



# Water means business: Corporate perspectives on water

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**CORPORATE CITIZENSHIP**  
Part of The Good Relations Group



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# Foreword

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*It is becoming something of a cliché to say that blue is the new green – and yet it is true that many of the most pressing environmental issues do rapidly lead back to water. Remember, it is not climate change that is going to do for us all in the end, but its effects on water – too much, too little, in the wrong places, at the wrong times, too dirty to drink or to use in agriculture or industry.*

*And when water – that universal human necessity – goes wrong, the effect on humans is far-reaching: thirst, food shortages, rising costs, less energy, civil unrest, land grabs... ultimately wars over watershed regions.*

*That makes it all the more surprising so few companies are really planning ahead for the uncertain future that faces us.*

*In this paper, my colleagues at Corporate Citizenship have set out what needs to be done – the likely trends that will affect your company, examples of best practice to learn from, ideas for a robust strategy, and, practical as ever, a six step plan of action.*

*Our point of view is simple: whether the colour of water is blue or green, your business risks going into the red, unless you act now.*

*Read on.*

A handwritten signature in black ink that reads "Mike Tuffrey". The signature is written in a cursive style and is positioned above a horizontal line.

**Mike Tuffrey**

Director, Corporate Citizenship

October 2012

# Executive summary

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Often referred to as ‘the next carbon’, water is emerging as a major sustainability challenge facing societies globally. Mega-trends such as population growth, forecast to reach nine billion globally by the middle of the century; the resultant increased agricultural demand; and climate change, are among the main drivers of this issue.

The complexity of the water landscape, as well as the interconnectedness of global supply chains and that of consumers of water in any given location, means that a business-as-usual approach to addressing water as a business risk is untenable. Leading companies have recognised this and have already begun to take proactive steps to quantify, map and mitigate their exposure to water-related risks.

Based on a series of interviews and interactions with leading companies and practitioners in this area, Corporate Citizenship has identified six key steps towards addressing the complexities involved in strategically managing direct and indirect water-related risks, and four emerging areas of best practice among companies at the leading-edge of water risk management.

These steps towards practically and strategically managing water-related risks are described in detail in this paper and include:

1. Quantifying the direct and indirect water footprint
2. Mapping water risks (direct and indirect)
3. Identifying high priority areas for action
4. Identifying improvement opportunities in high priority areas
5. Establishing a strategic framework
6. Establishing collaborative partnerships.

We cite a number of case-study examples of companies, in a variety of sectors, that have adopted a similar approach to managing water-related risks, including such leading businesses as Unilever, Puma, Duke Energy, Marriott, Thames Water, SABMiller, HSBC and Coca-Cola. Additionally, we have identified examples of the emerging best practice trends adopted by these companies, including:

- A. Extensive water partnerships
- B. Water value-pricing
- C. New water metrics and reporting
- D. Net zero water consumption.

We conclude that the issue of water sustainability is a touch-point for businesses to begin to collaboratively address the sustainability challenges facing society as a whole. By better understanding the risks and opportunities faced in relation to water use and changing weather patterns, we believe proactive steps can be taken to avert the most negative repercussions of these trends.

# 1 Introduction

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Among the world's leading companies, much of the focus of corporate activity on the environment has been centred on reducing the climate change impacts of their business operations. This is reflected in the way that voluntary reporting of corporate greenhouse gas emissions has proliferated over the past decade; the formalisation of corporate strategies and publicly reported targets and objectives to reduce corporate greenhouse gas emissions; and the growing presence of various regulatory and market mechanisms to mitigate climate change impacts. The most notable of these include emissions trading schemes established in Europe, Australia, California and, most recently, Guangdong, China.

However, there is now broad recognition that climate change, and indeed energy consumption, sits within a wider context of interconnected issues, including water scarcity, extreme weather events and supply chain shocks. The issue of water – either too much or too little – is central to these concerns. This year's hot and dry weather in the US, the country's worst drought in over five decades, is a prime example of how these issues can play out. As at the end of July 2012, 38 percent of the contiguous United States was experiencing severe to extreme drought, and 57 percent moderate to extreme drought. 85 percent of the US corn crop is located within those drought-affected areas and the US Department of Agriculture is predicting that this year's corn crop will be the lowest in six years. The soybean crop yield is expected to be the lowest in nine years. The US is by far the world's largest producer and exporter of corn and soybean. As such, drought in the US has major implications for food prices globally. Farming regions in Russia and South America are suffering similar woes, leading experts to predict that agricultural commodity prices will hit a new record in 2013.

