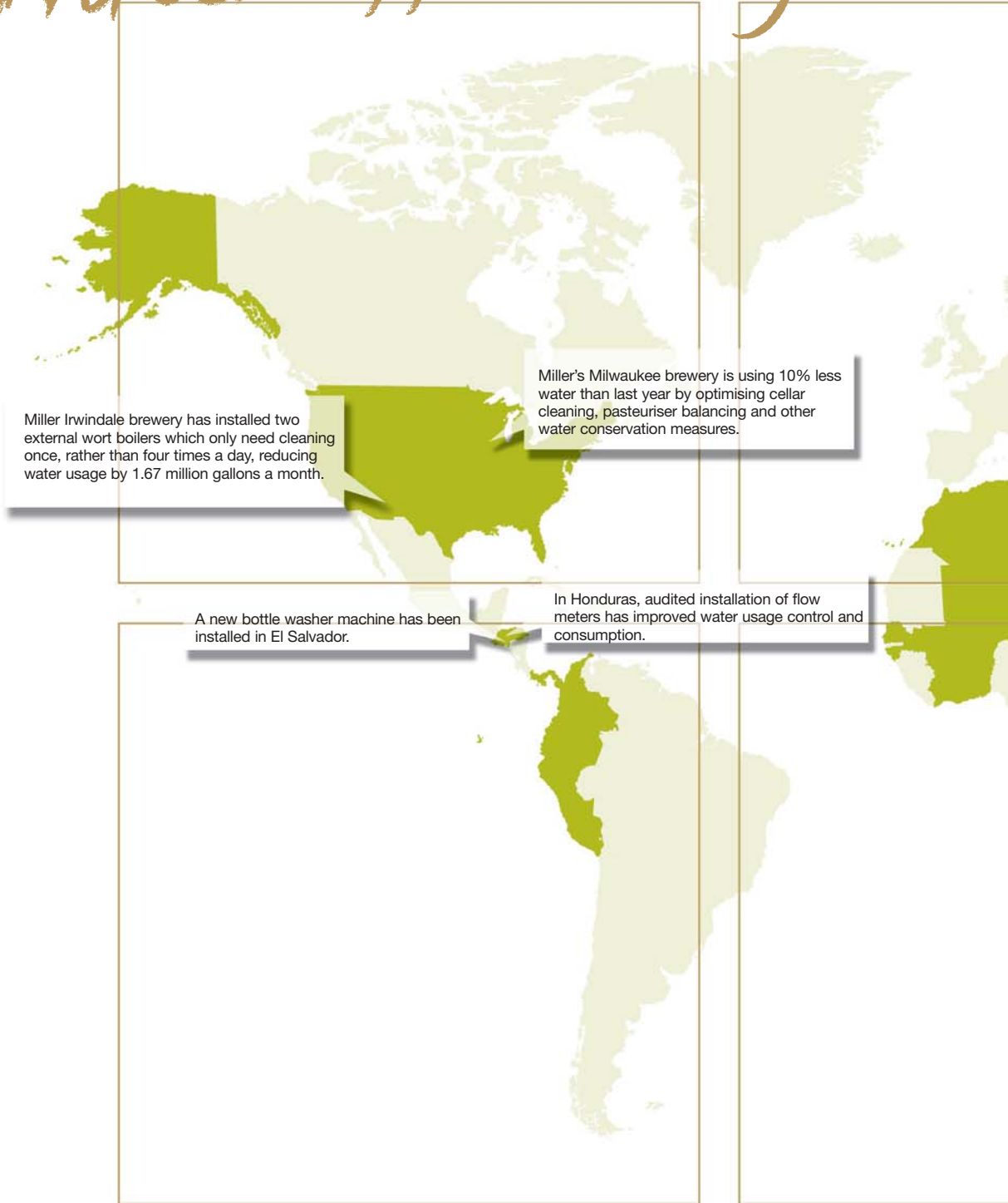
Beyond good management practices, other methods of reducing water consumption in the brewing process include: greater awareness of waste minimisation initiatives, improved monitoring of processes, including increasing automation, more efficient plant design and recovery of water waste streams for potential reuse, for example irrigation, crate washing, floor cleaning and CIP (cleaning in place) pre-rinsing.

