

Good Environmental Performance



Our environmental management is supported by Heineken - one of our brand owners.

With assistance from their team of environmental and utility specialists, we set challenging improvement targets to progressively reduce resource consumption, emissions and discharges.

We are strongly committed to reducing our environmental impact and helping to preserve the natural environment. We are guided by the precautionary principle and attempt to apply the zero-loss mindset of our TPM system to produce a closed loop approach. Our environmental management is supported by Heineken - one of our brand owners. With assistance from their team of environmental and utility specialists, we set challenging improvement targets to progressively reduce resource consumption, emissions and discharges. We follow the Heineken Utilities Benchmark Model, which is used by Heineken Breweries around the world to identify the optimal level of energy and water for breweries to operate. Heineken also sends auditors annually to assess progress.

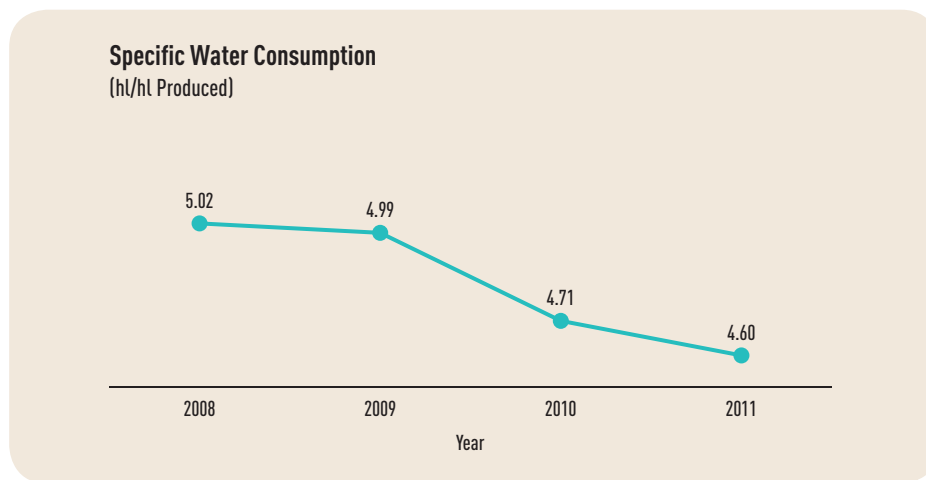
Over the past year, we have engaged each operational team to find solutions to meet our targets and develop more efficient production methods. This has resulted in a number of significant projects, including an upgraded Economiser which increases energy efficiency, a new Freon-free air-conditioning system with no ozone-depletion and no global-warming potential and a carbon dioxide plant which recovers CO₂ from fermentation for use in bottling.

Lowering Our Water Consumption

Water is fundamental to our business. Our consumption is in the form of the raw materials used to produce our products and extends to the cleaning process, packaging, production equipment and utility installations. We have embarked on several water saving initiatives and optimisation efforts to reduce dependence on this valuable commodity. We reduced

our water consumption by 7.8% from 2009 to 2011. This large saving from 2009 to 2010 came from the reduction of cleaning required by better planning of brewhouse operations. In 2011, our bottle return rate increased by 7.7% from the previous year. This has had a significant impact on our water consumption as water is used in the cleaning process. This is one of the main reasons why our water consumption did not reduce by much in 2011.

All of our water is drawn from the municipal water supply. Our wastewater is treated to ensure that no harmful substance is released from the brewery. We use two methods of biological treatment to treat wastewater before it is released into the river. The first method is an anaerobic treatment where a biochemical reaction takes place in the absence of oxygen resulting in organic carbon being converted into carbon dioxide, methane and biomass. The second method utilises an anaerobic treatment where oxygen is associated in biological reactions and results in organic carbon being converted to carbon dioxide and biomass. This process ensures that our COD (Chemical Oxygen Demand) levels stay well below the 400ppm prescribed by the Department of Environment. In 2010, our average COD level was approximately 100ppm.



Reporting period: 1 October – 30 September
Source: Heineken Environmental Report

PROGRESS AGAINST REPORTED TARGETS IN 2010 – ENVIRONMENT

Targets set for FY2011	Status	Comments
GAB will be focusing on the reduction of electricity, thermal energy and water consumption by 10% of the gap between actual consumption and its best practice requirement, following the Heineken Utilities Benchmark Model.	●	In 2011, our bottle return rate increased by 7.7% from the previous year. This has had significant impact on thermal energy and water consumption.
We will be extending the Freon-free air-conditioning system to the Technical offices in FY2011.	●	This was not done in FY2011. This project will commence in 1st half of FY2012.

