

Liquid Assets

Responsible Investment in Water Services



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List of Acronyms

BCE — Before Current Era	INCA — South African Infrastructure Finance Corporation
CEDAW — Convention on the Elimination of All Forms of Discrimination Against Women	IPCC — Intergovernmental Panel on Climate Change
CGW — Claymore S&P Global Water	MDG — Millennium Development Goals
CRC — Convention on the Rights of the Child	MW — Megawatt
CSR — Corporate Social Responsibility	ODA — Official Development Assistance
DEFRA — Department for Environment, Food, and Rural Affairs	OECD — Organisation for Economic Co-operation and Development
EMS — Environmental Management System	OHCHR — Office of the High Commissioner for Human Rights
EPA — Environmental Protection Agency	PHO — PowerShares Water Resources Fund
ESCR — Economic, Social and Cultural Rights	PPP — Public-Private Partnerships
ESG — Environmental, Social and Governance	PRI — Principles for Responsible Investment
ETF — Exchange Traded Funds	SRI — Socially Responsible Investment
FIW — First Trust ISE Water	U.K. — United Kingdom
GDP — Gross Domestic Product	U.N. — United Nations
GRI — Global Reporting Initiative	U.S. — United States
GWP — Global Water Partnership	UNCAC — United Nations Convention Against Corruption
IBNET — International Benchmarking Network on Water and Sanitation Utilities	UNCITRAL — United Nations Commission on International Trade Law
ICCPR — International Convention on Civil and Political Rights	UNESCO — United Nations Educational, Scientific and Cultural Organization
ICCR — Interfaith Center on Corporate Responsibility	UUSC — Unitarian Universalist Service Committee
ICESCR — International Convention on Economic, Social and Cultural Rights	WBCSD — World Business Council on Sustainable Development
ICSID — International Center for the Settlement of Investment Disputes	WHO — World Health Organization
IFI — International Financial Institutions	

Executive Summary

Water is the world's third largest industry after oil and electric power. It is the most capital intensive of all utilities and the most essential. Although clean drinking water and sanitation are necessary for the health and development of individuals and communities, billions of people worldwide lack access to either. As a result, millions of people, mostly children, die each year of preventable diseases. In response to these concerns, the international community has set ambitious Millennium Development Goals (MDG) of providing clean water and improved sanitation to at least half of the people worldwide who now lack these services by 2015.

Meeting the MDGs for water services poses an enormous challenge requiring mobilization of global capital — natural, social and financial — and consensus on the best ways to allocate these resources. Even before the present turmoil in world financial markets reduced the availability of capital for repairing and expanding the water and sanitation infrastructure, the water services sector faced multiple problems: freshwater scarcity and growing demand; underinvestment in infrastructure in both developed and developing countries; corruption; and controversy over the appropriate roles of the public and private sectors in ownership of water resources and responsibility for service delivery.

This report examines the drinking water and sanitation services sector through the lens of Environmental, Social and Governance (ESG) criteria. It is intended to aid the growing number of responsible

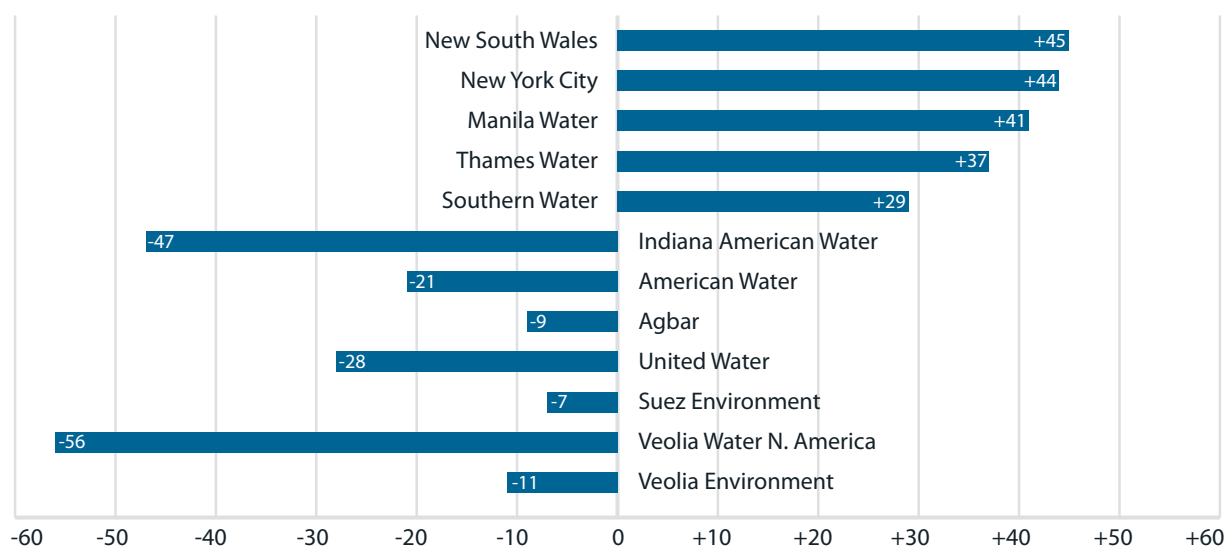
investors — institutions and individuals — concerned about the impacts and long-term sustainability of investments in this vital but controversial sector.