Similarly, the UK this year experienced its fifth driest March in more than a century, triggering hose-pipe bans in Southern parts of England. This was following two consecutive years of relatively dry winters that had depleted water reservoirs and aquifers supplying the most densely populated parts of the country, including London. By April and June 2012, the pendulum swung to the other extreme with the UK experiencing its two wettest months on record - some parts of the country received up to a half or more of a year's worth of rain within hours. Experts predict that this type of extreme pattern of weather is likely to increase as a result of climate change. Yet, despite the potential for significant disruption and cost, relatively few companies have disclosed robust strategies to address these concerns, particularly in relation to their wider value chains.

In order to explore this issue further, Corporate Citizenship conducted a series of interviews during 2012 with a number of leading companies on this topic. We also held a seminar for sustainability practitioners on the question of how companies respond to the challenge of sustainable water use. We have combined the findings from these interviews and discussions, together with our own experience of having worked with a number of our clients in this area, to develop a practical guide for CSR and sustainability managers seeking to better understand and respond to concerns around water. This paper also identifies a number of future trends in terms of emerging best practice over the short to medium term.

While the shocks associated with water may be unavoidable over the coming decades, the impact of these shocks may be mitigated if companies take proactive steps to analyse, address and engage with other stakeholders on water risk. Here, we explore how this can be done.

## 2 Is water the next carbon?

Water is already recognised as the next big global environmental challenge. Mega-trends such as population growth, rapid urbanisation, increasing affluence in emerging markets, and climate change, are all placing new demands on society to steward water in

a more sustainable way. However, the characterisation of water as ‘the next carbon’, while conveying the significance and wide-scale relevance of the risks associated with this issue, in certain ways glosses over the unique complexities involved.

### Future projections

- Global population is projected to grow by 2 to 3 billion by 2050. Combined with economic growth and increasing influence shifting diets from predominantly starch-based foods to meat and dairy, this is expected to require approximately 70% more water by 2050.
- Agriculture accounts for approximately 70% of global freshwater withdrawals and up to 90% in some fast-growing economies.
- After agriculture, industry is the second largest user of water. The amount of water used varies widely by industry, but the largest single industrial use is cooling in thermal power generation. Water used for cooling power plants in the USA represents 40% of its industrial water use. In China, the proportion of industrial water used for cooling power stations is expected to reach 30% by 2030.
- Water is not confined to political borders. Approximately 2 billion people worldwide depend on groundwater supplies that include 273 transboundary aquifer systems. An estimated 148 states have international water basins

within their territory. 60% of the world’s 276 international river basins lack any type of cooperative management framework.

- Water-related hazards account for 90% of all natural hazards, and their frequency and intensity is generally rising. In 2010, some 373 natural disasters killed more than 296,800 people, affected nearly 208 million others and cost nearly US\$110 billion. By 2050, rising populations in flood-prone lands, climate change, deforestation, loss of wetlands and rising sea levels are expected to increase the number of people vulnerable to flood disaster to 2 billion.
- The cost of adapting to the impacts of a 2°C rise in global average temperature related to water could range from US\$13.7 billion (drier scenario) and \$19.2 billion (wetter scenario) per year between 2020 and 2050, predominantly through water supply and flood management.

Source: UNESCO World Water Development Report 4 and sources therein.

### A more complex challenge

Globally, water is considered to be under-valued and under-priced. The financial incentives that spur companies to manage water more efficiently are thus lacking, even as the risks associated with water-related shocks become more and more pronounced. But while the direct costs associated with water abstraction may remain low for some time to come, the constraints and negative economic impacts associated with water have the potential to create large-scale, disruptive ripple effects across the value chain.