● Fully achieved ● Partially achieved ● Not achieved

Good Environmental Performance

River Rehabilitation

Our brewery is located next to the Sungai Way river, a tributary of Sungai Penchala, one of the main rivers running through the Klang Valley. We believe that conserving water in as pristine a state as we inherited it, is the best gift for our children and the world they will live in. In December 2007, the GAB Foundation began the River Rehabilitation Project by adopting the entire 2.5km stretch of the Sungai Way, which flows behind our operations.

ENGAGEMENT AND CAPACITY BUILDING IS NECESSARY

The project is unique in its approach, as it focuses on involving the community as part of the clean-up process. We believe that engagement, education and day-to-day behavioural change is the only way to produce a long-term, sustainable impact.

We therefore embarked on this project in 2007 together with an NGO, Global Environmental Centre (GEC), to engage with the communities living along the river on the need to preserve the river's natural flora and fauna and to discourage indiscriminate dumping. The communities currently involved are the upstream communities in the SS3 and SS9A areas and the downstream communities from Desa Mentari, Desa Ria and Kampung Lindungan.

The project includes several outreach activities, such as the River Care Education Centre and a Mobile River Care Unit. The latter is an interactive, mobile education centre designed to reach out to different communities and to drive home the importance of urban river conservation. It contains a microscope to view specimens from the river, a water testing kit to learn how to measure the water quality, tools for recycling and garbage enzyme demonstrations.

REAL BENEFITS TO THE ENVIRONMENT AND RECOGNITION FOR THE COMMUNITY

The project has seen real improvements in water quality, from Class IV-V (extremely polluted) to Class III (suitable for living organisms), as well as improvements in biodiversity in and around the river.

In addition to these tangible benefits, we also believe that the project has forged a stronger community, transcending racial differences, as a result of people working together to clean up the river. The project is also assisting communities in coming up with their own initiatives to help reduce waste, recycling, composting, and turning used cooking oil into soap and candles. We were delighted when the Desa Mentari community won the "Best National RIVER Ranger Community" for their initiatives.



Sungai Way – Before the WATER Project (2007).



Sungai Way – After the WATER Project was implemented (2011).

BRINGING OTHERS ALONG

Business entities, government sectors, service providers as well as local leaders and politicians have also taken a keen interest in the project and came forward to play their part in supporting this project.

- Department of Irrigation and Drainage (JPS) Selangor and Petaling
- Department of Environment (DOE)
- Petaling Jaya City Council (MBPJ) through LA21
- Selangor Water Management Authority (LUAS)
- Department of Fisheries Selangor (DOF)
- National Integration & Unity Department of Selangor (JPN)
- Local community groups from Desa Ria, Desa Mentari, Kg Lindungan, SS3 and SS9A

2010 marked the end of our 3 year Sungai Way rehabilitation project, and we wanted to ensure that the lessons from the project were shared with others. One of the objectives of the project was to develop a Handbook to be used by relevant government officials, to rehabilitate rivers in other states. The "Handbook on Urban River Management Through Local Community Participation" is already published and was launched on 7 April 2011, by the Deputy Minister of Natural Resources and Environment Malaysia, YB Tan Sri Datuk Seri Panglima Joseph Kurup.



Major Milestones

December 2007

WATER Project Launched

In progress

"Buy – in" from Community & relevant government agencies

March 2008

Introduction of rubbish traps

December 2008

Community involvement (1 year after start)

