ISSUES FOR RESPONSIBLE INVESTORS

BEVERAGES IN ASIA

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Rebecca Lewis Author
Rumi M. Morales Editor

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For more information, please contact Responsible Research:

Email: info@responsibleresearch.com
Tel: +65 9386 6664

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EXECUTIVE SUMMARY

This report provides an overview of environmental, social and governance (ESG) issues in the beverage sector in Asia. The issues that we highlight are those we view as the most material to companies and which pose the biggest threats to their operations, brands, reputation and profitability.

Responsible brewers, bottlers and alcoholic and non-alcoholic beverage makers should monitor, measure and report on the impacts and risks that these issues pose to their business models and investors.

Astute long-term investors appreciate that they require a full understanding of these risks to make fully informed investment decisions, and understand that company disclosure on ESG issues is a leading indicator of how businesses are strategically managing their sustainability risks.

'Sustainability is good business because it protects the firm and its cash flow and ultimately as a commercial enterprise that's what it's about for the long haul.'
- Paul S Walsh, Diageo Chief Executive, May 2008

The report begins with an industry overview followed by three main sections focusing on ESG issues. Shortcomings in any of these areas present businesses with risks.

Environment

Companies require reliable supplies of ingredients and other materials used in production. The key environmental factor impacting the beverage industry is **access to fresh water**. In this report we review the physical, business, reputational, regulatory and litigation risks that beverage companies must consider regarding this all-important resource.

Our benchmarking research shows that **most companies in Asia are not yet strategically managing water resources** and have only undertaken ad hoc initiatives related to water use with apparently limited understanding of water's materiality to business models. However, **leading global players are undertaking initiatives** to improve the efficiency of their beverage production. This includes Diageo, who lead our benchmarking of global beverage companies, and notable Asian listed MNC subsidiaries, Nestlé Malaysia, Guinness Anchor Berhad and Carlsberg.

Corporate reporting and community engagement on water issues are both expected to increase and improve. Despite this, water stress will remain a growing concern across Asia, with international organisations viewing **water scarcity as a major geopolitical issue**. Water pollution is an area of increased government focus. Vietnam has increased environmental budgets for water treatment and all the major brewers there have implemented water treatment plants. In China, the heightened power of the Environmental Protection Bureau and Environmental Courts reflects not only the increased regulation on water pollution but also improved enforcement of standards. Fines are increasing and NGOs such as the Institute of Public and Environmental Affairs (IPE) in Beijing are naming and shaming the leading offenders.

Social

This report highlights the importance of positive relationships with all stakeholders so that companies continue to operate in prosperous, healthy communities. Alcohol companies, in particular, are proactively approaching and engaging with regional governments so that they can **stay ahead of legislation on labeling and marketing** of alcohol. Leading brewers and distillers have detailed product responsibility policies and are investing in consumer and employee education. While seen in developed western countries, this approach is arguably more important in Asia, where fast-growing economies still have a large black market in alcohol and limited enforcement of drinking regulations.

For soft drink makers, stakeholder engagement will become an important focus as **health issues mount** relating to sugar intake and the use of artificial ingredients become increasingly common. Health and safety issues along the supply chain remain an important issue for all beverage products, particularly those with a focus on wellbeing.

Labour issues will continue to be an issue for large multinational companies (MNCs) operating in emerging Asia, as these expanding companies are trying to maintain an ever-increasing temporary workforce. The **potential for reputational risk** to large companies due to labour issues cannot be taken lightly.

Governance

Strong governance is clearly vital for companies to ensure the integrity of their organizations, relationships with consumers and government authorities to avoid corrupt business practices. More specifically acquisitions and JVs will become a common feature of the Asian beverages marketplace and these may go sour as companies in Asia find it difficult to keep within the boundaries of contractual agreements. Government sign off may also be required for some transactions and may be easier to obtain for well governed, transparent, socially aware companies. Maintaining a high level of transparency is also important for alcohol companies that provide financial support for industry groups that in turn lobby national governments for changes in alcohol policies.

Conclusion

Across the three sections we find a range of important issues that beverage companies need to address in order to earn a license to operate in Asia. Responsible Research believes that the top three sustainability issues facing alcoholic beverage companies differ from those facing non-alcoholic beverage companies (Figure 1).

Figure 1: Top three sustainability issues to be address by alcoholic and non-alcoholic beverage makers

Our report culminates with a scoring analysis where we benchmark 30 of the largest listed beverage makers in Asia across ten countries from the MSCI AC (All Country) Asia Ex Japan index. Each company is ranked against key indicators of performance in the following categories: Reporting, Environment, Workplace & Supply Chain, Workplace & People, and Community & Governance. According to the benchmarking of publicly available information of three Malaysian listed MNC subsidiaries, Nestlé Malaysia, Guinness Anchor Berhad and Carlsberg Brewery Malay have been identified as the leading Asian companies on sustainability issues. In order to view how these companies measure up globally, we also benchmarked five global beverage companies.

Source: Author, Responsible Research 2010

KEY INSIGHTS

1 Favourable demographics make Asia an attractive marketplace for beverages.
Driven by favourable demographics and broad social forces including urbanisation and increasing affluence, consumers in Asia's developing economies are purchasing alcoholic and soft drinks at rates far exceeding developed markets.

2 The resource issue that will define the future of Asia's beverage industry is water, with MNCs leading corporate water reporting practices.
The scale of water use by the beverage industry is huge, with the combined water consumption of Nestlé, Unilever, Anheuser-Busch, Coca-Cola and Danone approaching 575 billion litres a year. This is enough to cover the daily basic water needs of everyone on the planet.1 While beverage companies are part of the water problem, they can also be part of the solution by ensuring the sustainable use of this precious resource. The MNCs operating in Asia appear to have recognized the need to mitigate their water risk from a physical, business, regulatory, reputational and litigation perspective. They have made external commitments to reduce water use and are undertaking a range of initiatives to improve the efficiency of their production processes across the globe. Local Asian companies appear to be lagging behind.

3 Global water targets mean challenges for local implementation.
Global commitments to improve water efficiency can only be implemented locally. Interviews with Diageo and United Brewers highlight different approaches to successful water resource management. Diageo's Water Watch team at the Huntingwood plant in Australia improved water efficiency with a "three pillars" approach focusing on continuous improvements and strong employee engagement. United Breweries in India has delivered water savings through process improvements that reduced the load on its water treatment facility. Versatility is critical to any corporate water strategy, and successful companies are responding to local conditions and risks, implementing flood barriers in one operating environment and rain harvesting systems in another. Local management is vital for companies working in areas of water stress. Even if their global operations are highly efficient, they will still be at the receiving end of deteriorating public and government relations if the communities in which they operate become increasingly water stressed. This will be true even if the company is not directly responsible for the regional water issues.

4 The importance of "water risk" is not reflected in the reporting of Asian listed companies.
The corporate water reporting by Asian listed companies is less strategic and comprehensive than global beverage companies. Outside of the five Leaders in Asia, the "Followers" identified in this report only discussed ad hoc initiatives related to water use, with apparently limited understanding of water materiality to their business models. This could be a reporting issue as our benchmarking is based on only publically available information. An interview with United Beverages provided information on their Conserve, Connect, Conquer strategy, which is delivering improvements in water efficiency at their beer production plants across India and demonstrates their commitment to engage the communities in which they operate. It is hoped that as Asian companies begin to appreciate the importance to investors of ESG management issues, increased corporate reporting will follow.

5 Water pollution and treatment is, however, a focus of Asian listed companies.
A large proportion of the water initiatives reported by Asian listed beverage companies focused on water treatment projects at production plants in the region. This reflects the increasing focus on the control of water pollution in Asia. Regulations are being updated and enforcement is improving through a range of government-run environmental protection boards. From an enforcement perspective, these organisations are supported by the imposition of higher punitive fines.

Whether motivated by the increased fines or potential reputational impacts, beverage companies are taking water pollution issues more seriously. New technologies and new companies are emerging in Asia to help companies meet the more stringent requirements.

6 Supply chain not being proactively managed in Asia or in the West.
From a resource utilisation perspective, the supply chain is a source of material risk to beverage companies in Asia. The price of important ingredients in beverages, particularly sugar, can be uncertain or volatile. Although companies can hedge some risks, there are real probabilities of unforeseen price rises and disrupted supply due to falls in crop yields. Health and safety along the supply chain also remains vitally important. A good example in China is the melamine milk scandals. With the growing importance of bottled water in Asia, there is a tangible risk that the large regional players could follow the mistakes made by water companies in the west and exploit the consumer demand for convenient but environmentally damaging bottles full of sub-standard product.

7 Sustainable packaging is driven by consumer demand.
Beverage consumers in the west increasingly expect sustainable packaging, and innovation in this area has become a product differentiation strategy for leading beverage companies. Their strategy has focused on minimizing the environmental impact through recycling, reuse and biodegradable or reduced materials. Some of these strategies have the added bonus of reducing beverage transportation and storage costs. For companies to improve the sustainability of their packaging choices, they will need to take a holistic view of the resource requirements of all potential options. However, complicated supply chains, involvement of distributors and the role of government in recycling programmes cloud the business case. The challenge of identifying the most sustainable solution, where all parties involved are incentivised appropriately, appears a long way off.

8 Alcoholic beverages focus on stakeholder engagement.
Whilst most consumers drink responsibly, alcohol can have a negative impact as its misuse causes harm to individuals and society. Therefore, companies producing alcoholic beverages need to take an increasingly proactive approach to address social issues related to alcohol use. Leading listed companies are attempting to stay ahead of government regulations and influence sound alcohol policies through industry associations.

This is a challenging task in emerging economies where complex and quickly evolving taxation systems are influenced by public health policies as well as religious and cultural influences. Responsible marketing is an area where a number of Asian alcohol companies are beginning to engage and state their policies clearly.

9 Companies in new markets increasingly need to earn their license to operate.
From an environmental and social perspective, beverage companies have to go beyond regulation to earn their licenses to operate. Even Chinese beverage companies with no formal CSR policy are engaged in ad hoc community investment programmes and promote their involvement on company websites and corporate communications. Initially the forays of companies in this area appear to begin with disaster relief. Foreign companies operating in emerging economies need to ensure their participation in these programmes is strategic and sustainable in nature. This is particularly true when local resources, such as water, are being extracted, packaged and then distributed in major cities at a large profit. The ability of companies to earn and maintain their license to operate is a critical success factor in the region.

10 Corruption remains an issue in developing and emerging Asia.
Corruption in the private sector remains one of the most commonly found forms of poor governance in developing Asia. While some new legislation tackling private sector corruption is being implemented – from the establishment of new anti-corruption agencies to the provision of whistleblower protection – there is still a lack of political will to fight corruption in the region and the effective implementation of laws is still underdeveloped. Therefore, corruption will continue to distort market forces, stifle economic growth and undermine the rule of law.

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INDUSTRY OVERVIEW

MACRO MARKET DRIVERS

Broad social changes are impacting the development of the beverage sector

In this section, we will consider the key macro level drivers that are shaping the beverage industry. We will examine the beverage market in its totality as consumables before discussing unique market forces in both the alcoholic and non-alcoholic beverages sectors. The beverage market is impacted at the highest level by the culture and behaviour of consumers. This in turn is affected by broad social changes, including urbanisation, globalisation, increasing affluence, time poverty, number of women in the workforce and the influence of mass media.

In developed countries, beverage markets are mature and consequently see slow or stagnant volume growth. To add value, successful beverage companies in these markets are focusing on 'premiumisation' of products, which positions and markets beverage products to create 'experiences' for consumers. This includes sponsoring music and sporting events in order to reach young audiences who can and want to pay for these premium experiences. Importantly, from an ESG perspective, a growing number of young people worldwide strongly believe in corporate responsibility. Sustainable business practices, in social or environmental terms, thus have the potential to become a product differentiator in the beverage marketplace. As an example, this is already reflected in the demand for premium organic beers and the success of health-focused drinks.

The beverage industry is important in emerging Asian economies

Beverages are a large and important industry for emerging Asian economies. People in countries such as India, China, Philippines and Vietnam are consuming volumes of alcoholic and soft drinks at rates far exceeding developed markets. In Vietnam alone, these industries formed 25 percent of GDP in 2008.[2] This growth in volume is driven by an improved demographic profile in these emerging economies, with a greater proportion of young people reaching the legal drinking age. In these countries, growing members of an increasingly affluent middle class are also making aspirational purchases of global drink brands, partly influenced by the media and the overall trend of developing country 'westernisation'.

By 2030, studies predict there will be more than 22 'megacities' with a population in excess of ten million people, and that two in three people will live in urban areas. [3] This increased urban population combined with long commuting distances will contribute to the development of a 'third place' that is neither work nor home. Drinking on the run has become the norm and the packaging of products for portability will continue to increase, as fruit juices and smoothies may be the most convenient way to consume fruits and vegetables. Both multinationals and Asian listed beverage companies are tapping into these emerging economies and megacities in Asia.

RESOURCE AVAILABILITY

The key resource impacting the beverage industry is access to fresh water

The key factor impacting the beverage industry is access to fresh water. Water is the most important resource to the beverage sector and makes up approximately 94 percent of soft drinks, 90 percent of beer and 87 percent of spirits. This alone makes beverage companies' operations especially vulnerable to climate-related risks relating to water availability and quality. Beverage products such as soft drinks and alcoholic drinks have additional resource requirements including sugar, wheat, hops, corn, and various fruits, which are in many cases water-intensive.

Water scarcity across the globe is a growing problem; 1.1 billion people in the world, or approximately one-sixth of the global population, do not yet have access to clean water.[4] China is a key trouble area, as rapid economic growth and a burgeoning urban population deprive over 300 million rural Chinese of access to clean drinking water.[5]

The scale of water use by the beverage industry is huge. JP Morgan estimates that the combined water consumption of Nestlé, Unilever, Anheuser-Busch, Coca-Cola and Danone approaches 575 billion litres a year, which is enough to cover the daily basic water needs of everyone on the planet.[6] Given this high level of extraction, these companies have an important role in ensuring the sustainable use of this precious resource.

Shareholders increasingly expect listed companies to handle environmental matters proactively

Responsible Research believes that wasteful use of water across the entire supply chain will be increasingly opposed by consumers and subject to more regulatory intervention. There appear to be growing expectations on the part of shareholders and other key stakeholders that listed companies will handle environmental matters proactively, and the profile of issues such as water availability, quality and usage as are generally on the rise.

SOFT DRINKS IN ASIA

In 2008, the soft drinks industry entered its toughest operating environment in recent history. In western developed markets, the recession applied downward pressure on pricing, significantly weakening the region's comparatively high market value and ability to premiumise products, which had driven value generation over the last few years.

Subsequently, companies have been looking to the growth potential in emerging markets. Per capita carbonates consumption in the United States was 177 litres in 2008 compared with eight litres in China and just two litres in India. Although both of these emerging markets have higher levels of poverty that conceivably generates less demand, Mexico, with a similar income profile, had a 2008 per capita consumption volume of 146 litres. In short, a potentially vast volume of consumption has yet to be unlocked in a number of key Asian markets. For the big multinational players, this could prove powerful compensation for market maturity in their home countries.

These multinational players include the two leading brands that have historically dominated the beverage market place: Coca-Cola and PepsiCo. Despite the downturn in developed markets, they remain the market leaders by a significant margin, with Coca-Cola holding 22.6 percent of off-trade soft drinks volume and PepsiCo 10.8 percent.[7] (Danone Group and Nestlé SA come in third and fourth with 5.3 percent and 4.3 percent respectively).

Global beverage companies are diversifying their product portfolio and geographical coverage

PepsiCo and Coca-Cola have both diversified their product and geographic spread for many years and have extended their presence in fast growing regions in Asia. Coca-Cola grew its sales in China by 91 percent from 2004 to 2008; PepsiCo grew its sales by 57 percent over the same period. Coca-Cola has sought to continue this strategy, attempting to buy China Hui Yuan, the leading Chinese juice company. Despite this failed acquisition, Coca-Cola has signaled its focus on this market with a planned investment of US$2 billion between 2009 and 2011.[8]

PepsiCo demonstrated its appetite to be part of India's growth trend with the launch of a US$500 million investment package across their portfolio in the region. In addition to focusing on bottled water, PepsiCo concentrated on the juice market, forming strategic alliances with local farmers to develop the Tropicana brand in the region. The five-year program with the Punjab Government intended to provide several hundred farmers with four million sweet-orange trees for its Tropicana juices by 2008[9] although there is no publically available information on the progress of this project.

Despite the competition from these large multinational beverage firms, their belief in the potential of emerging market places should give Asian listed companies confidence. Moreover, Asian firms can draw on the local advantages they have in terms of supply chain and distribution network. While larger multinationals have the capacity to make significant investments, they have continuing high-cost commitments and challenges in Western Europe and the United States, which arguably detract from their ability to wholly capture Asian emerging market opportunities.

Today the multi-profile beverage culture means that more than one drink dominates the marketplace

Global beverage companies must also meet the needs of many different product categories. Globalisation has increased customer choice and the majority of markets now demonstrate a multi-profile beverage culture, with more than one drink category holding a strong "share of throat" position. Local beverage producers throughout Asia can work to strengthen their market position in their home countries and meet the growing demand of consumers.

ALCOHOLIC DRINKS IN ASIA

Alcoholic drinks have always been a central part of social life and represent a large market globally. Euromonitor calculated the size of the alcoholic drinks market to be 236 billion litres in 2009. This in turn can be broken down into the main drinks categories:

Figure 2: Market size of main alcoholic drinks categories (figures may not add up due to rounding)

Drink	Size of Market (2009) Billion Litres
Beer	185
Wine	27
Spirits	19
Ready To Drink (RTD)	4
Cider	1.5

Source: Euromonitor (2009)

Market growth for alcoholic drinks in Asian economies is particularly strong

The market growth for alcoholic drinks is particularly strong in emerging Asian economies and is driven by a range of socio-economic factors. These include favourable demographics, which ensure an increasing Legal Drinking Age (LDA) population. In addition, increased per capita income and urbanisation in countries such as India and China are creating a large middle class that is directing funds to aspirational purchases.

Figure 3: Per capita consumption of high potential beverage markets (per annum)

Country	Per capita Consumption (Litres)	% CAGR 2003-2008	% CAGR 2009-2014
World	34.7	3.2	1.7
China	37.6	8.0	6.5
India	2.8	11.3	9.1
Vietnam	17.6	-	7.7
Philippines	23.2	-	4.2

Source: Euromonitor, Alcoholic Drinks: BRICS, January 2010

By focusing on the power of premiumisation of drinks, beverage companies are driving strong growth in the demand for imported western alcohol brands over local options. Tourism in Asia has also helped introduce western brands to emerging economies. We see these influences at play in two countries seen as potential growth markets by alcoholic beverage companies – Philippines and Vietnam.

Case Study: Favourable demographics in the Philippines

Total population (2008): 90.4million
Legal Drinking Age (LDA): 18 years
Percentage of population reached LDA: 58.5 percent

In 2008, the median age in the Philippines was 23 years, which comprised a large working and drinking population. With the growing tourism industry bringing in more visitors and increasing affluence in the country, social drinking has grown.

3.4 million tourists visited the Philippines in 2008, forming the foundation of imported spirits and beer sales on trade. However, domestic players dominate the alcoholic drinks market and occupy the top five positions by volume consumed. San Miguel is the market leader, followed by Asia Brewery, Tanduay Distillers and Emperador Distillers. These domestic players benefit from a lower excise tax as well as improved local distribution in a country made up of over 7,000 islands.

Case Study: Westernisation Trends and "Healthy" beer choices in Vietnam

Total population (2008): 86.5 million
Legal Drinking Age (LDA): none
Percentage of population reached 18 years: 72.6 percent

Vietnam's economy performed well from 2003 to 2008, with average GDP growth of eight percent per annum. In terms of the alcoholic beverages market, the rise in disposable incomes produced not only higher volume sales of alcoholic drinks, but also an expansion of the customer base. Consumers in the middle and higher income brackets responded to westernisation trends and increasingly shifted away from local rice wine to beer. Growth was also driven by the simple rise in the number of consumers. Like the Philippines, Vietnam has high alcohol consumption growth potential due to its median age of just 26 years in 2008, which compares to a median age in Japan of 44. In addition, due to westernisation trends, health and well-being are factors visible through the choice of "healthy" beer and wine over "unhealthy" spirits.

In the alcoholic beverages market, brand names such as Guinness and Carlsberg are household names and still omnipresent, but the marketplace is dominated by local tastes and brands.

Figure 4: Market Share of Leading Drinks Companies

Country	Company	Products	Market Share
India	United Spirits	Spirits	23%
India	United Breweries	Beer	20%
Philippines	San Miguel	Beer	77%
Malaysia	Guinness Anchor Berhad	Beer & Stout	57%
Vietnam	Saigon Alcohol and Beverages Corporation	Beer	31%
China	China Resources Enterprise	Beer	17%

Source: Euromonitor, Alcoholic Drinks: BRICS, January 2010

One of the most fragmented countries in the region is China, where the leading player, China Resources Enterprise, holds only 17 percent of the market share for alcoholic beverages, closely followed by Tsingtao with 13 percent. Wines and spirits are even more fragmented with the largest player, COFCO Wines and Spirits, holding only four percent of market share. It appears in many ways that the sheer size of the county has hampered dominance in the beverages market and is closely linked to the lack of a national distribution network. A large number of local acquisitions would be required to gain this dominance, but this is expensive and arguably unachievable for a foreign company. Although China has relaxed its regulations on foreign ownership of local companies and majority ownership is allowed, in practise, international companies face obstacles, as seen by the Chinese government's refusal to allow Coca–Cola's acquisition of Beijing's Huiyuan in early 2009.

China is one of the most fragmented countries in the region for the market share of alcoholic beverages

Larger companies, including multinationals, have embraced consumer demand for product choice by diversifying their drinks portfolio. They have both increased the number of product lines and embraced rapid consolidation to acquire a wider range of products.

Case Study: Consolidation in alcohol marketplace

The brewing industry has been consolidating rapidly, with three mega-brewers left vying for market dominance: Anheuser-Busch, SABMiller and Heineken. At least two of these companies are among the top three brewers of every region in the world. Spirits are less consolidated. There are only two mega-distillers, Diageo and Pernod Ricard, who appear consistently in the top five of every region. The wine industry has some emerging multinationals, but none has a mega-presence across more than one region.

Figure 5: Market share of top three companies by product and region (2007)

Region	Beer	Wine	Spirits
North America	76%	25%	42%
South & Central America	59%	22%	50%
Europe	43%	17%	22%
Asia-Pacific	25%	23%	15%
Middle East & Africa	87%	35%	43%

Source: Business Insights

In Asia-Pacific, the power of the largest brewers is noticeably lower, accounting for only 25 percent of market share.

In the spirits sector, UK-based Diageo is the world's largest spirits company with annual sales of 111 million cases.[10] Earlier this year, United Spirits overtook Paris-based Pernod Ricard to become the second largest spirits company in the world, selling 100 million cases in the fiscal year ending 31 March, 2010. United Spirits is now planning to expand into Southeast Asia and Africa by buying distilleries. The company is looking at countries similar to its home market such as Sri Lanka, Vietnam, Cambodia and Singapore, and may either acquire facilities or appoint franchisees for its brands.[11]

India's United Spirits is now the second largest spirits company in the world

Danone, Nestlé, Coca-Cola and PepsiCo all have significant water businesses in developing countries. As the market develops, a frenzy of mergers could reshape the landscape and new Nestlés and Coca-Colas emerge from Asia as dominant players. One option for foreign multinationals to expand their presence is to form a joint venture (JV) with local companies. From a market entry point of view, this enables both companies to share their expertise. Danone's failed JV (included in the governance section) with Wahaha provides a salutary story of how JVs in the region can go sour if intellectual property ownership is not clear-cut from the start.

Growth in bottled water may favour the bottlers themselves as well as the beverage companies

Consolidation is expected to be a theme in India particularly, where the market is expected to grow by 100 percent over the next five years and there are currently more than 2,000 bottled water producers. Some believe that the bottled water story most strongly favours the bottle makers themselves with Thailand's Indorama Polymer, one of the world's largest plastic bottle manufacturers, possibly benefitting from the growth in the water market.

The water market in Asia involves two sub-sections: branded bottled water and the sale of bulk water that is replenishable from standing water fountains. Branded bottled water is normally sold regionally or nationally and success is dependent on reputation for quality, advertising, marketing and distribution. However, bulk water sales are more locally driven. Success relies both on the quality of the product and containers but also on the level of customer service. Sales of bulk drinking water have sharply increased in recent years, rising to over 18 million m^3 in 2007 from 3.4 million m^3 in 1999. Bulk water makes up only around 20 percent of the market in value but just under half of the market by volume in 2008.[12]

ISSUES FOR RESPONSIBLE INVESTORS

ENVIRONMENTAL

WATER: OIL OF THE 21ST CENTURY

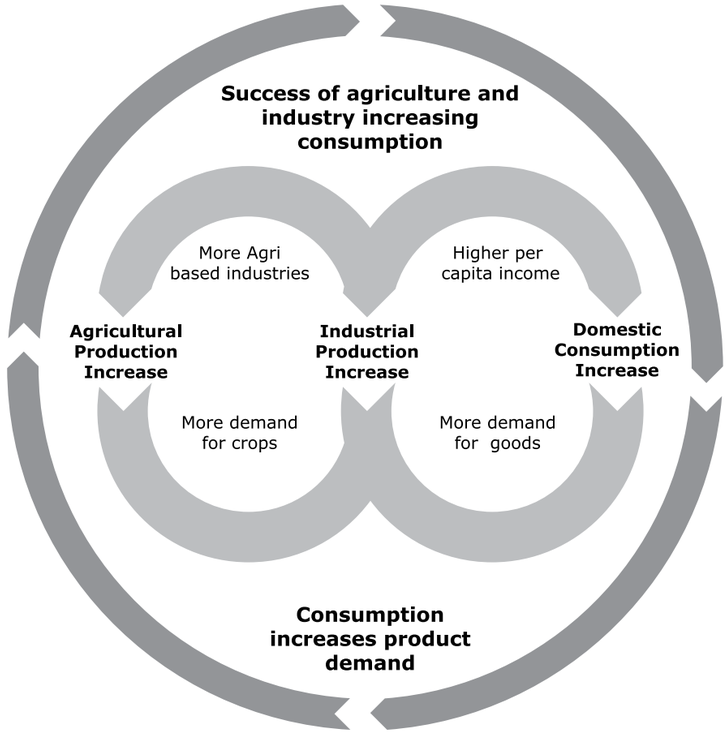
The environmental considerations of the bottling, brewing and beverage industries are multi-faceted, but ultimately involve being less dependent on finite resources such as fresh water, fossil fuels and other natural raw ingredients. In particular, we will focus a significant portion of this section on water. This is due to water's importance as the primary resource for the beverage industry, the growing issue of global water scarcity and the material impacts that water issues have had on beverage companies operating in Asia.

Freshwater is the most important natural resource for human survival but is becoming increasingly scarce

Fresh water is the most important natural resource for human survival. Importantly, in terms of this sectoral analysis, it is the essential ingredient in all beverage products, as well as being used for cooling and cleaning of production plants. The earth has a finite stock of water. There is precisely the same amount of water on the planet now – as the world's population approaches seven billion people – as when there were 300 million global inhabitants during Roman times.[13] This same amount of water will also meet the demands of the world's growing population which is expected to increase by approximately 50 percent to more than nine billion by 2050.

During the 20th century, the world's population increased fourfold, but the amount of freshwater used increased nine times over. This is driven by a range of interlinked factors (Figure 5). Agriculture is currently the major global water user with an estimated 74 percent of use. Domestic use accounts for eight percent and industry accounts for 18 percent globally. [14] These figures are important because even as industry develops, agriculture will remain the largest user of water and this links to the operations of beverage companies in terms of their agricultural supply chain processes.

Figure 6: Connections of Agriculture, Industrial industries and Social Changes

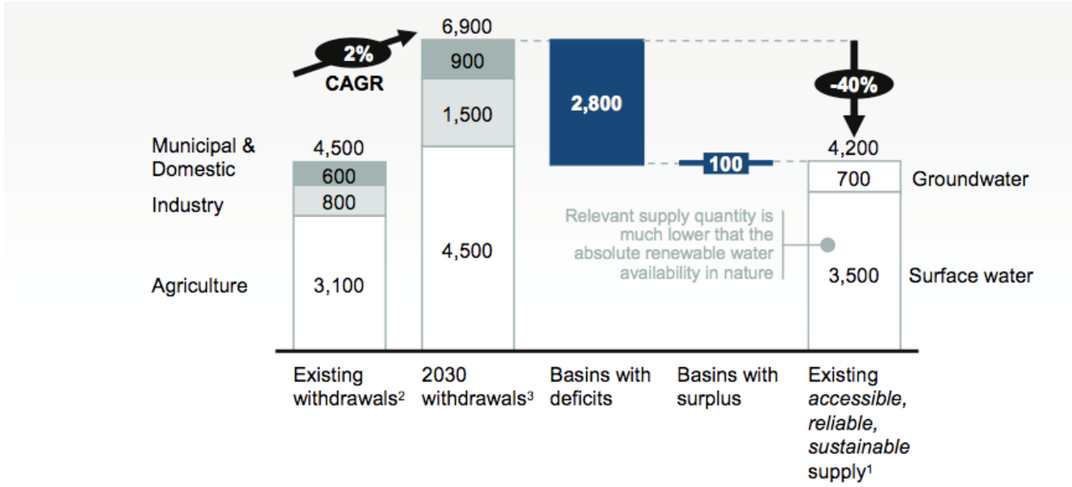


Source: Author, Responsible Research 2010

Under an average economic growth scenario and if no efficiency gains are assumed, by 2030, global water requirements will grow from 4,500 billion m³ today to 6,900 billion m³. This is a full 40 percent above the volume of water that is currently accessible, reliable and environmentally sustainable (Figure).[15] Overall, it is clear that we require more water than we have access to.

By 2030 we will require 40 percent more water than we currently have access to

Figure 7: Aggregated global gap between existing accessible, reliable supply and 2030 water withdrawals, assuming no efficiency gains (Billion m³)



1 Existing supply which can be provided at 90% reliability, based on historical hydrology and infrastructure investments scheduled through 2010; net of environmental requirements
2 Based on 2010 agricultural production analyses from IFPRI
3 Based on GDP, population projections and agricultural production projections from IFPRI; considers no water productivity gains between 2005-2030

SOURCE: Water 2030 Global Water Supply and Demand model; agricultural production based on IFPRI IMPACT-WATER base case

Source: Water 2030 Global Water Supply and Demand model [16]

By 2030 half of the world's population will live in an area of water stress

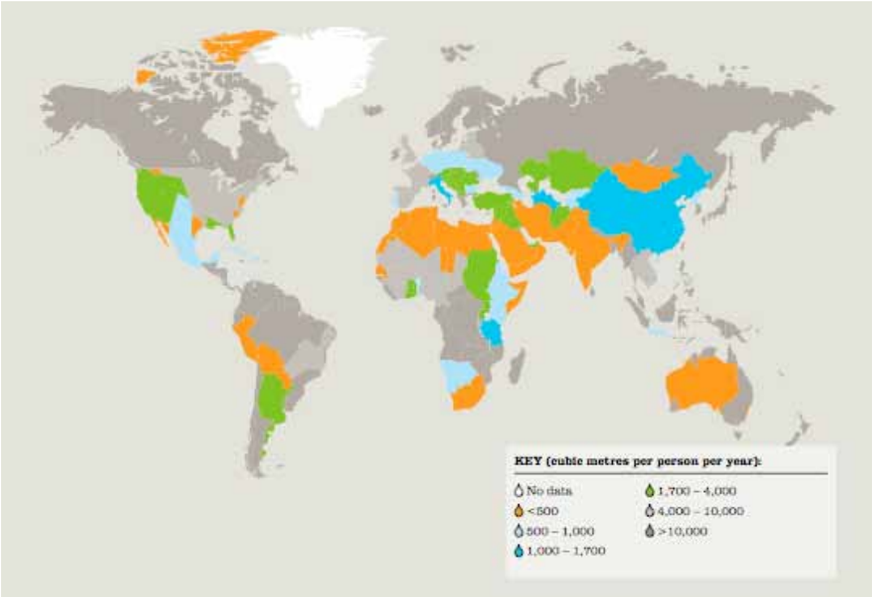
This difference between water supply and demand means that already 2.8 billion people live in areas of high water stress. This will rise to 3.9 billion by 2030,[17] representing more than half the expected population of the world at this date.

Case Study: Water terminology

According to the World Resources Institute (WRI), the term "water stress" is used when there is not enough water for agricultural, industrial and domestic needs to all be met. An area is said to experience water stress when annual per capita renewable freshwater availability is less than 1,700 cubic meters on either an occasional or a persistent basis. "Water scarcity" is used when availability falls below 1,000 cubic meters, which can usually seriously impact economic development and human health.[18]

This large and intimidating figure is an aggregation of a very large number of local gaps, some of which show an even worse situation. In particular, developing countries, where one-third of the population will live in basins, face a deficit of more than 50 percent.[19]

Figure 8: Global View of water scarcity



Source: SABMiller[20]

The map of global water scarcity highlights two major points. First, the breadth of countries impacted means water availability is a truly international problem. Governments and businesses are starting to take the threat of water scarcity seriously. A report by the World Economic Forum, made up of global leaders in international business and finance, states that lack of water, will "soon tear into various parts of the global economic system" and "start to emerge as a headline geopolitical issue." [21]

The water crisis presents different problems to countries around the world

Second, there is no single water crisis, and different countries in the same region can face very different problems. If we look at the nine countries that possess 60 percent of global fresh water supplies – Brazil, Russia, China, Canada, Indonesia, the United States, India, Colombia and the Democratic Republic of Congo – we might expect that they would have fewer water-related issues. However, focusing on three of these countries, we see that even those with relative water abundance are facing some of the most extreme problems with water scarcity.

Water in China

China's unbridled growth over the last ten years has increasingly severe implications for water use in the country. China's current water supply amounts to just over 618 billion m^3. However, water demand in 2030 is expected to reach 818 billion m^3, of which just over 50 percent is from agriculture (almost half supporting rice production), 32 percent from industrial demand driven by thermal power generation, and the remaining is domestic.