## Coca-Cola and water management

As one of the biggest global franchise bottlers of Coca-Cola products, we ensure that we meet or exceed the water management and policy requirements of The Coca-Cola Company at our bottling plants.

The Coca-Cola approach is built upon comprehensive risk analyses of water resources supplying plants in its global franchise bottling network. Since 2004, we have worked collaboratively with Coca-Cola in our central American and African operations to study the annual renewable freshwater supply, supply economics and the social context of water resources at our bottling facilities – sharing knowledge and best practice.

# Water efficiency



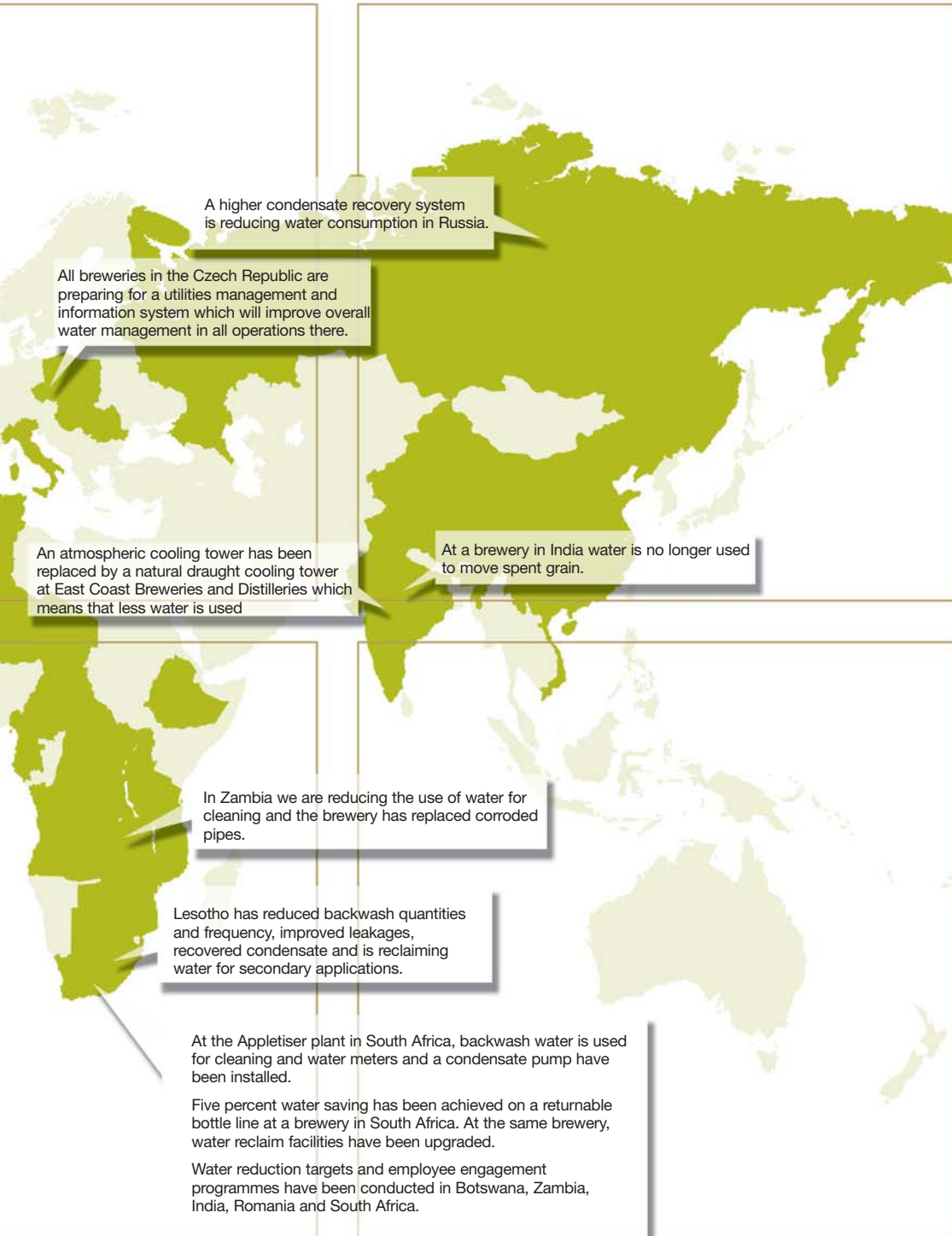
Miller Irwindale brewery has installed two external wort boilers which only need cleaning once, rather than four times a day, reducing water usage by 1.67 million gallons a month.