Water is both a public good and an economic good. It is part of the natural commons yet provision of water services is a natural monopoly requiring major capital investments to bring water to urban and rural populations. Proponents of market-based solutions contend that putting a price on water and allowing the private sector to deliver water services will conserve water resources, improve efficiency and bring new capital to the sector. Advocates of water as a public good emphasize the unique characteristics of water, the human right to water and the failure of markets to deliver service to the poor or to account for the ecological and non-economic values of water.

It is not the purpose of this report to debate the merits of private versus public ownership of water service utilities. The question for responsible investors is not one of ownership but of performance: how to identify water utilities that are financially sound and have demonstrated success in building natural, social and moral capital, whether they be government- or investor-owned.

To answer this question, a survey was undertaken of the information publicly reported via the Internet on the ESG performance of local water utilities. In most of the developing world and emerging market countries, water utilities report core indicators on the website of the International Benchmarking Network for Water and Sanitation Utilities (IBNET) which is maintained

Environmental, Social, Governance Content of Reports



This figure shows the score of each of the 12 water utilities surveyed for this report for the environmental, social and governance content of their Internet-based disclosures. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

by the World Bank. However, very few public or private utilities in developed countries do so. The Interfaith Center on Corporate Responsibility (ICCR) survey examined ESG disclosures for government-owned and operated water utilities in New South Wales, Australia, and New York City, and ten investor-owned utilities operating in the United Kingdom (U.K.), the United States (U.S.) and the Philippines. The Web sites of the local water utilities, their holding companies or, in the case of New South Wales, their regulatory agency were reviewed, in addition to a variety of reports published on these sites.

The Web-based disclosures were evaluated to determine the quality and availability of ESG performance data for local water and sanitation utilities reported by the investor-owned companies or their subsidiaries, and by the public entities. Twenty-one indicators related to the material ESG challenges discussed in this report were used to assess: (1) management’s perception of and response to non-financial risks; (2) evidence that effective management systems for data collection are used to monitor and benchmark local utility performance; (3) whether the ESG performance data were consistent, comparable and comprehensive; and (4) whether the information was clearly presented and easily accessible.

The survey found wide disparities and significant information gaps in the reporting, particularly for the local utilities owned by the largest water companies. The performance monitoring report issued by the regulatory authority in New South Wales, covering 111 water and sanitation utilities, was far and away the best in both content and presentation. New York City came closest to the “gold standard” set by New South Wales. With the exception of Manila Water and the two U.K. water services companies, none of the privately owned companies reported basic ESG performance data in a comprehensive, consistent, or comparable manner for their local water utilities. Very little performance information was disclosed for the investor-owned utilities operating in the U.S. apart from the water quality reports mandated by regulatory authorities; and, in some instances, even that information was lacking.

The absence of essential information needed to benchmark ESG performance is a serious impediment to investment and policy decisions. As one World Bank economist observed about infrastructure utilities in general:

“[. . .] the data gaps are so large that they impede an effective monitoring of the evolution of performance

in terms of access, efficiency, equity or fiscal costs for most sub-sectors. As a consequence, there is less global accountability in this sector than in health or education.”

This observation is especially true for the water services sector. The failure to provide essential performance data on water utilities cannot be attributed to the lack of reporting or analytical tools. The New South Wales report shows that comprehensive data can be gathered, analyzed and reported for a large number of operating utilities.

The challenges of preserving water resources from overuse and pollution, and of providing water for all can only be met if all stakeholders — that is to say, all members of society — are engaged in water gov-

ernance. Creation of a “data commons” is essential for protection of the water commons. The Internet makes a data commons possible and the IBNET offers a comprehensive, Web-based reporting template that can be used by companies, consumers, regulators and investors.