Water pollution in China is increasing the gap between supply and demand of fresh water

Industrial and domestic wastewater pollution is making the "quality- adjusted" supply-demand gap even larger than the quantity-only gap. Thirty percent of available surface water resources nationally are unfit even for agriculture, and 75 percent of rivers flowing through urban areas are considered unsafe for drinking or fishing.[22]

Changes in seasonal weather patterns are also impacting the country severely. Currently, the Yunnan province in the south of China is experiencing the worst drought in 100 years, affecting 61.3 million residents and five million hectares of crops in Guizhou, Yunnan, Sichuan, Chongqing, and Guangxi. The Ministry of Civil Affairs in China has reported that the drought has left 18 million residents and 11.7 million heads of livestock in the region with drinking water shortages and caused direct economic losses of US$3.5 billion.[23]

Case Study: South Asia looking to acquire land in Africa to grow food

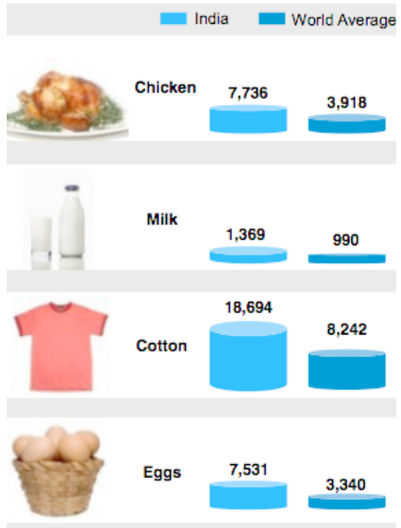
In fast developing countries in Asia, a significant portion of renewable water is used for the irrigation of agricultural land. In China and South Korea, where this level reaches 40 percent, they have to choose whether to allocate water to agriculture or to expanding cities and industries. Agriculture almost always loses out to the industrialising economy, especially to the energy and manufacturing sectors in such water allocation decisions.

By 2030, assuming business as usual, all of South Asia will reach the 40 percent threshold. Rapidly industrialising economies across South Asia, the Middle East and North Africa, which support approximately 2.5 billion people, will be forced to look elsewhere for water-rich land for their food. China is acquiring agricultural land in Southern Africa for this purpose.[24]

Water in India

India's current water supply is approximately 740 billion m^3. However, by 2030, demand in India will grow to almost 1.5 trillion m^3, driven by domestic demand for rice, wheat, and sugar for a growing population, a large proportion of which is moving toward increasingly westernised consumption habits. On top of changing consumption, research has shown that the water footprint (total water required to produce a product) is higher in India than the global average (Figure).

Water efficiency is lower in India than the global average



As a result, unless concerted action is taken, most of India's river basins could face severe deficits by 2030, with some of the most populous—including the Ganga, the Krishna, and the Indian portion of the Indus—facing the biggest absolute gap.[26]

Figure 9: Water footprint (litres per kg) of products in India compared to the global average

Source: Water in India[25]

Water in Indonesia

Rapid development and stretched institutional capacity means over 50% of Indonesia's population lacks access to safe water

Although Indonesia enjoys 21 percent of the total fresh water available in the Asia-Pacific region, it is facing significant water availability issues mainly tied to its rapid development, poor urban infrastructure, and stretched institutional capacity. The country's economic growth has not been accompanied by a corresponding expansion of infrastructure and institutional capacity. As a result, nearly one out of two Indonesians lack access to safe water, and more than 70 percent of the nation's 220 million people rely on potentially contaminated sources.[27] The country also has undergone significant land-use changes, and deforestation and extractive industries have polluted and altered the landscape, leaving many areas more vulnerable to extreme events such as monsoon floods.

Further climate change impacts

China, India and Indonesia are a focus of beverage companies due to their lower market penetration, but their water security issues are threatening the developing market potential. Climate change is likely to further exacerbate water scarcity issues in the region. For the beverage sector, the most relevant physical impact of climate change in Asia is that rainfall patterns will change. From 1960-2000, Southeast Asia experienced a decrease in rainfall as well as a decreased number of rainy days, which in turn increased the need for irrigated agricultural land to provide water supplies.[28]

Rising temperatures are not only melting polar ice caps but also mountain glaciers. A recent study by the U.N. Environment Program found that mountain glaciers in Asia are melting at a rate that will eventually threaten the drinking water, irrigation supplies, and hydropower of up to 25 percent of the world's population.[29] Raw materials needed in the beverage industry, such as sugar, wheat, barley and hops will also be impacted by climate change through water droughts and increasing mean surface temperatures greater than the global average over the next 100 years.[30] Higher temperatures can directly affect crop yields due to the increasing intensity of heat waves and droughts.

WATER RISK

The quality and volume of water required for beverage production exposes the sector to significant water risk

Many believe that competition over scarce water resources will turn this natural resource into the "oil of the 21st century". The scarcity of water is predicted to limit the growth of a wide range of companies due to its ready use in a wide range of manufacturing processes, from production to cleaning to cooling. However, the beverage industry is particularly exposed to water risk because of its dependence on large quantities of water for production. Aside from the volume requirement, a large proportion of this water needs to be very high quality for production, so the portion of water available to these companies is very small indeed. The ability of a company to access adequate physical water supplies or services will impact their ability to effectively manage their operations. The beverages sector needs to mitigate water risks in five areas so that asset performance and investments are not negatively impacted.

- Physical risk
- Business risk
- Regulatory risk
- Reputational risk
- Litigation risk

Physical Risk:

The physical risks of water shortages to beverage companies are described below.

Figure 10: Description and examples of physical risks leading to disruption of operations

Risk	Example
Increased water stress or scarcity	Water scarcity may cause disruptions to scheduled production cycles or necessitate investment in infrastructure to adjust to the shifts in water availability or improve the quality of water.
Flooding (due to changing local hydrological conditions)	Flooding from a local watershed may result in cleanup/repair costs or delays in scheduled production.
Flooding (due to rising sea levels)	Flooding along coastal areas may result in cleanup/repair costs or delays in scheduled production at facilities in these areas.
Inadequate infrastructure	Limited infrastructure in a particular jurisdiction may restrict production capacity on a water-intensive product line and require new infrastructure investment.

Source: Based on CDP Water Guidance Risks[31]

These increasing physical impacts due to climate change are being felt most heavily in developing nations where environmental regulations have historically been limited in terms of their scope and enforcement.

In India, poor regulation of land use and construction, massive surface irrigation, and deforestation have exacerbated flooding in the northeast. In 2007-2008, despite India's Flood Management Program, 3,659 people and 114,140 heads of livestock were lost, infrastructure was destroyed, and 3.5 million houses were damaged by floods. Flooding is endemic in Northeast India, and it is particularly acute in the low plain states, such as Orissa, Assam, and Andhra Pradesh.[32] This is clearly not an area where beverage companies would want to make large infrastructure investments. Additionally, if India's states are unable to mediate disputes and expand water availability, frustrations among farmers will likely rise, and could escalate into demonstrations and unrest increasing the risk of business operation disruption.

The risk of flooding highlights an interesting point about the water crisis in Asia. Despite the current rhetoric surrounding water shortages, businesses and domestic users in Asia may be periodically under the illusion that the area has an abundance of water. For example, in China, widespread flooding in the west of the country has been exacerbated by the rapid melting of the Himalayan glaciers and intense monsoons. Managing these periods of temporary superficial abundance will present Chinese policymakers and business leaders with just as significant a set of challenges as the management of scarcer baseline system water resources.

The physical risk to production also affects certain parts of the beverage industry reliant on regional growing areas for its ingredients. In the brewery sector, a 2009 study found that production of Saaz hops, the delicate variety grown in Europe to make pilsner lager, has decreased in recent years due to rising temperatures.[33]

Business Risk:

Water scarcity will increasingly have an impact on the financial performance of the beverage makers due to higher prices for scarce water sources or, in the case of some countries, the historical under-pricing of water as a commodity.

Figure 11: Description and examples of business risks

Risk	Example
Higher water prices	Constraints on water supply may cause regulators to raise the fees that companies pay for water rights or service.
Declining water quality leads to higher water-treatment costs	If changes to production practices cause a decline in quality of water outputs, new post-treatment activities may become necessary and add costs directly or indirectly to the production process.
Declining water levels impact agricultural production, thereby raising commodity prices	The cost of grain for beer and sugar and other inputs for both alcoholic and non-alcoholic beverages will increase when yields are low and demand remains high.

Source: Based on CDP Water Guidance Risks[34]

Water shortages will increasingly impact the cost of other raw materials. The recent jump in world food and grain prices, which was partly caused by water supply shortages from severe flooding and droughts, bears this out. HSBC's report on the Financial Impacts of Water Scarcity on the Food and Beverage Sector in Asia highlights that even without climate change impacts taken into account, global commodity prices are expected to increase in the long term, with the price of wheat predicted to rise by 81 percent - 102 percent by 2050.[35]

Companies can hedge some commodity price risk but this may not capture all shocks or disruptions

Companies can hedge some commodity price risk, but may not capture all shocks or unforeseen disruptions. Additional business risks could come from water's role in power generation for beverage manufacturing plants. Unilever's experience in Ghana proves salutary. In 2007, the Anglo-Dutch consumer goods giant was compelled to cut power consumption by 25 percent and buy expensive diesel generators when low rains impeded the country's hydropower capacity.[36]

Case Study: Water Pricing in China

In the Water in China report released by Responsible Research at the start of 2010, we considered a range of water specific issues across China. The report found that at a national level, the impact of water shortages and droughts is dampening China's economic development. Water shortages are responsible for direct economic losses of US$35 billion every year, about 2.5 times the average annual losses due to floods. In addition, from a pricing standpoint, the National Development and Reform Commission (NDRC), which plays a supervisory role in water pricing, has recognised that water prices are too low to cover the cost of managing supply and sewage treatment. According to Chinese water experts, water prices in Beijing are expected to increase fourfold to over RMB11/m^3 from the current RMB2.8/m^3. This will have a significant impact on the profit margins of beverage companies operating in the country and poses a business risk to their ongoing operations.

Regulatory Risk:

Regulatory risks emerge for companies when a country considers laws or regulations that can impact business operations. As emerging and developing countries in Asia flex their industrial strength, policymakers are evaluating the impacts of their water status and considering regulations regarding water usage to maintain their growth trajectory.

Figure 12: Description and examples of regulatory risks

Risk	Example
Statutory water withdrawal limits/changes to water allocation principles leading to disruption to operations and/or growth constraints	With increasing water scarcity and increasing demand, governments may choose to limit the quantity of water that users may withdraw. They may also change the allocation of water rights, potentially affecting growth and smooth operation cycles.
Mandatory water efficiency, conservation, recycling or process standards leading to higher compliance costs	These requirements may increase operating costs or necessitate new investment at some or all of the company's locations.
Regulation of discharge quality/volumes leading to higher compliance costs	Increased treatment costs or necessary changes to production to limit water discharges.
Increased difficulty of plant site permits	Water supply constraints or water pollution concerns may cause regulators to extend reviews or deny permitting water withdrawal that impacts planned growth.
Threat of penalties	A variety of penalty risks are possible, including those for excessive water withdrawals or discharges and those for water pollution above regulated limits.
Regulatory uncertainty	If the future standards are uncertain, this may impact planning for new operations especially if large capital investment is required.

Source: Based on CDP Water Guidance Risks[37]

Case Study: Water regulation in India

In India, water management is complicated by the multiplicity of organisations, including state governments and local organisations, which have responsibility for policy development and implementation. In some states, water is available for free or is highly subsidized. In fact, more than 40 percent of India's water does not generate any revenue, and in New Delhi, 13.8 million people pay for less than 50 percent of the water they consume. Very few legal restrictions exist regarding who can pump groundwater, how much and for what purpose. Historically, the government has subsidized the use of water for irrigation and domestic purposes, leading to the undervaluation of water as a resource. The management and supply of water resources is perceived to be a public sector monopoly and in the absence of an independent regulator, the very few pockets of water privatization have resulted in government-sanctioned monopolies. [38]

Reputational Risk:

Conflicts over water claims may negatively impact a company's reputation

Reputational risk for companies arises from a diminished perception of that company by stakeholders, including consumers, investors or local communities. For beverage firms, this risk can come from inefficient or harmful production activities.

Figure 13: Description and examples of reputational risks

Risk	Example
Damage caused by water extraction	Conflicts over water claims or other detrimental impacts from use of local water resources may negatively impact the company's reputation in a local community or with the general public.
Damage caused by water pollution	Discharge of excess pollutants to a local water body, which damages local business and society will negatively impact a company's reputation.
Working in communities with water scarcity	A company's reputation can be hurt when it is viewed to be taking water from more deserving causes such as local people or farmers. This is true even though the company may be completely within their legal right of access.

Source: Based on CDP Water Guidance Risks[39]

Case Study: Corporate Practices

Corporate practices with respect to water can go spectacularly wrong for even the largest names in the beverage industry.

In Kerala, India, the High Power Committee, established by the state government, has advocated that Coca-Cola be fined US$48 million for damage caused to the local water resources. This fine is due to their view that Coca-Cola's excessive use of their water sources; since the opening of the Coca-Cola factory, the Central Ground Water Board measured the water table as falling by 22.36 metres.

The bottling plant has been closed since March 2004 due to community-led action and extensive negative press against the company.[40] The reputational impact for Coca-Cola has been significant within the local community and throughout India and the developed world. Online blogs have turned the company into the key cause of water issues in the country, painted it as a greedy multinational, and encouraged boycotts of its products.

Litigation Risk:

Litigation risks relate to court actions taken by different stakeholders on issues regarding water consumption, withdrawal and discharge. Litigation from other parties over water issues may present risks such as losing a license to operate, being required to compensate other users, or other actions with negative business impacts. For example, another stakeholder with competing water claims may pursue litigation to gain access. Litigation can also occur over excessive discharges of pollutants to bodies of water.

In the developed world, litigation regarding environmental issues has existed for many years. However, in Asian economies, reduced public power means that civil action has not historically been a threat for companies operating in the region. However, the situation is changing in response to serious water pollution that threatens local supplies of drinking water. For example, in China several specialised environmental courts (ECs) have been established. They are located in:

Litigation risk is increasing in Asia as environmental courts develop in countries such as China

- Guiyang (Guizhou Province, established on November 20, 2007)
- Wuxi (Jiangsu Province, established on May 6, 2008)
- Kunming and Yuxi (Yunnan Province, established in November, 2008)[41]

These ECs have legal jurisdiction over civil, administrative and criminal cases related to environmental issues and have the power to enforce decisions. The ECs have enacted rules that enable environmental NGOs to bring civil cases on behalf of the public interest and also enable courts to enforce regulations to be followed. Although examples involving beverage companies have not been found, EC actions are an indication of the increased enforcement of regulation on environmental protection.

Case Study: Class Action suits in China

The Ministry of Environmental Protection (MEP) is responsible for communicating standardised, reliable and accurate information on national water quality to ensure that the public is aware of water quality facts. There is also an interesting provision for Environmental Protection Bureaus (EPBs) and social groups to offer legal support to parties whose legitimate rights and interests are damaged in water pollution incidents. This provision is by far the most specific and clear in recent Chinese legislation to integrate NGO activities into environmental litigation. For the first time, the law allows for a large number of parties who have had their interests damaged in a water pollution incident to file a class action suit through a representative. This could mean that litigation risk in China will be of increasing importance to investors.

Investors starting to evaluate water risk

Investors are beginning to seek information from companies on management of water risk

Few financial analysts currently incorporate these categories of risks into their valuations. However, institutional investors are beginning to seek information from companies on how they address and manage material water risks and opportunities. In August 2009, Norges Bank Investment Management (NBIM), which runs the US$415 billion Norwegian Government Pension Fund, announced that it would begin evaluating the water risk management practices of 1,100 companies in which it is invested.

Case Study: Norges Bank - Rising expectations of investors in water management

NBIM has recognised that it has a portfolio that is global and long term in nature. As such, it works to engage with the companies in its portfolio and raise corporate and investor awareness of environmental factors that may affect companies' long-term earnings and profitability.

Their report "NBIM Investor Expectations: Climate Change Management" has set out their expectations in terms of identification of climate change impacts in four sections: Direct Operations, Products and Services, Supply Chain and Transparency. They have identified global water shortage as a financial risk to their funds, with a potential impact on 1,100 companies in their portfolio, with ownership interest in these companies having a total market value of US$43 billion. They have therefore expanded their investor engagement to include a new priority area of responsible water management.

"At NBIM, we believe that investors should receive sufficient information to be able to assess how risk related to water scarcity, regulations and higher water purification costs can affect a company's profits and the likelihood of this occurring." - Anne Kvam, Head of Corporate Governance

In the third quarter of 2010, NBIM will publish "NBIM Investor Expectations: Water Management", which will contain the fund's expectations with regard to companies' management of water as a resource and the related risks. These expectations are directed towards companies with activities or supply chains in high-risk sectors and regions, and are based on international standards and best practices in water management.

ASSESSING WATER IMPACTS

Given the evolving water crisis, companies need to assess to what extent they, and their suppliers, depend on water and how they can best manage the required processes and infrastructure. By implementing rigorous water testing and monitoring and by installing treating equipment, companies can effectively reduce the associated risks and become part of the solution. In the Water in China Report, published by Responsible Research in 2010, we highlighted the growing consensus on how companies should approach the risk of water stress (Figure).

Figure 14: Five steps to improve corporate water performance

Measure water footprint	Assess risk	Consult and engage	Establish water policy, set goals and targets	Report on water management
-Measure a company's water use and wastewater discharge throughout the complete value chain including suppliers and buyers. -Information will provide the baseline data to assess risks, prioritise efforts, and measure progress. -Begin internal reporting to build confidence in systems.	-Assess the range of risks associated with the company's water footprint and align findings with the company's energy and climate risk assessments. -Because of water's regional and time-specific character, companies need to convert waste footprint data into actual water impacts and risks.	-Consult stakeholders and engage with suppliers as part of the water risk assessment, long-term planning and implementation activities to form strategic partnerships. -Strengthen ESG/water management systems and data gathering techniques.	-Integrate water issues into strategic business planning and governance. -Implement best available technology and factor water risk into relevant business decisions.	-Disclose water performance and related risks. -Publicly report management activities and performance over time. -Information can help shareholders assess how companies are addressing their water risks and seizing opportunities.

Source: Adapted from Ceres/Pacific Water Institute's Water Scarcity & Climate Change, Responsible Research

We will now detail best practice examples that companies are displaying in each of the five steps.

1. Measure water footprint
Corporate water reporting begins with a process of identifying and understanding the water used in direct and indirect operations. A range of tools and strategies are being developed to enable this water use measurement.

Implementation of Environmental Management Systems signals a proactive approach to addressing environmental issues

General Environmental Management Systems (EMSs) such as International Organization for Standardization (ISO) 14001, include a focus on water management. ISO 14001 is implemented around the world, most notably in Europe and Asia. Although certification does not necessarily mean that a company generates limited environmental impacts, it does demonstrate that the company is actively involved in addressing environmental issues. A number of beverage companies implement ISO 14001 at their production plants for this purpose. Carlsberg Brewery Malaysia is a company that has now achieved ISO 14001 certification on their factory operations. In some countries in Asia, uptake has been incentivised by the government. For example, in Thailand, ISO 14001-certified companies are exempt from paying annual manufacturing license fees to the Ministry of Industry for five years.

EMSs cover a wide range of environmental issues. Given the importance and complexity of water use for listed companies, there are increasingly sophisticated water measurement systems being developed for use by beverage companies. Some beverage firms use in-house water measurement systems, but the aforementioned complexity means that global water footprinting methodologies are being developed and increasingly used by companies. For example, PepsiCo was a partner of the World Business Council of Sustainable Development (WBCSD) in the development of the Global Water Tool and is a proponent of this system.

Figure 15: Summary of Leading Corporate Water Reporing Methodologies

	Water Footprinting	Life Cycle Assessment (LCA)	Global Water Tool (WBCSD)
DESCRIPTION	Water footprinting measures total water input (both direct and indirect) that is used to produce consumer products such as beverages.	LCA is the evaluation of the environmental impact of a product through its lifecycle. It emphasises the different level of impacts in different parts of the value chain.	An online tool that brings together corporate water use data with local watershed information thereby enabling companies to assess their water use and related risks in the specific areas in which they operate.
SCOPE	Comprehensive measurement of water use. Results are in volumes and enable A to B comparison.	Assesses many environmental resources and enables A to B comparison. Considers water use and impacts.	Water-specific and action-orientated. An outline measure of water usage and impact assessment is produced with information provided at country level.
STRUCTURE OF REPORTING	Water footprinting includes: - Blue water footprint: the consumption of surface and ground water - Green water footprint: the consumption of rainwater stored in the soil as soil moisture - Grey water footprint: the volume of fresh water that is required to dilute pollutant load.	- Output is divided into different categories and separated by production phase. - Impacts are weighted across different categories depending on impact assessment.	Outputs are wide ranging and provide input into Global Reporting Initiative (GRI) reporting methodology as well as innovation with Google maps software.
MATURITY LEVEL & FTUURE DEVELOPMENTS	The Water Footprint Network is currently developing the "Water Footprint Decision Support System" (WFDSS), which will allow impact assessment and consideration of the condition of the water sources impacted.	Although improving transparency, it has limited applications for improving the performance of companies.	Introduced into the private sector in 2007, it is now commonly used. Version 2 with updated information on watersheds was made available in 2009.

The water footprinting industry is continuing to grow and providing increasingly bespoke data to companies to help them understand their water use. For example, JohnsonDiversey offers a benchmarking programme called Aqua Check that measures a plant's water usage, compares it with the industry average, and suggests recommendations for improvement. [42]

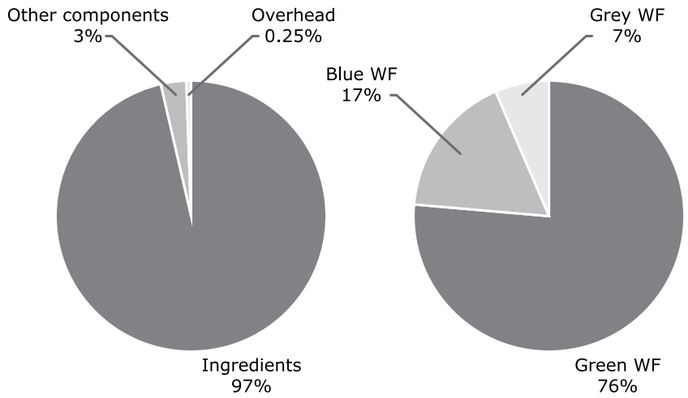
Whichever method is used, it is vital that companies focus on their whole value chain. To illustrate this point, a pilot study was commissioned by the WBCSD on water footprint accounting and impact assessment for a hypothetical but realistic sugar-containing carbonated beverage in a 0.5 litre PET-bottle.[43]

The study not only looks at the water footprint of the ingredients of the beverage, but also the water footprint of the bottle and other packaging materials, the water footprint of the construction materials, including the paper and energy used in the factory and the vehicles and fuel used for transport. The water footprint of the beverage studied in this report is between 169 to 309 litres of water per 0.5 litre bottle, and 99.7 - 99.8 percent was used in the supply chain.

99.7-99.8 per cent of water utilised in the production of soft drinks can be assigned to the supply chain

The study showed that ingredients that constitute only a small fraction of the final product can significantly affect the product's total water footprint.

Figure 16: Supply chain water footprint for carbonated soft drink



Source: WBCSD [44]

Case: SABMiller improves water transparency

Breweries such as SABMiller have worked with the WWF to develop the use of water footprints. In 2008, SABMiller determined that its entire supply chain, including the cultivation of ingredients, required nearly 8.4 trillion litres of water. In the context of country usage, this is nearly double the amount of water used by the whole of Iceland in 2004.[45] Beyond this global figure, SABMiller analysed the water footprints for two of their operations in the Czech Republic and South Africa. Their aim was for the water footprint to help the company to manage risk in water scarce areas and to take better operational decisions. This could influence how SABMiller manages plants, works with suppliers and engages with governments.

The results were very similar in terms of the percentage split between different users in the value chain, with crop production dominating water usage, averaging over 90 percent of the footprint. In absolute terms, the quantitative footprint of the South African operation was at 155 litres of water per litre of beer (l/l), significantly higher than the Czech Republic footprint at 45l/l. The main reasons for these volume differences were the differing country temperature profiles, greater reliance on irrigated crops in South Africa, and a larger proportion of imported agricultural raw materials flowing into SABMiller's South African business from countries where crop water consumption is higher.

This highlights the important point that water footprints can differ enormously between factories producing the same product. Water footprints are produced in the spirit of transparency and leaders in this area such as SABMiller have used them as a way of engaging with suppliers down their value chain.

Water footprints are increasingly used to improve consumer understanding of the products they consume and enable comparison between companies. For example, SABMiller's values of 155 litres of water per litre of beer in South Africa and 45 litres in the Czech Republic can be compared to global averages of 75 litres per glass of beer, 120 litres for a glass of wine, 30 litres for a cup of tea or 140 litres for a cup of coffee.[46]

The implementation of CDP Water Disclosure in 2010 signals the growing importance of water security to listed companies

2. Assess water risk

The common set of water risks we previously detailed are adapted from the Carbon Disclosure Project (CDP) instruction guide that helps companies assess their water risks over water scarcity, pollution and flooding. CDP Water Disclosure sent its first annual information request to 302 companies worldwide in April 2010. This request was targeted at companies in those sectors that are water-intensive or exposed to water-related risks, including food and beverage firms. An update from Marcus Norton from CDP highlights that the sample of 302 includes ten companies with headquarters in China, plus ten companies from Hong Kong and four from Taiwan. Already Molson Coors and PepsiCo are among the big beverage companies that have publicly committed to responding in 2010. The data, to be published in the final quarter of 2010, will provide valuable insight into the strategies deployed by many of the largest companies in the world on water and will be used to help drive investment towards sustainable water use globally.

Risks for the beverage sector in Asia

The magnitude and likelihood of risks in the beverage sector differ depending on the category of risk

The World Resources Institute (WRI) has investigated the financial impact of different risk factors to different industries. Regionally, the research found that the financial impact of water scarcity linked to climate change was greatest in Malaysia and Philippines. In the dairy industry, Vietnam, Indonesia and India would have the largest financial impact from water scarcity.

The research estimated the magnitude and likelihood of risks that are expected to affect the beverage industry, and highlighted that the largest financial impacts will come from increased processing costs whilst the likelihood of financial impacts from agricultural crop prices are expected to be lower (Figure).

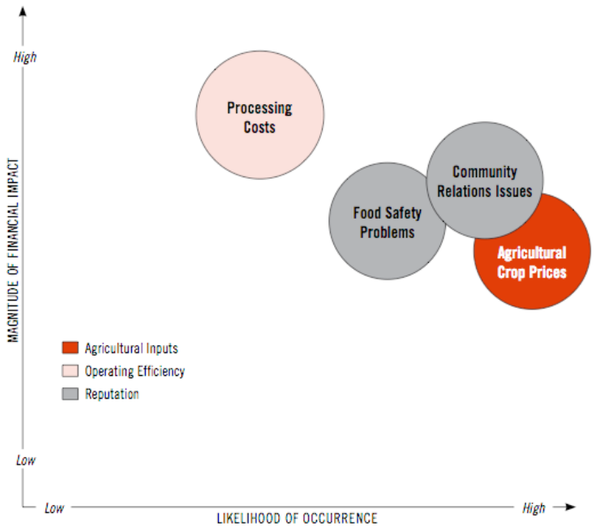


Figure 17: Magnitude of impacts of climate change and water scarcity

Source: WRI (2010) Weeding Risk[47]

3. Consult & Engage

Stakeholders in the beverage industry are parties who affect or can be affected by a company's actions. This includes customers and employees as well as NGOs and governments. Companies are increasingly expected to identify and proactively engage with all stakeholders connected to their operating environment. In today's media and internet-driven age, companies risk being the subject of intense criticism for any negative impacts on stakeholders.

Stakeholder engagement begins when a company understands and maps their impacts

An engagement process will enable a company to understand and map their impacts and ensure that the whole ecosystem in which they operate thrives. A number of global initiatives have been set up with the aim of helping businesses to work together on these issues. One water-related example is the CEO Water Mandate launched by the United Nations Global Compact in July 2007. This non-binding, voluntary public-private initiative provides a platform to assist companies with the development, implementation and disclosure of water sustainability policies and practices. Only signatories of the UN Global Compact can endorse the CEO Water Mandate. CEO Water Mandate endorsers include Nestlé, Coca-Cola, PepsiCo and Groupe Danone. The core elements can be divided into two themes. The first three elements – direct operations, supply chain and watershed management and collective action – are part of the corporate water footprinting trend, and the last three elements – public policy, community engagement and transparency – all pertain to water governance issues.

4. Establish policy, goals and targets

The leading global brewers and beverage companies have made a range of commitments to reduce their water usage. These commitments are made on a company level and usually contain efficiency targets or Water Usage Ratios (WUR). Benchmarking is of limited use between companies due to geographical water differences, product differences and the scope of their water footprinting analysis. However, these targets provide impetus for continued internal improvements and efficiency gains.

Figure 18: Company Water Reduction Commitments

Company	Main Product	Sustainability Reporting	Water reduction target
Diageo	Spirits	Corporate Citizenship Report	Water per litre of product reduced by 30 percent from 2007 – 2015.
SABMiller	Beer	Sustainable Development Report	Water consumption reduction target of 25 percent over the period 2008-2015, per litre of beer produced.
Anheuser-Busch	Beer	Global Citizenship Report	Water use to be reduced by 10 percent by 2010 (from 2008 report figures).
Asahi	Beer	CSR Report	No targets in place for reductions but monitored year on year.
The Coca-Cola Company	Soft Drinks	Water Stewardship Report	Through a conservation partnership with WWF water efficiency will be improved by 20 percent by 2012, compared with a 2004 baseline.

Source: Relevant company websites

Externally reported targets were only found for global beverage companies and are not yet a feature of external reporting from Asian listed companies.

5. Report on water management
The reason to develop a sound water strategy is to mitigate water risks with a priority on changing internal behaviour to improve performance. However, external reporting of environmental data through sustainability reports and other communications can help companies inform investors of their approach to this key resource. Multinational companies are the most vocal about their water initiatives and those companies that undertake a proactive approach are better able to manage their brand identity.

GRI has pioneered the development of a global standard for sustainability reporting by sector – the G3 Guidelines. The vision is for this framework to establish reporting on economic, environmental, and social performance by all organisations as a routine activity, comparable to financial reporting.[48]

Case Study: GRI Guidelines for water reporting

The G3 Guidelines include five water-related reporting indicators and provides a structure for companies to externally report on water issues:

- Total water withdrawal by source
- Water sources significantly affected by withdrawal of water
- Percentage and total volume of water recycled and reused
- Total water discharge by quality and destination
- Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharge of water and runoff

Some companies in Asia still view water reporting as a purely marketing tool

Asian listed companies are starting to communicate their water efforts to the general public. Nestlé's Water Resources Report, is particularly notable for the breadth and detail of their reporting on Asian firms. However, some companies still see the practice as marketing spin as exemplified by comments from the Chinese juice maker Huiyuan.

"In the new year, Huiyuan will enhance its energy-saving and consumption reduction efforts by taking measures to reduce consumption on various aspects, including water, power and raw materials, in order to foster a good corporate image."

Huiyuan's statement acknowledges the importance of public perception to commercial success, which is arguably a step forward from its peers who do not even acknowledge such issues. However, it remains concerning as it does not reflect the real risk posed by water stress on business operations.

BEST PRACTICES IN WATER MANAGEMENT

Global Water Leaders

Released in February 2010, the Ceres report "Murky Waters? Corporate Reporting on Water Risk" assessed 100 companies from eight different water intensive sectors, including beverages, against their peers. The companies were assessed across five categories: Water Accounting, Risk Assessment, Direct Operations, Supply Chain, and Stakeholder Engagement. The study's conclusion was that even for companies operating in sectors and regions of the world facing significant water risks, and despite the fact that 73 percent reported some exposure to water-related physical risks, disclosure of risk and corporate water performance was surprisingly weak.

Diageo have been identified as the global leader on water disclosure by Ceres

However, beverage companies were mindful of reputational risks related to water, and many included detailed analysis of the water requirement in the manufacture of their products. Target setting was weak, with only 21 out of 100 companies disclosing quantified targets to reduce water use. This is consistent with our analysis of Asian companies, where growing awareness has been slow to translate into quantifiable analysis and target setting. The clear leader from the Ceres report was Diageo, a company who also achieved the top score in our benchmarking of five global drinks companies.

Figure 19: Ceres Global Leaders on Water Disclosure

Company	Score
Diageo	43
Anheuser-Busch	34
Coca-Cola	34
SABMiller	30
PepsiCo	29
Heineken	25
Pernod Ricard	18
Brown-Forman	14
Constellation Brands	9
Dr. Pepper Snapple	8

Source: Ceres Report: "Murky Waters? Corporate Reporting on Water Risk"

Water Practices in Asia

If we review the water sustainability initiatives underway for the 30 Asian listed companies included in our benchmarking, we see distinct stages of development: Leaders, Followers and Laggards. A table list of the commitments and initiatives from these companies is shown in Appendix 1.

Leaders:
Leaders are those companies that have quantified their water usage and are implementing comprehensive and strategic initiatives on water efficiency across their company. Most of the benchmarked companies in this category were linked or owned by a large multinational company and often relied on the reporting structure of the global website and global sustainability report. It is unsurprising that these global brands have the most comprehensive water strategies reported publically. Beyond their increased exposure to the physical risk of water shortages, these companies have a strong global brand to preserve and work hard to communicate their approach to operations in developing and emerging Asia.

Most of the Asian leaders on water reporting are linked or owned by large multinational companies

Figure 20: Water Leaders in Asia

Name	Main product	Country	Environment Report
Carlsberg	Beer	Malaysia	CSR section on website with Environment sub section
Guinness Anchor	Beer/Stout	Malaysia	Sustainability Report published with Environment section.
Nestlé Malaysia	Milo/ RTD Coffee	Malaysia	Creating Shared Value Report (CSV) globally and Malaysia CSV report.
Tata Tea	Tea	India	Sustainability Report. GRI G3 self assessed and externally audited by Ernst & Young
Unilever Pakistan	Lipton Tea	Pakistan	Global Sustainability Report for Unilever and Social Report specific to Pakistan operations.

Source: Information from relevant company web sites

Case Study: Nestlé Malaysia
Although some of the content from the CSV report for Nestlé Malaysia is drawn from its global report, it includes further detail about the operation of factories and processes within the country. In 2009 it highlighted that the company reduced water consumption per tonne of product by 6.5 percent compared to 2008, through water saving measures in production locations as well as creating awareness at all levels of operations to eliminate unnecessary spillage of water. The Nestlé Malaysia report further described initiatives about each plant. For example, it articulated how the Chembong Factory optimized its wastewater treatment and reduced water pressure levels. Although data was not included in detail, it highlights the local implementation of efficiencies being undertaken by the company.