Miller's Milwaukee brewery is using 10% less water than last year by optimising cellar cleaning, pasteuriser balancing and other water conservation measures.

A new bottle washer machine has been installed in El Salvador.

In Honduras, audited installation of flow meters has improved water usage control and consumption.

Examples of where breweries are making inroads to reduce their water consumption.



## Water used in packaging production

There are two environmental aspects to packaging in beer production. The first is the impact of producing the packaging and the second is the impact during the life-cycle of the packaging after it leaves the packaging manufacturer.

Water used in the production of packaging is not as significant as the water required in the production of our other raw material supplies and therefore is currently not a high priority. There are greater impacts on water in the handling of packaging in the brewery (mainly rinsing and cleaning) and in post consumer packaging management.

The debate between returnable versus non-returnable packaging is between resources required to transport the bottles and to prepare them for reuse versus the resources needed to make new bottles. The energy and water used in a returnable bottle washer are high in relation to the resources required for non-returnable packaging. However, this has to be weighed against the energy and water needed in the manufacture of non-returnable bottles. The choice of packaging will therefore be influenced by a range of factors including consumer acceptability, distribution distance, return rate on bottles and recycling facilities available.

Our work with packaging manufacturers will link with the work we are doing with the rest of our supply chain. We are sharing our sustainable development priorities with our packaging suppliers and we are encouraging them to look for ways in which they can help us reduce our overall water footprint. Packaging is a high investment area and it is important to us to reduce both costs and environmental impact at the same time.



**Waste water as a resource** Waste water in 98% of our operations (by volume) is either treated on site, where practical, or safely discharged, mainly to third parties, such as municipal sewerage systems, for treatment. For the remaining 2% of our plants we have detailed action plans, per brewery, for closing the gaps. Out of four remaining breweries which are discharging waste water without any treatment, two have plans to construct waste water treatment plants while the remaining two are carrying out feasibility studies to install a waste water treatment plant.

We are considering programmes, initially based on best practice examples within the SABMiller group, to use cleaned waste water as a useful resource rather than considering it merely as a pollution problem.

Although some operations are already utilising waste water within their own breweries or within the local community, we believe there are further opportunities.

There are also secondary benefits to treating waste water on site. Across the SABMiller group a number of our breweries are using biogas, a by-product of waste water treatment as an energy source. In the Canary Islands, for example, a new biogas power generation plant converts the gases resulting from the water treatment process into heat and electricity which is used on site. Through this new plant, the brewery achieves a 17% reduction in the power from fossil fuels used, while minimising the release of waste products into the environment.

In the Czech Republic a similar operation has resulted in 70% less energy used in the waste water plant operation, a 60% sludge reduction and lower emissions. In Honduras, biogas captured from waste water treatment plants accounts for 14.5% of the operation's energy requirements.

To further illustrate the benefits of using recycled water, in Poland water is recycled from the bottle rinsing process which has saved both water and electricity costs, while in South Africa, new beer filtration techniques have reduced the amount of water



How should we be working with local municipalities and NGOs to explore further opportunities to reuse waste water? Is this the most efficient method of managing water resources?



required in the filtration process, resulting in a reduction in waste water generation and raw water requirements.

### Waste water ratio

Our overall waste water ratio per hectolitre of beer produced has remained broadly static at 3.05 hl/hl (3.10 hl/hl in 2006). Our overall performance compares favourably to UNEP estimates, which show standard international practice for clear beer waste water to be around 3.5 hl/hl.

We also use reclaimed and recycled water for pre-determined uses such as crate washing and floor cleaning. It is not used for any additions to the beer or where water comes into contact with the beer.