Responsible investors, and particularly institutional investors that are signatories of the Principles for Responsible Investment (PRI), have an obligation to use their considerable financial power to help build the data commons for water by requiring better ESG reporting from the water utilities they invest in so that capital may be rationally allocated to those enterprises — whether public or private — most capable of meeting the extraordinary water challenges.

Introduction

Less than 3% of the Earth's water is freshwater and, of that, less than 0.5% is accessible to plants, animals and humans. Our planet's hydrological cycle is essentially a closed system so there is no more freshwater today to sustain a global population of 6 billion people than there was in the year 1 BCE when the world population was estimated to be 250 million people. As per capita availability of water has declined globally,¹ water, which is both indispensable and irreplaceable, has moved to the forefront of the debate about sustainable development and the appropriate roles of the public and private sectors in delivery of essential services.

The increasing strain on freshwater resources poses enormous challenges for the water services sector, which provides clean drinking water and wastewater treatment. Water service utilities, whether public or privately owned, face multiple, often conflicting demands: to deliver safe drinking water at affordable rates from water sources that grow more polluted and more expensive to treat; to provide universal access while earning sufficient returns to maintain, modernize and expand infrastructure; to meet the ever-increasing demands for water without depleting local water resources. Concern about future availability of freshwater has unleashed a scramble to control water resources as civil society mobilizes in defense of the human right to water.

This report examines the drinking water and sanitation services sector through the lens of Environmental, Social and Governance (ESG) criteria. It is intended to aid the growing number of responsible

investors — institutions and individuals — concerned about the impacts and long-term sustainability of investments in this vital but controversial sector.

The Interfaith Center on Corporate Responsibility (ICCR), a coalition of over 275 faith-based institutions, has been a leader of the corporate social responsibility (CSR) movement for over 35 years. CSR has been defined as a program of “actions which reduce the extent of externalized costs or avoid distributional conflicts” arising from the behavior of corporations.² Its aim is to “anticipate and minimize conflicts between corporations and society” by aligning private and social costs and addressing market outcomes that may be efficient but not necessarily fair or just. In so doing, CSR reduces risks to long-term shareowner value and helps to ensure “that the invisible hand acts, as intended, to produce social good.”³

As faith-based institutions, whose assets under management collectively exceed \$100 billion, we are invested in our values — financial and non-financial, spiritual as well as material. In addition to financial returns, ICCR members seek positive returns to natural, social, and moral capital.⁴ Responsible investment — also referred to as sustainable or “triple bottom line” investing — incorporates social, environmental and ethical norms into investment analysis.

Most company and sector analysis focuses primarily, if not exclusively, on economic performance. While there is a growing body of work that examines corporate environmental performance and sustainability, the indicators, data and analytic frameworks for assessing returns to social and moral capital are not

as well developed. Nevertheless, these less familiar forms of capital must not be ignored.⁵

Qualitative assessments of corporate policies and practices and their results are essential in evaluating how companies address public demands for a normative economy — one that integrates economic efficiency with social and environmental responsibility. Social, environmental and governance indicators enable analysis of how well companies manage the non-financial risks that have become flash points of conflict over private sector provision of water services.

Private investment in water services has a long history, whether through equity stakes in private water enterprises or the purchase of bonds in government-owned and investor-owned utilities. Today, other investment vehicles are available, such as Exchange Traded Funds specializing in the water sector or the purchase of water rights to be traded in water markets. But investment in water as a commodity and in private water services companies has become a source of controversy, fraught with difficulty for responsible investors.

Starting in the late 1980s, government policies and international financial institutions fostered private sector delivery of water services in both developed and developing countries. Privatization — the term for everything from outsourcing by public utilities of regulated activities such as water treatment, to long-term contracts for operation and maintenance of water service systems, to the sell-off of public water infrastructure assets — gained momentum as cash strapped governments sought innovation, efficiency and new sources of capital.

Twenty years later, however, many of these public-private partnerships (PPPs) have gone sour. Transnational water companies are exiting the capital intensive but low-margin water services business in all but the most lucrative markets. Poor performance and unacceptable increases in water tariffs have also brought a wave of “re-municipalization” from Atlanta to Buenos Aires, Potsdam and, most recently, Paris.