Followers:
Our benchmarking research shows that most companies in Asia are not yet strategically managing water resources. The Followers identified in this section have undertaken ad hoc initiatives related to water use with apparently limited understanding of water materiality to business models.

Figure 21: Water Followers in Asia

Name	Main product	Country	Environment Report
Nestlé India	Soft drinks	India	Creating Shared Value Report – only global report available.
United Breweries	Beer	India	CSR section on web site.
China Huiyuan Juice	Fruit and vegetable Juice	Hong Kong	None.
Tingyi	Bottled water / RTD tea	Hong Kong	None.
Tsingtao Brewery	Beer	Hong Kong	None.
UniPresident	Dairy	Hong Kong	CSR section on web site.
Vitasoy	Soy products	Hong Kong	None.
Multi Bintang	Beer	Indonesia	CSR section on web site.
Fraser & Neave	Soft drinks	Malaysia	CSR section on web site with Environment sub-section
Thai Beverage	Beer	Thailand (Sing listing)	None.
Vinamilk	Dairy	Vietnam	None.

Source: Information from relevant company web sites

Case Study: United Breweries, India

In its company commentary, United Breweries states its increasing focus on water conservation, which is vital for them as a company experiencing rapid growth in production volumes. With 11 percent expected growth year-on-year reported in 2008 [49], United Breweries reports that most of its production units have a constraint on disposal of wastewater. Consequently, the company has embarked upon a plan to install sophisticated equipment and modification processes to reduce consumption of water and its disposal. United Breweries highlighted that this investment will have a long-term financial benefit by reducing their need for the acquisition of additional lands for wastewater disposal.

United Breweries is also increasing their collaboration with agricultural universities to identify how wastewater can be used to cultivate crops. The acknowledgement of the water issue from the leading brewer in India is a vital step, and it is hoped that it will continue to develop best practice in this area.

Although a Follower in this report, due to its lack of publicly available information, interviews with United Beverages in India reveal its detailed internal strategy of "Conserve, Connect and Conquer" relating to water use. The water treatment aspect of this is detailed in the Water Insights section of this report.

Case Study: Nestlé India

Nestlé India is part of the Nestlé group and so is included in the global reporting completed in the extremely detailed Water Resources Review. However, it has not joined Nestlé Malaysia in the Leaders category as there is no individual country specific reporting on water related issues for Nestlé India. Although we could assume that the principles of water conservation apply throughout the group, there are no specific targets quantified and communicated for the Indian business. This underscores the reporting standards of multinational firms, and the level of specificity required to understand country specific issues and local risk mitigation.

Laggards:
The Laggards identified in this report are not disclosing their water performance or communicating water targets at present.

Figure 22: Water Laggards in Asia

Name	Main product	Country	Environment Report
Chang Yu Beverages	Wine	China	None.
Kweichow Moutai	Beer & Spirits	China	None.
Lu Zhou Lao Jiao	Spirits	China	None.
Mongolia Yili	Dairy	China	None.
Wuliangye Yibin	Spirits	China	None.
China Mengniu	Dairy	Hong Kong	None.
Want Want China	Dairy	Hong Kong	None.
United Spirits	Spirits	India	None.
Hite Brewery	Beer	South Korea	None.
Jinro	Soju, whiskey	South Korea	None.
Lotte Chilsung	Soft drinks	South Korea	None.
San Miguel	Beer	Philippines	None.
Hey Song	Soft drinks	Taiwan	None.

Source: Information from relevant company web sites

WATER INSIGHTS FROM ASIA

The evaluation of the practices of the 30 Asian listed companies has produced seven key insights regarding the current status of risk in Asia for beverage companies.

1. Global targets, local implementation
2. Efficient production is a key focus of water strategies
3. Supply chain perspective is vital
4. Companies benefit from stakeholder engagement
5. Water treatment is a focus of Asian companies
6. Pollution drives growth in bottled water

Companies must be versatile and respond to local conditions in order to develop a strong water management strategy

Water Insight 1: Global targets, local implementation
The management mantra "think global, act local" is used regularly in business and is especially relevant for companies grappling with the challenges of water availability. Versatility is critical to any corporate water strategy, and companies must respond to local conditions, from flood barriers in one operating environment to rain harvesting systems in another.

Case Study: Tata Tea Water Harvesting

To reduce the pressure on natural water sources, the packaging centre at Pullivasal, India introduced rainwater harvesting in its premises. With the tank capacity of 25,000 litres, the initiative, when completed, will reduce dependency on external sources of water during the monsoon period.

The proactive nature of this initiative demonstrates the forward-thinking culture at Tata, which has a diverse portfolio of sustainability projects across their range of businesses. We hope that this is a signal of continued work in water efficiency improvements across Tata's plants and plantations. [50]

A 2009 estimate by Business for Social Responsibility (BSR) suggests that currently only six or seven companies in the world think systematically and holistically about their water risk exposure. [51] The best case examples of major water users included leading beverage companies SABMiller, Coca-Cola and PepsiCo, as well as multinationals with beverage lines, such as Unilever and Nestlé.[52]

"These firms know which watersheds their facilities draw from. They know how their supply chains are water-impacted and impactful. Within a given facility, they can then break down their water usage. With each new investment, they analyse the availability and quality of nearby water sources. And all of their strategic water-related goals are made with local communities' interests in mind."
- Business for Social Responsibility[53]

The Ceres water report Murky Waters: Corporate Reporting on Water Risk only classified three of the companies in its analysis as high-performing, including just one beverage company: Diageo. The small number of leaders was a result of the lack of companies providing reduction targets differentiated by the level of water stress facing specific facilities. Given the regional impacts of water scarcity, the aim of all companies should be to provide data broken down to facility level for operations in water-stressed regions. Companies can put their company's risk exposure in context by disclosing the percentage of facilities operating in areas of water stress. Investors should be asking for this information from all of their portfolio companies to truly understand the business risk of water usage across a company's operations.

Case Study: Nestlé's Water Resource Review Report
In addition to their corporate responsibility report entitled Creating Shared Value, Nestlé also published a 41 page, Water Resource Review (WRR) in March 2007. Through this approach, Nestlé appears to be one of the industry leaders in the extent of its external water reporting.

To date, the WRR has been conducted at 65 Nestlé waters sites – more than half of its total bottled water facilities – where its deployment will enable the risks and key issues in local water resources management to be identified, and specific action plans towards sustainable water use to be established. Sites are being prioritised by their position in their Water Stress Index, which in turn is based on external indicators of water poverty, watershed stress and internal local indicators. From a technology perspective, they include detail of their use of hydrogeological monitoring, and possibly aquifer modelling, to assess the availability of surface and underground water.

Water Insight 2: Efficient production is a key focus of water strategies

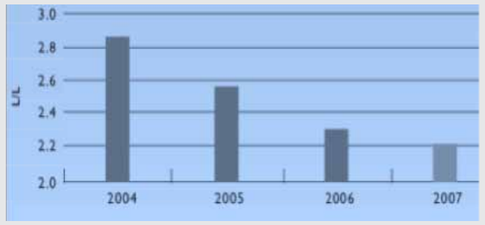
Water usage ratios are reducing across Asia when water efficiency initiatives are implemented

Once companies have an understanding of their operational water use, the next phase is to reduce it without compromising product quality. This can come from process innovations, new technology and even trial-and error. Companies listed in Asia are implementing water reduction initiatives and seeing the benefits in their water usage ratios. In Korea, Diageo found that ten percent less water could be used to wash bottles just as effectively. Companies can also collect wastewater in their facilities and reuse it appropriately in secondary processes, and investigate and employ new technologies to recycle water within the production plants.

Case Study: Swire Beverages, a subsidiary of Swire Pacific Ltd

Swire Beverages is an example of a company that recognises that water is an increasingly precious resource in China and takes its water responsibilities seriously. In 2007 it used around 6.3 million litres of water, up 13 percent from 2005, although production grew by 18 percent in the same period, showing its enhanced water efficiencies.

Swire's Water Usage Ration (WUR) dropped four percent from 2006 to 2007, saving 280 million litres in a single year (Figure 22). Five operating units showed improvements of over ten percent. Its Hangzhou plant is classified as one of the best performing plants in the Coca-Cola global system, with a WUR of 1.56 l/l. Swire Beverages has also started to minimise its water discharge and monitor the quality of its outputs. Some of their units supply their wastewater effluent to other uses such as cleaning and gardening.



	2008	2007	Change %
Region			
Hong Kong	2.69	2.86	5.9
Taiwan	2.85	2.93	2.7
USA	2.03	2.21	8.1
Mainland China	1.76	2.07	15.0
Average	1.95	2.23	12.6

Swire's explanation about the differences of water usage at different plants helps provide a context for investment professionals.

Management notes that "Hong Kong and Taiwan have higher usage ratios due to shorter product runs and a higher proportion of water-intensive products such as teas and juices. Swire Beverages' plant in Hangzhou, which has long production runs of carbonated product, has ... one of the best performances in the entire Coca-Cola production network worldwide."

Figure 23: Swire Beverages Water Usage Ratio (2004-2008)

Source: Swire Beverage Sustainability Report 2008

Water Insight 3: Supply chain perspective is vital

Leading global companies are focusing on supply chain initiatives to make a larger impact on water availability in the regions in which they operate

Even companies that improve their water efficiency at their production sites are at risk from water shortages due to their factory locations. Declines in water availability and quality are increasing competition for clean water, leading to tensions between businesses and local communities. This is particularly true in developing countries where local populations often lack access to safe and reliable drinking water. The Kerala incident with Coca-Cola made it clear to large listed companies, particularly foreign firms that they cannot ignore the community outside their factory gates. Leading beverage companies are now focusing on going beyond efficiency improvements and earning the right to operate in a community by 'giving back' the total volume of water that they withdraw.

Case Study: Positive Water Balance for PepsiCo

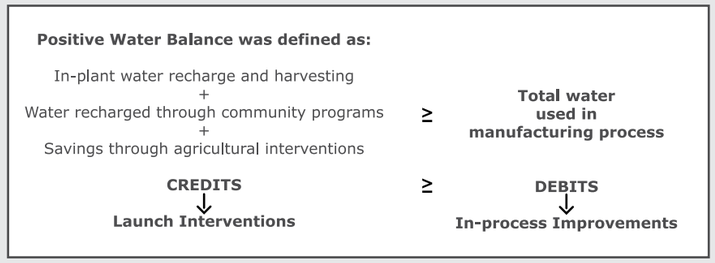
We discussed the need for companies working in high water stress areas to develop their focus from "using less" to "no impact". Like Coca-Cola, PepsiCo must think strategically about how this can be done most effectively.

When PepsiCo launched its business in India 18 years ago, it pioneered several major agricultural initiatives, partnering with thousands of farmers and the Punjab Agriculture University to raise productivity and thus improve farmers' incomes and quality of life.

Water efficiency measures combined with the reputational impact of taking water from scarce sources in developing countries has meant that PepsiCo has taken its water policy one stage further. Sanjeev Chadha, the Chairman and CEO of PepsiCo India wrote online about the water challenge that PepsiCo is facing in India. His comments discussed the environmental activists that had historically targeted PepsiCo and other beverage companies operating in India for consuming excessive groundwater in local communities. PepsiCo's response has been to not only focus on water efficiency but to achieve a "Positive Water Balance" in India by 2009.

"This commitment means that for all water used in our manufacturing process, we would give the same amount of water back to local communities, through in-plant processes to reduce our water use, as well as programs and interventions to create greater fresh water access in local areas".[54]
Sanjeev Chadha, Chairman & CEO PepsiCo India

Figure 24: Summary of PepsiCo Positive Water Balance



Source: WBCSD[55]

This program highlights that working in areas of water stress requires an increasingly proactive approach, that goes beyond reducing the impact of a corporation's own operations and takes their impact to zero through giving back resources. Their company web site does not state whether this has been achieved, however, the achievements highlight that significant improvements have been made:

"In the last five years, our India manufacturing team has reduced water use by more than 55 percent and in the last three years, we have saved more than 2.5 billion liters of water through conservation efforts. We have also prevented depletion of ground water aquifers by constructing rainwater harvesting systems in most of our plants." [56]

By focusing on the agricultural supply chain, where the majority of water is used, beverage companies will be able to make a larger impact on regional water availability and deliver an environmentally more stable surrounding to work in.

Case Study: Unilever in Pakistan

Unilever has focused on water scarcity issues in Pakistan and initiated the Thardeep Rural Development Programme (TRDP). They have installed over 370 hand pumps, funded the construction of three rainwater harvesting reservoirs and tested a windmill in Thar, thus, providing clean water to the villages. The rainwater harvesting reservoirs can store water for six months at a time, providing water for the animals and crops.

In addition to working with TRDP, Unilever developed partnerships with IDE-India and Acumen Fund to implement a water conservation programme such as the Drip Irrigation project. It is aimed at empowering rural communities to secure their rights, with command over resources and capabilities to manage the process of sustainable development.

Stakeholder engagement includes working with communities, NGOs and employees

Water Insight 4: Companies benefit from stakeholder engagement

A proactive stakeholder engagement programme is necessary in order for beverage companies to understand and effectively engage on water issues. Engagement is with communities, NGOs and employees.

Community Engagement

Community opposition to water withdrawals and perceived or real inequities in water use can emerge quickly and profoundly affect business. Local conflicts can damage brand image or even result in the loss of the company's licence to operate in a country. Forward-thinking companies are using the issue of water use to proactively engage with communities in which they operate. Some companies in Asia have been stirred into action on community engagement through experience. Back in 1999 in Malaysia, 22 leading Malaysian beverage companies including GAB and Fraser & Neave were fined for polluting inland waters. This clearly stirred the companies into action and the environmental policy of GAB now includes a focus on protection of water sources.

Case Study: Guinness Anchor Berhad (GAB)

GAB formed the GAB Foundation (GABF) in July 2007 to spearhead the company's corporate responsibility interests. GABF has identified three core areas for its activities: environmental conservation, education and community projects.

Of particular interest is GABF's commitment to protect and improve water sources. This project is aptly called W.A.T.E.R., which stands for Working Actively Through Education and Rehabilitation. To this end, the company takes a two-pronged approach – the first is to rehabilitate rivers and the second is to build a solid foundation with the next generation to promote good water usage habits.

On river rehabilitation, GABF works with the NGO Global Environmental Centre (GEC) to rehabilitate Sungei Way, a tributary of Sungei Penchala. The project spans over a period of three years and seeks to improve the water quality of Sungei Way, a river that runs through the heart of the community living around GAB's brewery.

To ensure the success of this project, GAB works with multiple stakeholders. The company has secured the support of local government agencies such as the local drainage and irrigation department to install rubbish and grease traps at strategic points along the river.

NGO Engagement

Companies can engage communities regarding water issues by working with NGOs. These organisations lie between markets and government and are increasingly recognised as the leading promoters of human rights, economic development, and civic and social infrastructure growth They increasingly help design public strategies as well as serve as watchdogs of government and corporate behaviour. In the case of water, NGOs draw attention to the high volumes of water used for consumption and stress how water depletion is moving from an environmental to social issue.[57]

Recent years have witnessed a significant upsurge of organised private, non-profit activity in Asia. In particular, NGOs in China, a country historically not afforded the freedoms of dialogue found in the West, is enjoying increased access to pollution incident reports and publish environmental data. This, coupled with the country's economic boom and increasingly robust environmental framework, has helped the NGO sector grow in scope and capacity.

In February 2010, the South China Morning Post reported that Chinese NGOs organised and urged boycotts of big name beverage companies such a Tsingtao and Mengniu Dairies over pollution issues. [58] More than 30 environmental groups appealed to Chinese consumers to boycott products manufactured by 21 companies that they believe contribute to pollution. Tsingtao and Mengniu were amongst those companies selected from hundreds of other polluters because they committed environmental violations in the past two years by discharging hazardous substances.

In the spirit of improving transparency in the country through means other than activism, the Institute of Public and Environmental Affairs (IPE) has been effective in highlighting companies that are in breach of environmental regulations.

Case Study: Institute of Public and Environmental Affairs (IPE)

The Institute of Public and Environmental Affairs (IPE) is a Beijing-based NGO that has capitalised on increased public disclosure of pollution data by government agencies to launch the China Water Pollution Map, which lists companies that are in breach of environmental regulations. As of December 2009, IPE has listed 50,000 non-compliant enterprises on its website, including many multinational companies. The website has been a great step forward in improving the transparency of pollution violations in China and had registered 2,567,233 web visitors by December 2009.

The web visitors include multinational companies that use the IPE list to monitor the environmental compliance records of their suppliers, as they are under increasing pressure to understand their total water impact and meet environmental standards throughout their supply chain.

Within China, IPE's map has two key benefits. Firstly, it has been accepted by the Chinese government, and has enabled the development of appropriate, informed and government-sanctioned actions to protect the environment. Secondly, the strategy increases dialogue between public and listed companies. Many of the companies named as polluters chose to approach IPE to explain what went wrong and how they intend to remedy the situation. IPE then inputs companies' statements, along with follow-up government monitoring data, side by side with the original records of violations so that the public has access to an updated view of companies' performance.

Employee Engagement

As many companies focus on improving the efficiency of their plant operations in order to meet global water commitments, employees become increasingly important. Diageo's work at its Huntingwood plant in Australia demonstrates how engaging a workforce in water efficiency can deliver best practice efficiency improvements.

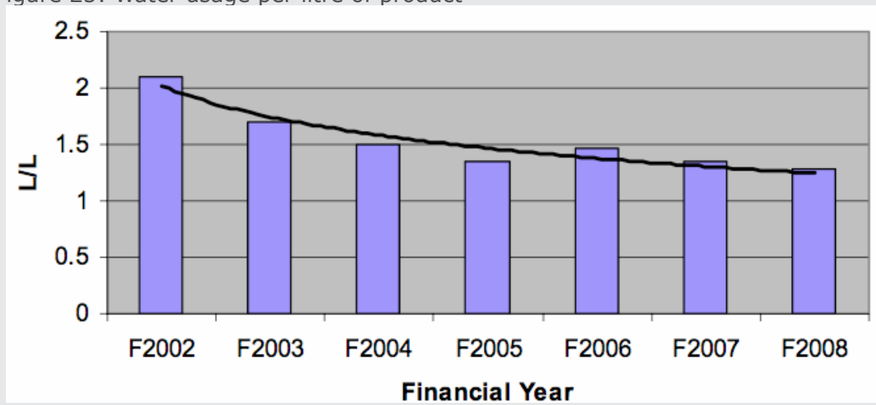
Case Study: Water Efficiency at Diageo

Diageo is the largest producer of spirits in the world. The company's 2008 global results highlighted sales of 145 million cases of their beverage products, which include the leading brands Johnnie Walker, Guinness, Baileys, and Smirnoff. Listed in London, Diageo has over 70 operating sites in the United Kingdom, Europe, Africa, the United States, the Caribbean, South America and Asia-Pacific, where it has operations in South Korea, Philippines and Australia.

As a company, Diageo has made some significant commitments to water efficiency, delivering these savings through projects implemented at a plant level throughout the world. The Huntingwood plant, opened in 1992, is one of two Diageo plants in Australia with approximately 150 employees. The operations produce 14 million cases of Ready to Drink (RTD) and Full Strength Bottled Spirits (FSBS) per annum, which is just under ten percent of total production globally.

Between 2003 and 2008, Diageo implemented a Water-Watch Program, which has helped reduce water usage at the Huntingwood site by 43 percent (Figure) and the volume of water required to produce one litre of finished product now stands at 1.15 litres – a benchmark towards which other beverage companies should aspire.

Figure 25: Water usage per litre of product



Source: Diageo

An interview with Chris Stevens, a member of the original water watch team and now Governance and Compliance Manager for Diageo Supply Chain, highlighted the journey that Huntingwood had taken.

In 2002, the initiation for the water improvements came from a both a business case perspective and from the water efficiency drive of Diageo staff at the plant. In terms of the business case, the future production demand for the plant could not be met with its current infrastructure and analysis showed that it was more financially viable to reduce the volume of discharge than build a waste treatment plant. At the same time the New South Wales region was suffering one of the worst droughts in recent memory and staff were well aware of the water stress that their country was under. The potential for improvement at the plant was highlighted by the one-star rating that Sydney Water awarded the plant during its initial assessment on the Five Star Scale for Water Management practices.

The first projects initiated at the plant included the installation of a new can line that used vacuum can rinsing rather than water which was synchronized with a planned plant upgrade to smooth the capital investment.

Following the success of this initiative, in 2003 the Water Watch Team was set up. The team all worked on the plant factory floor and brought experience from across the production cycle. Their role was to drive water reductions across the plant and over the next seven years.

Figure 26: Water watch team in action

Source: Diageo

Chris Stevens reflected that their strategy focused on three pillars – people, technology and systems – and that these pillars could be structured to ensure continuous improvement, step changes and ongoing management of targets.

1. Continuous Improvement - Focused on people
For example, the introduction of Environmental Sustainability into Corporate Induction for all employees.

2. Step Change: Focused on Technology
For example, online monitoring of energy, water and effluent to enable real time identification of usage changes, and water recycling through technologies such as vacuum pumps.

3. Management continuity: Focus on Systems
For example, capital submissions now have a requirement for an environmental mitigation assessment and plan. In addition, all supplier reviews now include an environmental review.

As part of the corporate water reporting process, Diageo began its journey by understanding its water use and completed a full water footprinting exercise. This enabled them to understand water usage across the plant and to identify where efficiency gains could be made. One of the solutions implemented was a vacuum pump cooling system that reduced water use from 20 l/min to less than 4l/min.

Since 2008 Diageo has now achieved a 99 percent score on the Sydney Water 5 Star Assessment, the highest of any company in the program. Success is attributed to employee passion and ownership of the program by everyone on the site. Recognition awards have been given not just to the plant but also to individual team members at Huntingdon. John Duncan a fitter at Huntingwood won the Sydney Water 2009 award for innovation for a "dunk tank" water recovery design.

Despite the improvements in efficiency, stretching targets continue to be set by Diageo and so Huntingwood must continue to improve. All the low hanging fruits have now been identified and the water conservation culture has been embedded, so the majority of future improvements are expected to come from further capital-driven upgrades. The success of this plant confirms that water conservation at the Huntingwood plant is one of the leaders on a global scale.

Treatment of water is often required before returning effluent to local water bodies in Asia

Water Insight 5: Water treatment is a focus of Asian companies

Even after efficiency programmes, a large proportion of a beverage plant's waste is water-based. Beyond the water required in the drink itself, water is also required to rinse mixing tanks, cans and bottles, clean pipes and wash down equipment. The production process uses other chemicals and ingredients so this wastewater has a Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD). This is a measure of the amount of oxygen required to breakdown the chemical or biological matter in a sample. Water with a high BOD or COD needs to treated before it can be discharged into sewage systems or open water areas or potentially reused.

The effluents from production will vary depending on the product being produced, with dairy producers, breweries, distilleries, and soft drink factories all having their own set of processing requirements. The biological treatment must be adapted to the characteristics of the effluents and could include exploiting the energy of waste released into the natural environment or sludge through methanisation. [59]

Waste water treatment improvements yield financial savings for companies

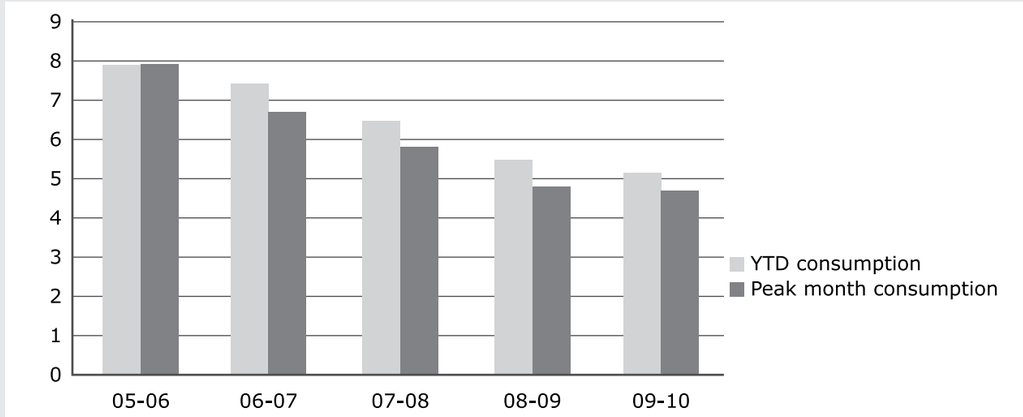
Cases from Asia show that improvements in wastewater processing are yielding financial returns for companies that implement them as well as enabling them to meet increasing regional regulations on water use. These improvements can come by commissioning new plants to treat wastewater, as when Fraser & Neave developed a RM2.8 million pilot plant to upgrade wastewater treatment and conservation at its soft drinks division in Kuching. The plant is Sarawak's first environmentally friendly plant and also the first wastewater treatment facility of its kind to be introduced within the entire Coca-Cola group in Southeast Asia. This backwash water recovery system which recycles water used in the incoming water filtration process has provided savings of about RM300,000 per year. [60]

Savings can also come by developing strategies to avoid water becoming polluted during the manufacturing process in the first place or treating waste to enable water treatment plants to work more efficiently.

Case Study: United Breweries' focus on water conservation, waste water management & CSR for water

United Breweries Limited (UBL) is one of India's leading consumer companies in the area of water conservation, displaying a strong approach in its CSR strategy for water. UBL's motto on water – "Conserve-Connect-Conquer" – has guided the firm to not only reduce water consumption for every HL (100litres) of product by 40 percent over the last four years, but also won them appreciation from communities nearby their units for their CSR activities regarding water.

Figure 27: Water consumption kl/kl



Source: United Breweries Interview - Mr. Sudhir Jain, Divisional Vice President, United Breweries, Bangalore

UBL's initiatives include reduction, recycling, reuse and research on use of wastewater for agriculture. Introduction of sophisticated machines like modern washers and pasteurisers, improvements in line efficiency, condensate recovery, wort vapour recovery and also prevention of overflow in the hot and cold water storage tanks have led to a drastic reduction in water consumption.

Figure 28: Indigenous Dry Yeast

Source: United Breweries Interview - Mr. Sudhir Jain, Divisional Vice President, United Breweries, Bangalore

While there are technologies available to treat complex wastewater streams, UBL first focused on reducing impurities before treatment. In this regard, it targeted yeast, the key pollutant in beer. The existing method for drum drying to recover yeast was expensive and so an indigenous system was designed which costs considerably less and involves using a filter press for dewatering before the yeast is granulated and dried. This dry yeast earns good revenue through sale as an input to poultry, cattle and fish food. The potential use in probiotics for human consumption is being explored. The water is reused for non-process purpose after tertiary treatment through ultra filtration and reverse osmosis. UBL has actively promoted rainwater harvesting across the country in its own units as well as in nearby neighborhoods.

Figure 29: UBL Rajasthan Recharge

Source: United Breweries Interview - Mr. Sudhir Jain, Divisional Vice President, United Breweries, Bangalore

In the area of wastewater recycling, UBL has undertaken joint research projects in collaboration with the University of Agriculture Sciences, Karnataka and Tamil Nadu Agricultural University in India to investigate how recycled water impacts the growth of various local crops such as maize, banana suckers and cluster beans. Preliminary studies indicate better growth than normal water, which will pave the way for use of such water by local farmers and the community around the recycling units.

Figure 30: Use of wastewater by UBL to grow maize

Source: United Breweries Interview - Mr. Sudhir Jain

UBL has taken the initiative of catering to the water requirement of the people in the vicinity of facilities by applying its business learning of rainwater harvesting. UBL units across the country serve the water requirement of several villages around them thereby fulfilling its social responsibility as a corporate citizen.

Figure 31: UBL Srikakulam

Source: United Breweries Interview – Mr. Sudhir Jain, Divisional Vice President, United Breweries, Bangalore

UBL's achievements have drawn international attention and received the awards for 'Best Water Conserver in Wastewater Management' and 'Best CSR Company for Water Practices' at the UNESCO- Water Digest Awards 2009. The selection committee included experts in the field of water use from UNESCO as well as The Energy and Resources Institute (TERI) and government institutions.[61]

Approaches to wastewater treatment are reported across most of the Followers we reviewed in our benchmarking, and it appears to be the key focus of the environmental policies of beverage companies reporting on other environmental initiatives. There are three key reasons for listed companies to focus on water treatment in Asia:

1. Increasing government regulation

Government regulation on water pollution is increasing in Asia

Governments in Asia are increasingly regulating the improvement of wastewater treatment standards by the industry. In Malaysia, the Department of Environment under the Ministry of Natural Resources and Environment Malaysia recently stepped up enforcement of two new regulations. The new Environmental Quality (Industrial Effluents) Regulations, 2009, and Environmental Quality (Sewage) Regulations, 2009, replace the previous Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979. Under the new regulations, entities are prohibited from disposing industrial effluent or sewage into soil, inland waters or Malaysian waters. Disposal of such materials requires a strict guideline of industrial treatment standards.[62]

In China, the water crisis is being managed by a number of government bodies, each with different targets and objectives. The Ministry of Environmental Protection has put forward the National 11th Five-Year Plan for Environmental Protection. This plan puts significant emphasis on water pollution control, which is stated as the top priority for environmental investment. The plan aims to achieve the following:

Figure 32: Water commitments by Chinese Government

Water Indicators	2005	2015	Increase / reduction during the "11th Five-Year Plan"
COD (10000 t)	1414	1270	-10%
Percentage of the water sections under the national monitoring program failing to meet Grade V National Surface Water Quality Standard	26.1%	22%	-4.1%
Percentage of the water sections (of seven big water bodies in China) under the national monitoring program meeting Grade III National Surface Water Quality Standard	41%	43%	2%

Source: Asia Water Project[63]

As well as regulations on pollution, the Chinese government's 11th Five-Year Plan includes regulations on water efficiency. As well as setting targets to improve national water efficiency, the Ministry of Water Resources stated that in the industrial sector, "water consumption per unit of industrial added value shall not exceed 115 cubic meters, which is 30 percent lower compared to that in the year 2005".

Case Study: Kweichow Moutai Distillery Co. Ltd

Kweichow Moutai, one of the largest Chinese beverage and liquor companies, employs over 8,000 people and generates profits of over US$1 billion (2008). Its Moutai brand is one of the premium liquor brands in China, famous for its distinctive aroma and taste. It became a state-owned enterprise in the 1950s and, since then, its water policies have been the responsibility of the local government. Even in 1972, Prime Minister Zhou ordered that no chemical enterprises along the Chishui River could be built within 100km of the Moutai factory in order to preserve the water quality for the liquor.[64] The company is thought to have implemented sewage disposal standards that have substantially exceeded other companies.

The Chishui River has recently been assessed as heavily polluted by the local environmental protection bureau. This is thought to be due to several private operators along the Chishui River that discharge untreated sewage. Based on a report filed by local congress, the water of Chishui River was classified as Class V, almost the worst quality within the rating system.[65] In response, Moutai Company announced they would invest just over US$147 million to establish a new industrial park to protect the ecological system around the factory, while the local government is investing more than RMB2.6 billion (US$382 million) in environmental protection in the surrounding areas.[66]

2. Improved environmental enforcement in Asia

The enforcement of environmental laws in developing and emerging economies of Asia is one of the greatest obstacles in reducing water pollution. In China, for example, the nation's environment agency, the Ministry of Environmental Protection, has become a stronger regulatory body, but the enforcement of environmental standards remains limited by inconsistent, overlapping and fragmented regulatory requirements and complex jurisdictional authority.

Environmental agencies in Asia are growing stronger but still lag behind the west

Case Study: Chinese courts enforcing water regulations

In the Guizhou Tianfeng Chemical Ltd. case, the Guizhou Provincial Environmental Protection Board (EPB) issued orders to Tianfeng to take measures to prevent the phosphorus gypsum waste leaking into the Hongfeng Lake, but Tianfeng did not comply. The EPB took the company to court. After the court issued its verdict supporting the plaintiff's claims, it held an enforcement hearing with the two parties and enacted an enforcement plan, whereby Tianfeng agreed to put in place the necessary mitigation to stop the polluting discharges. Tianfeng also agreed to stop its production line of phosphorus gypsum. As part of the enforcement process, the Qingzhen EC supervised implementation of the above.

Reports from Vietnam in May 2010 point to the increased financial penalties imposed on companies that break regulations on discharging untreated wastewater into the environment. Quang Ngai Sugar Joint Stock Company has been accused of discharging wastewater into Tra Khuc River in Quang Ngai province of Vietnam. The company had previously been fined VND 1.3 billion for causing environmental pollution in 2009. In a separate case, Vietnamese authorities halted operations of another company, Tungkuang Industrial, on allegations of discharging untreated wastewater into the environment. Although not directly focused on beverage companies, the fines levied on this sugar company highlight the growing enforcement of penalties for violations of pollution laws in Asia, and could be one reason behind the growth of wastewater plants for breweries in the country.

Case Study: Vinamilk and wastewater processing in Vietnam

Vinamilk, as well as Trang An Confectionery and Hanoi Milk have all developed wastewater treatment plants.[67] This is particularly important in the dairy industry where wastewater contains a high level of organic substances with high BOD, COD and suspended solid as well as the oil and fatty substances in the wastewater.

While Vietnam is not leading the charge on environmental issues in Asia, government spending on environmental protection increased from US$184 million in 2006 to US$219 million in 2007. The 2008 environment report highlights that wastewater treatment is a new area of development in the country, with a key area being the separation of domestic and industrial wastewater. The government research shows that the majority of brewers are developing wastewater treatment plants (WWTP).

Figure 33: Wastewater Treatment Plants for Vietnamese Brewers

	SITES	Production capacity 2005 million litres	WWTP
1	Ha Long Beer Co.	40	YES
2	Hai Phong Beer Co.	100	NO
3	Hai Duong	77	YES
4	Ha Nai	92	YES
5	Ha Tay JV	30	YES
6	Heninger (Pho Tha)	20	YES
7	Thai Binh	50	YES
8	NADA	30	YES
9	Phu Ly- Ha Nam	20	NO
10	Thanh Hoa	62	YES
11	Nghe An	20	YES
12	Quang Binh	20	UNDER CONTRUCTION
13	HUDA Hue	50	YES
14	Sai Gon- PhuYen Brach	20	YES
15	Ben Thanh	50	YES
16	Beer Sai Gon at HCM	230	YES
17	Beer Sai Gon- Da Nang branch	20	NO
	TOTAL	931	

Source: Water sector review water related industrial development and industrial wastewater, March 200868

Wastewater treatment is still a new sector in civil and industrial engineering in Vietnam and there is a shortage of technical experience in the country to design, construct and operate, and manage the facilities. There is also a lack of understanding of how to ensure that the process can be completed in a cost effective way for the industry. There is potential for public private partnerships to meet the growing demand for water treatment facilities that are commercially viable.