Like carbon, the failure to internalise the risks associated with water consumption into water-pricing represents a huge market failure. Unlike carbon, the risks associated with water are fundamentally characterised by the local or regional context in which they occur – making it much more difficult to identify potential hotspots in an already complex global economic marketplace. The variability of rainfall, quality of local infrastructure, population density,

intensity of industrial and commercial demand, sensitivity of downstream users and local habitats to variability in throughput, and nature of the regulatory, socio-political and geo-political context – all these factors and more can play an important part in determining the risks associated with water security in a given location. By contrast, a tonne of greenhouse gases emitted anywhere in the world has the same potential contribution to global warming and the effects of climate change, and so far only relatively few regions of the world have imposed regulatory or market mechanisms to mitigate climate change.

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“Water has important differences in relation to carbon. All water is local, all carbon is not. With a tonne of carbon – geographic location is irrelevant.”

Eric Myers, Director – Integration, Energy and Environmental Policy, Duke Energy



## Water means business

While most companies have historically identified water as one of the key aspects to be addressed as part of their environmental policy commitments, only leading companies have begun to assess the risks associated with water use on their direct operations and across their value chains. Some of the heightened business risks faced by companies include physical constraints to operations in water stressed regions; increased likelihood of extreme weather events such as drought and flooding having knock-on impacts on key product or service inputs; reputational or financial damage associated with the over-abstraction or pollution of freshwater resources; price shocks along the value chain; regulatory intervention; and, last but not least, litigation.

Industries with a high dependence on water have been the most active in developing and articulating comprehensive water strategies. These include manufacturing, food and beverages, utilities, metals and mining, and the agricultural industry. However, in a world running short of supply and increasing in meteorological, hydrological and climatological risk, water represents an emerging area of concern for all businesses, well beyond the most water-intensive sectors.

.....  
"Commitment to sustainability has historically been the driver for addressing water use; going forward, scarcity and cost will be key factors."

Andrew Boyd, Group Supply Chain Sustainability Manager, Unilever

### Companies can face the following water-related risks:

- **Physical risks** including exposure to water stress, flooding and pollution;
- **Regulatory risks** including higher tariffs, the redistribution of water rights and more stringent regulations governing water abstraction or water quality;
- **Reputational risks** including harm to the corporate brand and diminished goodwill among stakeholders whether they be customers, local communities, local authorities, regulators, investors, employees, NGOs or others;
- **Litigation risks** including compensation for damages to local ecosystems, livelihoods, property and well-being;
- **'Other risks'** including geopolitical risks (due to conflict or political disagreement over transboundary water resources), infrastructure risk (disrupting operations), and product risk (felt through decreased demand for water-intensive products).

## Navigating the challenges

The World Business Council for Sustainable Development (WBCSD) has identified three water challenges to be addressed by businesses:

- **Efficiency:** more drops for less and more value per drop;
- **Security:** quantity and quality for all;
- **Interconnectivity:** accounting for the sustainability of the whole system.