The private sector’s retreat from water services in low-income countries comes at a time of pressing need, when public financing for infrastructure projects is in decline.⁶ Since this paper was started 18 months ago, global financial markets have undergone their worst crisis since the Great Depression, reducing the capital — public and private — available to meet the enormous infrastructure requirements of the water sector in nations rich and poor.⁷

In developed countries the greatest water services

challenge is to replace the aging infrastructure and adapt century old systems for the potential impacts of 21st Century climate change. The U.S. Environmental Protection Agency estimates that \$202.5 billion must be invested over the next 20 years in the nation’s wastewater facilities⁸ and an additional \$122 billion will be needed to ensure safe drinking water supplies.⁹ Globally, \$180 billion in water infrastructure investment is needed each year for the next 20 years to meet freshwater demand, according to the World Bank.¹⁰

In developing countries, the challenge of creating the infrastructure to serve the 1.1 billion people who lack access to an “improved source” for drinking water and the 2.6 billion people without basic sanitation — and to do so by 2015, as called for in the MDGs — is daunting.¹¹ Meeting these goals will require the provision of drinking water services to an additional 300,000 people a day, and improved sanitation services to more than 380,000 people a day, most of them living in sub-Saharan Africa and Asia. As of late 2008, it appeared that countries were on track to meet the drinking water goal by 2015. The sanitation goal, however, is unlikely to be met, especially in the poorest countries in Africa.¹²

It is not the purpose of this report to debate the merits of private versus public ownership of water service utilities. The question for responsible investors is not one of ownership but of performance: how to identify water utilities that are financially sound and have demonstrated success in building natural, social and moral capital, whether they be publicly or privately owned. The challenges facing the water services sector will require not only vast sums of finance capital, but wise stewardship of ecological resources, respect for human rights, and organizational commitment to honest, inclusive and transparent processes.

One consequence of the present financial crisis has been the loss of faith in markets as either efficient or capable of self-regulation.¹³ Private enterprise no longer benefits from the presumption that unfettered markets will provide superior outcomes. In today’s climate, business must prove itself. Verifiable ESG performance data must be provided to investors and other stakeholders.

Responsible investors need consistent, comparable data on water utilities’ ESG performance in order to identify opportunities for investment in the water services sector that will support local and regional water capacity and advance the MDG. At present, however, few water utilities, public or private, report on comprehensive quantitative and qualitative ESG

Millennium Development Goal 7: Ensure Environmental Sustainability

- Target 3: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation

indicators that would allow meaningful performance benchmarking, despite the fact that the protocols and Internet-based tools to facilitate this kind of reporting do exist. In the absence of mandated disclosure requirements, it falls to the SRI community to use its considerable financial power to raise reporting standards in the water services sector so that capital can be rationally allocated to those enterprises — whether public or private — most capable of meeting the extraordinary water challenges.

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1 Freshwater:

The Environmental, Social, and Governance Crises

A FINITE SUPPLY

The world is facing a water crisis caused by one species alone. Humans are overusing and polluting the finite freshwater resources on which all life depends. Humans are also pursuing a dangerous experiment with Earth's climate and hydrology that may have dire consequences for the biosphere. Most of the Earth's freshwater is frozen in the Arctic, Antarctica and mountain glaciers, many of which are rapidly melting as the Earth's climate changes due to global warming. For the more than 1 billion people who rely on water from glaciers and seasonal snowmelt, the consequences of climate change "will be adverse and severe."¹

Although the global volume of freshwater is abundant to meet human needs, water resources and population distribution are sadly mismatched. North Africa and the Middle-East, for example, have 6.3% of the world's population but only 1.4% of its water resources; the Congo River watershed receives 30% of the African continent's runoff but has only 10% of the continent's people; and China's northern plains, where 45% of the population lives, have only 19% of the country's water resources. In terms of per capita water resources, North America is the richest continent.