Polluting companies are increasingly being named and shamed in public

Even when wastewater technologies have been implemented in developing countries, foreign multinationals, often seen as high-profile 'outsiders', can still be portrayed as polluters. In July 2009, the Beijing Development and Reform Commission released a list of major water-polluting and energy consuming companies in efforts to achieve its water pollution-reduction targets mapped out in its 11th Five-Year plan. The list included both foreign and local brewers, dairy companies and beverage producers, such as Coca-Cola, PepsiCo., Beijing Huiyuan Beverage, Beijing Together and Tsingtao Brewery Co Ltd.[69]

Most of the larger beverage bottlers have sophisticated wastewater treatment facilities, and advanced sewage treatment systems are widely used. In fact, when one reviews the wastewater test reports provided by local environmental protection departments, the COD levels in the wastewater of these companies mentioned is much lower (ranging from 39 mg/L to 60 mg/L) than the Beijing limit of 100mg/L.[70,71,72]

Following the publication of this list, both Coca-Cola and PepsiCo released statements querying their inclusion, noting that their plants corresponded to strict company and national emission and wastewater standards. The Chinese news agency, Xinhua, reported later that Beijing authorities backed down and verified that Coca-Cola and PepsiCo had already reached national standards for wastewater emission, although there was "still room for improvement". A spokesman with the Beijing Environmental Protection Bureau told Xinhua that any enterprise that discharges pollutants into the public water system, whether they reached standards or not, will be considered as polluting factories.[73]

3. Capacity for water treatment is below current requirements

Municipal wastewater plants in Asia do not have the capacity to cope with outflow from industry

Many beverage companies need to acquire expertise in the treatment of wastewater from manufacturing because, for example, municipal infrastructure does not exist, it cannot cope with the volume of wastewater that is required to be treated, or it does not meet internal commitments on environmental standards. For companies operating in India, 423 Class I cities treat just 29.2 percent of their wastewater and of the 499 Class II towns, only 3.7 percent of wastewater is treated. Even the larger cities such as New Delhi, the national capital, treats less than half of the wastewater it generates every day. Therefore, there is literally no capacity for municipal wastewater plants to cope with outflow from industry.

In China, wastewater levels have increased by 18 percent from 2004 to 2008, from 48.2 billion to 57.2 billion tons. By 2010, total wastewater generation is expected to reach 64 billion tons.[74] Despite a growing number of wastewater treatment plants, many are not run at full capacity due to lack of capital and therefore current water treatment facilities are inadequate. In 2008, it is estimated that treatment plants are running at about 64 percent of total capacity. The drive to increase capacity has increased and as of early 2009, 1,572 new plants have been built and another 2,063 are under construction. [75] Further and continuous large investment will be required in the years to come as urban wastewater treatment processing will reach an estimated 120.1 million m^3 a day by the time the 12th Five Year Plan is confirmed.

Give the technology and expertise required to complete water treatment properly, some companies have employed the services of water utilities companies to develop their capabilities. For example, when Thai Beverages built its beer production facilities in Tambon Namtou in 1995 and upgraded it in 2001, they used Veolia Water to construct the wastewater position of the facility.

India is the fastest growing beer market in the world, expanding at an average of 12 percent per annum over the past five years.[76] Average consumption remains less than 1/20th of consumption in China, so future growth potential remains high. [77] Companies that are focusing on optimising wastewater treatment, such as Praj Industries, will have significant business in the country as production ramps up to meet demand.

Case Study: Praj Industries

Praj Industries Limited, located in Pune, India, provides cutting edge biotechnology solutions to the distillery, brewery and wastewater treatment industries. The company is also engaged in the design, manufacture, supply and commissioning of fermentation and distillation equipments for the manufacture of ethanol.

Praj's operations are spread worldwide including Colombia, Singapore, and Bangkok. It has an estimated eight to ten percent market share globally, and its customers include SABMiller and United Beverages. The company also has a strong research and development focus in improving efficiency in the manufacturing process and wastewater processing technology. It has an R&D centre called Matrix, which is working to enhance the yields of the brewing process by identifying yeast strains. Its integrated approach in plant design has developed models where steam use has been reduced to half its original requirements, thereby reducing energy consumption.

Praj's focus on wastewater generation has seen both reduction and re-utilisation for energy generation. This includes a high-performance biomethanation plant as well as the evaporation plant, which incorporates a self-cleaning heat exchanger for on-line cleaning of tube internals.

Private enterprise is being increasingly engaged in water processing

One of the key challenges in developing Asia is that few private enterprises are engaged in water processing while public provision is increasingly perceived as inefficient, lacking innovative capacity and in some countries, corrupt. Both developing and developed countries require huge capital investment to meet the basic needs of their population, and the private sector is seen as a way to bring finance and efficiency to the water sector.

In China, water provision and treatment is still dominated by the bureaucratic public sector. Water utilities are not yet market- oriented or profit-driven so there is little inclination or ability to improve efficiencies and transfer the cost of modernisation through price increases to end-users. Some early-stage and venture capital investment in Chinese water solutions is beginning, backed by multilateral agencies such as the Asian Development Bank and creative organisations such as Imagine H_20. This is a Harvard-linked organisation that offers prizes, incubation assistance and mentoring to support water entrepreneurs globally. These types of partnerships could increase private sector participation in China's water and sewerage sector to the levels seen in the telecom, transport and energy sectors.

However, there are increasing signs of private sector engagement in the region. In China, foreign companies are securing equipment and expertise to clean up China's water supply. In early 2010, an American company secured a US$47.9 million deal to supply equipment to a facility in northern China, and Singapore's Sembcorp broke ground on a US$ 7.6 million treatment plant in the Guangxi province. Given the increasing attention to environmental concerns in China and continued growth of industries that require wastewater treatment, many more such deals should be in store for the future.

Health concerns, water shortages and increasing wealth is driving the growth of bottled water in emerging markets

Water Insight 6: Pollution drives growth in bottled water

The market for bottled water is developing rapidly in Asia due to understandable consumer demand for purity, hygiene and convenience. According to sustainability analysts, bottled water will establish a permanent presence on dining tables in emerging markets. There are three drivers behind the predicted growth of bottled water:

- Health concerns of pollution of municipal water sources. A recent United Nations survey of tap water in 11 Chinese provinces that found more than half of all water samples contained unacceptably high levels of bacteria. In July 2009, over 2,600 people fell ill in Inner Mongolia due to polluted water from a lake spilling over into a drinking well.[78]

- Increasing water shortages are also expected to play a big role as households stock up on bottled water to overcome seasonal droughts. In China, the current drought in the Yunnan province has seen 60 percent less rainfall since last September. According to the Ministry of Civil Affairs, 8.1 million people — 18 percent of Yunnan's population — are short of drinking water, and US$2.5-billion worth of crops are expected to fail. [79]

- The biggest driver is expected to be wealth. A recent report by McKinsey explored the probable economic impact of a huge Chinese middle class demanding better living standards. Bottled water was a symbol of middle class luxury in the United States and Europe, and China's growing middle class —reaching at least 350 million people by 2011 — is expected to follow this trend.

Case Study: Tingyi success with bottled water

"Water pollution in the mainland is serious, boosting demand for bottled water"[80]
- Frank Lin, Tingyi CFO

Tingyi is best known in China as the maker of "Master Kong" noodles with a 50.8 percent market share of instant noodles in the country. The group was also the market leader in RTD teas and bottled water in 2009, with 44.3 percent and 17.7 percent market share respectively.

Corporate responsibility for large Chinese companies has historically focused on helping those in need whilst at the same time taking a low cost, high environmental impact approach to their operations. Tingyi's 2008 annual report displays a growing awareness of reducing the environmental implications of their day-to-day business operations. In October 2008, Tingyi initiated the first public interest contest in China under the theme of 'Water Resources' with the aim to "promote the improvement of the water environment in China and bring bigger changes and social economic values to the society."

Quotes from their annual report highlight that it understood that water was an important issue for the world and for China and that it bears responsibility for finding "plausible practical solutions to help solve China's water resource crisis." There are, as yet, no details to the quantifiable nature of water savings and how they are achieved in practice, but it is refreshing to see a Chinese company acknowledge the issue for their country and industry and be seeking recognition for their contribution to this issue.

It will be interesting to see whether bottled water follows the same evolution in Asia as it has in the West. Given the lack of clean drinking water from the tap it may be expected that growth will not just come from individual bottles but that the development of water fountains in homes around Asia will continue. This requires a different business model from individual bottled water, with less focus on brand but a requirement for strong distribution channels that can enable a water delivery service to home rather than to retailers.

ENERGY EFFICIENCY & CLIMATE CHANGE

Climate change is an issue of growing global concern that demands action from all sectors of business and society. The fourth report from the Intergovernmental Panel on Climate Change (IPCC) in 2007 provided a clear case that climate change is man-made and will lead to significant climatic impacts this century. These are already being observed such as rising sea levels, receding glaciers, bleaching of coral reefs and increased incidents of serious storms, flooding and natural disasters. Often it is the communities in less developed countries that are most vulnerable to and least able to recover from these catastrophic events. The urgent message from the scientific community that climate change is real and needs to be dealt with rapidly, combined with the economic analysis which shows that emission reductions may not drag down growth, is creating a clear case for policymakers to put in place a stronger emissions reductions framework.

Climate change impacts on agricultural regions of Asia will affect the availability of raw materials, and increasing extreme weather events have the potential to disrupt supply chains and production by directly impacting operations and communities. Although uncertainty remains regarding the extent of these climatic changes, there is a clear imperative for policymakers, companies and consumers to follow the IPCC guidance to work and limit climatic change to a two degrees Celsius temperature increase.

A range of global reporting programmes enable companies to disclose GHG emissions

Leading global beverage companies are apparently taking note of the importance of disclosure and are measuring emissions and reporting externally through global disclosure programmes. Within both ISO (ISO 14064) and GRI environmental management and reporting frameworks, there is a requirement to report on greenhouse gas emissions (GHG). In addition to these, there are a range of potential reporting protocols for companies to choose from when measuring and reporting their greenhouse gas emissions, including the GHG Protocol established by the WBCSD and the World Resources Institute.

Growing in stature and recognition, the CDP is an independent non-profit organisation that collects GHG data from the world's largest corporations on behalf of institutional investors. It currently has more than 475 signatory investors that collectively represent US$55 trillion of assets under management. The number of signatories has increased dramatically in the past two years, up from roughly 300 in 2007, demonstrating growing interest in climate change.[81]

Leading beverage companies benchmarked in this report all set strong commitments to reduce emissions and many provide submissions to CDP (Figure). In fact, the carbon emissions industry is becoming increasingly differentiated, and leading companies are expected to not only measure and disclose their emissions but also ensure they are externally verified by a third party. In 2009, CDP produced its first report to score submissions on their Carbon Disclosure Leadership Index. Simply disclosing is no longer enough.

Figure 34: GHG reduction targets of global players

Name	GHG Commitment	Carbon Disclosure Project
Coca-Cola	Reduce the overall carbon footprint of its business operations by 15 percent by 2020, as compared to its 2007 baseline.	Yes
SABMiller	Reduce fossil fuels in production by 50 percent per litre of beer by 2020.	Yes
Anheuser-Busch	Aim to reduce energy use and GHG emissions by 10 percent between 2008 and 2010.	Yes
Diageo	GHG reduced by 50 percent by 2015 compared to 2007 levels.	Yes
Asahi	Alcoholic beverages reduce GHG emissions by 15 percent by 2010, compared against a 1990 baseline.	No

Source: Author using corporate web sites

Investors are using this data to improve their analysis of corporate commitment to emissions reductions, and the climate-related risks that companies might face. Despite the increased discussion of climate change risks in the boardrooms of multinational companies, a survey of the world's 500 largest asset managers by Ceres found 44 percent of the respondents did not consider climate risks in their investment decisions and did not see these risks as being financially material.[82] Although this figure is large, it is encouraging that 56 percent are taking climate change disclosure into account . Pension funds and other investors, holding more than US$1 trillion in assets, have been pressing the US Securities and Exchange Commission (SEC) to require companies to disclose climate-related risks, and legislation to increase disclosure was passed by the SEC at the start of 2010.[83]

Corporate emissions reporting can improve analysis of climate change risks

At a holistic level, a company that discloses its carbon emissions shows investors its awareness of a wide range of factors behind company performance, and also alerts them to potential impacts in the event of a tax on carbon. At a more detailed level, carbon disclosure itself has become something of an environmental benchmark that allows comparison per unit of revenue or profit between companies in a wide range of sectors.

Recent reporting by Anheuser-Busch raises an interesting point about both reporting and also about expansion into Asia. Their latest report has increased disclosure from their operations in China.

"In 2007 energy generated from renewable sources such as biomass and biogas accounted for 13.75 percent of our fuel use. However our use of coal has risen this year as a result of 12 additional Chinese plants reporting environmental data for the first time."[84]

As seen in this statement, companies must ensure that their reports have full and complete coverage of all operations, even when energy use in their operations in emerging economies may make for difficult reading in the public domain.

Energy efficiency in Asia

In reviewing the reporting of our 30 benchmarked companies, we find different levels of energy and emissions reporting. Leaders have quantifiable reduction data available within the company. Followers are not yet reporting the quantifiable

nature of emissions reductions but make a general comment on initiatives and projects in place that have energy efficiency as their goal. Laggards in this area make no comment on initiatives or acknowledge its importance as an issue. The 30 benchmarked companies are categorised below (Figure) and full information on initiatives is available in Appendix 2.

Figure 35: Leaders, Followers and Laggards in energy efficiency and emissions

Leaders	Followers	Laggards
Tata Tea	China Huiyuan Juice	Chang Yu Beverages
Carlsberg	Tsingtao Brewery	Kweichow Mountai
Guinness Anchor	UniPresident	Lu Zhou Lao Jiao
Nestlé Malaysia	Vitasoy	Mongolia Yili
Unilever Pakistan	San Miguel	Wuliangye Yibin
	Thai Beverage	Tingyi
	Fraser & Neave	Want Want China
	Nestlé India	Vinamilk
		Asia Pacific Breweries
		Hite Brewery
		Jinro
		Lotte Chilsung
		Hey Song
		United Breweries
		United Spirits
		Multi Bintang
		China Mengniu

Source: Responsible Research 2010

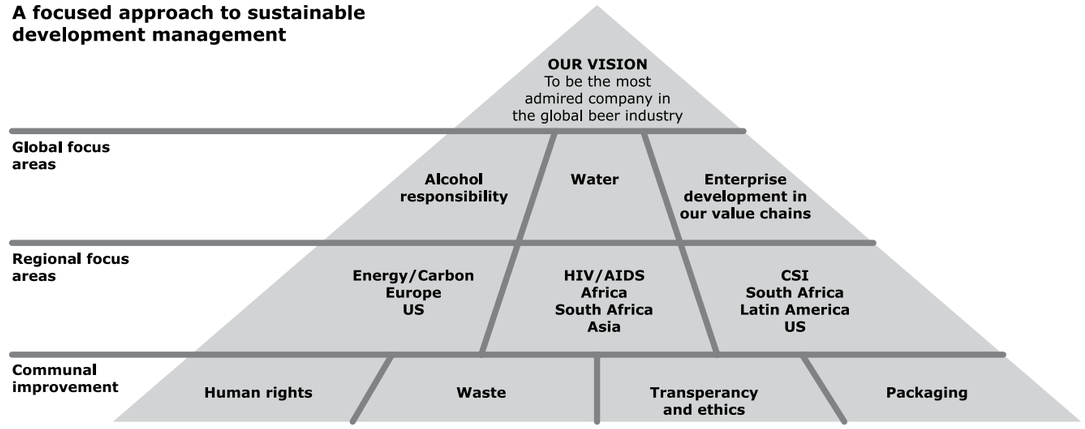
Future implications of carbon

There is, as yet, no financial incentive to reduce emissions in Asia

The Kyoto Protocol led to the establishment of a carbon market in the form of the EU Emissions Trading Scheme (EU-ETS). Although this has yet to be implemented in Asia, carbon emissions remain a potential business risk that needs to be quantified, and the EU-ETS provides vital insight into how a carbon cap and trade system may work in Asia in the future. Companies who have operations in markets such as Europe, where GHG emissions are regulated, have been able to monetise their GHG reductions through the EU-ETS. For example, in 2008, Diageo reported across seven of their sites in Ireland and the United Kingdom and were within their allocation. In their 2009 Corporate Social Responsibility Report, Diageo reported selling these allowances on the carbon market. In Asia, the regulation of GHGs has not been structured through a trading scheme so this financial incentive is not yet in place.

Despite global warming being a truly international issue, regional legislation impacts a company's sustainable development approach. For example, SAB Miller's strategy is conceptualised in the pyramid diagram below (Figure 36) which demonstrates that water, value chain impacts and responsible alcohol approaches are global focus areas but energy and carbon remain regional focus areas depending on the local legislation in place.

Figure 36: SABMiller Sustainable development model



Source: SABMiller website

Apart from the possibility of future regulation of emissions in Asia, the main incentive for companies to improve their efficiency of energy usage is the cost reduction that this delivers. Asian companies that are implementing efficiency initiatives in developed markets can benefit from bringing back best practice to their operations in Asia. An example of this in practice is the energy efficiency work completed by Vitasoy. At their Australian production plant, the company completed an energy consumption audit. The outcome from this work enabled them to reduce their energy bills, and the lessons from this can be brought back to Asia for further savings and possible positioning for future regulation in this area.

Clean Development Mechanism projects provide capital to projects that reduce emissions and are a strong marketing tool

An additional benefit from the link between energy efficiency and emissions reduction is the funding available through the Clean Development Mechanism (CDM) that can support capital investment in areas that reduce GHG emissions. As well as providing assistance with capital investment, CDM projects are a marketing tool for the large beverage companies that can purport to be at the leading edge of global initiatives for these global problems. There are no current examples of these projects in Asia, although one has been implemented by Anheuser-Busch in South America.

Case Study: Funding for renewable energy projects through CDM

Anheuser-Busch report that they have developed their first Clean Development Mechanism (CDM) project with the implementation of a Burning Solid Biomass Project at the Viamão brewery in Brazil. This project replaces regular fuel for steam generation with renewable biomass produced from rice husks, which reduces CO_2 emissions in accordance with the Kyoto Protocol guidelines. The project was certified by the Brazilian Government in June 2007 with approved emissions reduction of 188,000 tonnes of CO_2 over seven years. A further project is being scoped out in Paraguay where the registration of a further CDM project at the Ypane brewery is anticipated.

Synergies exist between waste water and energy production due to the production of biogas in treatment of effluent

Alternative energy sources

In addition to energy efficiency, beverage companies are also developing alternate energy sources. Work by Carlsberg Brewery Malay Berhad, Thai Beverages and GAB highlights the synergies between water and energy with biogas from the anaerobic treatment of wastewater providing a source of renewable energy. Investments in this area show a forward-thinking approach to capital investment projects.

Carlsberg has taken this a step further, reviewing their whole brewery process to understand how the ingredients can be optimised to create the most sustainable beer production process.

Case Study: Carlsberg Brewery Malay Bhd
An investment of over US$ 150,000 was made to upgrade a wastewater treatment plant, simultaneously increasing biogas generation which is channeled to the dual fuel boiler to reduce depletion of non-renewable resources, natural gas or fossil fuels.

From a long-term perspective, Carlsberg aims to improve the raw material basis and processing technologies to reduce the overall environmental impact throughout the entire beer production value chain. Sustainable brewing, with an increased focus on energy consumption and waste reduction in order to lower the carbon footprint from the production of beer, is a key focus of several research projects.

The procedures focus on:
Optimising the brewing process:
- Reducing energy consumption in the brewhouse via an optimised wort boiling and brewing regime
- Increasing the share of non-malted barley to reduce the energy and water needed for malting
- Exploiting the use of enzymes to reduce the energy intensive physical process steps in beer production
- The main by-product of brewing, brewers spent grain, is today sold as low price cattle feed

Developing new brewing ingredients:
The barley breeding research is focusing on novel barley varieties including:
- Varieties giving higher yield with the same or less agronomic inputs, including water (irrigation)
- Varieties with higher and better extract yields and extract utilisation leading to lower raw material usage
- Varieties with lower energy and water requirements during malting and brewing processing.

In other initiatives, SABMiller India has invested in renewable energy sources such as agricultural waste like rice husks. In May 2007, a boiler fired by rice husks was installed as part of the expansion of the Rochees brewery in Rajasthan. This reduces their reliance on fossil fuels and also generates additional income for local farmers.[85]

Other production by-products are being used in different beverage production facilities. Tata Tea is attempting to reduce its carbon footprint through the development of a bio-gasifier plant at its Instant Tea unit in Munnar, India. This project substituted furnace oil with tea waste. In its 2008 sustainability report, it states that "initial installation challenges of this plant are being addressed", highlighting that this project is not necessarily running without problems. However, it is an extremely positive step to invest in this type of technology and once successfully implemented, it could not only reduce their emissions but also the cost of energy production at their production plants.

Case Study: GAB switching to natural gas

GAB uses heat mainly for brewing, cleaning bottles and the pasteurisation process. This heat is mostly generated from natural gas sourced from the national natural gas pipeline which it began tapping into in 2007. Fuel oil was used prior to this. In fiscal year 2009, GAB's specific thermal consumption was reduced by about 5.6 percent in comparison to the previous year. Moreover, a team was launched to increase the COD-loading at the wastewater treatment plant, contributing towards increased biogas generation. This in turn helped reduce the amount of natural gas that needed to be purchased.

Energy for brewing
Chinese brewers have been stirred into action by the risk that future carbon tariffs could impede the import of their goods into Europe and the United States where regulation on GHG emissions is in place. The leading example is of China's largest brewer, Tsingtao, undertaking a collaborative research project to quantify the GHG emissions from their beer production plants.

Case Study: Tsingtao leading low carbon research in China

There is still a large gap between China's brewing technology and that of advanced countries, particularly in the area of energy consumption. As a result, developed countries are using carbon tariffs and carbon trading to limit China's beer exports. This has greatly hampered the international competitiveness of Chinese beer products and has encouraged Tsingtao to act.

Tsingtao signed a low-carbon research agreement together with the China National Institute of Standardization (CNIS) and China Quality Certification Centre (CQCC). This is the first of its kind in China's brewing industry and aims to find out how much GHG is produced in brewing beer and help the company work out a more environmentally friendly production model.

According to the agreement, the Resource and Environment Standardization Research Institute of CNIS will monitor and analyse the GHG emissions of Tsingtao's factory before presenting a report on the emission status, and CQCC will be responsible for reviewing the report that is expected to serve as a baseline for the company's carbon efficiency.[86]

Fan Wei, president of Tsingtao's brewing center, told local media that the company will invest approximately US$16 million over the next three years on energy saving and emissions control in the hope that its general energy consumption will be decreased by 4.5 percent annually. Fan stressed that the company will continue to invest in technological innovation to deliver efficiency savings in the future.

Energy for distillers

Despite the focus on energy efficiency initiatives and their detailed reporting in sustainability reports, some companies see energy efficiency initiatives as business as usual. United Spirits, a company without a sustainability report or comments on other key environmental issues such as water, includes in its

annual report a segment on energy conservation. This highlights that investment in energy conservation in some cases is part of normal operations. This could be because of the positive operational cost impacts of efficiency initiatives rather than the environmental benefits.

Case Study: United Spirits

In its annual report, United Spirits refers to the energy conservation and cost reduction steps taken at its various manufacturing units:
- Energy Audits were undertaken
- Devices were installed for conservation of electrical and thermal energies such as the "Power Bos," "Variable Frequency Drive" and "Automatic Power Factor Control Unit"
- The Processing Plant was revamped to reduce steam consumption.
- Plate Heat Exchangers were installed for heat recovery.
- Steam driven condensate recovery pumps were installed for reducing electrical / fuel consumption.

Source: United Spirits Annual Report 2008

Energy for distribution

Comments from Tata Tea's sustainability report acknowledges the environmental impact of the transport of goods, including moving raw tea from auction centers to processing units and to the logistics agents' use of trucks. Tata Tea highlights that the location of the manufacturing plants and units increases the dependency on transport by roadway, which could have a huge impact on operations, particularly when operating in a huge country like India. Currently, Tata Tea is not monitoring the GHG emissions involved in transport but will be developing strategies to capture them.

Fraser & Neave note its developments in this area with the setting up of an in-house PET bottle-blowing plant at the soft drinks manufacturing facility in Shah Alam. This has helped lessen logistics, storage and handling costs, and boosted overall manufacturing efficiency and quality control. In the process, it has removed the need for 4,800 lorry trips per year previously made by its PET supplier in Johor.

SUSTAINABLE SUPPLY CHAINS

Supply chain management

Strong supply chain management enables companies to respond to changing market demand

At the root of successful beverage manufacturing is effective supply chain management, enabling companies to react to changing demand by swiftly communicating those needs to their wide-ranging suppliers. Beverage companies seek to create world-class supply chains and establish best practices, solutions, technology systems and workforce cultures that will sustain and grow their business. They rely on their supply chains to help manage both food safety risks and regulatory compliance, and can create competitive advantage by enabling customer-focused innovation that meets customer needs at a faster pace than the competition. In the current economic environment, supply chains must do this whilst providing superior cost performance and recognisable customer value.

Following new trends can require reconfiguring supplier sourcing, ingredients, and final products, while private-label or serving-size packaging forces branding, logistics, and messaging revisions. All these changes must take place alongside evolving regulatory structures that not only focus on safety but provide marketing integrity.

Case Study: Diageo

Diageo's 2009 Corporate Responsibility Report highlighted how procurement plays an important role in securing brand identity with the consumer in an industry that is high-profile and brand-heavy. Comments from John Dickson, Head of Global Procurement at Diageo highlight that the company views the consumer as the driver of change:

"The consumer on the street is undoubtedly becoming more discerning, they have a lot more choice and they will differentiate those offerings by a number of things and the more that the environmental agenda gets raised and they become aware of it the more the kind of ecological issues will come to bare.

"We as procurement need to make sure that we are stimulating suppliers to bring innovation, particularly around packaging, to ensure that we're constantly pushing the boundaries of the agenda."

Discussion of monitoring of supply chains is not common in emerging Asian economies. UniPresident was an outlier in promoting its environmental policy and supply chain initiative, "Green Purchase", which was set up to establish a green purchase system and initiate supply chain management. Green materials would be given priority to encourage suppliers to reduce waste of resources and pollution.[87]

Distribution and Logistics

Given diversifying customer preferences and acquisitions among leading beverage companies, the number of drinks brands for each company has expanded, in turn increasing supply chain complexity. Since 1980, Anheuser-Busch, the world's largest brewer, has increased the number of brands produced from five to over 50. This rapid growth has greatly affected supply chain complexity, with over 1,000 brand-package combinations distributed to over 600 wholesaler locations in the United States alone. Re-engineering the supply chain to better cope with business challenges can often go hand-in-hand with a reduced environmental impact.

One example involves the transportation industry, taking a strategic view of resources by maximizing the utilisation of available distribution vehicles to reduce

costs. Wherever possible, companies can identify opportunities to backhaul packaging materials or expired products in empty trucks, thereby reducing the number of empty trucks on the road. In some cases, lighter weight vehicles have been adopted for short-haul deliveries. These types of actions not only increase fleet productivity but also reduce the consumption of fuel and the associated emissions of GHGs. Data is not available, but optimisation programmes like this would likely have even greater impact in China and India where distribution challenges are significant.

Key to the success of these initiatives is the development and monitoring of appropriate performance metrics and data management systems. Reporting these benefits can further strengthen a company's reputation as a leader in responsible business practices and also assist future investment in this area.[88][89]

Companies work together to address supply chain issues through initiatives such as AIM-PROGRESS

The sheer number of suppliers complicates the supply chain in the Asian beverage industry. Companies are working together to address this issue in initiatives like AIM-PROGRESS (AIM). AIM consolidates efforts to train suppliers, enhance community welfare and level the commercial playing field by offering a forum to agree on commonly endorsed standards for decent working conditions or environmental requirements. Many of the key beverage companies including Diageo, PepsiCo and Coca-Cola are members of AIM.

Sustainable Agriculture

Figure 37: Increasing picture of agriculture in Asia

Source: BBC News[90]

Sustainable agriculture encourages farming practices that consider the impact of intensive farming to the future productivity of the land. This approach is important and necessary for beverage companies that use land-cultivated raw materials, as shortages will impact production schedules or reduce profitability due to price increases. Sustainable agriculture is certainly on the radar of the large beverage companies in Asia and their commitments in this area are large. PepsiCo announced a four-year, US$1billion investment plan for China focusing on sustainable agriculture projects with high-quality, environmentally sustainable operations, water-saving irrigation and scientific crop-rotation methods, as well as increasing the technological skills and income levels of participating farmers.

Other sustainable agriculture initiatives for Coca-Cola, Nestlé and PepsiCo are described in the case studies.

Case Study: Coca-Cola and drip irrigation

Drip irrigation presents huge potential savings for farmers. By using plastic pipes that release water directly onto the roots of the plants, it is no longer necessary to flood entire fields.

This is an area that has attracted the development of public-private partnerships (PPP), where companies and governments work together to provide the funding for investment. In 2008 in Kaladera, India, 15 farmers have received funding for drip irrigation systems through collaboration with Coca-Cola, which has a plant in Kaladera.

The system has not only helped to conserve water but also to increase agricultural yields, in Kaladera's case, increasing watermelon growth from 235 to 300 quintals per 0.6 hectare. This system cost US$ 2,200 in total with the farmer contributing around US$200 and the rest from the state government and Coca-Cola.[91]

Coca-Cola has also begun restoring ancient "bawaris" or step-wells and sinking shafts to raise the water level in and around the areas of their operations. It appears that Coca-Cola appreciates the challenge of operating a water intensive industry in an area suffering water shortages and is therefore working with the local community and government to ensure the success of their ongoing operations in the region.[92]

Case Study: Nestlé China

Nestlé is involved in the research and promotion of sustainable agricultural techniques and technologies. In China, its involvement in sustainable agriculture has mainly involved the use of cheap, moderately sized biogas digesters for manure storage, and the prevention of contaminated ground water. Nestlé has also helped to train farmers throughout China to install over 1,500 small biogas plants, limiting pollution of water sources and creating energy sufficient enough for basic activities such as cooking. In 2005, the Shuangcheng factory pioneered a project to use water from fresh milk production in boiling and cooling towers and for cleaning in the factory, reducing the total water usage by 23 percent.

Nestlé participates in the PPP project that trains farmers on efficient irrigation techniques through timing and calibration of the irrigation dose per tree. In this method, small basins around the trunk of coffee trees allow for direct, more efficient application of water directly to the tree's roots system. Furthermore, farmers are encouraged to use chronometers for optimal timing of irrigation phases. From current experience, it is estimated that water savings of more than 60 percent could be achieved. The impact of these savings has to be reviewed in the context of the high percentage of water footprint of products that come from the supply chain. Although this is clearly high-impact and interesting work, it will not necessarily mean that Nestlé can avoid the public glare from working in highly water-stressed regions.

Case Study: PepsiCo farming rice

PepsiCo had already been engaged in contract farming of basmati and other paddy-grown grains, when a delay in the arrival of seed led the company to recognise a huge water-saving opportunity. Generally, rice and various other grains are grown by first cultivating the seed in a nursery and then manually transplanting it to a field "puddled" with three to four inches of water. The late seed meant that there was no time for the nursery stage. Hence the company

decided to sow the seeds directly in the fields, recognising that while the yield might be low, it would be sufficient for undertaking trials the following year.

In fact, the yield was higher as the density of seeding was higher. The expected problems with germination did not occur, though weeding had to be increased. Since then, PepsiCo India has conducted trials of various rice varieties in farmers' fields to validate the technology. A seeding machine that can sow at a specified gap and at a uniform depth has also been developed. Repeated direct seeding trials have demonstrated water savings of 30 percent.

PepsiCo is working to share the results of the direct seeding trials with more farmers. The water saved by this small change of converting just 1,800 hectares of paddy to direct seeding cultivation would exceed the quantity of water PepsiCo uses to manufacture its beverages and snacks in the country. In other words, this single initiative has the potential to deliver "Positive Water Balance" for PepsiCo India and provide vast water savings for a nation in which this natural resource is scarce.

Sustainable agriculture goes hand in hand with community engagement initiatives for Asian listed companies

Sustainable agricultural initiatives were found on a community level for a number of the Asian listed companies included in the benchmarking exercise. It appears that companies still view this issue as one of stakeholder engagement and potentially feel that their supply chain is too complex and widespread to tackle the issue strategically.

Companies should not ignore this area of risk in their operations due to the potential price increases that could impact their business. There has been a link established between the price of raw materials to the availability of water for irrigation. For example, a drought in India led to a 2008 sugar crop yield 45 percent lower than the previous year, and the 2009-2010 harvest is expected to yield similarly low levels.[93] This is a threat to the operations of Asian and global companies and should be considered in a company's overall strategy.

Public Private Sector Engagement Platforms on Sugar

Given the complexity of sustainable agriculture initiatives across a fragmented supply chain, companies have benefitted from working together to improve agricultural practises. Sugar is often the most important ingredient in many drinks, and therefore companies are incentivised to work together to tackle issues. One such programme is the Sustainable Sugarcane Initiative (SSI) developed by the WWF as well as Better Sugarcane Initiative (BSI), a voluntary non-profit organisation.

The SSI stresses a practical approach that originates from farmers and civil society to improve productivity while reducing pressures on natural resources. Improving sugar yields is important because sugar is one of the world's thirstiest crops (approximately 25,000 kg of water is needed to produce 100 kg of sugarcane) and is being negatively impacted by the increased variability of rainfall due to climate change. Unless sugarcane farmers are introduced to new methods for producing higher yields using much less water, the country will find it difficult to meet the growing demand for sugar. It is estimated that by adopting SSI, a farmer will be able to produce at least 20 percent more sugarcane while reducing water inputs by 30 percent and chemical inputs by 25 percent. This is vital in regions of India where 35 million farmers are growing sugar cane and 50 million depend on employment generated by 571 sugar factories and industries related to sugar.

Certified sustainable farms

The Rainforest Alliance is an NGO with the published aim of working to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behaviour.

Case Study: Unilever & Sustainable Tea

Lipton has committed to source the tea for all its tea bags from Rainforest Alliance Certified™ farms by 2015. They are working with Rainforest Alliance, an international environmental organisation, to ensure that all the farms from which they source tea from are certified.

Although the pledge was only announced in 2007, more than 30 estates have already achieved this certification, including Unilever's own estates in Kenya and Tanzania and third-party suppliers in India and Argentina. By the end of 2008, around 50 percent of Lipton Yellow Label and PG Tips tea sold in Western Europe came from Rainforest Alliance Certified™ farms.