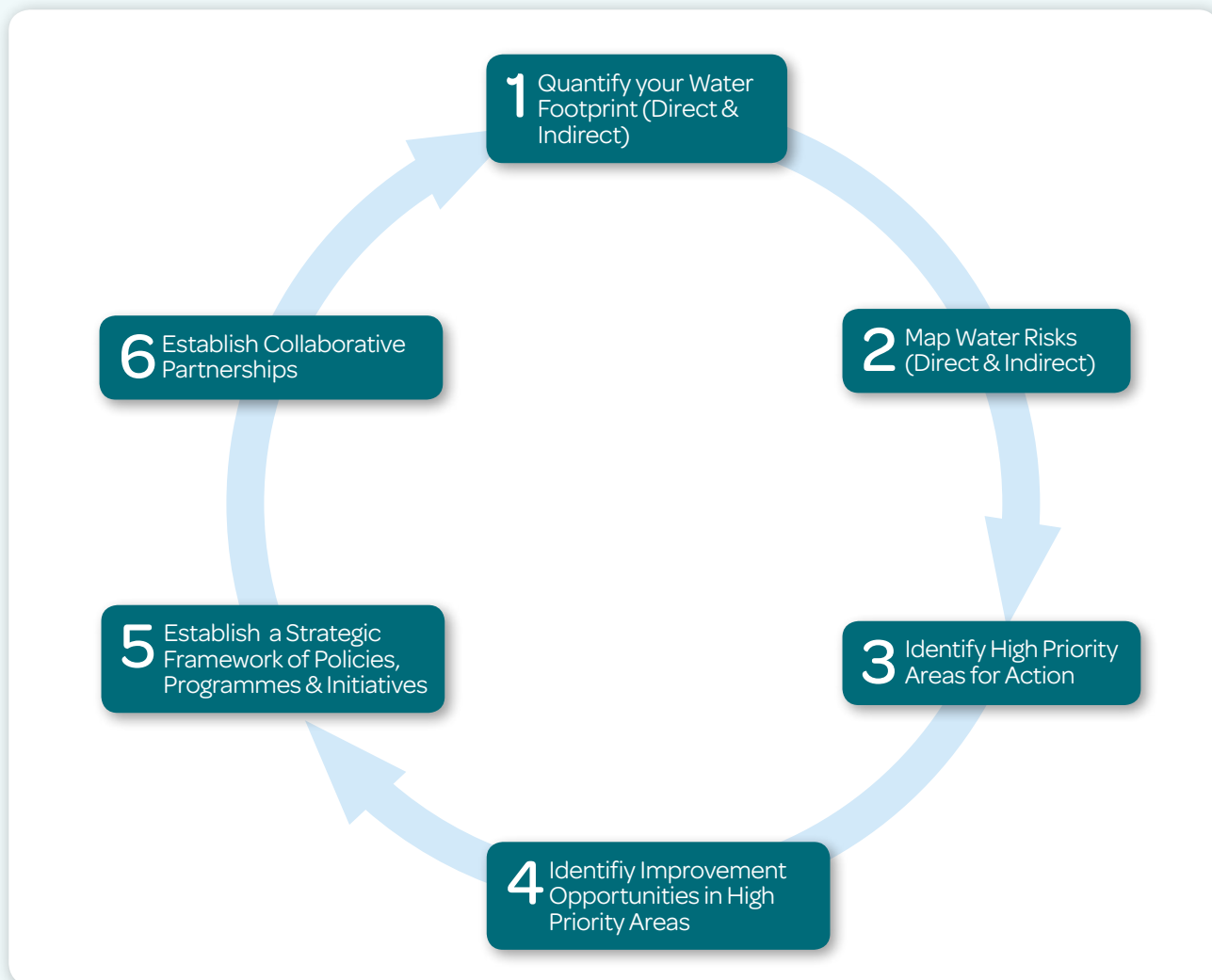
Other groups, such as the UN CEO Water Mandate, have articulated similar goals for companies seeking to address the risks associated with growing water resource concerns. However, companies often face a steep learning curve in translating these goals into actionable and strategic plans

that are relevant for their business, industry and global operations. How do managers actually go about developing and implementing a water strategy? What does it mean for companies in practical terms? What are the different stages involved in developing a water stewardship management approach?

Below we have identified six steps that companies can take in order to develop their own water sustainability strategy and a few examples of leading-edge initiatives adopted by businesses to mitigate water risks and maximise opportunities around water.



Figure 3: Steps toward managing water risk and maximizing opportunities



## 3 Developing a strategic response

### 1. Quantifying the direct and indirect water footprint

Without understanding the volume of water consumed in the different parts of the value chain – from raw material inputs, through to direct operations and end-use – it is impossible to develop a coherent strategy on water. The first step is therefore to quantify your direct water use based on direct measurements and/or estimations, where necessary, along with your indirect water use, targeting tier one and two suppliers or using life-cycle analysis (LCA)

techniques as practicable. When investigating indirect water use, one should ideally prioritise effort based on the volume and/or spend on the specific inputs or outputs involved. The aim, in the first instance, should be to identify potential hotspots in the value chain rather than to come to a precise figure (which may be impractical or too resource intensive to do to begin with).

### 2. Mapping water risks (direct and indirect)

Having established where and how water is consumed in the value chain, the next step is to correlate this with global or regional assessments of water scarcity or water stress (or indeed other applicable water risk factors) to develop a risk map. This should identify where high or growing water use coincides with concerns over water

security or where wider social and environmental impacts might apply. Most companies will begin by addressing their direct risks first, but indirect risks in the supply chain or associated with products and services should not be ignored, since they may constitute a company's greatest areas of exposure to risk.