May 2009

Improvement in water quality & biodiversity

August 2009

Habitat creation

March 2011

Launch of the Mobile River Care Unit

April 2011

Launch of the Handbook on River Management

July 2011

Training of JPS Officials

Good Environmental Performance

PROGRESS AGAINST REPORTED TARGETS IN 2010 – ENVIRONMENT

Targets set for FY2011	Status	Comments
A Mobile River Care Unit will be set-up to carry out interactive exhibitions as well as to provide resources and equipment to deliver water quality education to schools and communities.	●	The Mobile River Care Unit (MRCU) was launched in March 2011.
The Foundation will continue with the water quality testing, solid waste management and biodiversity study to ensure the river is on the right track to be rehabilitated.	●	We continue to monitor the water quality of Sungai Way and conduct biodiversity study on a monthly basis.
The Foundation will continue to educate and train the surrounding communities – both businesses and residential – to further change mindsets.	●	We are currently conducting educational and training sessions for 10 communities and 6 schools within the Sungai Way basin.
We will continue with the habitat creation practice.	●	We completed the implementation of the “River within River” concept which helped enhance the biodiversity of Sungai Way, thus transforming the river from a “dead” river into a “living” river with aquatic flora and fauna.
We will hold a River Carnival in FY2011	●	We decided not to hold a River Carnival in FY2011. We held the JPS training seminar to train JPS officials on how to use the handbook instead.
<u>Sungai Pinang Project</u> GAB Foundation is working with Jabatan Pengairan dan Saliran (JPS) Penang to educate the surrounding community, including schools and residents, on conserving the environment and our rivers.	●	The Foundation engaged and educated 8 schools and 13 communities within the Sungai Pinang basin under the ‘One State One River Programme’ of JPS Penang in FY2011. The training sessions, consisting of theory and practical lessons on river rehabilitation and management, were conducted in July and October 2010.
<u>Storytime with GABBY</u> The Foundation has set up a GABBY club to continuously engage the children who have undergone the session.	●	We decided not to proceed with this project as it was not sustainable. The funds allocated were channelled to other projects.

● Fully achieved ● Partially achieved ● Not achieved

Interview with Stakeholders of the WATER Project: Communities See Impact of River Rehabilitation

Our role was to assist in engaging the community living along the river to become involved in the project. When the GAB Foundation first proposed this to us, we thought it would be impossible. It is not easy. We had to work hard to convince the community that it is possible to achieve improvements.

In the first year, we did a lot of consultation with the community. We had to identify the right person to work with – the rukun tetangga. We wanted to work with everybody and all the races. From the feedback we received in the first year, not many communities were convinced about our plans.

HOW DID YOU PROCEED?

After we had engaged the community to get their consent, we needed to ensure that they had the right skills. We started with training and education. They built on that to develop their skills in order to take localised action. They then drew up a concept paper on what they wanted to do for the area and the support needed.

WHAT WERE SOME OF THE MAIN CHALLENGES?

Many in the community were sceptical of GAB, because it produces alcohol. We had to overcome this and show them that GAB was serious about the project. It has helped that this is a community-based project and the direct contact is the GAB Foundation, rather than the Company.

WHAT ARE THE IMPACTS OF THE PROJECT?

The project is now run 100% by the communities and benefits almost 15,000 people. Previously, the area was in a very bad condition. People didn't even know that it was a river, rather than a drain. Other projects had tried to do something about the problem without much success, but after the GAB Foundation project, the improvements were obvious. Before, there were complaints about the GAB brewery polluting the river but we no longer hear this. The community now seems to think twice about throwing rubbish into the river, since they know the work involved in cleaning it up.

WHAT MORE CAN THE GAB FOUNDATION DO?

We would like to see more participation from the employees of GAB. Of course, more funding would also help to increase activities. At the moment we

are finding alternative uses for waste collected along the river, such as selling newspaper waste, and the collection of used cooking oil, which is turned into soaps and candles. It would be good if GAB could assist in selling these. At the moment, GAB is the only company along the river involved in the project, and it would be good if they could help to get other companies to participate.

About the stakeholders

Encik Azli Abu Bakar has led the WATER project since April 2008. He has extensive experience in a range of river restoration programmes involving local communities since 2003. His main role in the project is to engage and facilitate local community participation in tasks and activities in line with the goals of the WATER Project.

Encik Mohd Zaini is a local resident of Desa Mentari and has actively participated in the project since 2008. He has led the group to develop other local initiatives such as composting and candle-soap making from the collection of used cooking oil. Under his leadership, the Sungai Way community won the nation's Best Community Award by the Department of Irrigation and Drainage at the River Ranger Jamboree 2010.

Good Environmental Performance



Recycling Waste

PRODUCT PACKAGING

GAB's brews are packed in glass bottles, kegs and cans. This includes the use of crown corks and labels as primary packaging for our glass bottles as well as cardboard and plastic film for transportation. The use of known or expected carcinogenic or other harmful substances such as solvents and pigments is strictly prohibited. The coatings and inks used on labels, returnable bottles and cans are free of heavy metals and copper. We also avoid the usage of PVC in our crown cork liners.