Eight South Indian farms and four estates in Indonesia are the latest to gain certification. These are typically family businesses of around 300 to 500 hectares and together support 3,500 workers and their dependants. To achieve certification, the farms invested in a range of improvements, including protective suits for workers, wastewater treatment equipment and micro hydro-electric schemes. In southern India, workers also benefit from free housing, medical facilities and school education for every child. The Rainforest Alliance seal was instrumental in winning a contract to supply tea for McDonald's in several European countries.

Unilever's approach to agricultural sustainability is summarized and, importantly, quantified in its 2009 Sustainability report.

Figure 38: Unilever Sustainability Report Targets

Environmental sustainability		Units	2008	2007
Climate change	CO_2 from energy	kg/tonne of production	**146.77***	149.18
Water	Water use	m^3/tonne of production	**2.96***	3.05
Total waste	Total waste	kg/tonne of production	**7.89***	7.56
Agriculture	Tea used in Lipton Yellow Label and PG Tips in Western Europe from Rainforest Alliance Certified™ farms	% approximate	**50**	<1
	Palm oil from sustainable sources	% approximate	**<1**	0
	Suppliers self-assessing compliance with Sustainable Agriculture Guidelines	proportion approximate	**⅓**	N/A

Source: Sustainable Development Overview 2008, Unilever Pakistan

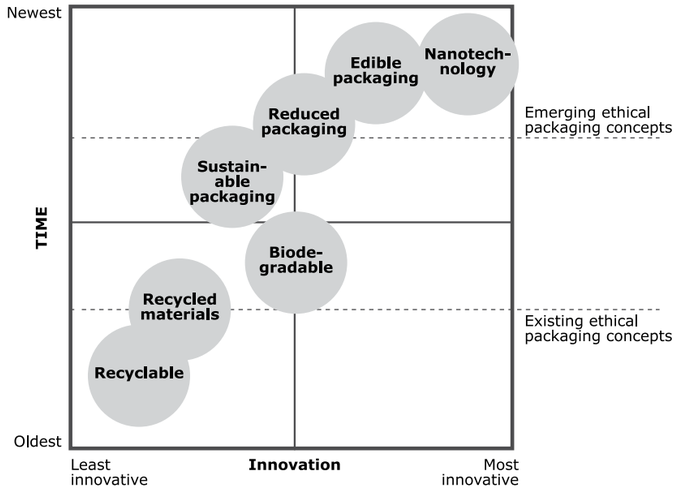
SUSTAINABLE PACKAGING

A wide range of sustainable packaging products exist on the market

Evolution in packaging

Ethical and sustainable packaging covers a number of different types of packaging including recycled, biodegradable and reduced/lightweight packaging. It can also include strategies for reducing the environmental impacts of packaging in terms of production and waste. In the beverage industry, there are several innovations in sustainable packaging that have evolved over time and have been driven by input from consumers, distributors and government regulations (Figure 39).

Figure 39: Innovation in Sustainable Packaging



Source: Trends in Ethical and Sustainable Packaging, Business Insights

Recyclable beverage packaging is well established but requires engagement of government waste processing to have its desired effect

There are different types of approaches to sustainable packaging:

Recyclable packaging

Packaging a product in a recyclable material is well established, and is the most common form of ethical packaging. It is particularly common for beverage containers due to the smaller number of different materials used in packaging one product. In several countries, systems are in place for the return of used containers to bottling plants. One of the main criticisms of using recycled materials in packaging is that the quality of the material is lower, impacting its use for premium products like spirits. Improved technology is rectifying this issue. A number of consumers have begun to expect packaging that is recyclable, and this has led to packaging manufacturers developing more innovative forms of ethical packaging.

Biodegradable packaging

Biodegradable packaging has also been established for a number of years, and is an ethical packaging concept becoming more popular due to the shortage of landfill sites worldwide. It is becoming something of a prerequisite in the developed world where the landfill reduction has attracted increasing legislation.

Case Study: Retailers reduce landfill

In September 2006, Sainsbury's was the first UK supermarket to shift to the large-scale use of biodegradable packaging. The UK retailer said the move will cut 3,550 tonnes of plastic used on about 500 of its private label products and reduce rubbish collected for landfill. Sainsbury's planned to replace the plastic packaging used for those products with packaging made out of maize, sugar cane or starch.

Reduced packaging

Lightweight or reduced packaging is a versatile, ethical packaging innovation that is currently popular with both retailers and manufacturers. One of the drawbacks of reduced packaging in the short term is implementation cost. However, the reduced costs due to less material and less transportation can be a benefit in the long term. Pocari Sweat launched new 900ml PET eco-bottle containers that achieve a 30 percent reduction in packaging raw material weight. Distribution began in Japan in August 2009 and will result in an annual reduction of approximately 276 tonnes of PET resin, translating to approximately 882 tonnes of annual reduction in CO_2 emissions. [94]

Case Study: Coca-Cola and reduced packaging in China

Coca-Cola China launched an eco-friendly lightweight bottle for a brand in China called Ice Dew at the opening of the Shanghai Expo 2010. The innovative new ultra-light bottle purports to be the lightest bottle of its size on the Chinese beverage market, and reduces the carbon footprint of the containers by 35 percent. The bottle is also designed such that it can be easily twisted and compressed after consumption, thereby saving more than 70 percent of the space needed as the bottle makes its way to the recycling facility.

"The introduction of this eco-friendly lightweight bottle is a demonstration of our commitment toward sustainable packaging which is one of the seven core elements under Coca- Cola's system mission 'Live Positively' announced in China two weeks ago," said Andres Kiger, Senior Director Integrated Marketing, Coca-Cola Greater China.

"As a leading company in the beverage industry, Coca-Cola is committed to integrating sustainability efforts into every aspects of our business. We fully understand that our business is not sustainable unless we support sustainable growth in the communities where we operate. By launching the Ice Dew lightweight Bottle, we are – together with our invaluable consumers – taking a step towards a better and more sustainable tomorrow."

These developments come close on the heels of Coca-Cola's launch of the lightweight bottle in Japan in 2009. Globally, Coca-Cola says it is on track to decrease the packaging usage rate by seven percent in 2015, compared to the base year of 2008, which will be equivalent to saving up to 55,000 tonnes in material.[95]

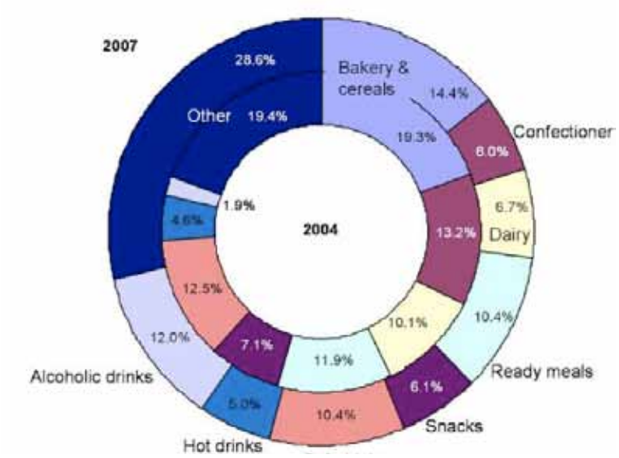
Sustainable packaging can be a way to communicate a company's corporate social responsibility to consumers in an innovative way

As companies look at increasingly innovative and transparent ways to incorporate CSR into their core business, sustainable packaging can be a tool. A report from independent market analyst Datamonitor identifies sustainable packaging as a growing consumer issue, revealing that although sustainable packaging is not yet a primary motivator of purchases, it is increasingly expected by consumers. Consumer power cannot be underestimated. There has been a backlash against bottled water in developed countries as the environmental impact of plastic bottles becomes more apparent. Bottled drinks are a major component of landfills and the price of recycling plastic and treating landfill is not accurately reflected in the cost of bottled water. Even consumers that do recycle plastic bottles are now being informed that four out of every five recycled plastic bottles actually still end up in landfills.[96]

Market differentiation from sustainability

In high-end beverage companies where premiumisation is absolutely critical, reduced packaging can compromise the high-end nature of the product. For example, the weight of a spirits bottle cannot be easily reduced as it adds to the brand value that the consumer is paying extra for. In addition, it may be more difficult to encourage ethical policies in the alcoholic drinks industry, as being green is not at the forefront of consumers' minds. Despite this, alcoholic drinks experienced the fastest growth in share of products launched in ethical and sustainable packaging, growing from 1.9 percent in 2004 to 12.0 percent in 2007. The move from corked to screw top wine highlights that the consumer can be won over by convenience if product quality is proven.

Figure 40: Strides in sustainable packaging 2004 to 2007



Source: Trends in sustainable packaging

Case Study: Changing expectations of screw top wine

Historically, wine bottles were sealed using cork. This helped to develop the taste of wine as the cork enabled the slow intake of oxygen, positively affecting the flavour.

Corks however are prone to taint, developing something scientists call 2,4,6-trichloroanisole (TCA), commonly known as 'corked wine'.[98] Screw caps were introduced in the 1990s as a cheaper alternative that was still designed to let in a small amount of oxygen, like cork. Initially, they were seen as being a signature of cheap wines. However, as the wine industry evolved and 'new world' wine regions such as New Zealand (where almost all wines are bottled with screw caps) started to export to overseas consumers, the view of screw tops started to change. This demonstrates how a growing product region can have a strong impact on changing consumer perception and behaviour. Although the use of screw tops for certain types of wine such as the older red wines are not yet commonplace and remain frowned upon by certain wine experts, the majority of consumers are attracted by the increasing convenience of screw tops.

Figure 41: Screwtop wine bottle

Source: Dean and Deluca [97]

Products that differentiate themselves based on their sustainability are also developing, as demonstrated by Purus Vodka.

Case Study: Purus Vodka

In the United States in 2007, Anheuser-Busch launched Purus Vodka, which claims to be cultivated without pesticides or commercial fertilisers. From a packaging perspective, the pear-shaped bottled is claimed to be 100 percent recyclable, uses 100 percent tree-free paper, soy-based inks, water-based adhesives and an environmentally sustainable cork closure. This type of sustainable product should be more commonplace as companies look for ways to differentiate themselves in a crowded marketplace and as consumers become increasingly savvy about their environmental choices.

Figure 42: Purus Vodka Bottle

Source: Purus Vodka web site [99]

Business case of sustainable packaging

Sustainable packaging has the potential to become business as usual due to consumer demand

In addition to attracting new customers or retaining existing ones, there is a growing business case for sustainable packaging. Proponents of the new green economy believe that sustainable packaging will become a fact of life for companies seeking to remain competitive. Companies employing sustainable packaging report cost savings, improved environmental footprints, heightened brand image and company reputation amongst other benefits.

Cost savings can be achieved by sustainable packaging only if a company can take a full lifecycle view of a product, including impacts to the supply chain. Savings come when packaging size is reduced, which has a domino effect of reducing material costs, minimizing operational and logistics activities, and reducing warehouse space. Further impacts result from a more efficient pallet configuration and shipping more products per pallet, which impacts long distance transport costs. A recent survey conducted by the supply chain consortium showed that 79 percent of survey respondents stated that sustainable packaging has the most impact on energy and material costs. [100]In addition to operational cost savings, companies report reduction in their environmental footprints, improved brand image and company reputation, greater market share, access to new markets, reduction in legal compliance costs and increasing global competitiveness as other benefits of adopting sustainable packaging.

Although there is a range of alternatives available to companies to package their beverages in a sustainable manner, it is debatable which of the strategies is best. For example, although we might celebrate the new lighter-weight variants of PET, the majority of these bottles will still end up in Asian landfills. The transport and water requirements to clean reusable bottles in order to refill them are another environmental drain. With limited regulations on landfill and recycling practises in Asia, it does not appear that businesses will be pushed in any particular direction by governments. Instead, companies will need the foresight to look for market-differentiating opportunities in packaging, and construct their own business case.

Future of sustainable packaging

Research from early 2010 commissioned by PMMI, a trade association with 530 members from the beverage packaging industry, has found that innovation in plastics will continue to drive sustainable packaging across the sector. Data in the report from developed markets show that plastics dominate the packaging sector (40 percent). Other materials used are aluminum (35 percent), glass (18 percent) and paper (5 percent). Additionally, today's most popular primary packaging format for beverages is the bottle, which the report puts at 55 percent of the marketplace. Plastics and bottles are the two areas that are expected to drive innovation in the sustainable packaging arena.

The next status symbol beverage could come from innovations in green packaging

Single-serve containers are particularly strong market drivers in terms of trends as they are purchased by more affluent consumers who require convenience, and convey their 'personal style' through the bottles and containers they carry. Although it is now less fashionable to carry an Evian bottle due to the backlash against unsustainable consumption in the developed world, there is potential that the next status symbol beverage could come from innovations in green packaging.

With these trends in mind, plastic pouches could provide a focus of innovation. Pouches are expected to show the greatest percentage growth between 2010 and 2020, increasing as much as 105.9 percent. New processing and packaging equipment have made pouches cost-effective for high volume operations, as companies can now make pouches as fast as other packaging formats. Respondents to PMMI's survey spoke of plastic as the medium in which green, eco-friendly or bio-degradable packaging technologies will flourish. Additionally, innovation efforts with plastics are expected to continue focusing on improved break resistance, lightweighting and features that reduce spilling.

Figure 43: Different styles of beverage pouch packaging available

Importantly, from the educated green consumers' perspective, pouches require much less landfill space than plastic bottles and some pouches are completely biodegradable. In addition, when compared to glass bottles, pouches require a small fraction of the space and shipping infrastructure: the beverage volume transported in one truckload of quart-sized pouches would require nine trucks of glass or plastic bottles compared to the original packaging. The reduced environmental impact of transport is also demonstrated by Tetra Pak wine.

Case Study: Tetra Pak Wine

Vinissimo Primitivo Italian Red Wine, launched in Canada in 2007 in a one litre package, takes a step beyond the move from cork to screw top wine. It is packaged in a re-sealable Tetra Pak Aspectic carton, positioning itself as being environmentally friendly and entirely recyclable.

Figure 44: Tetrapak packaging structure

Source: Tetra Pak [101]

Tetra Pak containers, made primarily from paper, use 92 percent less packaging to deliver the same amount of wine, 54 percent less energy than that of glass bottles throughout the entire life cycle, and create 80 percent less GHGs. Their reduced packaging volume means that they produce 60 percent less waste by volume.

Tetra Pak cartons now come from responsibly sourced, well-managed forests where new trees are constantly replacing the ones harvested. An interesting source of these efficiencies comes not from the manufacture of these products but from their transportation with fewer trucks are needed to deliver the same amount of wine.

100% recycling of beverage cartons is also now possible with a new product called Cartafrutta™, shown above, a strong, sturdy, high-quality recycled paper carton. Here, the cellulose can be separated from the solid polyethylene/aluminum interior in a pulper. The cellulose can be used for stationery supplies, publications, printed materials in general, packing paper and paper bags. The polyethylene/aluminum part is first washed and then sent to the plastic regeneration plant to produce a new semi-finished product called ecoAllene, a sturdy, versatile plastic that is packaged and sold in granular form. With this process, even the solid material (which for years was considered to be process waste) can be recovered.

From gimmicks to sustainability

Despite progress in this area, and the argument that small steps are needed to lessen our environmental impact, sustainable packaging can still be accused of being 'gimmicky' from an environmental standpoint. This is because from a holistic viewpoint, sustainable packaging innovation does not always lead to a reduced impact on the environment. For example, reduced PET packed bottles still end up in landfills, even though the mass and volume of the bottles is less. Glass bottles that are reused heavily in Asia require increased water inputs to wash and clean them for further use. This issue of what is the 'most sustainable' way to package drinks is complicated by complex supply chains. Therefore

Sustainable means different things to different people so a holistic viewpoint is required to developed the solution with the lowest environmental impact

although innovation in the area of sustainable packaging is driving incremental change it could be argued that it will only make a true impact when a holistic view of what sustainability means to drinks packaging is defined by the beverage industry itself or through government intervention.

Distributors and retailers, have shown that they have a role to play in encouraging and, in some cases, forcing behaviour change in suppliers. Wal-Mart, for example, has pledged to eliminate all private label packaging waste by 2010, and aims to have zero packaging waste to landfill by 2025. As a global corporate powerhouse, it has significant power throughout their supply chain and is flexing its muscles to make increasing demands in terms of packaging. They aim to reduce packaging by five percent globally by 2013 against a 2008 baseline across their whole supply chain. Other initiatives include supermarkets that are using sustainable packaging on often-used products such as milk to attract green-minded customers. For example, Sainsbury's sells bagged milk and provides reusable jugs for free to consumers. [102] Initiatives have been initiated at government level, and in a number of countries, government organisations are encouraging consumers to recycle by providing them with the option to refill bottles at a cheaper rate than buy new ones. This is an area that will surely get more focus in Asia as the demographics and consumption habits in the region ensure that the PET bottle becomes as big a problem in the East as it has become in the West.

ENVIRONMENTAL REPORTING

Some listed Asian companies have begun to publish corporate responsibility reports or sustainability reports. Sustainability reports are not published by all companies, and in Asia, published reports often lack detail. Critics of sustainability reporting claim that, without independent verification of the initiatives communicated in the reports, they are just marketing documents with little tangible use. When reports are not available for Asian listed companies, insight can sometimes come from the multinational companies who are partnering with them, as demonstrated by SABMiller's publication.

Case Study: MNCs provide information on Chinese brewers

Information on one of China's largest beer producers, China Resources Enterprise comes from SABMiller, which has formed a partnership and created China Resources Snow Breweries Limited (CR Snow). Although CR Snow was excluded from the scope of SABMiller's sustainability report, the company did include some basic information about the sustainability of CR Snow's operations. For instance, its water efficiency figure is 4.0 hectolitres per hectolitre of beer produced, which is below the group's average, while its energy consumption of 213MJ per hectolitre of beer produced is higher than the group's average. In addition, CR Snow reports that all current breweries treat wastewater before it enters the waterway. Eight breweries use local municipality treatment after pre-treatment on-site, and the remaining use on-site treatment.

MNC reporting structures can be used by large emerging economy partner companies to get their message across on sustainability initiatives.

Case Study: Sustainability reports are junk

Further criticism of sustainability reports comes from International Union of Food Workers (IUF), which has issued a report downgrading Nestlé's CSR rating to junk. Nestlé completed a self-evaluation of its sustainability report using GRI sustainability guidelines and gave itself a B+. However, the lack of independent monitoring of initiatives leaves organisations such as IUF skeptical about the contents. IUF states that Nestlé's report to the GRI allegedly failed to include required information on wages, salaries, unpaid benefits or taxes, collective bargaining agreements, occupational diseases and rates of injury, child labour in the supply chain, and organised lobbying efforts. [103]

Sustainability reports have a disclosure gap

Disclosure gaps need to be rectified if investors and other stakeholders take sustainability reporting seriously

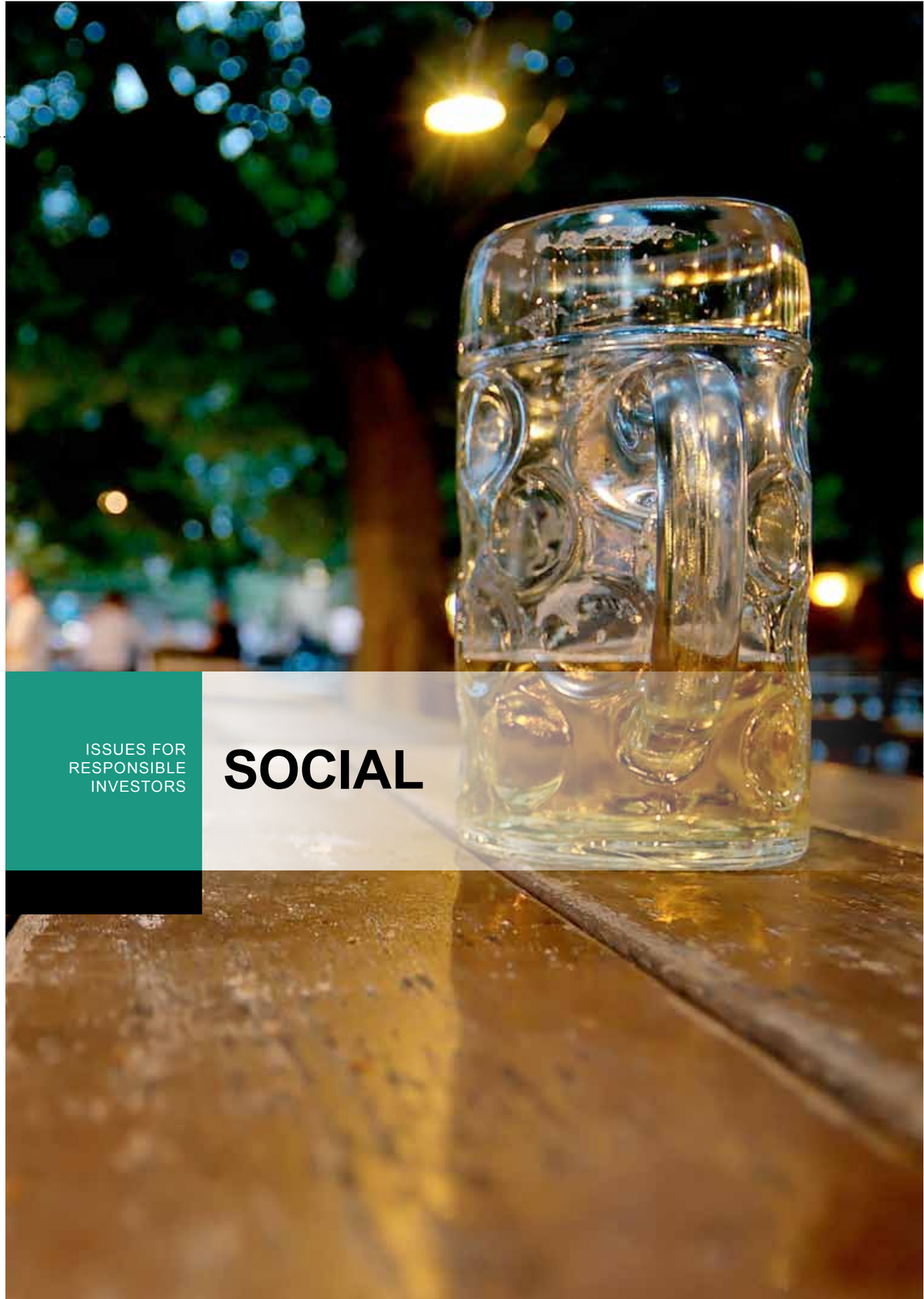
Critics could be mollified through rigorous external auditing of reports, similar to the auditing of financial reports. However, it is important that these steps not only include verification but also ensure that all 'disclosure gaps' are filled relating to specific pollution violations. According to a report compiled by the IPE and the Hong Kong-based Civic Exchange, of about 175 Hong Kong-listed companies, 15 percent of the exchange's listed firms, including Tsingtao Brewery, have notched up 750 environmental violations in China as of March 2010.

The report accused Tsingtao Brewery of more than 20 environmental violations at its mainland Chinese operation between 2004 and 2009. One of Tsingtao's factories in Chongqing municipality was found to discharge wastewater with suspended solids exceeding the government's standard by 45.6 times and phosphate exceeding the standard by 36.2 times.[104] Bloomberg reports that Tsingtao sent an e-mail response challenging the report's findings, saying the information cited was out of date "Tsingtao Brewery has invested greatly to improve the environmental footprint of brewers it has acquired, ensuring they meet environmental standards". Tsingtao do not publish a sustainability report,

there is no detail of environmental initiatives on their English web site and the only mention of the Chinese web site is that they have undertaken water treatment project. However, there is no detail regarding any of these projects and importantly no disclosure of where they have failed to meet the required standards.

Many of the fines identified are focused on companies that do not follow regulations on pollutant discharges. Historically, violation of environmental regulations and standards in emerging economies has been of little financial consequence to companies because of weak enforcement and insignificant fines. As such, penalties have often been regarded as part of the cost of doing business. Despite this, the trend is veering towards tighter enforcement and the imposition of higher punitive fines, a clear indication that environmental violations will become more costly to companies.

The report calls for companies publicly listed in Hong Kong to be forced to disclose their environmental violations in mainland China, a proposal allegedly being considered by Hong Kong's stock exchange. The Chinese government can support this disclosure by mandating that companies operating in China disclose environmental information. The State Council's Open Government Information Regulations and the Ministry of Environmental Protection's Environmental Information Disclosure Measures (EIDM) that came into effect on 1 May 2008 ensure that some institutions are now legally required to publicly disclose a wide range of environmental information. Particularly relevant to corporations is the requirement to disclose a list of companies that have violated discharge standards, total volume controls, serious pollution accidents, or have been the subject of confirmed complaints and letter writing from the public, investigations, lawsuits, offences and penalties. Exchanges and regulators around the world could be best placed to drive the contents of sustainability reports and ensure that disclosure on tangible issues is completed.



ISSUES FOR RESPONSIBLE INVESTORS

SOCIAL

SOCIAL ISSUES OF ALCOHOL

The potential negative impacts of alcohol mean a proactive approach to alcohol related issues is vital for alcoholic beverage companies

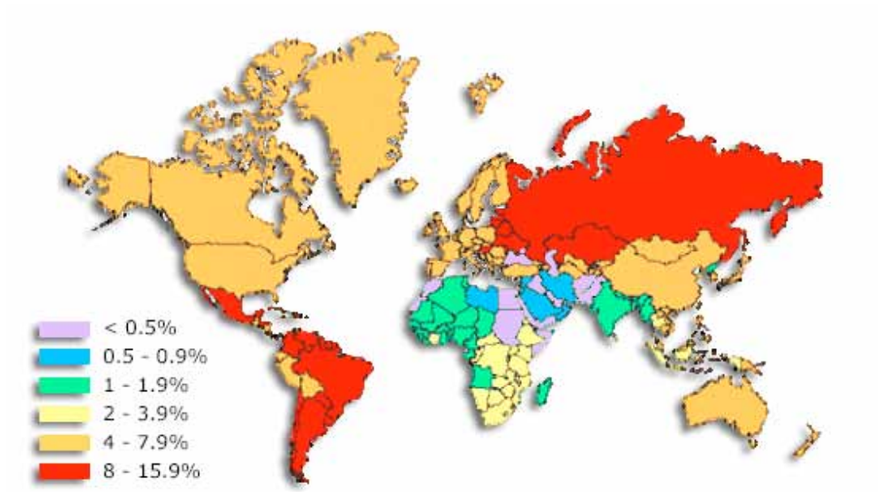
Role of alcohol in society

Alcohol has been a common source of pleasure for centuries and plays a traditional role in ceremonies and family celebrations in many societies. Whilst most consumers drink responsibly, alcohol can have a negative impact as its misuse can cause harm to individuals and the society in which they operate. Negative consequences are caused through intoxication and dependence (habitual, compulsive and long-term drinking). These consequences mean that companies operating in this sector have to take increasingly proactive approaches to promoting responsible consumption in order to stay ahead of impending policy and taxation changes that limit the use of their products and raise government revenues.

Social impacts of alcohol in Asia

According to the World Health Organisation (WHO), every year alcohol causes 2.5 million deaths globally. This is 3.8 percent of total deaths as well as 69.4 million or 4.5 percent of the total Disability-Adjusted Life Years (DALYs). The burden is not equally distributed around the globe and social issues vary between countries.

Figure 45: WHO Burden of disease attributable to alcohol - % DALYs



Source: World Health Organisation [105]

In developed countries, alcohol-related issues tend to focus on underage drinking, binge drinking and drink driving. However, in developing countries, alcohol can affect basic questions of daily survival. Spending a portion of a family's low income on alcohol can mean that food and education spending is compromised. Data from the WHO highlights that in India, alcohol expenditure can vary from three to 45 percent of total household income, and alcohol abuse is one of the main killers of young men in the country today. [106] Productivity of countries can be impacted, with industry associations in India estimating that 15 to 20 percent of absenteeism and 40 percent of accidents at work are due to alcohol. A study looking at the prevalence and associations of hazardous drinking in a male industrial worker population in India found that hazardous drinking was significantly associated with severe health problems such as head injuries and hospitalizations.

The biggest alcohol impacts are on the social and family dynamics that underlie communities in Asia. Domestic violence and an exacerbation of poverty have made alcohol abuse the single most important problem for women in India. With a large proportion of the Asian population falling below the poverty line, the economic consequences of expenditure on alcohol attain special significance. Besides money spent on alcohol, a heavy drinker also suffers other adverse economic effects including reduced wages because of missed work and lowered efficiency on the job, increased medical expenses for illness and accidents, legal cost of drink-related offences, and decreased eligibility for loans.

The United Nations Food and Agriculture Organization (FAO) indicates that recorded alcohol consumption in most developing countries is considerably lower than in most developed countries. The main reason for this is widespread poverty. However, the important trend for low-income countries in the region is the correlation between economic wealth and alcohol consumption. The higher the GDP, the higher the overall volume of consumption and the lower the proportions of abstinence. Therefore, as globalisation increases prosperity across Asia, we can expect to see increasing levels of alcohol consumption. This creates a wealth of opportunity for listed companies in Asia, but given the potential negative social impacts, it also presents challenges they must overcome. The increase in consumption of alcoholic beverages in developing countries has not necessarily been matched by methods of prevention, control or treatment of alcohol-related problems.

Data from international organisations underestimates alcohol consumption in emerging economies

In terms of understanding alcohol consumption in emerging Asia, data from organisations such as the FAO does not give us the full picture as recorded alcohol consumption figures underestimate consumption in most developing countries. In many developing countries huge levels of demand and supply are met by informally produced and traded alcohol. For example, in Malaysia, locally produced drinks such as Samsu do not appear in the FAO data. Furthermore, in many developing countries, per capita consumption understates the actual level of alcohol consumption because a good portion of the population, for example, women, do not drink at all.

Case Study: Samsu Drinkers in Malaysia

In Malaysia, a WHO report from 2004 highlighted that the biggest victims of alcohol are the poor, particularly rural labourers who work in rubber and oil palm estates. In those areas, cheap alcoholic drinks such as Samsu, are a major factor in exacerbating poverty. Samsu is a locally distilled potent spirit with an alcohol content of between 37 and 70 percent. There are over 150 brands of Samsu available in the market. Many rural labourers spend their entire monthly salaries, about US$80, on alcohol, contributing to the breakdown of the basic social fabric of society. Often it is the women who bear the brunt of this problem, having to contend with violence and discord in the home, abused and deprived children, non-working or chronically ill husbands burdening both the family and society. Besides loss of family income, the burden on the family is worsened when the drinker falls ill, cannot work and requires medical attention.[107]

Taxation of alcoholic beverages

Retail prices of alcoholic beverages are composed of the wholesale price and additional taxes that the consumer has to pay. Tax payments from alcohol companies to governments are a significant added value and can often represent an important proportion of a government's income. In the United States, the alcohol industry pays over US$21 billion in direct taxes annually, including excise taxes, sales taxes and licensing fees.[108] These payments are significant

contributors to governments in Asia and are essentially paid by the consumers through the increased sales price of the product.

Taxation policies for alcohol vary widely across Asia

National alcohol policies and trade agreements are important issues for alcoholic beverage companies globally but vary widely across the region. Taxation rates can also vary within countries, as exemplified by the different tax rates applied across the different states of India. Differences in taxation policy begin with the definition of what constitutes an alcoholic drink. Thailand's laws state that a drink only has to have 0.5 percent alcohol content to be considered alcoholic whereas in India, a drink is not considered alcoholic until it has 4 percent alcohol by volume. In addition, taxation policies are set with different structures, with some countries taxing drinks according to the amount of alcohol they contain and others based on price. If we compare just three countries in Asia, we see the complexity of the situation that beverage companies face.

Figure 46: Drinking legislation in three Asian countries

Country	Drinking Age	Definition of Alcoholic Drink	Beer tax rate (Approx 4.5% alcohol by volume)	Wine Tax (Approx 12% alcohol by volume)	Spirits tax rate (Approx 40% alcohol by volume)
India	18-25 depends on state	4%	150%	50%	250%
Indonesia	21	1%	Uses different classification		
Thailand	18	>0.5%	60%	60%	50%

Source: World Health Organisation[109]

This data is from a research document from WHO, however, if we review the sales of United Spirits and United Brewers, which are indicative of the market in India due to their large market share, we find that the tax contributions of alcohol companies to be even higher.

Figure 47: Drinking taxes in India

Company	Alcohol (% by Vol)	Gross Sales (US$ Million)	Excise	Net Sales	% mark up from net sales	Excise Duty per unit alcohol
United Spirits (domestic)	40%	2039	46.40%	1093	187%	116%
United Breweries	4%	740	44.50%	411	180%	989%

Source: Based on company Annual Reports, 2009

At its basic level, this highlights the increased tax on beer in India, which is almost ten times higher than it is for spirits, however, it does not take into account further complexities from commissions paid to distributors, which would inflate the sales prices further still. These type of complexities appear in all markets in Asia.

In China, the alcohol taxation system has a low-level flat tax on all spirituous liquors, plus an additional ad valorem tax levied on the price of the drink rather than on its content. This enables the government to raise revenue from the top end of the market while taxing lower income earners less. Reports from August 2009 highlight that the government is considering a move to increase the flat tax, which an analyst quoted by the China Daily suggests could squeeze liquor companies' profits by 15 to 20 percent. However, in reality a large proportion of this will be passed on to the customer, which has the potential to increase the black market for alcohol in China.[110]

Taxes favour local producers

Companies are challenged to keep ahead of changing taxation levels and laws across a range of geographies. The impact of taxes on the financial results of large, listed beer companies is significant but difficult anticipate as policies can remain uncertain for some time before they are finally implemented by the government.

"The beer and beverage industry may be subject to changes in taxation, which makes up a large proportion of the cost of beer charged to consumers in many jurisdictions. Increases in taxation tend to reduce overall consumption and encourage consumers to switch to lower-taxed categories of beverages. An increase in beer excise taxes or other taxes could adversely affect the financial results of ABInBev as well as its results of operations."
- Anheuser-Busch Annual Report 2009

Tax provisions are difficult due to prolonged resolution on alcohol policies

Listed companies that operate in many countries are subject to taxes in numerous jurisdictions. This requires significant judgment in determining tax provisions, as tax treatments are complex and cannot be determined until a formal resolution is made with the relevant tax authority. This may take several years to conclude. Amounts provided are accrued based on management's interpretation of country-specific tax laws and the likelihood of settlement. Actual liabilities could differ from the amount provided and could have a significant impact on the results and net position of the group.