A number of tools and methodologies exist to support the initial water footprinting and risk assessment stages. Among the most commonly referenced are:

- a. **CERES Aqua Gauge** - This is an Excel scorecard that allows investors to grade a company's water management activities against in depth definitions of leading practice.
- b. **GEMI Local Water Tool** - This is an online tool that assesses the local water risks of a specific site. It allows companies to quantify water risks using a system of weighted risk indicators and provides a template for a management plan.
- c. **Water Footprint Network (WFN) Water Footprint Assessment Tool** - This creates a water footprint analysis based on geographical and agricultural commodity information.
- d. **WBCSD Global Water Tool** - This tool was developed by the WBCSD to visualise, analyse and prioritise water risks. It maps location, water use and discharge data in relation to water data. It also provides a mapping tool in relation to the organisation's sites.
- e. **WRI Aqueduct** - This is an online water risk mapping and measurement tool, partly based on data from

Coca Cola. It is designed to help companies and investors understand the strategic importance of reducing water risk exposure in high stress areas. Aqueduct can help users identify potential sources of water risk in their operations and supply chains, and select and implement risk mitigation solutions.

- f. **WWF-DEG Water Risk Filter** - The Water Risk Filter can be used to assess water related risks in companies operations, suppliers or growth plans. The Filter covers all aspects of water risks, all industries and countries. It interprets scientific data and translates it into risk numbers based on a questionnaire. Users can then map assessed facilities on different water related map overlays. It provides a highly structured set of risk indicators.

The tools noted above tend to focus on water stress as a key driver of risk, however, it should be noted that there may be other environmental risk factors that apply. These may include the risk of coastal and inland flooding, or the likelihood of high impact water pollution incidents in ecologically sensitive locations. Such factors should not be ignored when mapping the risk exposure of a particular business and/or its value chain in any given location.

### Unilever – Water risk mapping

In 2009 Unilever used a tool developed by the World Business Council for Sustainable Development (WBCSD) to identify levels of water stress at each of its then 264 manufacturing sites. This, combined with sites' water usage, formed the basis of assessing possible negative impacts in water stressed locations and to identify priority locations for future reductions.

In 2010, the company went further by conducting a site-by-site study to better understand how they could meet the company's Sustainable Living Plan targets. These targets

include a commitment to maintain water abstraction across the company's global factory network at or below 2008 levels by 2020, as well as a commitment that all newly built factories will aim to abstract less than half the water of those in the company's 2008 baseline. The assessment took into account current environmental performance and growth factors, and resulted in the generation of a detailed list of projects per site that would have the greatest impact on water efficiency.

<http://www.unilever.com/sustainable-living/ourapproach/eco-efficiencyinmanufacturing/>

## 3. Identify high priority areas for action

The risk map provides a high-level analysis of where the impact of water constraints are likely to be material to the business, based on current or expected demand. This is only a rough guide to prioritising areas for action. The next step would then be to corroborate this top-down analysis with more in-depth site-specific or product-specific research to substantiate the initial risk assessment. Companies often find that the actual risks on the ground may be more or less acute than originally suspected – or perhaps that different assessment tools generate varying assessments of the level of exposure to risk and as such there is need for more information before a final assessment can be made. This stage is perhaps the most critical in terms of strategy development and will generally require each company to adopt its own framework for

refining its list of priority areas. Additional components that might come into play when doing this at a more granular level (particularly for direct operations) may include: the sources of water abstracted and consumed (e.g. groundwater, surface water or mains supply; freshwater versus brackish/grey water); the existence of competing demands for available water resources at a watershed level; the role of climate change in terms of the variability of water supply (based on local/regional meteorological forecasts, if available); the impact of regulation; the treatment of wastewater; the sensitivity of downstream receptors of wastewater; etc. Supply chain and downstream products would be subject to a different set of considerations depending on the nature of the company's value chain.

## 4. Identify improvement opportunities in high priority areas

Having identified the largest impact areas of the value chain and specific water-stressed or water scarce geographical markets or locations, the next step is to establish what measures can be taken to minimise impact and mitigate risk in those areas. This step will again involve engaging with local operations to generate ideas to address the specific risk factors involved, or engaging with technical experts on new and innovative techniques for water management in the specific areas of concern. It

may also involve dialogue with upstream or downstream users to identify ways of collaborating at a watershed level; or consultation with suppliers and third-party organisations, such as NGOs if appropriate, to discuss supply chain concerns and to solicit creative solutions to the issues identified. By prioritising the areas of highest risk, businesses will be able to identify the key areas in which it makes sense to undertake this level of in-depth engagement and analysis, as required.