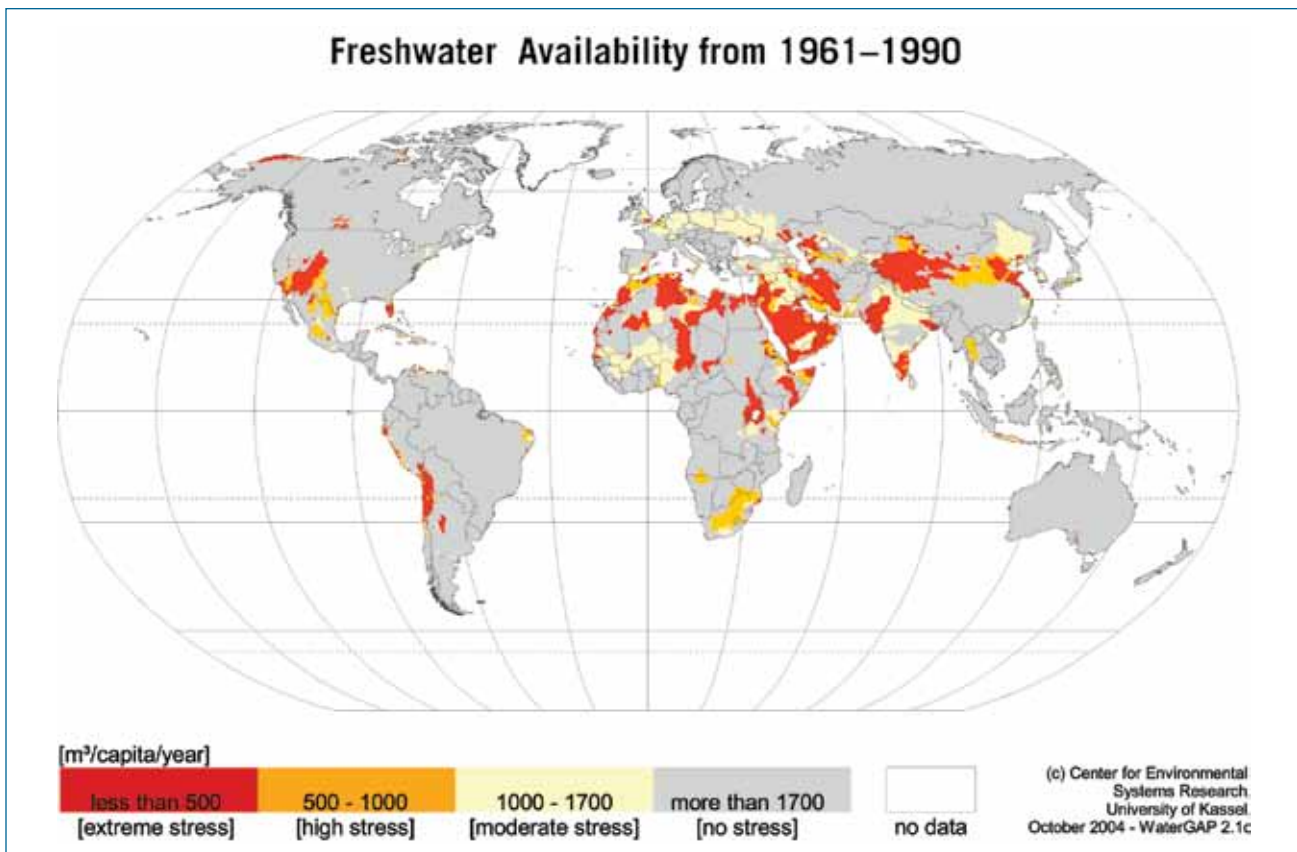
Meeting the needs of billions more people for drinking water and sanitation, in both developed

and developing countries, will be one of our civilization's greatest challenges. In many regions, population growth is stretching the limits of existing water resources, while economic activity is depleting aquifers faster than the rate of replenishment, and devouring the waterways, forests and wetlands on which local watersheds depend. Technology to desalinate seawater provides less than 1% of the world's water needs,² mostly for energy-rich countries in the Middle-East. Even though desalination costs have decreased, it is still a capital and energy intensive solution unlikely to benefit inland populations or poor countries.³

It is estimated that one-third of the world's population currently lives in water-stressed or water-scarce countries. Acute water scarcity currently affects most countries in the Near East and North Africa as well as Mexico, Pakistan, South Africa, Australia and large parts of China and India. The Intergovernmental Panel on Climate Change (IPCC) estimates the number of people at risk from increasing water stress could rise from 1.7 billion in 2020 to 3.2 billion by 2080.⁴

An area experiences *absolute* water stress when the water supply is less than 1,700 m³ per person. Below 1,000 m³ of water per person, the area is deemed water scarce. Water stress is also measured relative to the demand made on a given water resource. When demand exceeds 40% of the renewable water

Freshwater Availability from 1961–1990



This map and the maps on pages 17 are reproduced by courtesy of Prof. Martina Flörke of the Center for Environmental Systems Research, University of Kassel, Germany. Source: Joseph Alcamo, Martina Flörke, and Michael Märker, "Future long-term changes in global water resources driven by socio-economic and climate changes," *Hydrological Sciences Journal* 52, no. 2 (2007), 247-275.

supply, then the relative water stress on the resource is high; if demand is between 20% and 40% the relative stress is "medium-high." Currently, 58% of the world's people live in areas where relative water stress is high or medium-high.⁵