However, changes in taxation can also present companies with opportunities. The integration of Vietnam into the WTO is a potential opportunity for investment and imports from foreign companies. The country is committed to reducing taxes levied on imported beer to 65 percent and further reducing the rate to 35 percent over the next five years. Spirits are projected to see additional volume growth due to changes in tax duties which will see rates of 60 percent for spirits with more than 20 percent alcohol by volume (ABV) and 20 percent for spirits with less than 20 percent ABV.

A country's evolving taxation system can be even more challenging for companies that are importing products from overseas. Many countries in Asia, such as Indonesia, impose lower tax rates on locally produced drinks than on alcoholic drinks from overseas. Changes in these policies, which open up emerging markets to increased competition from imports, is an issue for local companies concerned about the threat of increasing imports, as the comment below from United Spirits shows:

"The Government of India, in keeping with its commitment to the WTO, has been consistently reducing the import tariff on Bottled in Origin (BIO) spirits. During the fiscal year 2008 additional Customs Duty on BIO products was removed by the Central Government. The State Governments however, offer some measure of protection to the domestic industry through the levy of countervailing duties on BIO products."
- United Spirits Annual Report 2009

Case Study: Taxes on imports prevent growth in countries

Spirits account for about 70 percent of the alcohol market in India and help make India the largest whiskey market in the world.[111] Although India could be a strong market for foreign whiskey brands, consumers are drinking the well-established Indian brands, not imports. The United States exported only about US$1 million worth of whiskey to India in 2008, just one percent of total US whiskey exports and an even tinier fraction of the $7.5 billion Indian whiskey market.[112]

It is the taxes on imported whiskey, not the taste, that prevent foreign companies from winning more market share in India. The import duties begin at 150 percent, and although these are being reduced in line with changes to the WTO, additional state taxes can add another 150 percent or more to the price of a bottle.

Wine and beer face similar import duties, as well as additional and constantly changing state taxes and regulations. The complexity of the market means that only big producers like Jack Daniels and Jim Beam can afford to make a go in India on their own, and usually only with their premium labels. Although single-malt is a new status symbol in India, Scotch-whiskey producers have been similarly frustrated in their efforts to crack the Indian market. In response to complaints at the WTO, India lowered its base tariff in the past but the level still makes it an unattractive market for foreign companies.

In the meantime, beer companies have found other ways to get their products into Indian glasses. Brewers have used JVs, dedicated local breweries and local contract farmers to expand distribution and lower their costs. SABMiller, for example, contracts 10,000 farmers in the northern Indian state of Rajasthan to grow barley for all the beer they sell in India including Foster's, which is branded as Australian but brewed in India. The company has been operating in India since 2000, and last year made a profit of about US$7.5 million on US$230 million in revenue — enough to convince it to invest an additional US$500 million in India over the next five years.

Carlsberg and Heineken have been in India less than three years, but both companies are expanding. Heineken bought a 37.5 percent interest in India's largest alcohol company, United Breweries, while Carlsberg has invested US$53 million to reach its target of five percent market share in India by 2009. Anheuser-Busch has just launched Budweiser in India and plans US$96 million in investment.[113] [114]

Taxation is seen as a tool to reduce alcohol consumption in society but implementation poses significant challenges

Taxation as a public health instrument

The effect of price changes on alcohol consumption has been extensively investigated in Australia, New Zealand, Europe and North America. The findings from a range of reports point to the fact that if alcoholic beverage prices go up, consumption goes down, and if prices go down, consumption goes up.[115] Taxation and pricing, therefore, are seen by some governments as an effective public health instrument for reducing overall alcohol consumption and, in doing so, limiting alcohol-related harm.

Taxes as a tool for health policy face significant obstacles to implementation and pose challenges for governments to ensure they are effective. In Asia, five key issues exist concerning taxation of alcohol:

1. Taxation is a blunt tool and does not differentiate between problematic and non-problematic drinking patterns. There is little evidence that taxation effectively targets those who abuse alcohol or who have risky drinking patterns. Likewise, the evidence does not unequivocally suggest that these individuals will universally respond to changes in pricing.

2. From a public health perspective, governments must be sure to tax products that are close substitutes as consumer behaviour will not necessarily be pushed away from the set of products but select others with similar health consequences.

3. Governments sometimes favour locally produced alcoholic drinks over imports, often due to the influence of local lobbying groups, even when the import is a healthier and safer option. Therefore the taxation does not always support improvements in public health policy.

Case Study: Indonesian alcohol taxes

A March 2010 report from Indonesia stated that the government was planning to replace the current luxury tax on alcoholic drinks, which is between 40 percent and 75 percent, with a 200 percent excise tax on alcoholic beverages. The two drivers behind the government's decision were to raise tax revenues and curtail drinking in this mainly Muslim country.

Although the government believes that the tax regime for alcoholic drinks was "balanced", a spokesperson for the Indonesian Malt Beverage Producers Association (GIMMI) stated that one of the key downsides of this policy shift is that it would increase the amount of alcohol being sold on the black market, which already is believed to account for about 80 percent of alcohol sales. GIMMI estimated that its members would moreover pay an additional US$ 88 million in tax annually.

4. In developing countries with weak tax and law enforcement, smuggling and illegal markets commonly emerge in response to higher taxes. These products do not pass through the government system and so cannot be monitored for quality and safety, presenting a public health risk.

5. Tax authorities need a structure in place to impose, collect and monitor taxes. It must retain its credibility and fairness and be implemented in a cost-effective manner in order that the net cost of imposing the tax is favourable.

Governments usually defend tax increases in countries from a public health perspective due to the relationship between increased price and decreased consumption. In some countries, the official policy of the pricing system is to steer people towards a particular type of low-alcohol or non-alcoholic beverage in order to substantially reduce risky or high blood alcohol levels. The impact of taxes on the price paid by a consumer can drive consumer choice. This in turn can shape how a company views the viability of a new market and creates its sales strategy. We have already seen that beer in India is taxed nearly 10 times higher than spirits. The impact on the sales price of beers means that on-trade sales of beer are low, as many consumers prefer consuming spirits with mixers that provide a quicker "high" from drinking with beer being drunk at home at family gatherings. This is reflected in Euromonitor's report, which highlights that 81 percent of volume sales of beer is derived from off-trade sales.

Reports from United Brewers have detailed how states respond when the taxation of beer and spirits is differentiated. Uttar Pradesh (UP) is one of the states in India that has taken the lead in this area by not only changing the taxation rates but also enabling beer to be bought from supermarkets. As a result of this policy, consumption of beer has increased dramatically in UP, which in turn has increased the state's revenues.[116] The challenge of working in the industry is emphasised by United Spirits:

"The Alcoholic Beverages industry is the favourite target of the Governments, both Central & State, when they need to balance their budgets. As a result, the industry suffers from the twin impact of over-regulation and excessive taxation. Nearly 60 percent of the price of a bottle of alcohol goes to the State and local Governments towards taxes and duties. The unreasonable levels of taxation show no sign of abatement and continue to impede profitability despite continuing growth in market demand."
- United Spirits Annual Report 2009

Taxation and the black market for alcohol

The black market for alcoholic beverages is a large problem in emerging economies

A great problem in Asia is that raised prices of legitimate and controlled alcohol leads to increased demand for contraband products. The growth of this black market for alcohol remains a serious concern for the government, manufacturers, and consumers due to the health issues of drinking illegal and often toxic alcohol.

It is challenging to get accurate figures for the volume of black market products being sold in Asia, and numbers vary significantly between countries such as Singapore where strong regulations and enforcement are in place and Vietnam where enforcement is lax. According to Vietnamese trade sources, 80 to 90 percent of spirits sold in the market are counterfeit[117] and this figure is expected to increase further during the current financial crisis.

In Indonesia, a strong black market for alcohol is signaled by the fact that only US$5.8 million of alcohol tax revenue was collected in 2008 by the sole government importer, PT Sarinah. The Indonesian government estimates that the size of the black market is equivalent to 60 percent of all alcohol consumed, representing lost tax revenues of US$1.3 billion.[118]

Economists at the Centre for Strategic and International Studies (CSIS) Indonesia have called on the government to cut the tax on alcoholic drinks and change the system, saying it has neither discouraged consumption nor maximized revenue, but instead fostered a thriving black market. The researchers stated that the alcohol tax of 500 percent, which was far higher than the global standard, had failed to bring about the optimal outcome of generating revenue and protecting public health. They recommended the government reduce the alcohol tax and apply the volumetric system that bases its standard on the alcoholic content rather than on its value.

Black market products at the highest level reduce market share

The black market obviously has a negative impact on listed companies as a large black market reduces the market share for their legal products. In addition, contraband products are a major health risk to developing economies. Quantifying the health impacts of illegally produced alcohol is a challenge, as they are not always recorded when occurring in small numbers. However, we can see the impact when a large batch of poisonous illegal alcohol reaches the marketplace. For example, in Indonesia it is estimated that the consumption of illegal and unsafe low-quality liquor claimed more than 60 lives in 2007 as well as causing hundreds of others to be hospitalised. The issue has wide-ranging impact on other important industries such as tourism. The Australian government now warns its citizens visiting Indonesia against consuming local alcohol or illegally mixed alcohol.

Supporting alcoholic beverage companies to make legitimate alcoholic beverages more affordable to the poor is controversial and could be seen as using government funds to support the alcohol industry. However, this approach has been shown to have a positive effect on decreasing the volume of illegal alcohol being consumed in South Africa. United Breweries was given tax breaks by the South African government to ensure production of the local sorghum beer, which is a traditional brew. The aim was to provide low cost legal beer that would encourage the population to switch from illicit home-brewed spirits for health and social reasons. This gave United Breweries the opportunity to gain a foothold in a developing economy, enabling the company to become one of the leading players in the dark beer market and increasing its volume of sales by 3.9 percent from 2006 to 2007 alone.

Cultural influences on alcohol policy

Religious influences limit consumption

The diverse religious and cultural influences in Asia increase the complexity of government policy on alcohol further

In certain parts of Asia, religious influences ensure that alcohol is prohibited. For example, in the State of Brunei Darussalam, alcohol is prohibited altogether. As a Sharia country, the sale and public consumption of alcohol was banned in the 1990s and all pubs and nightclubs were forced to close. Foreigners and non-Muslims are allowed to bring in 12 cans of beer and two bottles of other alcohol, which includes either wine or spirits with no distinction on alcohol content. This limit used to apply to every entry until 2007 when it was changed to one limit every 48 hours, discouraging locals from "border runs" to buy alcohol from neighbouring Malaysia.

Prohibition is incorporated in the Constitution of India among the directive principles of state policy. During the pre-independence period, Mahatma Gandhi himself issued several strong statements against the sale and consumption of alcohol. Alcohol policy is under the legislative power of individual states with dry states completely banning the consumption and sale of alcohol. Although the aim of prohibition is to reduce the negative social impacts of drinking, the key outcome has been the development of the black market for alcohol in India.

In July 2009, police reported that 107 people died in Ahmedabad city in the dry state of Gujarat in black market-related unrest. Despite the state government's strong approach, enforcement of the no-alcohol policy is problematic, and deaths from illegally brewed alcohol are not uncommon because of the cheapness and strength of local brews. In 2008, about 150 people died from drinking tainted alcohol in the southern states of Karnataka and Tamil Nadu. Deaths are not just caused by alcohol poisoning due to consumption, but because the drinks are often laced with fatal chemicals and pesticides in an attempt to boost their strength.

Case Study: Alcohol remains on "blacklist" in Indonesia

Changes in government legislation in countries with a strong religious base are problematic. Indonesia is the sixth largest importer of beer in the world, importing 100 million bottles a year.[119] Beer manufacturers PT Multi Bintang Indonesia and PT Delta Djakarta, which produce Anker beer, are the sole alcohol producers on the stock exchange and are not able to meet domestic demand. However, it is hard to foresee the industry being opened up as alcoholic beverages are one of the sectors on a government blacklist of products and services, including gambling that are deemed detrimental to society.

The Indonesian Chamber of Commerce and Industry (Kadin) has been urging the central government to allow foreign investment into the country's alcohol production sector, saying that keeping it on the "negative investment" list only

increased the country's dependence on imported alcohol.[120] However, comments from the Kadin representative also highlight that Indonesia may remain closed to overseas investment as changes to the law would spark strong protests from the country's Muslims.

Companies that choose to operate in countries with strong religious view on alcohol consumption must clearly be cautious about entering these new markets and remain aware of how they would be impacted by political changes in power that could affect their license to operate successfully.

Cultural influences limit investment

In other countries in Asia, alcohol can be consumed legally. However, organisations with links to the government work to mobilise the public on issues of alcohol and retain its profile as a "sin product". In Thailand, the Thai Health Promotion Foundation (ThaiHealth) was established in 2001 under the Health Promotion Foundation Act and is the first organisation of its kind in Asia. The aim of ThaiHealth is to "advocate, stimulate, support and provide funding to various organizations in the community for health promotion activities, with a view to reducing infirmity and premature deaths."

ThaiHealth is an autonomous state agency that sits outside the formal structure of the government but reports directly to the Prime Minister. ThaiHealth is funded by a two percent tax imposed on tobacco products and alcohol.[121] It has employed the concept called "The Triangle that Moves the Mountain" to solve difficult social problems through the creation of relevant knowledge through research, social mobilization and political involvement.

ThaiHealth's ability to mobilise Thais to protest against alcohol companies was put into good effect against Thai Beverages (ThaiBev). ThaiBev is Thailand's largest brewer and distiller, making the country's leading Chang beer and with 60 percent of the beer market and 74 percent of the spirits market in a country of 64 million people.[122] Reports from Reuters from December 2008 indicated that the second attempt of ThaiBev to list on the Stock Exchange of Thailand was put on hold due to thousands of anti-alcohol activists planning a large rally in front of the stock exchange. ThaiBev first tried to go public in Thailand in 2004 as part of its plan to bring its operations under one company, but gave up in the face of opposition from monks and anti-alcohol activists who said it would promote alcohol consumption in the country.[123] ThaiBev ultimately listed on the Singapore Stock Exchange in May 2006.

Although ThaiHealth is ostensibly an autonomous organisation, the Ministry of Health is listed as its partner and it engages with numerous NGOs in the country that advocate on alcohol issues. It appears that this combination of structured NGO engagement and the ability to mobilise a large number of people to protest has kept the listing of ThaiBev in check. ThaiBev appears to be cautious about engaging on this issue in public, and given Thailand's political instability, it seems wise for them to hold back on this listing for now. However, given the organised approach, links to government and depth of funding, it is difficult to imagine how they would achieve the listing without negatively impacting their brand image even in less turbulent times.

Industry associations enable companies to work together to contribute to the alcohol policy debate

Private sector engagement on alcohol policy

Around the world, the alcohol industry is making strenuous efforts to be part of the dialogue on responsible drinking and is working hard to influence public opinion and government policy on alcohol issues. Leading companies collaborate and fund "social aspect groups" which purport to address the problems of alcohol abuse. The leading organisations include International Centre for Alcohol Policies (ICAP) in Washington and the Amsterdam Group in Europe.

ICAP is an NGO funded by ten international alcohol beverage companies: Anheuser-Busch, Asahi Breweries, Bacardi Martini, Beam Global Spirits and Wine, Brown-Forman Corporation, Diageo, Heineken, Molson Coors, Pernod Ricard and SABMiller. It is dedicated to promoting understanding of the role of alcohol in society and "works to reduce the abuse of alcohol worldwide through dialogue and partnerships involving the alcoholic beverage industry, governments, the public health community, and others with an interest in alcohol policy."

ICAP has provided input into the WHO's global strategy to reduce the harmful use of alcohol by writing a book entitled "Working Together to Reduce Harmful Drinking". Released in 2009, it makes the case that alcoholic beverage producers are legitimate stakeholders in government and public health initiatives to reduce harmful drinking and so should be part of the dialogue.[124] The book focuses on the need for reasonable levels of regulation, highlighting how over-regulation can lead to negative consequences, such as stimulating the production of the black market for drinks.

"Alcohol producers are under no illusion that they are the most important players in developing and implementing balanced alcohol policies. Governments, health professionals, and civil society must occupy centre stage. But, equally, alcohol producers are convinced that they do have a role to play."[125]
Marcus Grant, President, ICAP

The book also acknowledges that very few strategies for reducing harmful drinking are universally applicable and that, realistically, a range of options is required so that different countries and communities can select the combination of measures likely to work best for them. Although this may create a confusing picture for global companies, it will ensure that the best strategy is adopted in each case.

Critics of ICAP's work point to the self-interest of the private sector, and believe it is lobbying for reduced regulation on the industry rather than in the best interests of the consumer. However, government laws and regulations and industry self-regulation can be mutually reinforcing. This type of co-regulation can help ensure that severe government restrictions with negative outcomes are not implemented.

Policy enforcement in developing countries

Regulations and laws related to the sale of alcoholic beverages are relatively easy to adopt and enforce in developed countries that have strong government oversight of markets. However, enforcement is more difficult in many developing countries in Asia because of problems monitoring and controlling the production, import and sale of alcoholic beverages. Efforts by alcohol companies to change attitudes and reduce alcohol misuse are obviously more effective where an appropriate legislative framework is in place. A robust national policy on alcohol can clarify issues and address systemic problems, improving the effectiveness of initiatives. For example, efforts to discourage drink driving can yield greater benefits in a country where clear laws are properly enforced by the police force.

Strong national alcohol policies improve the effectiveness of private sector initiatives on responsible consumption

Drinking age

One way to influence social issues tied to alcohol is to increase and enforce age limits. Research from sociologists in China show that the growth of urban incomes and growing independence among children are key drivers behind rising

underage drinking across the country. One-quarter of middle school pupils and up to 80 percent of high school pupils claim they have consumed alcohol.[126] This led the Chinese government at the start of 2006 to ban alcohol sales to anyone under 18, and is applied to drinks with an alcohol content of 0.5 percent or above. Violators can be fined up to US$250 for serious infractions and retailers have three months to implement the regulation fully. However, strict enforcement is not expected as the ban is a regulation rather than a law, and no strategy was communicated as to how enforcement will be monitored.

Figure 48: Summary of Legal Drinking Ages in Asia

Country	Legal Drinking Age (LDA)
Brunei	Illegal
China	18
Hong Kong	18
India	18-25 depends on state
Indonesia	21
Japan	20
Philippines	18
Singapore	18
South Korea	19
Sri Lanka	21
Thailand	20

Source: ICAP[127]

ID checks are not commonplace in developing countries in Asia and fake identification cards are prevalent. In Thailand, Diageo has been helping drinking venue operators prevent under-20s from entering their premises. It joined with the police and entertainment industry to launch Finger Scan, a user-friendly age-verification system that helps vendors prevent underage consumers from drinking illegally. On their first visit, customers swipe their ID card and scan their right index finger. The machine connects the scan with birth-date data so that, on subsequent visits, access is by finger scan alone. Finger Scan has registered 300,000 customers and 100 Bangkok venues can access this data.

Workplace drinking

Restricting alcohol consumption at workplaces is another way to reduce some forms of alcohol-related harm. One way to reduce work-related accidents and absenteeism is to develop comprehensive workplace health programmes that address alcohol and drug abuse, resulting in a healthier and more productive workforce. Indeed, restricting drinking in any public space encourages safety and orderly behaviour. It is essential that business leaders and relevant agencies enforce these rules and support their communities.

RESPONSIBLE MARKETING

The privatisation and opening up of the Asian beverage market to foreign companies dramatically changed the advertising and marketing of alcohol. For example, in Sri Lanka the state-owned Distilleries Corporation never actively promoted its products until after the country's post-privatisation period. Asian listed brewers must increase their advertising and marketing spend to keep up with the large budgets of the imported competition.

However, this is a worrying issue for developing countries in Asia as companies are marketing to a young and growing segment of consumers who may be less educated about the negative effects of alcohol. In coffee shops around the region, beer can be sold and consumed without a license. In supermarkets, beer and stout cans are lined up beside soft drinks, which in the absence of adequate information could arguably equate the two products. Through situations like this, we can see how social issues related to alcohol could create tangible reputational risk for Asian listed beverage companies.

Marketing alcohol in Asia

The WHO has specified that the advertising and promotion of alcohol needs to be controlled. In September 2005, the WHO Euro Region adopted the "Framework for Alcohol Policy for the Region." This has five ethical principles, which includes the directive that "children and adolescents have the right to grow up in an environment protected from the negative consequences of alcohol consumption and, to the extent possible, from the promotion of alcoholic beverages". [128]

Marketing of alcohol is subject to government oversight and regulation but companies still work to keep ahead of legislation

In most countries around the world, marketing of alcohol is subject to some degree of government oversight and regulation under consumer protection laws. These vary in strictness from country to country and cover everything from advertising to product labeling. For example, in Singapore, alcohol advertisements are not allowed during programmes intended for children and young persons and during Malay-language programmes. In Hong Kong, alcohol advertising is not allowed during Family Viewing Hour.

In Muslim countries in Asia, this issue becomes more challenging due to the differences between allowable advertising on Malay and Non-Malay channels. In Malaysia, alcohol advertising is not shown before 10:00pm and during Malay-language programs. However, non-Malay newspapers and magazines are allowed to continue alcohol advertising. Supermarkets have come under criticism for advertising alcohol products on their trolley, and after the ban of alcohol advertising on Malaysian radio and televisions, companies have been criticised for continuing to build the brands with sponsorships of concerts and entertainment events. This highlights the negative press that companies can attract and the risk to their reputation even when working within the limits of the law.

The importance of co-regulation in marketing

Government regulation in itself is not able to control or curtail alcohol abuse, and global beverage companies are encouraged to expand self-regulation and co-regulation in countries with little or no restrictions over marketing practices. Through campaigns such as social marketing, the industry itself has promoted moderate drinking for adults and abstinence for minors. Much of the experience to date has been in developed markets, where robust systems have been established and include monitoring and enforcement.

These same practices should be expanded across developing Asia, especially where alcohol consumption may be rising much faster that the historical average. In addition to general best practices, global alcohol companies tend to have their own internal practices regarding marketing across sectors, although this is not true of all local brewers and distillers in Asia.

Case Study: Advertising policy

Heineken has the greatest presence in developing countries. It is sold in 150 countries and brewed in 50 including Malaysia, Indonesia, Vietnam, Thailand and Papua New Guinea. About one quarter of its sales comes from the Asia Pacific and African regions, which are its most rapidly growing markets. In Indonesia, Heineken owns 77 percent of the Multi Bintang Brewery in East Java, which produces and markets Bintang, Tiger and Guinness beer.[129]

Heineken has a strong policy on alcohol consumption centered on the notion that while consumers ultimately bear responsibility for the ways they use alcohol, Heineken is under an obligation to sell and promote beer in a responsible manner.[130]

Heineken has three different pillars in its strategic approach towards alcohol:
1. Alcohol & Work: a programme that focuses on the awareness and responsibility of employees;
2. Responsible commercial communication: an activity that aims to achieve consistent, responsible brand communication by sharing the 'dos and don'ts' across the world-wide Heineken organization; and
3. Enjoy Heineken Responsibly: a programme that provides the basis for a number of activities designed to inform and educate consumers about the effects of alcohol on health and social environment.

Engagement through education

Alcoholic beverage companies acknowledge there is no single definition of responsible drinking, and support a wide range of programmes that can capture different global perspectives. Leading distillers are particularly focused on educating consumers about their products, and place importance on providing information about what is actually in a drink.

Case Study: DRINKiQ Diageo

For Diageo, the world's leading distillery company with products containing high alcohol content, an important focus is educating consumers about the contents of their beverages.

Diageo developed DRINKiQ originally with the aim of raising employees' "collective drink IQ'" making them more conscious of their own choices as consumers. The programme has now been presented to over 1,000 employees across Asia Pacific who have since become ambassadors for responsible drinking to the outside community. This programme has also been extended to business partners. For example, IBM staff who support Diageo's global IT systems in Bangalore, India have also accessed the system.

The DRINKiQ programme was launched globally in 2008 at www.drinkiq.com to raise the debate and share good programmes with others interested in reducing the harm from alcohol misuse. It consists of a global site with 16 country sites, including China, India, Taiwan and Singapore. DRINKiQ includes programmes for parents, educators, law enforcers and retailers.

Health warning labels

Countries in Asia mandate different information on their alcoholic drinks labels. For example, in South Korea, the label needs to include the following:

- Name of the product
- Country of origin
- Type of product
- Importer's name and address
- Importer's business license number
- Date of bottling
- Alcohol percentage and product volume:
- Tolerance of +/- 0.5 percent with regards to accuracy of alcohol content
- Location where product may be exchanged or returned in the instance of a defective product
- Instructions for storage, if applicable
- Mode of distribution, which must specify one of the three: "Discount store sale only," "Restaurant sale only," or "Sale for home use only" (taxes on beverages vary depending on the mode of distribution)
- Name of ingredients by volume percentage
- List of food additives

Health warning labels are slowly making their way into the alcoholic beverages industry either on a voluntary or mandatory basis

Additionally, health warning labels (HWLs), either mandated by governments or provided voluntarily by alcohol producers, are there to offer information about drinking. Placed on beverage containers and packaging, HWLs tend to take the form of reminders about general health risks associated with alcohol consumption, and dangers of drinking while driving or operating machinery. Labels may also include additional information including references to official drinking guidelines.

In developed countries such as the United Kingdom, the government has tried to implement a voluntary labelling agreement with the alcohol industry to clearly provide concise health recommendations on alcohol products. The labelling includes the number of alcohol units in the beverage, health guidelines of no more than three to four units a day for men, two or three units for women, and a warning not to drink for women who are pregnant or trying to become pregnant. Nevertheless, a recent study by the U.K. Department of Health has shown that only 15 percent of drinks products have complied. Health experts point to this study as proof that the voluntary labelling code has failed, and are calling for a mandatory system to ensure that alcohol companies respond. The table below lists both government-mandated and voluntary HWLs in five Asian countries:[131]

Figure 49: Government-mandated and voluntary HWLs in five Asian countries:

Country	Voluntary or Mandated	Labels
Taiwan	Mandated	"Excessive drinking endangers health" From The Tobacco and Alcohol Administration Act (25/06/2009)
Thailand	Mandated	"Liquor drinking may cause cirrhosis and sexual impotency" "Drunk driving may cause disability or death" "Liquor drinking may cause less consciousness and death" "Liquor drinking is dangerous to health and causes less consciousness" "Liquor drinking is harmful to you and destroys your family"
United States	Mandated	"GOVERNMENT WARNING: (1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects. (2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery, and may cause health problems"
United Kingdom	Voluntary	"The Chief Medical Officer recommend men do not regularly exceed 3-4 units daily and women, 2-3 units daily"
China	Voluntary	Recommended: "Overdrinking is harmful to heath" "Pregnant women and children shall not drink" See GB10344-2005: General Standard for the Labeling of Prepackaged Alcoholic Beverages

Source: ICAP 2010 [132]

The Thai government is taking a particularly strong approach to alcoholic drink labeling and has notified the WTO members of its plans to introduce rotating pictorial warnings on alcohol containers. The warning pictures and messages will be in four colours taking up less than 30 to 50 percent of the label.[133] The WTO is liaising between Thailand and importing countries regarding the impact of the graphic label on sales and the additional costs on importers for label preparation.[134] The proposal from the Thai government has not been made into law yet and the discussion seems to have gone quiet. It is difficult to predict when this issue will rear its head again in Thailand and if other countries in Asia will follow their lead. Companies that engage in the policy dialogue and are at the forefront of responsible marketing practises may be best placed to respond to these types of changes in other countries.

RESPONSIBLE DISTRIBUTION

Education of bar staff

The marketing of beverage alcohol involves not only producers but also retailers both on- and off-premises. Therefore companies and their distributors must foster education throughout the whole of the value chain, and promote a culture of safe and moderate drinking. Leading drinks companies have undertaken a range of initiatives to improve product understanding through their distributors and vendors, and many include education modules to identify underage drinking and educate bar staff about serving alcohol responsibly.

"Importantly, from the perspective of underage and irresponsible drinking, GAB points to the importance of the academy in equipping bar staff with knowledge of the alcohol content of various drinks and inculcates responsible bartending skills and provides tips on how to deal with difficult customers."
- GAB, Corporate Responsibility Report 2008

GAB recently launched the GAB Academy to aid the enhancement, sustainability and growth of the businesses of its trade partners in the hospitality, food and beverage industry. One component of this is the Hotel, Entertainment Outlets & Restaurant Operator (HERO) programme, a comprehensive training module that focuses on product knowledge and customer service skills for frontline bar staff. HERO's key objective is to give GAB trade partners the know-how and skills needed to consistently deliver the best possible drinking experience to the patrons of their outlets.[135]

Beer girls serving Cambodia

Beer girls working in Asia work in high-risk alcohol-fuelled conditions

A high profile distribution channel for beer in Asia are "beer girls" who wear distinctive uniforms and sell for some of the world's leading brewers, including Carlsberg and Heineken, as well as black market beers from neighbouring Asian countries. These women work for minimal pay in sexually high-risk alcohol-fueled conditions across countries in Asia. The social and cultural norms of the countries in which they operate, such as Cambodia, mean that these women may often be viewed as little more than informal sex workers, which can lead to exploitation.

The general press has highlighted this issue for years, even before social scientists began systematic data collection. The Cambodian NGO Siem Reap Citizens for Health, Educational and Social Issues (SiRCHESI) had been gathering data since 2002 to understand the social issues in play. The latest research report, released in April 2010, is based on interviews with 900 women.

The research from SIRCHESI criticizes the girls' working conditions and their lack of knowledge about their rights and dangers of their job. According to the report, international and domestic beer companies operating in Cambodia offered average monthly incomes of about US$81, but workers said they needed between US$160 and $209 to cover monthly expenses and support their families who on average consist of 3.5 dependents. The women who engaged in sex work to supplement their salaries said they had accepted a standard price of US$25 per session, and participated in two to three sessions per month, giving them an additional average monthly income of $62.50.[136]

Figure 50: Beer girls serving in Cambodia from different sources

Source: Phnom Penh Post [137]

Source: BSIC web site [138]

This is a clear reputational risk for brewers using beer girls in Asia. In October 2006, major brewers operating in Cambodia, came together to establish the professional industry organisation "Beer Selling Industry Cambodia" (BSIC). Participating brewers include Asia Pacific Breweries, Cambodia Brewery Limited, Cambrew Ltd., Carlsberg, Guinness and Heineken. BSIC aims to improve the health, safety and working conditions of beer promoters by setting industry standards. The BSIC statement of intent notes that it "recognises its responsibility to improve the health and working conditions of beer promoters selling beer in the Cambodian consumer market. The industry body has agreed to industry standards and will use its influence to ensure that other stakeholders also comply with these standards."

The devised standards include the following Code of Conduct (COC):

1. Employment contracts according to Cambodian labour law (1997)
2. English translation of labour law
3. Fixed basic salary rather than commission only salary
4. Clear supervision structures and grievance procedures
5. Decent, branded uniforms
6. Transportation and driver policies in place to take beer girls home
7. "Selling Beer Safely" and life skill training – included on the website
8. Zero tolerance harassment approach and policies
9. No alcohol during working hours including training on why and how to avoid this
10. Annual monitoring of compliance and impact by independent party

BSIC attempts to change perceptions of beer girls as sex workers and formalize terms of employment

An audit completed by the Centre for Advanced Study[139] found a number of areas in which the COC is working well and being implemented successfully. Companies are rejecting the use of employment by commission only, supplying employees with decent uniforms, and making company transport available to take beer promoters home after work. These steps taken by these companies are helping to reduce the perceptions of these women being sex workers in Cambodian society, and by formalizing terms of employment, reduce the possibility of exploitation. This is in complete contrast to the practises of the unlicensed beer brands smuggled in from neighbouring countries that make no efforts to protect the girls who promote their brands.

The audit however did not research all of SIRCHESI's focus areas, notably poor wages, which are seen as the driving force behind the choices that the girls make. In addition, general sex education remains poor in Cambodia, which also has a high rate of HIV infection. Reports from SIRCHESI highlight that the 900 girls interviewed had limited access to HIV/AIDS treatment and sex-education programmes. Their research has also shown that 37 percent of beer sellers do not receive health training for more than a year after they begin work, and some never do.

Employees' contracts also lack transparency and there is confusion about benefits, rights and the pay structures and amounts due to the beer girls. The Centre for Research on Multinational Companies (SOMO) completed a summary report to engage with Heineken shareholders that highlights the beer girls' lack of understanding about their rights.[140] SOMO believes this is caused by Heineken failing to provide its beer sellers with copies of their work contracts that clearly detail working conditions, benefits such as severance pay and maternity leave, and exact earnings. In 2008, no beer seller could show SiRCHESI a copy of a signed contract.

Although the BSIC COC, which the leading global brewers work to uphold, explicitly forbids workplace drinking of alcohol, SiRCHESI found that only six percent of Heineken (and 7.6 percent of BSIC brands) beer sellers were in fact abstaining in 2008. This highlights the difference between practice and implementation of good health and safety standards for beer sellers in Cambodia. While BSIC has certainly attempted to address this critical social issue, it is clear that companies continuing to use this distribution channel face a sizable reputational risk.

SOFT DRINKS AND HEALTH

Health concerns from consumers

Soft drinks and obesity

Soft drinks, including juices, sodas, ready-to-drink teas, sports and energy drinks are becoming increasingly popular throughout Asia. Asian listed companies and multinationals have experienced rapid sales growth recently.[141] However, the increasing prevalence of sodas, fruit juices and sports drinks has been cited as a key factor contributing to rising obesity rates. WHO and the UN FAO indicate that the intake of sugar, inclusive of that in both food and drink, should be less than 10 percent of the daily energy intake.[142] As one can of Pepsi Cola contains 150 calories and 40 grams of sugar,[143] the increased consumption of soft drinks played a role in a number of health issues that have developed in the West.

There is a growing awareness of the health impacts of soft drink intake globally and is impacted consumer choice in emerging markets in Asia

The most advanced research to date has focused on the diet of Americans, resulting in a national emphasis on sugar consumption reduction. Efforts have been made to promote a decrease in the intake of sugar-sweetened beverages, particularly among children. Increasing global awareness and obesity considerations are factors that non-alcoholic beverage manufacturers need to consider as they develop in Asia, as the social and political emphasis on obesity is likely to increase.[144] [145]

Guidance from medical experts to reduce consumption is a challenge for soft drink makers,[146] and one of the main reasons why these companies are looking to developing economies in Asia for volume growth in sales. The connection of soft drinks with obesity has the other potential impact on earnings if specific taxes are placed on soft drinks in the United States, affecting consumption levels and product profitability.