### Puma – Addressing the supply chain

In 2011 PUMA became the first company ever to publish a global environmental profit and loss account as a means of placing a monetary value on the environmental impacts across its value chain.

The overall impact of GHG emissions and water, considered to be its most significant environmental impacts, was valued at EUR 94.4 million in total for 2010 (of which water accounted for EUR 47.4 million and GHGs EUR 47.0 million). However, PUMA's direct operations accounted for only 0.001% of the water consumption analysed (and 15% of GHGs) – the rest was accounted for in the supply chain.

PUMA has set targets to reduce water use in PUMA offices, stores, warehouses and direct supplier factories by 25 % by 2015. The company has also asked strategic suppliers to reduce their water use by 25%.

Due to the relative significance of water consumption in PUMA's supply chain, PUMA focuses its water conservation efforts on its fabric suppliers, tanneries and cotton suppliers where water savings will have the greatest impact. Although PUMA's offices and factories do not consume significant amounts of water for industrial purposes (the majority of water used is for sanitary purposes and gardening water), the company has also installed water-saving and rainwater harvesting technology at its headquarters.

<http://safe.puma.com/us/en/category/environmental/>

## 5. Establishing a strategic framework

Having done a deep-dive analysis of the risks and opportunities, consideration should be given to the policies, programmes and initiatives required across the value chain or in specific geographic locations in order to drive change. This will vary depending on the nature of the company's

operations, the specific risk factors involved and the level of influence the company can have throughout its value chain. However, a fundamental part of any strategy will involve the establishment of new metrics and targets in order to track performance and drive improvement in key areas.

### Duke – Articulating a water strategy

Duke Energy is a leading US power company, based in Charlotte, North Carolina. Water is a critical resource for Duke Energy, used to power hydro plants, and as cooling water for its nuclear and fossil fuel plants. The company withdraws over 3 trillion US gallons of water per year, of which 98% is returned to source and is available for other uses, such as public water systems, industry, wildlife and recreation.

In order to address challenges associated with increasing water demands and periodic drought conditions, particularly in the Carolinas, Duke Energy has taken a two-fold approach to managing its water resources:

1. **Technology solutions** – as part of its capacity expansion and modernisation efforts, the company has sought to minimise the impact on local water resources in the

design of its new power plants, and has also invested in over 1,000 MW of wind and solar generation capacity over the past four years, which requires far less water use than conventional generation capacity.

2. **Partnerships** – Duke Energy participates in a number of successful partnerships with government agencies, community groups and the private sector to improve the management of shared water resources. An example of this is the Catawba-Wateree Drought Management Advisory group, which comprises large water users along the Catawba-Wateree river basin. The group works to establish detailed action plans and procedures to collectively manage water withdrawals during times of drought, prior to those very incidences of drought occurring.

<http://sustainabilityreport.duke-energy.com/environmental-footprint/water-a-critical-resource/>

## 6. Establish collaborative partnerships

Leading companies are already demonstrating the value of partnerships in managing water risk in their value chains. We expect that as water-related risks expand and intensify, more and more companies will follow

suit, resulting in interesting collaborations between producers, consumers, regulators, development agencies and technology providers.

### Marriott – Collaborating with technology providers

Marriott has an integrated global environmental strategy that includes a target on water efficiency, among other key aspects. To date, the company has made considerable progress in reducing its overall water use. Since 2007, Marriott has reduced water consumption by 11.6 per cent per occupied room. Marriott's sustainability goals include a target to achieve an overall reduction in water consumption of 20 per cent by 2020 relative to a 2008 base year.

To this end, Marriot has recently formed a partnership with Nalco, a water treatment and process improvement company, to produce 450 million gallons in water savings from 2010 to 2012. Nalco's monitoring equipment and water treatment chemistry have already been installed in 168 hotels around the world, helping to improve water treatment in the hotels' chillers and cooling towers. This programme is also being rolled out to additional properties, with expected savings of at least 125 million gallons of water per year.