Our kegs and bottles are returnable and are sent back to our brewery where they are cleaned and reused. Broken kegs are sold as scrap metal and our cans, bottles, crown corks and labels rejected during production are sold to contractors for recycling.

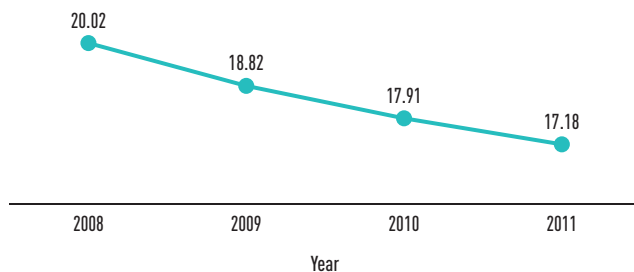
We are reducing our use of aluminium by reducing the wall thickness of our cans. In 2009 we used 141.5 million pieces of reduced-wall aluminium cans, saving 28.3mt of aluminium, and in 2010 we used 159.9 million of even further reduced-wall cans (0.280mm), resulting in savings of 31.98mt of aluminium. This translates into a significantly reduced impact from both the production of the raw material, and subsequent transport emissions.

WASTE FROM PRODUCTION

The vast majority of our industrial waste – over 22,000 tonnes – consists of used grains and yeast. These products are used for animal feed. An additional 1,400 tonnes annually consists of packaging waste, which is sent to be recycled locally. This year, we achieved a major milestone, when we achieved a 100% recycling rate for industrial waste.

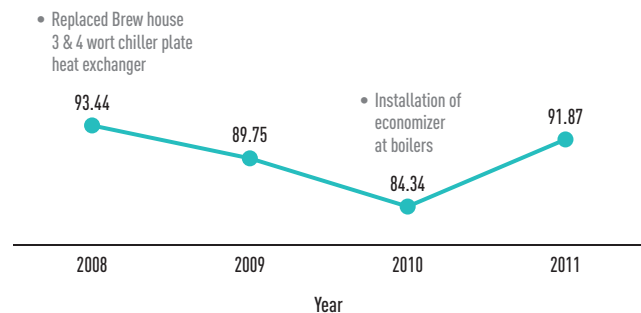
We generate 0.6 tonnes of hazardous waste, primarily from cleaning operations. This is sent to a licensed contractor.

Total co-products, packaging & industrial waste kg/ht



Reporting period: 1 October – 30 September
Source: Heineken Environmental Report

Thermal MJ/ht Produced



Reporting period: 1 October – 30 September
Source: Heineken Environmental Report

Addressing Climate Change

The impact of climate change is one of the biggest challenges facing every community on the planet. We also recognise that it may have very direct impacts on our business, as access to water and agricultural crops become volatile or scarce. In Malaysia, we have experienced the disruptive effect of floodings, which has caused havoc to transport across to several parts of the country. Although it is difficult to put a financial value on such potential effects, we know that have to do our best to reduce our carbon emissions.

Our greatest direct impact stems from our use of thermal energy, used in the brewery. We estimate these account for 6,400 tonnes of CO₂. Most of this comes from natural gas, and 8.7% is renewable energy, mainly biogas obtained from the anaerobic treatment of wastewater at our water treatment plant.

Thermal Energy consumption increased by 8.9% in 2011, compared to the previous year, mainly due to the 7.7% increase in our bottle return rate as steam is used in the cleaning process. Although the increase in bottle return rate has resulted in the consumption of more water and thermal energy, it has reduced our carbon footprint.

In 2011, we put in place a number of initiatives to reduce electricity consumption. We installed a new and more efficient air compressor and a new fuel pump. We also focused on lighting - replacing 29 units of mercury lamps with induction lamp in the packaging and brewing operations. The mercury lamp requires 400W of power, the induction lamp power replacing the mercury lamp will only use 200W, resulting in a 50% reduction in electricity consumption

from lighting. We are also focusing on eliminating unnecessary energy use. For example, timers were installed at isolated areas and only will turn on for 10 minutes when required, and rewiring of lighting has enabled lights to be turned on in smaller groups. These initiatives helped us to maintain overall electricity consumption for 2011 at around the same level of 2010 despite the lack of economies of scale caused by a different packaging mix.

Our data include all activities at our brewery site in Sungei Way, including on-site transport. We do not currently monitor the impact of road transport of products or the travel of staff, but we intend to collate this data to achieve a more detailed overview of our carbon footprint.

Specific Electricity Consumption (kWh/hl Produced)