Soft drinks and other health problems

In addition to obesity, a wide range of other health issues are exacerbated or caused by sugar-sweetened beverages:
- Pancreatic cancer: A National University of Singapore/University of Minnesota joint study of soft drinks usage showed an increase risk of pancreatic cancer[147]

- Metabolic syndrome (leading to heart disease): Research has shown increased risk from consumption of both regular and diet sodas[148]

- Heart disease: A harvard study in American Journal of Clinical Medicine study into sweetened beverage consumption and risk of coronary heart disease found that drinking at least two sweetened drinks per day increases risk of heart disease by 20 percent[149]

- Diabetes: China and India currently have the highest prevalence of Type-2 diabetes, which is primarily caused through a high-calorie diet,[150] although as a percentage of the total population these amounts currently trail the United States.[151]

Chemical additives

Chemical additives in food are another source of concern among campaign groups. Differing regulatory environments and conflicting priorities, such as the genetically modified food debate between product longevity and health risks, make this a complex issue for global companies to manage. The use of sugar alternatives in Asia has also attracted negative press. In Philippines, the FDA has warned against the use of "magic sugar" or sodium cyclamate as an artificial sweetener in drinks due to evidence it causes cancer in animals[152]. In addition, in Hong Kong, from 1 July 2010 an amendment to the 2008 Food and Drugs Regulation will be applicable, requiring all pre-packaged food to provide nutrition labels with information on energy and seven different nutrients, including sugar. There will also be tighter requirements on products that state they are "low sugar" or have "no sugar added".

Concern over artificial ingredients is not limited to traditional sodas. PepsiCo has replaced all high fructose corn syrup in Gatorade with cane sugar, and is developing a range of natural Gatorade products that will only contain natural colourings and flavourings.[153] At present, Asian sports drinks manufacturers such as Fraser & Neave, the makers of 100 PLUS, or Yeo's, which makes H-TWO-O, have demonstrated little concern over the sugar content of these drinks. However, Fraser & Neave has made efforts to emphasize the need for an active lifestyle and proper rehydration.[154] Given the strong trend of westernisation in consumers' minds, Asian companies may want to be mindful of the anti-artificial sweetener trend in the United States

Industry impacts

The growing concern over the health effects of soft drinks can potentially reshape the viability of the whole industry, becoming a concern to investors in this sector.

Tax on soft drinks

One risk for companies in developed countries is a possible tax applied to soft drinks in the United States. In December 2008, the Congressional Budget Office suggested one way to pay for the US government's healthcare plan was through a federal excise tax of 3 cents per 12 ounces of "sugar sweetened beverage". This was estimated to generate revenues of $24 billion between 2009 and 2013 and US$50 billion by 2018. The dual aims of the tax are to cut consumption of the calorific soft drinks that contribute to poorer health and raise revenue to pay for changes to the national healthcare system.[155] New York Mayor Michael Bloomberg has also added his support to a one-penny-per-ounce tax on sodas.

A tax on soft drinks has already been implemented in the United States

Taxes on soft drinks are currently levied in 25 states, usually in the form of a sales tax, while a further ten states tax products from vending machines, including soft drinks. It is estimated that these taxes generate US$1 billion in revenue for government.[156] Research has begun to establish the correlation between increased taxes on consumption, with a Yale study suggesting that that for every ten percent increase in price, consumption of soda drops by 7.8 percent.[157]

Increased awareness and communication of healthy living

Global soft drink manufacturers are taking steps to get ahead of tax debates and consumer market trends by increasingly focusing on health and lifestyle. This is demonstrated in their product differentiation strategies, as well as marketing and communications on their corporate websites.

Case Study: Soft drinks and health awareness at Coca-Cola

The Coca-Cola website contains information about healthy living under the "Sustainability'" section. Currently 750 of 3000 global products are low- or no-calorie beverages, about 25 percent of the 2008 unit case volume.[158] From 2007, Coca-Cola began introducing smaller cans of key products in the United States market to allow for reduced serving sizes.

Some products, however, have genuine benefits to consumers, for example. For example, NutriJuice, was a vitamin and mineral fortified orange juice drink, launched in the Philippines in 2007 to address malnutrition and iron-deficiency anaemia in children.

From mid-2008, Coca-Cola also modified its "Advertising and Marketing to Children Policy", which states that "children under the age of 12 will not be directly targeted by any of our marketing messages in traditional advertising mediums, nor will they be shown drinking any of our products outside the presence of a parent or caregiver". They note the cultural and religious differences globally and emphasise that this policy will be applied universally. The emphasis of the policy is on parents or caregivers making the decisions about what is appropriate for their children. Products will thus remain available to all, but marketing will not take place during TV shows where over 50 percent of the viewers are children, in schools, or with age-specific goods such as colouring books. The Coca-Cola guidelines have also been adopted by the International Council of Beverage Associations as an industry standard on marketing to children.[159]

Case Study: Soft drinks and health awareness at PepsiCo

PepsiCo has some key goals organised by "Community", "Marketplace" and "Products" regarding "Human sustainability":[160]

- "Reduce the average amount of added sugar, sodium and saturated fat per serving in key global beverage brands, in key countries, by 25 percent by 2020 (2006 baseline)".

- "Eliminate the direct sale of full-sugar soft drinks in primary and secondary schools around the globe by 2012".

- "Expand PepsiCo Foundation and PepsiCo corporate contribution initiatives to promote healthier communities, including enhancing diet and physical activity programmes".

The company's focus is on improving products, educating consumers and, importantly from a reputation standpoint, letting everyone know what they are working towards. Its work also extends overseas. In 2009, PepsiCo made a US$5 million commitment to Save the Children to establish a three-year program to combat childhood mortality and malnutrition in India and Bangladesh, which together is home to 40 percent of the world's malnourished children.

The social impacts of soft drinks are not well covered by Asian companies

Compared to leading global soft drinks brands, the social impacts of soft drinks are not well covered by Asian companies. Hui Yuan, one of our benchmarked companies, has no English information on CSR issues. Others not included in the benchmarking, such as Saigon Beverages JSC (Tribeco) (Vietnam), have no English website. Fraser & Neave, which at least encourages more exercise on its website, make no mention of dietary or obesity related issues. This may be because the priority for Asian soft drink companies is meet growing consumer demand rather than responding to less vocalised health concerns.

Staying ahead of regulations

Soft drink companies are advised to anticipate government regulations, particularly in relation to their marketing approaches to children. In Europe and the United States, industry associations help companies engage on key issue areas together.

UNESDA, for example, is a European non-alcoholic beverage association that includes members of soft drink companies that conduct their business in at least five EU Member States, and national associations from across the EU27 and beyond. It has organised collective action on key issues for the soft drinks industry and ensures that all of their members adhere to the collective commitments below:[161]

- No advertising on TV, in print or online to children under 12
- Not offering products for sale in primary schools across the EU
- Ensuring that in secondary schools, where their products are offered for sale, there are a variety of drinks formats including water, juices and no- and low-sugar varieties
- Ensuring that a variety and choice of beverage formats and compositions are available in the marketplace

Soft drink ingredient innovation

Natural, low sugar additives are a focus of innovation for soft drink makers

In developed markets, the new drive has been for soft drink companies, including PepsiCo and Coca-Cola, to focus on the development of a low sugar, natural sweetener for their products. This could include using natural extracts to enhance the sweetening power of sugar, enabling less sugar to be used.

The solution may come from a natural sweetener derived from a plant native to Paraguay called Stevia (stevia rebaudiana) which has been approved for use by the US FDA, and has been embraced by food and beverage manufacturers such as PepsiCo, Coca-Cola and Unilever. The leaves from the Stevia plant have been used for hundreds of years in Paraguay and Brazil to sweeten local teas or to be consumed as a "sweet treat". There are several related substances that can be derived from the Stevia plant, but the best tasting, purest and sweetest of all is Rebaudioside-A (Reb-A).

Case Study: PureCircle Sdn Bhd

PureCircle Sdn Bhd in Malaysia has developed a method of naturally extracting Reb-A from the Stevia plant to produce a substance, which tastes very similar to sugar but is 200 times sweeter, has a beneficial dietary effect, and no calories. The extract, branded PureVia by PureCircle Limited has now established a formidable 80 percent of market share [162]of Stevia products. [163] The sugar company, Imperial Sugar, has already formed a JV with the PureCircle Sdn Bhd in order to access the American market. Stevia has already found its way into consumer products; PepsiCo has used a version of Stevia in some of its Tropicana and SoBe Lifewater drinks and is now looking to use it in carbonated drinks. Coca-Cola has used a version of Stevia in its Odwalla juices, Vitaminwater and some carbonated beverages such as Sprite Green, among other products.[164]

PureCircle emphasises the sustainability throughout the supply chain of their product, noting that each hectare of Stevia uses less ground and water than the production of sugar. The market potential of this kind of discovery to the industry is huge, and a larger beverage firm that seeks to break ahead of its competition could acquire companies in this area.

Genetically modified ingredients

Reporting on genetically modified ingredients is not prevalent in Asia

Importantly, from a health perspective Stevia is not genetically modified (GM) food. GM foods are derived when genes from, for example, cows are inserted into corn to either increase yield or make them resistant to pests or weeds. GM products have been dogged by controversies over their potential impact on human health, environment, intellectual property rights, and food safety.

The use of GM ingredients is one notable gap in most companies' sustainability reporting and limited examples of disclosure can be found across the benchmarked companies. While this is a salient issue for the public at large and remains a

potential touchstone for consumer activism now and in the future, the sector stays largely quiet about it.

There are interesting discrepancies found between developed and developing countries on disclosure of GM ingredients in Vitasoy products. Vitasoy in Asia is silent on the use of GM soy in their products but have publically stated its absence in their US products, where GM food issues are scrutinized more thoroughly.[165]

Ingredients as risks

Companies are seeking replacements to the artificial sweetener, aspartame, as it has been linked, albeit inconclusively to a range of health complaints including brain tumours. With no health warning information on the can and billions of drinkers worldwide imbibing the chemical everyday, a class action suit could potentially significantly impact soft drink companies and even the industry as a whole.

Marketing of healthy drinks is receiving increased attention to ensure that they live up to their aspirations

Litigation is a real risk to beverage companies due to some of their marketing approaches. A US consumer group has filed a class action lawsuit against Coca-Cola in California, accusing the company of making deceptive health claims about its Vitaminwater. This comes after warnings to Coca-Cola from the FDA about how it markets its products. The suit filed by the Centre for Science in the Public Interest (CSPI) said Coca-Cola made a range of claims about Vitaminwater that go beyond those allowed by the FDA. They say that Coca-Cola's use of labels such as "defence", "energy" and "endurance" are false advertising. Instead, CSPI point to the fact that the 33 grams of sugar in each bottle of Vitaminwater does more to promote obesity, diabetes and other health problems than the vitamins in the drinks do to perform the advertised benefits listed on the bottles.

Figure 51: Vitaminwater produced by Coca-Cola

Source: Coca-Cola Company website

Soft drink product innovation

Carbonated soft drinks are still the largest category in the soft drink industry. However, Vitaminwater is just one of a wide range of products meeting the increasing consumer demand for health and wellness drink products in developed markets, which is now being mimicked across Asia.

Juices, canned tea drinks, sports drinks and dairy drinks are set to be a key battleground as consumers in Asia seek healthier alternatives to sweetened, carbonated soft drinks. Michael Deng, management consultant at AT Kearney predicts that RTD tea drinks will soon overtake carbonated drinks as the largest soft drink category.[166]

If we look at the off-trade sector in Vietnam, volume sales of carbonates, which are regarded as being the unhealthiest of all soft drinks by Vietnamese consumers, have been on a downward spiral for an entire decade. Peaking in 1998 at 91 million litres, the category tumbled to just 68 million litres in 2008. Demand for healthy drinks, on the other hand, is booming in Vietnam. Off-trade volume sales of fruit/vegetable juice doubled over the 2003-2008 review period to over 34 million litres. RTD tea has done even better – volume sales shot up by 477 percent over the same period to 29 million litres. Indeed, for the first time in 2008, RTD tea surpassed cola carbonate sales, which declined to a pitiful 23 million litres that year. RTD tea, specifically green tea beverages, is perceived to encompass all the nutritional goodness a beverage can deliver, including the antioxidant epigallocatechin gallate naturally found in tea, as well as vitamins C and E. Other healthy soft drinks categories that made notable volume gains were bottled water, increasing to 154 million litres in 2008 from 82 million litres in 2003, and Asian specialty drinks with an 82 percent increase to 83 million litres.[167]

Asian companies are diversifying their product range to capture consumer demand for health drinks

A number of Chinese companies have made inroads in the healthier drinks sector, most notably Wong Lo Kat, which makes herbal teas. Other local successes include Xiangpiaopiao from Zhejiang province, which makes instant milk tea, generating more than US$147million in sales in 2009.[168] Extracts from a Forbes interview with Chairman and CEO of the Hangzhou Wahaha Group shows product innovation, with a focus on health products, as a priority for the company. From the interview, it appears that the diversification strategy will see the company produce specialized goods more akin to those found in pharmacies than on regular supermarket shelves.

Case Study: Health focus by Chinese drinks manufacturers

Forbes: What new products are you working on for the next few years?

Zong Qinghou: Looking ahead, the living standard of ordinary people in China is rising. But many people find themselves with illness as they become successful: higher blood pressure, and diabetes. So today, people are paying attention more and more to their health. In the future, we should meet the wishes of consumers to have beverages that are good for their health.

Forbes: What kind of health beverages are promising?

Zong Qinghou: Our approach is to think about health needs and develop beverages that address those, such as those that lower blood pressure. We are working with different research institutes, including Zhejiang University.

Forbes: Are there comparable products overseas?

Zong Qinghou: Not yet. Overseas, these would be pharmaceutical products, and sales of those are restricted in China. But many come from raw materials that are actually food and can be used in beverages in ways that follow our restrictions here.

Forbes: And you're thinking that these will become mainstream products for you?

Zong Qinghou: That is the future direction.

Forbes: When will these new products start to come to market?

Zong Qinghou: In one or two years.

Forbes: Larger food and beverage companies in China are diversifying. Want Want, for instance, has been strong in snacks but is making a big push in juice, for instance. How will Wahaha address that?

Zong Qinghou: We're not afraid of competition. To meet competition, however, you have to continuously innovate.

Source: Hangzhou Wahaha Group[169]

Companies focused on naturally healthy products, such as soy, are already aligned to changing customer preferences

Soy products are a group that will surely benefit from the region's focus on healthy beverages. Soy milk is high in protein, and because it is made from beans, contains considerably more fiber than cow's milk. Vitasoy, with soy as its core product, can simply focus on its main business to reap the benefits of the healthy drink trend. The products marketed by Vitasoy International are available under two major brands: VITASOY – a nutritious soy drink and tofu, and VITA – a range of teas, juice, wellness drinks, distilled water and dairy-milk products.

Another product to watch in Asia is coconut water. A UN study highlights the isotonic value of coconut water, which has the same balance of electrolytes as in human blood. Currently the UN has a patent on a new filtration process that retains the flavour and nutritional value of coconut water, but allows it to be transported rather than drunk fresh.[170] Coconut Palm Group Co Ltd is a key domestic player in Asian specialty drinks, and the company's flagship brand, Coconut Palm, is a leader in coconut juice in China. Although heavily consumed in Asia, coconut water is a relatively new product category in developed markets. However, Coca-Cola and PepsiCo have recently advertised it as a replacement sports drink in the United States.[171]

STAKEHOLDER ENGAGEMENT

As previously mentioned, engagement of all stakeholders is key to managing social issues and the strategies relating to drinking. In this section, we will consider the engagement of consumers, employees and the community in greater detail. Additionally, engagement across a company's supply chains is another vital area where companies must focus to ensure the smooth running of their operations.

Supply Chain

Complex and fragmented supply chains heighten risk and must be managed by companies

Risk levels in a supply chain are affected by the concentration and complexity of the product. The more complex and fragmented the supply chain, the less control a company has on production. Therefore, the potential for problems relating to quality and safety is greater. This issue is exacerbated in developing economies in Asia that have fewer regulations governing corporate operations.

In countries where companies are growing rapidly, the need to meet market demand for products may require an increased amount of outsourcing. This however can cause loss of process controls and hinder safety protocols along the supply chain. As a result, a range of quality control issues can emerge, as was most publically demonstrated by the food safety scandals from the Chinese dairy industry.

Case Study: Milk scandals in China

In September 2008, Sanlu Group issued a recall of baby formula contaminated with melamine. If ingested in sufficient quantities, melamine can cause kidney failure and kidney stones. According to figures released, over 294,000 babies became ill and six babies died as a result of drinking tainted formula. The Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) completed tests on a range of products and found several other suppliers, including Mengniu, Yili and Bright Dairy, the nation's three leading milk companies, had produced several batches of contaminated milk and milk products.[172]

Several international food companies, including Lotte, Cadbury, Unilever and Nestlé, were forced to recall products due to melamine contamination.[173] [174] [175] [176] Repercussions in China have reportedly been extensive. Courts have convicted 21 people over the 2008 scandal, including milk producers, traders and executives of the Sanlu milk company. In November 2009, two people were executed for making and selling hundreds of tonnes of melamine-tainted milk products.[177]

In March 2009, eight senior government officials from food quality supervision departments and the Agriculture Ministry were fired or disciplined for supervisory failure in the scandal. The director of AQSIQ, Li Changjiang, also resigned.[178]

China actually has international quality control processes procedures in place. The leading company China Mengniu, which is involved in the dairy industry, has been awarded five international quality control certifications (GMP, HACCP, ISO9001, ISO14001 and OHS18001) and invested intensively in manufacturing facilities. However, problems in the industry remain. Further issues relating to the use of osteoblast milk protein (OMP) came to light in February 2009 with Dumex and again Mengniu Dairy questioned over food safety. Danone Dumex was allegedly also monitored regarding the quality and safety of its milk powder products. The timeline of the milk scandal according to the BBC is included in Appendix 3.

Investors are removing high-risk companies from their investment universe

Investors are taking heed of the risk associated with these incidents, with Norwegian insurer KLP excluding China Mengniu Dairy from its investment universe. This leaves them in a list of companies that includes makers of cluster bombs amongst other violations.[179]

Other beverage companies in China have been accused of producing products that have caused the deaths of children in the country. Reports from October 2009 have described parents in Hunan province accusing Hangzhou Wahaha of poisoning their children with one of their key products, Nutritional Express. The products that poisoned the children allegedly contained a toxin that caused dysentery symptoms. Wahaha responded that the defect could have been caused by improper transportation sanitation, and that there was no problem with the production quality of the products.

This case is particularly worrying because by blaming transportation systems, Wahaha is seemingly oblivious to their responsibilities in ensuring a safe supply chain. In developed nations, consumers expect that all large companies actively and responsibly manage their whole supply chain. It will be interesting to see how the large Chinese beverage companies develop in this area.

Health and safety remains the top priority for producers in the region

Another important but under-reported area of concern is the addition of formaldahyde to beers in China. Formaldahyde is a chemical that is poisonous in high quantities, but reported to be added to five percent of beers in China as it acts as a preservative and prevents sedimentation of the brew during storage. The lack of press coverage could be due to the fact that formaldahyde is produced naturally in small quantities during the brewing process and so the addition of extra amounts of the chemical is not deemed to be material. [180] The lack of coverage might also exist because Chinese beer has not made inroads into markets outside China and so has not attracted more extensive press coverage. However, in an increasingly globalised world with China as a linchpin, formaldahyde in beer may become the melamine of the alcoholic beverage industry.

Agricultural supply chains

The depth and diversity of supply chains for beverage companies can have a major impact on national economies. This is particularly true of breweries in developing countries, as they use a great range and volume of raw materials derived from agricultural processes – wheat, hops and barley – and rely on these from a large number of small holding farmers.

SABMiller has acknowledged this potential social impact and is responding to independent research on their operations in Africa. This showed that while it employed around 9,000 people directly in South Africa, nearly 380,000 depended on their value chain for jobs – a multiple of nearly 1:40. This figure accounts for three percent of employment in South Africa. Further research by Professor Ethan Kapstein of INSEAD Business School researched the impact of SABMiller's business in Uganda and found that while they employ around 430 people directly, some 44,000 depend on the value chain for employment.

SABMiller has engaged PricewaterhouseCoopers to review their smallholder farming projects around the world. Smallholder farmers are defined as those that own small plots of land, often less than four hectares, on which they grow crops such as barley or sorghum that are used in breweries. Its aim was to understand how these projects could best be structured, both to deliver business value and to improve their socio-economic impact. Covering five markets in Africa and India, the review concluded that the most successful projects were those based on genuine partnerships in which governments, local NGOs and international agencies played different and important roles. SABMiller plans to raise the number of local farmers from whom they buy their raw materials, from 12,000 at present up to 44,000 by 2012. This approach will increase the potential complexity of their supply chain but SABMiller is hopeful it can be managed. If successful, this could be a useful model for other developing economies.

Managing agricultural supply chains is necessary to ensure product safety. There has also been extensive negative publicity in India over the issue of pesticides in PepsiCo and Coca-Cola drinks, resulting in a ban of their products in New Delhi schools and a loss of consumer trust in the companies and their products. In addition to the loss of revenue, the reputational consequences for both companies have been significant.

Agricultural supply chains have become a focus for community development projects for a number of Asian listed companies. A number have provided the by-products of their beverage production processes to be used by farmers as fertiliser. Although the aim of these initiatives is to make a positive impact in communities, it still has to be carefully managed and controlled even on a small scale. For example, Coca-Cola distributed its solid waste as "fertilizer" to farmers in Plachimada and Mehdiganj, India. Tests conducted by the BBC found cadmium and lead in the waste, effectively making it toxic. Coca-Cola stopped the practice of distributing its waste only when ordered to do so by the state government.

Another example includes untreated wastewater being used for irrigation in India, negatively impacting agricultural production. In Hyderabad, the wastewater drawn from the river Musi for irrigation reduced rice output by 40-50 percent.[181] This highlights the reputational risk that can develop from poor management of smaller scale initiatives in rural communities. Detailed impact assessments of these types of projects are vital in order to mitigate the full reputational risk.

Consumers

Consumers are responding to labelling but are increasingly confused by the range of sustainable brands

As consumers become more aware of supply chain issues, good supply chain management can create a competitive advantage. Fairtrade brands work on this principle. They are increasingly popular in the developed world as a method for consumers to support poverty alleviation and sustainable development through everyday purchases. They have been particularly successful in coffee and tea supply chains, but are also developing into the juice market through brands such as AJ's. For a product to display the FAIRTRADE mark, it must meet international Fairtrade standards that are set by an international certification body. The challenge for all of these standards is to retain their credibility and ensure that consumers do not get lost in the myriad of different sustainable brands now present on the marketplace. Despite this increasing complexity, these products have the potential to develop in Asia in the future and provide product differentiation opportunities in a crowded marketplace.

Case Study: Water Labeling

Products increasingly demonstrate responsible marketing. Procter & Gamble, for instance, recently introduced a Future Friendly label to direct consumers to its most sustainable products. In the future, public awareness groups on water issues hope that products will be labeled for their water intensity. In this way, transparency of information will ensure that every time consumers shop they will be able to judge products for their water intensity and compare individual producers' water use practices. Although this would also give consumers considerable power to minimise their impacts and support those farmers who are the most efficient, it would be extremely complex to implement and monitor. As a result, it is unlikely that labels will be introduced in the near future.

According to recent media reports, the quality of bottled water may cause consumers to be less inclined to pay premium prices for the product. Some tests have even suggested that some water on the market may be completely untreated [182] [183]. In the United States and Europe, reports found that bottled water purported to be collected from natural springs or mountains were actually extracted from municipal sources.[184] PepsiCo has since been forced to put a statement to this effect on their bottles but has resisted from removing the pictures of the mountains from the brand image of Aquafina. Danasi bottled water produced by Coca-Cola was recalled in 2004 due to its excessive bromate levels.[185] The fact that these quality issues occurred in developed countries by the leading manufacturers points to the challenge of implementing safety and quality standards in bottled water production.

Product credibility has been damaged in the bottled water sector due to lack of transparency in marketing approaches

High profile incidents like these have damaged the reputation of not only the product and the company but also stilted the growth of the bottled water segment in the developed world. Emerging markets largely came to the industry's rescue, with strong growth across emerging economies, notably India with 26 percent in 2008. [186]The quality assurance issues faced by developed countries have been replayed in emerging Asian economies. In 2008, reports claimed that the Master Kong mineral water brand was using urban tap water rather than the "high quality water sources" it referred to in its advertisements. According to China Business View, Tingyi admitted that the mineralised water produced by their Hangzhou factory was indeed purified from tap water and apologised to the public. They stated that the company "did not make it clear enough and has caused misunderstanding to customers."

Employees

The rights of workers in direct operations and across the supply chain needs to be continually monitored to ensure that human rights are not violated.

Labour rights of factory workers

Freedom of association and the right to collective bargaining are part of the four core labour standards recognized by the International Labour Organization (ILO) and the Universal Declaration of Human Rights yet these rights are frequently violated across developing Asia. Rep Risk screening has highlighted a recent case of a large multinational using predominately casual staff to reduce the bargaining power of permanent employees eligible for union membership and inclusion in a collective bargaining unit.

Case Study: Unilever Pakistan settle with Union

In Pakistan, the IUF was concerned over operations at Unilever's factory in Khanewal. It submitted a complaint under the Organisation for Economic Co-Operation and Development (OECD) Guidelines for Multinational Enterprises to the UK National Contact Points on 6 March 2009. The IUF alleged that in most cases Unilever hired temporary workers who did not have full access to collective bargaining. The Pakistani workers had allegedly been subject to threats, coercion and violence.

In Unilever's Lipton tea factories across Pakistan, over 8,000 workers are employed although most are considered temporary workers, hired through contract labor agencies. At the Unilever tea factory in Khanewal, only 22 are permanent workers while 723 are "temporary" .

Although nominally "temporary", reports highlight that the majority has worked for more than a decade at the Khanewal factory, with an average of 15 years,

and some as long as 30 years. Despite this, their casual worker status means that they are barred from joining a union of Unilever workers and engage in bargaining with Unilever as their employer, have no annual or medical leave, and receive a wage that is one third of the permanent workers' wage. Supported by the IUF, these workers challenged their disposable contracts and fought for the right to work for Unilever. They wanted direct, permanent employment with Unilever, which would enable them to receive the same rights, wages and benefits as the 22 permanent workers, including the right to join the union and bargain with Unilever.

A negotiated settlement between Unilever and the IUF was established and under the terms of the settlement, Unilever agreed to create 200 additional direct, permanent jobs, retroactive to 15 October 2009, with job selection to be based on seniority and priority given to the members of the Khanewal workers' Action Committee, which led the struggle locally with the support of the IUF-affiliated National Federation of Food, Beverage and Tobacco Workers. The selection and employment process will be jointly monitored and implemented by the IUF and Unilever at national level.

Because the labour contracting or temporary employment agencies in many cases systematically failed to fulfill their mandatory financial obligations to the workers they employed as well as their statutory obligations to the state social security and retirement funds, the settlement involves both direct lump sum payments by Unilever to the contract agency workers (both those who do receive permanent positions and those who do not) as well as guarantees from Unilever that the arrears in contractors' mandatory obligations to the state will be fully met. Action Committee members, for their part, agree to withdraw all court petitions as part of the global agreement on permanent jobs and the wider compensation package. The settlement also contains language on non-discrimination against Action Committee members and full representational rights for the IUF and its affiliates. Importantly, as part of the agreement, Unilever commits to investment and continued operations at the Khanewal factory.

Since this case, IUF have filed a further case with OECD to hold Unilever accountable for denying basic rights to the majority of its workers through subcontracting. The OECD Guidelines for Multinational Enterprises require overseas subsidiaries of transnational companies to conform to international standards of trade union and human rights, including adherence to ILO Conventions on the right of workers to organize trade unions and bargain collectively with employers.

At Unilever's Lipton factory in Rahim Yar Khan, Pakistan, the second OECD complaint led to a settlement between the IUF and Unilever which secured the creation of new permanent positions for all the union-supported Action Committee members. The Action Committee was formed to fight for their appointment as directly employed permanent workers with the right to join the union.

The settlement stipulates that Unilever will create 120 new permanent positions at the plant, effective as of June 24 this year, and that all Action Committee members will be appointed to these positions. According to the agreement, these workers shall suffer no discrimination at the factory, and the company pledges to abstain from interference in the work of the union in which they will now be members.[187]

Case Study: Tata Tea accused of mistreating workers

Tata Tea has been criticized for harassing and intimidating its workers at its Nowera Nuddy plantation in West Bengal. Allegedly, the company recently threatened its workers with collective punishment and starvation after the Nowera Nuddy Workers' Action Committee demanded decent conditions for the workers and to re-activate employment of eight activists. The company has been accused of mistreating its workers for a number of years and systematically denying them sick and maternity leave. Reportedly, in 2009, the entire workforce at the plantation was locked out and had to live without wages for four months after workers criticised the company for not giving an eight month pregnant woman maternity leave.[188]

Community

Community investment can be seen as tokenistic by consumers but strategically it is beneficial for companies to maintain goodwill in the regions where they operate

In the west, CSR is becoming an integral part of the business models of beverage companies. Community investment, focused on education programmes, disaster relief programs and community environmental initiatives, are examples of companies undertaking strategic investment in the areas they operate. In South and Southeast Asia, where natural calamities are becoming far too regular, beverage companies have been providing support through fresh water supplies and financial aid in times of disaster.

Community investment is an important way for beverage companies to maintain good community relations in the regions where they operate and to earn political goodwill.

Case Study: Swire Beverages

Swire Beverages has the franchise to manufacture, market and distribute Coca-Cola products in Hong Kong and Taiwan, as well as part of 11 states in the United States and seven provinces in mainland China. Swire Beverages is recognised as one of a select group of strategic business partners of Coca-Cola known as the "Anchor Bottlers". In China, it has built a number of bottling plants to meet the demand for soft drinks in the local marketplace.

Swire has recognised that growing in communities like China requires engagement with local community leaders. Discussions identified education as one of the most direct and sustainable ways to help the community, so in 2007, Swire decided to build a library and expand educational opportunities in Tagharma, in Xinjiang.

It is not uncommon for large companies to promote educational opportunities in communities where they operate and this is sometimes viewed as a CSR activity that is peripheral to core operations. However, this is an example of stakeholder engagement driving community and infrastructure investment. Developing this relationship will increase the likelihood of long-term success in the region.

Other community engagement projects for Swire Beverages in China have focused on areas such as sponsorship of active lifestyle campaigns in schools that promote the importance of healthy diet and exercise.[189]

In the west, CSR programmes are moving away from a philanthropic giving model and, wherever possible, companies are trying to align their initiatives to their business practises. For beverage companies, while the focus is often on securing water suppliers, education is also a high priority. Many of the 30 Asian companies benchmarked in this report are actively involved in a range of community projects. In terms of sustainability, the best of these are also strategic in nature.

Case Study: San Miguel Foundation

San Miguel in the Philippines includes online reporting of its approach to CSR through its San Miguel Foundation. The Foundation focuses on community and enterprise development, education, environment and other disaster recovery related programmes. In addition, the Foundation makes contributions to other charitable organisations in the Philippines such as Operation Smile.[190] The strengths of this programme lie in its strategic approach and the engagement and leadership of Executive Directors on the board.

The majority of the Asian listed alcohol companies do not actively engage communities in alcohol related issues. Even those that talk about responsible marketing do not work on a local level on issues of alcohol abuse or education regarding alcohol use. This could be an oversight or an indication that these companies do not want to engage on issues that could undermine their developing businesses.

The GAB Foundation in Malaysia has a similar approach to San Miguel with a focus on environment, education and community, but has greater detail on the implementation of initiatives and their impact. In addition, their environmental initiatives in the community are focused on the issue of water availability, which has a strong strategic link in the beverage industry. Most importantly, GAB has identified their role in advocating responsible drinking, and has formulated this into a Statement of Intent:[191]

This SOI highlights that the company is committed to ensuring its employees understand the nature and effects of alcohol and expects responsible drinking behaviour from all its employees at all times, that GAB are committed to raising awareness regarding responsible drinking amongst its stakeholders as well as ensuring that all its activities and communications meet legal requirements and do not encourage irresponsible drinking.
- GAB Foundation

This is an important inclusion for alcohol companies across the region, and will be vital in developing a company culture that understands its responsibilities in the wider marketplace.

ISSUES FOR RESPONSIBLE INVESTORS

GOVERNANCE

GOOD GOVERNANCE IN ASIA

South Korea and Taiwan have comparatively weak governance reporting compared to the rest of Asia

All 30 benchmarked companies in this report have strong governance scores. This is linked to the requirements of stock exchanges on which the companies are listed, as we see some uniformity in the contents of the companies' annual reports. We do see comparative weaknesses in the governance scores of companies from South Korea and Taiwan, while the highest scores on governance are from companies listed in Malaysia and Singapore.

The strong governance for companies in Singapore is no surprise given the country's diligent national government. There are also initiatives in place to more publicly assess Singapore-listed companies on their governance processes and the transparency of their reporting.

One example of these types of initiatives is the Governance and Transparency Index (GTI), which was jointly launched by The Business Times and the Corporate Governance and Financial Reporting Centre (CGFRC) at the National University of Singapore (NUS). The GTI, which is sponsored by CPA Australia and supported by the Investment Management Association of Singapore, will replace the previous Corporate Transparency Index (CTI).

Companies are scored out of 75 for their governance across a range of sections, including board structure, remuneration, accountability and audit, with a further 25 points available for the transparency of their reports and how it is communicated to shareholders. These public rating systems will hopefully encourage companies to improve their governance practices and report them according to the needs of investors and the public at large. However, the investors have the power to drive this initiative by redirecting capital to companies with transparent processes and strong reported governance.

BOARD INDEPENDENCE AND REMUNERATION

A board, with a high proportion of independent directors who can ask difficult questions of management, is the hallmark of a well-governed and transparent firm. The independence is vital to ensure that board meetings bring an external perspective and are not just another management get-together with token independent, powerless observers.

Despite this, few of the Asian listed companies have boards with a majority of independent directors. This compares unfavourably to the five global beverage companies that meet this target. In Asia, we see a much larger proportion of companies having just over 30 percent independent board level directors. Apparently, while Asian companies understand the value of having independent board members, implementation remains slow.

Regulations on disclosure and transparency differ among the Asian economies. China, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, and Thailand all require disclosure on directors' remuneration, although some allow aggregate rather than individual disclosures. Shareholders also cannot obtain minutes of board meetings in Hong Kong, Malaysia, Singapore or Thailand, making it difficult for them to understand how the board operates.[192]

The information provided on board members in Asia varies significantly, and evaluating a director's experience is challenging. There is no agreement regarding the qualities and experience to be a successful board member. A number of Asian listed companies state that they provide new board members with a letter and documents outlining their roles and responsibilities. Directors generally possess core competencies in various fields, including finance, business, industry knowledge, management and strategic planning and customer relations.