<http://www.marriott.com/corporate-social-responsibility/corporate-environmental-responsibility.mi>

## 3 Emerging best practice

### A. Extensive water partnerships

The complexity of the water landscape, as well as the interconnectedness of global supply chains and that of consumers of water in any given location, means that to address this issue effectively requires a collaborative approach. Organisations have to work together with their communities, competitors, suppliers, customers, local authorities and, in some cases, national governments in an integrated manner.

As mentioned above, leading companies are not only looking to their direct water-related risks but their indirect ones as well. In most high risk cases, where local demand for water is growing or where climate change is demanding greater attention to how basin-wide water resources are managed, it will not be possible for companies to address the risks they face in isolation of their wider context. Successful risk management will therefore be determined by the ability of companies to establish functional partnerships and create movements among various stakeholder groups.

Thames Water's Waterwisely drought campaign and Unilever's USLP consumer product water-use campaigns are prime examples of how companies are engaging with the downstream consumer base to promote sustainable behaviour change. SABMiller's Water Futures partnership with GIZ targets watershed protection in regions facing significant water risks.

HSBC's US\$100 million five-year Water Programme, a collaborative partnership with WWF, WaterAid and Earthwatch, targets the world's most populous water basins, and is another good example of a proactive, partnership-led approach to tackling water issues. It is also an example of how strategic community investment programmes can be linked to delivering sustainability benefits and securing growth opportunities in water-stressed markets.

### B. Water value-pricing

There is broad acceptance of the argument that the low price of water is a barrier to private companies investing heavily in water-saving technology or even infrastructure upgrades. To overcome this barrier and to reflect the opportunity cost of water-intensive activities or projects, leading companies in water-intensive industries are

resorting to shadow-pricing or value-pricing water use (taking into account the cost of abstraction, treatment, transport and discharge, business continuity benefits etc.), in order to evaluate their investments. It may be that governments will seek to encourage or regulate for better valuation of water just as they do for carbon.

By establishing a more accurate internal price for water, companies can ensure that long term investments are future-proof, taking into account risks and opportunities that may not be reflected in the nominal price. It will also help to resolve any potential trade-offs between water-efficiency and other sustainability objectives such as energy or carbon efficiency, where an investment in reducing the water-footprint may

increase the overall operational energy-intensity, or vice versa.

Puma's EP&L water valuation methodology is an interesting example of how accounting for the value of water can be incorporated into corporate sustainability strategy, but there may be other ways of valuing water that companies can adopt.

## C. New water metrics and reporting

There are already signs that corporate reporting on water will soon come to occupy a similar level of significance and prominence as carbon reporting does today. Leading companies are already reporting on water-related risks in more detail than any other environmental aspect barring carbon and – like carbon – there will be an increasing trend towards voluntary (or even mandatory) water reporting.

The CDP Water Disclosure initiative has been requiring companies to report on their water-related performance and strategies for the past three years, driven primarily by interest from the investment community. Going forward, as societal concerns over the issues associated with water risk gain greater momentum, it is anticipated that not only investors, but other stakeholders including regulators, business-to-business customers, local communities and indeed consumers will have an interest in ensuring that companies are actively managing and mitigating their water risks.

Additionally, companies will increasingly adopt new ways of reporting overall exposure to water risk, supplementing traditional reporting of water consumption, discharge by volume and wastewater quality with more sophisticated risk-based metrics. Such metrics will seek to account for not just reduced volumes of water consumed as the key measure of success but also company-specific assessments of factors that might influence the risks associated with the volumes involved. The CEO Water Mandate's Corporate Water Disclosure Guidelines points a way forward in this respect, providing guidance to companies on communicating their performance more holistically to their stakeholders.

As watershed-level data becomes more accessible to companies operating in different parts of the globe, this will allow for more detailed analysis by companies of not only their direct risks but also indirect risks across their value chains.

## D. Net zero water consumption

Coca Cola's target to become 'water neutral by 2020' is perhaps the first or most famous example of net zero water consumption thinking. However, with pressures on increasingly scarce and unpredictable water resources on the rise, the concept of net zero water consumption is only set to become more commonplace. Office buildings, hotels, manufacturing sites, and new large residential developments will all be required to meet higher standards (both voluntary and mandatory) in relation to water use in the future, including net zero water consumption, particularly in water stressed areas.