CLIMATE CHANGE

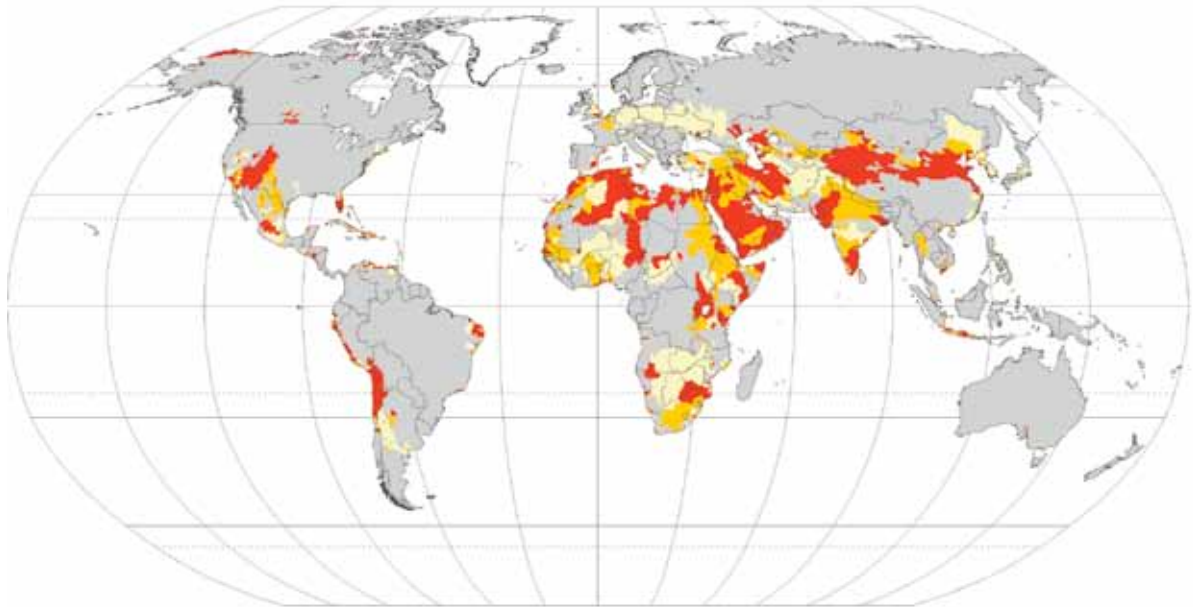
By mid-century, the land area subject to increasing water stress due to climate change is projected to more than double over areas with decreasing water stress, according to the most recent technical paper from the IPCC called "Climate Change and Water."⁶ As average global temperature increases due to atmospheric accumulation of greenhouse gases, large-scale changes in the hydrological cycle will further strain freshwater resources.

Higher temperatures and changing precipitation patterns will adversely affect both water quality and

availability. Rising sea levels may cause saltwater to infiltrate coastal wetlands and aquifers, turning freshwater brackish; heavy rainfall can exceed the capacity of sewer systems, flushing untreated waste into lakes, rivers and other surface waters; decreased water-flow in rivers may negatively impact hydropower and other facilities requiring large volumes of cooling water. Reduced flows from lack of rainfall decrease the ability of rivers to dilute chemicals and pathogens, resulting in increased costs for water treatment facilities, while intense rainfall leads to increases in turbidity (suspended solids), also requiring costly water treatment.⁷

Our water infrastructure has been designed for stationary climatic conditions, and water resources management is only beginning to plan for the uncertainties related to climate change.⁸ Climate risk assessments and scenario planning are critically important to identify, for example, coastal areas where saline intrusion into the lower reaches of a river may require new treat-