Water from brewery processes including rinsings of tanks and vessels, spillages of spent grains and yeast from the maturation tanks all flow to the drain. Water from the filtration process can end up in the drain along with drip beer from over- or under-filled bottles. The drainage from our bottle-washing equipment contains organic residues from the dirty bottles, detergent additives and label glue.

If waste water is discharged directly into watercourses, organic compounds are broken down by micro-organisms, mainly bacteria. During this process the oxygen dissolved in the water is depleted and therefore the life of the surrounding animal species is affected. The ability of waste water to pollute the environment is measured in terms of its oxygen demand. Other pollutants are present as a result of cleaning and lubrication operations including detergents and lubricants, but as they tend to be in low concentrations, they are not considered to be of concern.

**Community relationships** In our 2006 Sustainable Development Report, under the water priority, we said that our operations need to consider the needs of the communities in which they operate to avoid potential conflicts over water use.

We recognise there are opportunities to improve our relationships with communities within the water priority and this is why community relationships have been highlighted as one of the four principles. However, there are already some good practice case studies around the group.

The example of Appletiser (see page 17) shows how we supply potable water to two farms and put cleaner water back into the environment than we take out.

In Tanzania we have provided clean and safe water by cleaning a borehole, installing new reservoir tanks, pumps and motors and reviving the water distribution system so that water can be supplied to local houses. Our Tanzania operation also collaborated with other organisations by providing funding to kickstart water drilling for Kitunda Ward in Dar es Salaam.

### Roundabout Playpumps

SAB in South Africa has been involved with an innovative project which harnesses the energy of children at play to pump clean borehole water into header storage tanks. The tank serves as an elevated billboard for conveying primary health care messages to the community. This concept was launched in 1999 as a partnership between the state and the private sector. The first SAB-sponsored installation was for the Wittekleinfontein community in the North West. The Department of Water Affairs and Forestry identifies existing boreholes without a pumping mechanism.



Other important factors considered are the quality of the subsurface water and the presence of children to play on the roundabout – thus pumping water. Consequently, most installations are near rural primary schools. In 2002, SAB committed additional funds for the provision of 111 play pumps around the country, mostly in KwaZulu Natal, Limpopo and the Eastern Cape. This commitment makes SAB a major funder of the project called Roundabout Playpumps. The provision of fresh water both helps to combat the scourge of cholera in KwaZulu Natal and relieves women and children of the burden of having to walk long distances to fetch water.

### SABMiller commitment

On a case-by-case basis we will direct corporate social investment towards improving the access to reliable water supplies in the communities in which we operate.

**Fostering more relationships** As water availability becomes more topical and climate change appears to have a greater impact on water stressed areas, we have targeted ourselves to initiate further community programmes.

In Honduras the brewery and carbonated soft drink bottling plant sit adjacent to the waste water treatment plant and a tree nursery. The nursery, irrigated by water from the waste water treatment plant, provides a venue for 1,000 students who receive tuition on environmental and nature conservation issues. Each student cultivates 1,000 trees on the site and on a special day each year these trees (which represent 10% of all indigenous trees in Honduras annually harvested for industrial purposes), are given to the general public to plant.

In India the Charminar Brewery near Shivampet Village, 70 kms from Hyderabad, is in a semi arid part of the state of Andhra Pradesh. Shivampet has a population of about 5,000 people and previously had no basic water supply or health care infrastructure.

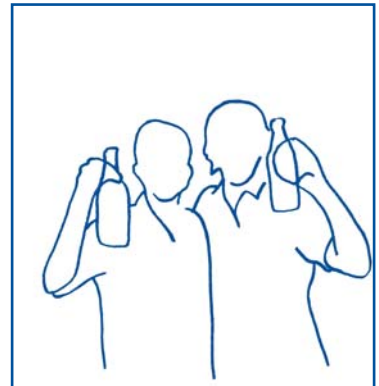
The company decided to help the village by purchasing an ambulance, contracting the service of a doctor and investing in the training of a group of local women for the delivery of basic health care.