As an example of this, Unilever South Africa's new Indonsa foods factory – which is located near Durban, South Africa – has been consciously designed to minimise water risks by being completely water neutral (meaning self-sufficient without requiring any water from municipal supplies in normal conditions) within one year of full operation. By becoming water neutral at this facility, one of Unilever's largest in the world, the company expects to mitigate the impact of its activities in a water stressed location. With advances in rain-harvesting and water recycling technology, this kind of approach will become increasingly normal for businesses operating in water constrained markets.

# 5 Conclusion

By 2050, the world's population is expected to reach 9 billion. Already, at 7 billion, we are seeing the unsustainable impact of meeting society's demands for food, clothing, shelter and energy, on our ecosystems, water resources and climate. Like birth pangs, the signals of a looming crisis are already apparent, with contractions quickening every year and every decade that passes. Businesses, and indeed whole economies, have entered a new era of global shocks, the socio-economic and ecological parallels of which have never been seen before. A business-as-usual approach to this new era of global crises is thus untenable. Businesses, if at all possible, must begin to look beyond the boundaries of previous limitations to consider the very real dilemmas facing the structure of society as a whole.

The issue of water sustainability is a touch-point for some of these considerations. By better understanding the risks and opportunities faced in relation to sustainable water use and changing weather patterns, perhaps companies will be able to identify ways to minimise or avert the most negative repercussions associated with the trends identified above. At Corporate Citizenship, we are of the view that even if the fundamental drivers behind these issues remain unavoidable, the worst effects can be avoided through proactive effort on the part of leading companies. We invite your views and comments on the points raised in this paper and welcome the opportunity to work together with other companies to define practical solutions to these challenges.

## About Corporate Citizenship

Corporate Citizenship is a global corporate responsibility consultancy that uses clear insight and a simplified approach to sustainability to deliver growth and long-term value for business and society. We work globally across industry sectors. Our work takes us to Europe, USA, Asia, Africa and Latin America. We help our clients make the smart choices that will enable them to survive and thrive in an increasingly challenging business environment. Corporate Citizenship promotes the idea that companies can be a force for good. We advise a global client list on a number of areas: strategy, reporting, supply chain, socio-economic impact, inclusive business models and assurance. Our longstanding clients include Unilever, Shell, Abbott and Vodafone.

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# 5 Appendix: a note of thanks

We would like to thank all those who gave their time to participate in the formulation of the ideas expressed in this paper. In particular, we would like to thank:

**Andrew Boyd**, Unilever  
**Eric Myers**, Duke Energy  
**Marc Selby**, Thames Water  
**Marcus Norton**, CDP Water Disclosure

## About the Authors



Yohan Hill is an Associate Director with Corporate Citizenship and has extensive experience in corporate social responsibility and sustainability. Over the last 10 years, he has worked with clients across a range of industrial and commercial sectors on sustainability issues, providing advice and support in the areas of sustainability management, strategy development and reporting. His clients have included such leading companies as Johnson Matthey, Land Securities, Molson Coors and National Grid, among others. Yohan holds an MSc from Imperial College London in Environmental Technology and is an Associate Member of the Institute of Environmental Management and Assessment.



Nicole Clucas is a Consultant with Corporate Citizenship, with a Masters from Imperial College London in Environmental Technology. She is also an Associate Member of the Institute of Environmental Management and Assessment. Since joining Corporate Citizenship, Nicole has developed particular expertise in the areas of sustainability strategy development, environmental management and sustainability reporting. Her clients have included Hiscox, Pearson, Unilever and Whitbread. Nicole previously worked in the CSR team at Pfizer and in the Sustainability team at the London Borough of Richmond upon Thames.

the 1990s, the number of people in the UK who are aged 65 and over has increased from 10.5 million to 13.5 million (1990-2000) (ONS 2001).

There is a growing awareness of the need to address the health care needs of the elderly population. The Department of Health (2000) has set out a strategy for the NHS to meet the needs of the elderly population. This strategy is based on the following principles:

- To ensure that the elderly population has access to the same quality of care as other groups in the population.
- To ensure that the elderly population has access to the same range of services as other groups in the population.
- To ensure that the elderly population has access to the same range of care settings as other groups in the population.

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