Freshwater Availability from the 2020s

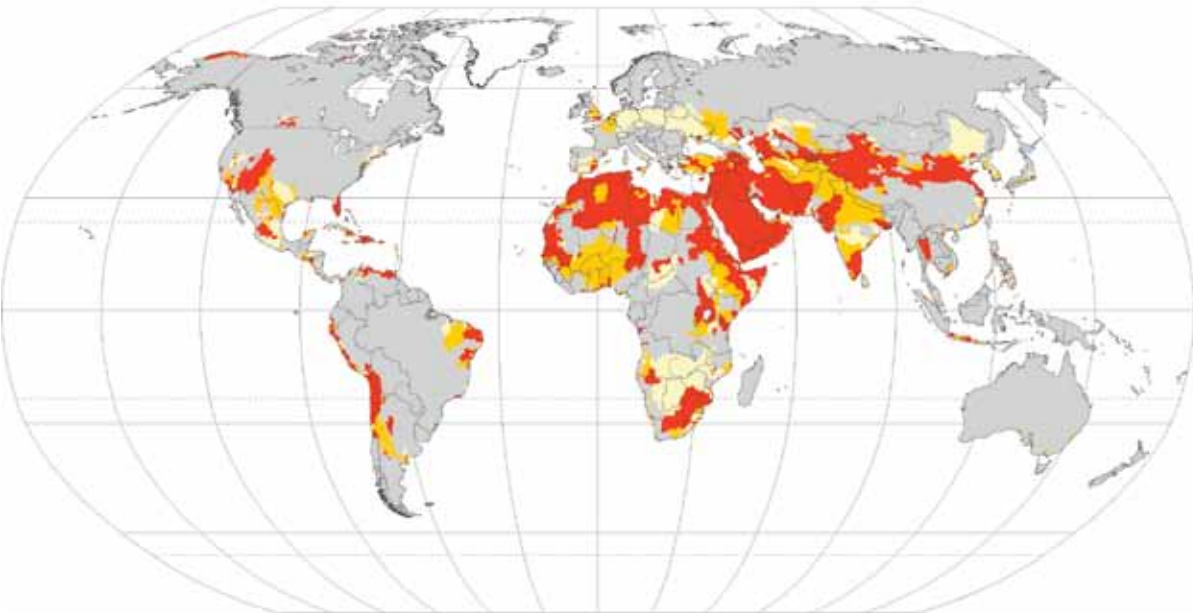


[m³/capita/year]

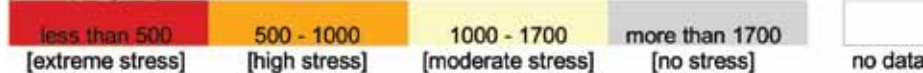


(c) Center for Environmental
Systems Research
University of Kassel
October 2004 - WaterGAP 2.1c

Freshwater Availability from the 2050s



[m³/capita/year]



(c) Center for Environmental
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October 2004 - WaterGAP 2.1c

These two maps show the future projections of water availability per capita for the 2020s and 2050s. The socio-economic and climate drivers on which the maps are based come from the IPCC SRES scenario A2. See http://gcmd.nasa.gov/records/GCMD_CIESIN_SEDAC_IPCC_SRES_EMSC_V11.html. Climate change input was taken from the Hadley Centre, UK (HadCM3). Maps created by the Center for Environmental Systems Research, University of Kassel, Germany. Source: Joseph Alcamo, Martina Flörke, and Michael Märker, "Future long-term changes in global water resources driven by socio-economic and climate changes," *Hydrological Sciences Journal* 52, no. 2 (2007), 247-275.

ment facilities to remove salts. However, these adaptive measures will require capital expenditures that may not be affordable in low-income countries.

GROWING DEMANDS

Climate is but one of the factors driving the water crisis. While the supply of natural freshwater is finite, the demand for freshwater is increasing at twice the rate of population growth, driven by urbanization, industrial development, food production, and personal consumption patterns. The world's population is projected to reach 8 billion by 2025 — which means 2 billion more people to feed — and to exceed 9 billion by mid-century.⁹

Thirty to 50 liters per day is the minimum amount needed for cooking, cleaning and personal hygiene, according to the World Health Organization (WHO). Far more is required for food production:

“Depending on their diet and where their food is grown, each person is responsible for the conversion of 2,000 to 5,000 liters of liquid water to vapor each day. The daily amount of water we drink (2L to 5L) and use for washing, sanitation, and other household tasks (50L to 200L per person) seems insignificant when compared to the amount of water we consume.”¹⁰

Most of the world's freshwater is used for agriculture, varying, on average, from 30% in developed countries to 80% in developing countries. Agricultural withdrawals from rivers, wetlands and groundwater — on the order of 2,500 cubic kilometers (km³) per year — exceeds 90% of all water withdrawn for human uses in many countries, particularly in rice-growing regions of Asia.¹¹

As population and incomes grow, so does the amount of water used for food, drinking and personal hygiene. Income growth, in fact, has a greater impact on water demand than population growth.¹² Meat consumption, which increases with income, boosts per capita water consumption considerably: a vegetarian diet requires 360 m³ of water per person annually; a diet with 20% of the calories from meat requires over 1,000 m³ of water per person each year.¹³