APB in Singapore encourages its directors to become a member of the Singapore Institute of Directors (SID), which makes them eligible to receive updates and training from the SID and keep up to date with changes in financial, legal frameworks and the industry landscape. In theory this should improve the knowledge base of members on the board. However, this is dependent upon the effectiveness of the SID in delivering education that ensures board members can evaluate their own role in the company.

In addition, there is usually limited or vague information about the board re-election process, with many companies providing limited information about the process and the maximum absolute tenure that is allowed.

Board remuneration is an area that lacks transparency in Asia

Board remuneration is not sufficiently transparent in Asia. Many annual reports or corporate governance reports will state the basic fees or salaries, but there is rarely information disclosed as to how their remuneration is linked to the performance of the company or how their salaries are impacted by the poor performance of the company.

In more established markets such as Australia, corporate governance disclosure requirements are in place for listed companies. However, an Association of Chartered Certified Accountants (ACCA) report argues that this has not made an impact in slowing the growth of executive pay. Despite legislation in the 1990s requiring companies to disclose executive salaries, remuneration committees have not responded adequately.[193]

In the face of recession, some companies are reviewing their pay structures, but there are no practical examples in Asia where performance-related pay had been implemented in the beverage sector. In 2009, Coca-Cola's chairman and chief executive officer ranked first in an Atlanta Journal Constitution survey with a pay package of US$23.1 million, up 7 percent from the previous year. His successor was second at US$19.6 million, 87 percent higher than his pay from the previous year.

In the west, shareholders have driven compensation change in beverage companies. In mid-2009, the shareholder advisory group PIRC urged SABMiller shareholders to reject a proposed remuneration plan and not re-elect several non-executive directors or the current chairman because of their lack of independence. Bonuses, allegedly as high as 500 percent of base salaries, were called "excessive." PIRC further highlighted negative aspects of SABMiller's management including contributions to political funds in the United States and high consultancy fees.[194]

Companies should be transparent about money directed to the government, even in the form of supporting public policy positions or government charities. In the same principle, companies should indicate when they have received support from the government and in what capacity. This is particularly true for alcohol companies providing financial support for industry groups that lobby national governments for changes in alcohol policies. The reduced governance structures in place in Asia mean that lobbying can be a murky ground between companies and government officials.

Overall we expect to see increased transparency and accountability amongst the most responsible companies in the region. This requires increased transparency on the selection and criteria for selection of board members, remuneration, links between remuneration and performance, diversity of the board and decision-making processes.

BRIBERY AND CORRUPTION

Corruption distorts market forces and stifles economic growth in Asia

Corruption is the abuse of entrusted power for private gain and remains the single greatest obstacle to economic and social development around the world. It distorts market forces, stifles economic growth, debases democracy and undermines the rule of law. According to Transparency International's Global Corruption Report 2009, the level of corruption in the private sector worldwide remains high.

Estimates from the World Bank show that the cost of corruption equals more than five percent of global GDP (US$2.6 trillion), with over US$1 trillion paid in bribes each year. This adds a significant cost of doing business, with additional costs estimated at ten percent globally, but even higher at 25 percent if dealing with procurement contracts in developing countries. The social section of this report has already acknowledged the challenge of different alcohol taxation policies between countries, but the different corruption levels in Asia can be viewed as another tax. The World Bank has estimated that moving from a country with low levels of corruption to one with high levels of corruption is equivalent to a tax of 20 percent on foreign business.[195]

Companies are part of the problem when they are subjected to extortion and pay bribes. However, the private sector can also be part of the solution by sharing responsibility for finding ways to effectively fight corruption. While there are risks of not engaging with the move towards eliminating corruption, the benefits remain clear:

Figure 52: The business rationale for fighting corruption

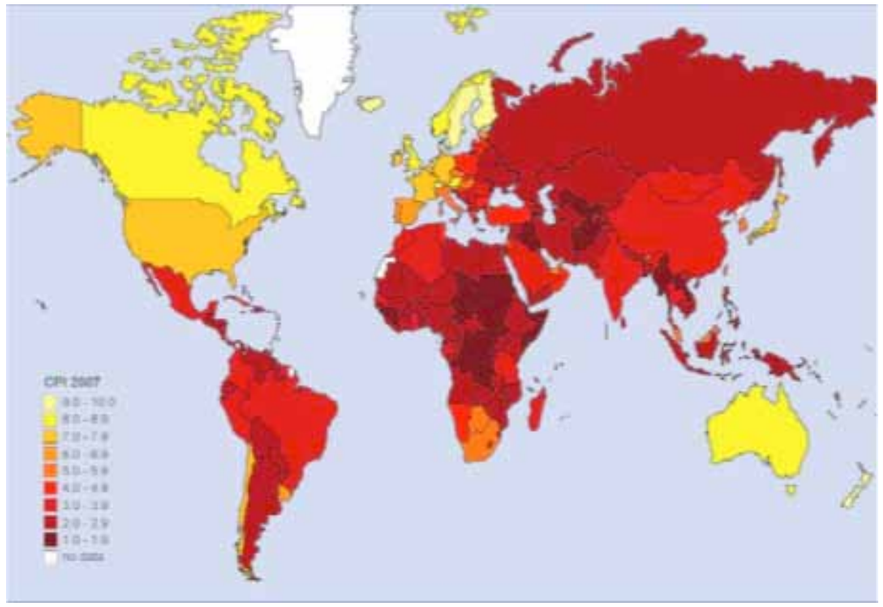
	Benefits of engaging	Risks of not engaging
Individual Company Action	- Reduce the cost of doing business. - Attract investment from ethically orientated investors. - Attract and retain highly principled employees. - Obtain a competitive advantage by becoming a preferred choice of ethically conscious consumers. - Qualify for reduced legal sanctions in certain jurisdictions.	- Criminal prosecution at company level and management level leading to imprisonment. - Exclusion from bidding processes for international finance institutions. - Risk of non delivery from counterpart after payment. - Exposure to risk of price instability of bribes. - Damage to reputation, brand, share price. - Fight for talent with new employees. - Regulatory censure. - Cost of corrective action and fines.
Collective Action by Business	- Create a level playing field for business and let market forces dictate success. - Improve public trust in business. - Influence future laws and regulations.	- Missed business opportunities in distorted markets. - Increased magnitude of corruption. - Risk of increased regulations on international, regional and national levels to deal with the escalating problem

Source: Based on World Bank[196]

Reports from Rep Risk detail examples of corruption found in the Asian beverage sector. In 2008 the former General Manager of Kweichow Moutai admitted taking US$1.76 million in bribes during his work for the company. Specific incidents that were also reported include bribes taken from sponsors during the 2002 World Cup co-hosted by Japan and South Korea.

Corruption in the private sector has traditionally been severe and remains one of the most commonly found forms of poor governance in developing Asia. While some new legislation tackling private sector corruption is being implemented through the region, from the establishment of new anti-corruption agencies to the provision of whistleblower protection, there is still a lack of political will to fight corruption and the effective implementation of laws is still underdeveloped. The map below is based on Transparency International's 2007 Corruption Perceptions Index. The score relates to perceptions of the degree of corruption ranges between 10 (highly clean) and 0 (highly corrupt):

Figure 53: Corruption Perceptions Index



Source: World Bank[197]

A typical challenge in the Asian beverage sector's fight against corruption is the complex interrelationship between politics and the private sector. Significant government shareholding of industries and private sector 'advice' to governments can complicate public health policies and their links to tax rates.

Against the background of weak government initiatives and law enforcement, private sector initiatives and collective action by companies are crucial in raising corporate integrity. Stock exchanges in the region such as Shanghai and Malaysia are helping listed companies strengthen their corporate integrity by developing mandatory corporate governance standards.

CONTRACTUAL EXPECTATIONS

JVs with local businesses are often good ways for large multinationals to enter a local market. This is particularly true in the alcoholic beverages sector where local brewers and distillers are subject to different tax regulations than imported beverages. However, the breakdown of the venture between Danone and Wahaha highlights the risks involved in these transactions.

Case Study: Group Danone and Wahaha JV

Hangzhou Wahaha Group Co., Ltd. (Wahaha) is a leading beverage producer in China with more than 100 subsidiary companies covering 27 provinces. The company has around 20,000 employees and its product categories contain more than 100 varieties such as bottled water, carbonated soft drinks, RTD teas, milk, flavored milk, juices, functional drinks as well as noodles, congee, sunflower seeds and health care products. Wahaha is a private company, but reported valuations are comparable to publicly traded beverage companies such as Tingyi in Taiwan.[198]

In 1996, Wahaha formed a JV with Groupe Danone (Danone) to form five new subsidiaries. Danone took a stake in the JV via a Singapore listed company, Jinjia, in which it and a Hong Kong company, Baifu, had an equal share. In 1998, Danone bought out Baifu from Jinjia, giving Danone a 51 percent stake with Wahaha owning the rest. Under the initial agreement the JV had the right to the Wahaha trademark in exchange for US$42 million, but legal procedures to transfer the brand were never completed. Strategically, Danone provided capital and the ability for Wahaha to invest in advanced technology and production lines to improve efficiency. On the back of this investment, Wahaha's production doubled between 1996 and 1997.

From 2000 to 2006, Wahaha continued to expand. In 2000, the company produced 2.24 million tonnes of beverages that accounted for 15 percent of the nation's output. In 2003, its total beverage production reached 3.7 million tonnes, up 14.6 percent over 2002 and accounting for 15.6 percent of China's total beverage production. For six consecutive years, Wahaha was China's number one domestic, non-alcoholic beverage producer in production volume, assets, sales revenue and profit.

In April 2007, Wahaha's JV started to unravel when Danone accused the Chairman of Wahaha, Mr. Zong Quinghou, of setting up parallel companies that competed directly with the JV. In April 2007, Danone accused Wahaha of setting up 87 operations outside of the companies operating under the JV deal. These parallel operations sold Wahaha branded products including soft drinks and bottled water. Danone sued Wahaha and Zong in the British Virgin Islands and California whilst Wahaha filed claims in courts in mainland China and won them all.

In May 2007, Danone filed an application of arbitration in Stockholm, which found that Mr. Zong breached confidentiality and non-competition agreements. This precipitated a settlement in 2008,[199] where Danone agreed to sell its 51 percent stake in the JV back to Wahaha for US$450 million. Whilst some reports see this figure as a victory for Danone, the settlement leaves Wahaha poised to move from strength to strength in the beverage market after being helped in their development by Danone's involvement.

ROLE OF GOVERNMENT

Acquisitions of leading companies are political as well as a business decisions. Even if a government does not have a stake in a company, the idea of selling a major domestic company to an overseas multinational can be perceived as giving up control of resources and even relinquishing some national pride. Many suspect this to be a contributing factor behind the Chinese government's blocked acquisition of China Huiyuan by US soft drink giant Coca-Cola.

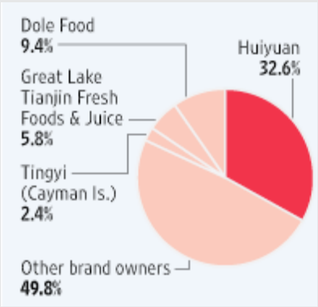
Figure 54: Chinese Beverage products

Source: China News

Case Study: Coca-Cola attempt to acquire Huiyuan

Coca-Cola has been operating in China since 1979 and is well known in the country for its beverage brands such as Coca-Cola, Sprite and Fanta. In the last few years, the company has also introduced a number of still beverage brands, including Guo Li Chen (Minute Maid Pulpy) and Yuan Ye (Original Leaf Tea), with the objective of offering consumers a wide range of beverage choices. In line with this approach and their drive to develop their business in mainland China, the company tried to acquire China Huiyuan, a Hong Kong listed company that owns the Huiyuan juice business throughout China.

The Commerce Ministry rejected the deal on the grounds that the purchase would crowd out smaller companies and raise consumer prices. This was a blow to Coca-Cola's ambitions in China where juice consumption growth has grown by 89 percent from 2004 – 2008, compared to soft drink growth of 42 percent over the same period.



The Commerce Ministry's decision underscores the government's importance in the Chinese juice market. Some observers speculate that the reason Coca-Cola's acquisition was blocked simply because the government did not want a foreign company to control China's largest juice company. Given the importance of the Chinese marketplace to Coca-Cola, the company has been investigating minority shareholding or JV options. However, the government response to these initiatives remains to be seen. [200]

Figure 55: 2008 Top juice sellers in China

Source: Euromonitor, 2008

ISSUES FOR RESPONSIBLE INVESTORS

CONCLUSION

COMPANY BENCHMARKING

This report will assess 30 Asian listed companies from ten Asian markets (MCSI AC Asia Ex Japan Index) against ESG indicators. Companies were selected across a range of beverage sub-sectors including soft drinks, bottled water, dairy products, brewers and distillers of spirits. In addition to these 30 Asian listed companies we completed benchmarking of five global beverage companies.

The evaluation is completed using the methodology of the Asian Sustainability Rating System (ASR™). The ASR was launched in October 2009 and assesses companies against over 100 indicators carefully selected to cover as many elements of sustainability as possible.

The indicators are split into six primary criteria: CSR Strategy and Communication, Corporate Governance, Environment, Workplace & People, Marketplace & Supply Chain, and Community Investment. In each of these areas we examine the companies' sustainability practices in general, transparency, strategic and sector specific terms. Over 100 indicators are used to score the companies' performance on these criteria. Points are awarded to companies for disclosure and performance on these indicators.

We believe all companies within our universe should be addressing all these factors through disclosure and target setting. Some issues will be more material in certain sectors than others. Weightings will be applied in AS2010 to reduce the weighting of 'general' factors found to have no strong positive correlation with sustainability. The scores have been converted into a percentage score in each of the sections, therefore 100% in a category highlights that a company scored the highest possible score in this section.

Scoring was completed using publicly available information (company websites, environmental and social reports, annual reports). Most of the environmental and social scoring is based on 2007 and 2008 annual reports. Market capitalization data is from May 2010.

Benchmarking Tables – Global

Name	Country	CSR Reporting	Environment	Governance	Workplace & People	Workplace & Supply	Community Investment	Total
Diageo	UK	100	95	96	94	78	100	**93**
SAB Miller	UK	100	95	92	100	89	100	**92**
Anheuser Busch	US	82	95	92	94	78	100	**90**
Coca-Cola	US	82	95	79	94	100	100	**89**
Asahi	Japan	55	77	38	88	67	83	**64**

Benchmarking Tables – Asia

Name	Country	CSR Reporting	Environment	Governance	Workplace & People	Workplace & Supply	Community Investment	Total
Nestlé Malaysia	Malaysia	100	91	79	94	100	83	**89**
Guinness Anchor	Malaysia	100	77	92	88	67	100	**85**
Carlsberg Brewery	Malaysia	91	41	96	81	100	83	**78**
Tata Tea	India	91	73	67	75	33	83	**70**
Unilever Pakistan	Pakistan	64	86	29	88	100	83	**69**
Nestlé India	India	55	64	67	63	100	83	**67**
Tsingtao Brewery	Hong Kong	45	64	71	63	44	17	**57**
UniPresident	Hong Kong	36	41	54	44	89	83	**52**
Vitasoy	Hong Kong	36	23	54	31	22	33	**35**
China Mengniu	Hong Kong	18	5	63	13	100	33	**35**
Thai Beverages	Thailand	36	9	67	13	22	50	**33**
Fraser & Neave	Malaysia	18	23	88	0	11	0	**33**
Asia Pacific Breweries	Singapore	0	23	83	0	11	33	**31**
United Breweries	India	0	27	42	31	0	67	**28**
United Spirits	India	0	27	42	31	0	67	**28**
Vinamilk	Vietnam	18	0	58	6	22	33	**24**
Wuliangye Yibin	China	0	0	75	0	22	0	**22**
China Huiyuan	Hong Kong	0	5	63	19	0	0	**21**
San Miguel Brewery	Philippines	36	18	38	0	0	33	**21**
Tingyi	Hong Kong	27	0	42	19	22	17	**21**
Luzhou Laojiao	China	9	0	63	6	11	0	**20**
Want Want China	Hong Kong	0	0	54	25	0	0	**19**
Kweichow Moutai	China	0	9	54	0	0	0	**17**
Mongolia Yili	China	0	9	46	0	22	0	**17**
Multi Bintang	Indonesia	0	5	38	0	11	0	**12**
Lotte Chilsung	South Korea	18	9	0	13	0	0	**7**
Chang Yu	China	0	0	6	0	0	0	**1**
Hite	South Korea	0	0	0	0	11	17	**0**
Jinro	South Korea	0	0	0	0	0	17	**0**
Hey Song	Taiwan	0	0	0	0	0	0	**0**

CONCLUSION

In this report, we detailed the ESG issues affecting listed companies in Asia producing both alcoholic and non-alcoholic beverages. Both of these sectors face a number of key issue areas that companies will need to engage in to earn operational licenses in emerging and developing countries in Asia. The emphasis placed on these issue areas will be different for each company, and we believe there will be some fundamental distinctions between the alcoholic and non-alcoholic beverages sector. (Figure 56)

Figure 56: Key issue areas for non-alcoholic and alcoholic beverage companies in Asia.

Source: Author, Responsible Research 2010

Corporate water strategies are important for both alcoholic and non-alcoholic beverages given their high level of water needs. Stakeholder engagement is particularly important for alcoholic beverage companies and includes government relations, community engagement and employee engagement. Responsible marketing remains a critical issue for alcohol companies and is increasingly important for makers of soft drinks as they address health issues such as obesity and diabetes.

The "Leaders" identified in our study are generally MNC subsidiaries, and their reporting structures increasingly communicate their sustainability initiatives to their stakeholders, although differences between subsidiaries exist. Nestlé Malaysia and Nestlé India both benefit from referring to the sustainability policies of their Swiss based global organization, but the Malaysian company details initiatives through its own Creating Shared Value Report while the Indian company remains silent.

The "Followers" in our benchmarking display a varied level of reporting on sustainability issues and communicate their work on initiatives in a less strategic manner. They are implementing programmes but not necessarily setting targets with a clear vision of how their sustainable initiatives link into their business models. In addition, the Follower group comprises companies that simply do not report their work publically.

The United Brewers case study is an excellent example of a company working to improve water efficiency, approaching their growing water treatment needs in a strategic manner, and implementing community initiatives. However, none of this information is communicated externally except for a press release highlighting a water award. Asia Pacific Breweries is another example of a company where detailed environmental reports were found for 2005 but none more recently. Therefore APB scored poorly in the environment section although we imagine initiatives are still in place internally.

The "Laggards" of Asian listed companies do not appear to be addressing ESG issues in any of their business activities to date. Companies from China, South Korea and Taiwan dominate this group and the scoring of these companies highlights that the Laggards themselves fall into two distinct categories. One group of companies, including Want Want from China and Multi Bintang from Indonesia, have reported on some governance indicators. The second group, who have scored no points across any of the 100 indicators, have not engaged in any kind of external reporting on ESG issues and include Hite Brewery, Jinro and Hey Song.

That said, the detail and content of sustainability reports is slowly be surely improving and increasing. Adoption of GRI reporting methodologies is growing, and financial exchanges such as Hong Kong Exchanges and Clearing are driving improved company disclosure on pollution. We hope to see a number of these Followers, and maybe even some Laggards, soon join the Leaders if they implement initiatives to communicate publically their commitments on sustainability.

APPENDICES: APPENDIX 1

Water Leaders:

Name	Main product	Country	Environment Report	Water Targets
Carlsberg Brewery Malay	Beer	Malaysia	CSR section on website with Environment sub section	Quantifiable data available at a high level. Water consumption was successfully reduced by 10 percent in 2008 versus 2007 by improved monitoring systems and process optimizations.
Guinness Anchor	Beer/Stout	Malaysia	Sustainability Report	Overall quantifiable data: Undertook various initiatives to reduce water consumption resulting in a 5.8 percent reduction in water consumption against 2008. This result is directly attributable to activities that focused on optimising water consumption and reducing wastage in the production process.
Nestlé Malaysia	RTD Coffee	Malaysia	Creating Shared Value Report (CSV)	Part of Nestlé means that Nestlé Malaysia is included as part of Water Resources Review (WRR) programme as Nestlé Malaysia.
Tata Tea	Tea	India	GRI G3 self assessed A and External auditor Ernst & Young	Quantifiable data available with water use quantified overall, and reductions measured. The total water withdrawn from different sources for production purpose was 156660 m^3, which was 2096.5 m^3 less than the water consumed for previous year for same set of activities. Additional work being completed for more specific areas such as wastewater. - Instant tea unit was the only unit where recycling of 2762 m^3 water was done. - The total amount of water discharged to drain by various production units was 10637 m^3. The systems for accurate measurement and reporting of monitoring water consumption, discharge and recycling at the company are further being improved and upgraded to enable more accurate estimation. - Water harvesting facility set up.
Unilever Pakistan	Lipton Tea	Pakistan	Sustainability Report	Global targets for Unilever. Achieved a three percent reduction in water use per tonne of production in manufacturing from 2007–2008, representing a 63 percent* reduction since 1995. No quantifiable data for Pakistan specifically.

Water Followers:

Name	Main product	Country	Environment Report	Water commitments stated in company reports
Nestlé India	Soft Drinks inc Milo, Nescafe Bottled Water Globally	India	Creating Shared Value Report	Part of Nestlé global means that Nestlé India is included as part of the in depth Water Resources Review (WRR) programme. Quantifiable data and targets: In 2009 withdrew 143 million m^3 of water – a decrease of more than 3.2 percent compared to 2008. This equates to 3.47 m^3 per tonne of product, 3.5 percent down on the 2008 level. Nestlé has reduced its water withdrawal by 33 percent since 2000, while food and beverage production volume increased by 63 percent.
United Breweries	Beer	India	CSR section on website	No quantifiable data, only: - Rainwater harvesting project initiated and de-silting of tanks/ponds or other water bodies implemented. - Small community projects providing portable drinking water to communities.
China Huiyuan Juice	Fruit & vegetable Juice	Hong Kong	No	No quantifiable data, only: Huiyuan will enhance its consumption reduction efforts by taking measures to reduce consumption on various aspects, including water, power and raw materials, in order to foster a good corporate image. Annual Report 2009.
Tingyi	Bottled water & RTD tea	Hong Kong	No	No quantifiable data, only: Water engagement with college students to generate solutions for water issues in PRC.
Tsingtao Brewery	Beer	Hong Kong	No	No quantifiable data, only: Chinese version of website highlighted that investment in several technologies including a polluted water control system.
UniPresident	Dairy	Hong Kong	CSR section on website	No quantifiable data, only: To achieve the goals of waste reduction, energy conservation, resource recycling/reuse, clean manufacturing process, cost reduction, and mitigation of impacts on ecology environments through source management and to establish an environment management system (ISO 14001).
Vitasoy	Soy Products	Hong Kong	No	No quantifiable data, only: In Hong Kong, the wastewater system is maintained at a high level of efficiency and adheres to standards that are more stringent than regulatory requirements in Hong Kong.
Multi Bintang	Beer	Indonesia	CSR section on website	No quantifiable data, but project initiation evident: Ecological-Friendly Manufacturing By using natural resources, our manufacture is free from producing toxic waste. Our by-product is used as a forage. Wastewater Treatment Plant (WWTP) ensures that our wastewater is environmentally safe.
Fraser & Neave	Soft drinks	Malaysia	CSR section on web site with Environment subsection	No quantifiable data, but project initiation evident. In 2005, a RM2.8 million pilot plant was commissioned to upgrade wastewater treatment and conservation at the soft drinks division in Kuching.
Thai Beverage	Beer	Thailand (listed Sing)	No	No quantifiable data, but project initiation evident: Water initiative from brewery captured gas to use in biogas but no reduction targets.
Vinamilk	Dairy	Vietnam	No	No quantifiable data but project initiation evident: Developed wastewater treatment facility but no details on water efficiency or reduction targets.

Water Laggards:

Name	Main product	Country	Environment Report	Water Targets
Chang Yu Beverages	Wine	China	No	None.
Kweichow Moutai	Beer & Spirits	China	No	None.
Lu Zhou Lao Jiao	Spirits	China	No	None.
Mongolia Yili	Dairy	China	No	None.
Wuliangye Yibin	Spirits	China	No	None.
China Mengniu	Dairy	Hong Kong	No	None (Only water comment is statement of how water is removed to make the taste of milk richer)
Want Want China	Dairy	Hong Kong	No	None.
United Spirits	Spirits	India	No	None.
Hite Brewery	Beer	South Korea	No	None.
Jinro	Soju, wine, whiskey	South Korea	No	None.
Lotte Chilsung	Soft drinks	South Korea	No	None.
San Miguel	Beer	Philippines	No	None.
Hey Song	Soft drinks	Taiwan	No	None.

Energy Leaders

Name	Main product	Country	Energy Targets
Nestlé India	Soft Drinks inc Milo, Nescafe	India	**Quantifiable data:** Reduction in direct greenhouse gas emissions by 3.1 percent from 2008 levels to 3.98 million tonnes of CO_2 equivalent, or 96.57 kg of CO_2 equivalent per tonne of product. This equates to a 0.74 million tonne (16 percent) reduction, or a 48 percent reduction per tonne of production, in the 10 years from 2000, during which production volume increased by 63 percent.
Tata Tea	Tea	India	**Quantifiable data:** Total direct energy consumption in 2008 related to various operations stood at 298.606 TJ and total indirect energy consumption was 22.863 TJ. The energy consumption was marginally higher than 2007 owing to the increased production. The GHG emissions related to energy consumption also marginally. It was 12.4 kilotonnes of CO_2 equivalent.
Carlsberg Malay	Beer	Malaysia	**Quantifiable data:** In 2008, improvement projects were initiated that reduced the consumption of electricity in production by seven percent compared to 2007. Increasing the usage of recycled heat energy, biogas and boiler efficiency, reduced energy consumption by 14 percent compared to 2007. The company has further identified new environmental initiatives for 2009 that will reduce electricity and energy consumption as part of their drive to reduce their impact on the environment. Fermentation process will naturally generate CO_2 emission, which is recovered for purification and reused in production and sales thus saving greenhouse gas emission.
Guinness Anchor	Beer/Stout	Malaysia	**Quantifiable data:** Due to the proactive steps taken to switch to natural gas, fossil CO_2,NOx and SOx emissions fell by 3 percent, 3 percent and 6 percent respectively in Financial Year 2009 in comparison to the previous year. Electricity mainly for purposes of refrigeration and water treatment as well as to drive compressors and other machinery. On top of this, electricity is used for liquefying CO_2 as well as for office equipment and lighting purposes. In the year under review, specific electricity consumption at the brewery decreased slightly by 0.6 percent.
Nestlé Malaysia		Malaysia	**Quantifiable data:** Reduction in direct greenhouse gas emissions by 3.1 percent from 2008 levels to 3.98 million tonnes of CO_2 equivalent, or 96.57 kg of CO_2 equivalent per tonne of product . This equates to a 0.74 million tonne (16 percent) reduction, or a 48 percent reduction per tonne of production, in the 10 years from 2000, during which production volume increased by 63 percent.
Unilever Pakistan	Lipton Tea	Pakistan	**Global targets for Unilever. No quantifiable data for Pakistan:** Since 1995 they have achieved a 39 percent reduction in CO_2 from energy per tonne of production (equivalent to a 43 percent reduction in absolute terms). Reduce CO_2 from energy in manufacturing operations by 25 percent per tonne of production against a baseline of 2004 by 2012.In 2008 CO_2 emissions was reduced by 1.6 percent* per tonne of production compared to 2007, which keeps them on track to meet their 2012 target.

Energy Followers:

Name	Main product	Country	Energy Targets
China Huiyuan Juice	Fruit & Vegetable Juice	Hong Kong	**No quantifiable data.** General comment: Huiyuan will enhance its energy-saving and consumption reduction efforts by taking measures to reduce consumption on various aspects, including water, power and raw materials, in order to foster a good corporate image. Annual Report 2009.
Tsingtao Brewery	Beer	Hong Kong	**No quantifiable data.** General comment: Chinese version of website highlighted its investment in several energy efficiency technologies, such as the energy recycle system.
UniPresident	Dairy	Hong Kong	**No quantifiable data available but systems in place.** General comment: We have also adopted various environmental protection systems such as greenhouse gas emission inspection, environmental accounting mechanism and established our environmental management system in recent years.
Vitasoy	Soy Products	Hong Kong	**No quantifiable data.** General Comment: High-percentage energy recovery systems are employed in production-line machines. For product delivery, fuel enhancement and the latest models of environment-friendly trucks are used. In Australia, an environment and energy opportunity audit was conducted last year to assess on-site energy consumption and identify areas where savings could be achieved. The result was an immediate reduction in energy bills.
San Miguel	Beer	Philippines	**No quantifiable data.** General comment: Three breweries of market leader San Miguel Brewery Inc. (SMB) have been cited as outstanding companies by the Department of Energy (DOE) in the annual Don Emilio Abello Energy Efficiency Awards. The Mandaue, Davao and Bacolod plants were recognized for implementing best practices in energy efficiency and conservation, which resulted in approximately P40 million worth of energy savings for SMB in 2008.
Thai Beverage	Beer	Thailand (listed Sing)	**No quantifiable data.** General comment: Two of our breweries received two awards at the "Thailand Energy Awards 2009" for 'Excellence' Using energy recycling off-grid from biogas resulting from a wastewater treatment project and biogas from a wastewater treatment project with an anaerobic system to be used as fuel for a steam generator to replace bunk oil.
Fraser & Neave	Soft Drinks	Malaysia	**No quantifiable data.** General Comment: Cleaner operations at our soft drinks, dairies and glass container plants were achieved after completion of a program to incorporate environmental-friendly natural gas energy sources into all our manufacturing operations. Our dairies manufacturing operations in collaboration with Gas Malaysia, utilized LNG over traditional fuel resulting in energy savings of RM2.6 million every year since 2004.

Energy Laggards:

Name	Main product	Country	Energy Targets
Chang Yu Beverages	Wine	China	None.
Kweichow Mountai	Beer & Spirits	China	None.
Lu Zhou Lao Jiao	Spirits	China	None.
Mongolia Yili	Dairy	China	None.
Wuliangye Yibin	Spirits	China	None.
Tingyi	Bottled water & RTD tea	Hong Kong	None in beverages but "boosted energy saving" in noodle production.
Want Want China	Dairy	Hong Kong	None.
Vinamilk	Dairy	Vietnam	None.
Asia Pacific Breweries	Beer	Singapore	No environment info since 2005 report.
Hite Brewery	Beer	South Korea	None.
Jinro	Soju, wine, whiskey	South Korea	None.
Lotte Chilsung	Soft drinks	South Korea	None.
Hey Song	Soft drinks	Taiwan	None.
United Breweries	Beer	India	None.
United Spirits	Spirits	India	None.
Multi Bintang	Beer	Indonesia	None.
China Mengniu	Dairy & milk products	Hong Kong	None.

APPENDICES: APPENDIX 3

Timeline: China milk scandal

10 Sept 2008: China reveals that 14 babies fell ill in Gansu province over the previous two months. All drank the same brand of milk powder. Cases start being reported around China.
12 Sept: Sanlu Group admits that its milk powder was contaminated with the toxic chemical melamine.
13 Sept: Production halts at Sanlu Group. 19 people are arrested.
15 Sept: Beijing confirms two babies have died. Vice-president of the Sanlu Group apologises to the public.
19 Sept: Melamine is found in ordinary milk from three well-known dairies. One of the firms involved - Mengniu dairy - recalls all its products.
22 Sept: Toll of ill babies rises to 53,000, and the death toll to at least four. The head of China's quality watchdog resigns, becoming the first national leader to step down because of the scandal.
23 Sept: Countries across Asia start either to test Chinese dairy products or to pull them from shops.
26 Sept: The EU bans Chinese baby food with milk traces. Sales of the popular sweet White Rabbit are halted after tests detect melamine.
29 Sept: Cadbury recalls products in Asia after tests find traces of melamine. Reports say 22 people have been arrested in Hebei province, suspected of introducing melamine into the supply chain.
15 Oct: Nearly 6,000 infants remain in hospital across China suffering kidney diseases. Six are in a serious condition.
21 Oct: About 1,500 raccoon dogs bred for their fur on a farm in China die of kidney failure after eating feed tainted with melamine.
23 Oct: Six more people are arrested in connection with the tainted milk scandal.
26 Oct: Hong Kong authorities discover eggs produced by Dalian Hanwei Group contain melamine. They are pulled off the shelves.
30 Oct: Two more egg brands from Shanxi and Hubei provinces are found to contain melamine.
31 Oct: State media admit that melamine is probably being routinely added to Chinese animal feed.
2 Nov: Chinese official insists the egg scandal is an individual case,clamps down on illegal feed producers.
14 Nov: The US issues a nationwide "import alert" for Chinese-made food products.
18 Nov: The Chinese government allows the US to station officials in three cities to help ensure the safety of Chinese exports.
23 Dec: Sanlu files for bankruptcy.
26 Dec: Six men are the first to go on trial in China in connection with the scandal. They are accused of making and selling melamine.
27 Dec: Dairy firms involved in the scandal are to compensate the nearly 300,000 people affected, according to state media.
31 Dec: The trial of four Sanlu company executives begins.
2 Jan 2009: 22 companies involved in the scandal apologise and ask for forgiveness in a New Year text message sent to millions of mobile phone users.
8 Jan: The death of a two-month-old boy after he consumed baby milk powder produced under new guidelines is investigated.
9 Jan: China says it has arrested 60 people in connection with the melamine scandal.
11 Jan: China says a total of 296,000 children had fallen ill from consuming milk products
16 Jan: Parents of first baby who died accept a US$29,000; £21,000 pay-out from Sanlu milk company.
19 Jan: Reports reveal that 213 families whose children were made ill or died from tainted milk have petitioned the Supreme Court, demanding higher levels of compensation.
21 and 22 Jan: Sentences are handed out to 21 people in total, including Sanlu executives and milk producers and traders following their trials in Hebei province, where Sanlu was based. They range from two death sentences to long jail terms.
26 March: The Hebei Provincial Higher People's Court upholds the sentences after appeals, including the death sentences.
24 November: Zhang Yujun and Geng Jinping are executed. They were convicted of producing and selling hundreds of tonnes of melamine-laced milk and milk powder.
6 Jan 2010: Prosecutors in Shanghai say three dairy executives are to go on trial for new cases of allegedly selling milk tainted with melamine.
25 Jan: Melamine-tainted milk products are pulled from the shelves of supermarkets in Guizhou province.

Source: BBC News [20]

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