The water supply to the brewery is pumped from the nearby Manjeera River, where it is treated for use in our manufacturing process as well as for our own domestic consumption. We laid a water pipeline and installed an overhead tank to supply drinking water for the village.

### Cleaner water flowing out than in...

Appletiser products are made in a factory surrounded by orchards but the plant faces practical challenges such as the lack of municipal water supply and a problem with waste water disposal.

The factory goes to extensive lengths to produce potable water suitable for producing Appletiser as well as supplying clean water to two neighbouring farms. The same effort is invested in the waste water treatment. The waste water is discharged and is first filtered and lime added to adjust the pH before it is released into a series of four ponds. At each pond the waste water is treated and by the time it exits the fourth pond the COD (chemical oxygen demand - high levels can cause water life to die from lack of oxygen) has reduced from 6,000 units to 200 units. Finally the water is pumped into a long flat artificial river which allows some oxidation of the water and uses UV light from the sun to help sterilise the water. At the end of this total process, the COD is in the region of 50 units whereas the water taken into the factory has a COD value as high as 120 – meaning that the water going back into the river is cleaner than when it is taken out.



As water shortages are experienced more frequently in certain areas of some countries, how much should business take responsibility for water availability in communities?

**Where we go from here** This report is designed to explain our progress to date on our water priority and the further elements of our water footprint we intend to investigate.

Continuing to reduce plant water consumption is part of our future environmental commitment, however we must consider the potential detriment to our energy and carbon footprint that low water consumption figures can sometimes cause. With current technologies there is undoubtedly an optimum solution where we will arrive at a limit of water consumption without increasing our energy and carbon footprint. We will engage the expert view of others in the industry to conclude where that limit may be, whilst continuing to explore new technologies.

### Waste water potential

This brings us to the question of effluent or waste water. The industry talks about waste water but to what extent can waste water be beneficial instead of just being seen a by-product of the brewing industry? We have seen the example of the Appletiser plant where the waste water is of better quality than the water flowing in to the plant and which can be used by the local community. We will be exploring the potential for other uses of waste water where it is viable.

There are other intellectual challenges on the water priority. We will have to be clearer about the specifics of where our water is abstracted because, for example, if the water is of poor quality the requirement for reverse osmosis and membrane filtration plants is expensive. The potential to invest in reducing pollution in the watershed to reduce the pollution load before it gets to our sites may be a preferred option.



There are many challenges and many potential solutions but with the urgency of the global implications of climate change, the right solutions need to be found as soon as possible. It would be beneficial if the industry, NGOs and specialists in the field could collaborate more closely to discuss issues, potential actions and outputs.

We welcome any feedback to the issues raised in this document. Please contact: [david.grant@sabmiller.com](mailto:david.grant@sabmiller.com) with your thoughts and opinions.

### SABMiller commitment

We will constantly re-evaluate our water activities as our research progresses, to ensure they are in line with best practice in the industry and our sustainable development ethos.

## External commentary from WWF

SABMiller shows a clear understanding of water issues that only a handful of multinationals have demonstrated. This report represents a significant and positive step in the right direction. The watershed risk mapping of operations being undertaken is a step that other companies would do well to emulate. WWF would like to encourage SABMiller in future to set 5-10 year targets for its water programme, and to proceed with a commitment to measure, manage and report on a total water footprint - much of which will be through its use of water-intensive crops such as barley and sugarcane. SABMiller's outreach to farmers and communities is commendable and could be strengthened by placing this in a watershed context, as was done for brewing and bottling operations.

## Contact

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June 2007

# SABMiller position paper

## Make more beer but use less water

### Objectives

The objectives of this position paper are to:

- provide a shared vision of SABMiller plc's views, commitments and future outlook in relation to water resource management.
- provide an overview of SABMiller's water management strategy, the tool by which we will translate our views and commitments into action on the ground. This will include looking at SABMiller's direct impacts through its own operations and the influence it can bring to bear through the value chain.
- emphasise our pursuit of continual improvement in water performance to strive towards levels at or above international best practice.
- highlight potential areas of value protection and creation through reduced exposure to risk and improved efficiencies.

- provide a link to the SABMiller Sustainable Development strategy and overall corporate strategy.

### SABMiller Commitments to Water Management

SABMiller is committed to the implementation of sound water management practices throughout its global operations in a manner that takes account of local geographical, environmental and social factors. On a case-by-case basis, we will also direct corporate social investment towards improving the access to reliable water supplies in the communities in which we operate.

Additionally, we have undertaken to engage with our supply chain partners to understand their use of water, in order to gain a better understanding of our overall water footprint.

We acknowledge that we are still some way in having a full and comprehensive appreciation of our overall water footprint throughout our value chain. We have made a commitment to constantly re-evaluate the targets we have set as our research progresses, to ensure they are in line with our understanding of our impacts and our sustainable development ethos.

### Our approach to Water Management

An important aspect of the development of our approach

to water management was to ensure that we have the right balance in terms of establishing a consistent approach across the group, while at the same time incorporating enough flexibility to allow our operations to adapt and respond to local conditions. The water staircase is our solution to achieving this balance.\*

### Principles for Water Management

The SABMiller principles of water resource management have been developed through a series of consultations with our technical managers, external stakeholders and have also been informed by external published resources.

### Focal Areas of Water Policy and Management Principles

Water resource management initiatives are principally focused on four key areas where we believe the company and its individual business units can have the most progressive impact.

### Plant Water Use and Effluent Management: SABMiller operations, will:

- manage internal water consumption efficiencies, optimising the amount of water used to produce a unit of product through effective monitoring
- consider rainwater harvesting as a possible supplement to brewery raw water supply
- ensure suitable treatment options are available for facility

\*The water staircase is a management model that has four levels (Minimum Requirements to Best in Class) to operational development. The essence of this model is that it recognises that breweries can be in different phases of their development life cycles and this means that they require very different approaches to the implementation of effective water management. The water staircase model defines, for each level, a set of descriptors that help identify the phase of development, a set of management and operational practices and behaviours that should be employed to drive the desired improvement.

waste water and, where possible, establish possible uses for the treated waste water for reuse on site or within the local community

- ensure effluent quality, as a minimum, meets local legal requirements

#### **Watershed Mapping: SABMiller operations will engage in watershed mapping to:**

- gain an understanding of water availability and quality now and in the future, based on projected population changes, farming demands, industrial usage changes and climatic changes.
- understand their water usage/demand in the context of local supply. i.e. % usage against technically available water resources
- identify potential areas for watershed protection through individual or collaborative actions.

#### **Community Relationships: SABMiller operations will:**

- place an emphasis on proactive community engagement in terms of water usage e.g. actively communicating with the community in question about the plant's water use and conservation measures etc.
- determine the interaction between the water needs of the local community

and the water usage of the business

- evaluate potential areas for corporate social investment (CSI) in order to improve local water quality and availability
- evaluate opportunities to supply treated/conditioned water to neighbouring facilities

#### **Supply Chain Relationships: Principles of water management, where possible, will be shared with supply chain partners in order to:**

- stimulate and support water conservation by a broader section of industry
- help supply chain partners to improve efficiencies while at the same time reducing risk and costs
- reduce the overall SABMiller water footprint.

#### **Implementation**

These principles will take time to implement but group companies need to commit to continuous improvement, demonstrated by an improvement to their position on the staircase, with Level 1 representing the minimum standards which we would expect all operations to achieve. Companies will be expected to use the staircase to define their current position, identify actions needed to improve and measure progress.

#### **Accountability and Responsibility**

- the SABMiller Executive Committee (Excom) is the overall decision making body within the group and is responsible for ratifying any policies and position papers which reflect group views.
- supporting the Excom, from a technical perspective, is the Global Technical Forum (GTF), a body consisting of the respective hub (region) technical director and group specialists. This group acts as an advisory body to the executive on issues such as environmental management and, in turn, sets overall policy on how environmental activities are conducted in all regions or countries of the world.
- at hub level, the respective country/operation technical director is responsible for ensuring the hub technical director is aware of their stairway position and leads the process of communicating policy outward and collection of key performance indicators required to manage the stairway position.
- the SABMiller plc sustainable development projects manager will support both the hub and country/operational technical directors in facilitating the above processes.