Although per capita water use increases along with income, culture and “life-style” also have an impact, as the considerable difference in water usage by residents in countries with similar income levels indicates. Water demand in the U.S. and other higher income countries,¹⁴ has not increased in a decade or more due to efficiency gains and conservation efforts,

as industry and households respond to increasing water prices by adopting water management policies, re-engineering water-intensive processes and switching to water-efficient appliances.¹⁵ Nevertheless, a child in the developed world consumes 30 to 50 times more water than a child in the developing world where 6,000 people die each day of water-related disease, most of them children under five.¹⁶

WATER FOR SANITATION

Nearly all of the population growth — and increased demand for water services — in the coming decades is expected to occur in the cities of Asia and Africa.¹⁷ With the exception of the U.S., population in developed countries is expected to remain constant or decline. The proportion of the population in urban areas worldwide is expected to rise from 48% (3 billion people) in 2003 to over 61% (5 billion people) by 2030. While Latin America and the Caribbean will have the highest proportion of urban residents (85%), half of all the world's urban residents will live in Asia.

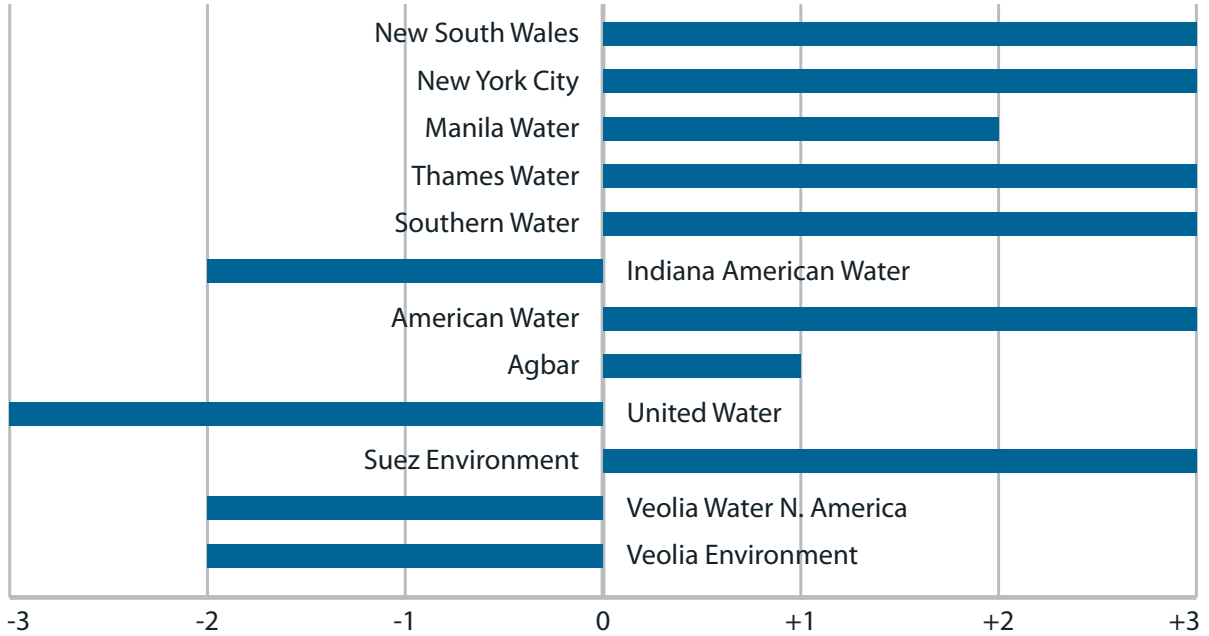
City dwellers are more likely to have access to water and sanitation services than rural populations. Indeed, the existence of water supply and sewerage systems is one of the characteristics used by the U.N. to define urban areas.¹⁸ Per capita water use is 40% greater on average in urban than in rural areas. By 2025, this margin is projected to widen to 64% as more and more affluent urban dwellers increase their water usage.

Even in the world's major cities, access to sanitation services (connection to sewerage) varies enormously across the globe: 18% of Africa's urban households, 35% of urban households in Latin America, and 45% of Asia's urban households are connected to sewer systems, compared to 92% and 96% of urban households in Europe and North America, respectively.¹⁹ Urban access to water services is closely associated with income at the national and the household levels.²⁰

Although water use is higher in urban areas, water *consumption* — *i.e.*, water that is permanently removed from the local watershed (or water basin) — is actually greater in rural areas. Irrigation accounts for 70% of global water withdrawals and 90% of global water consumption.²¹ This is because the water for irrigation is either embodied in the crops that are grown or lost to evaporation. Evaporated water returns to the Earth as rain or snow, but this precipitation may fall far from the watershed from which it was withdrawn.

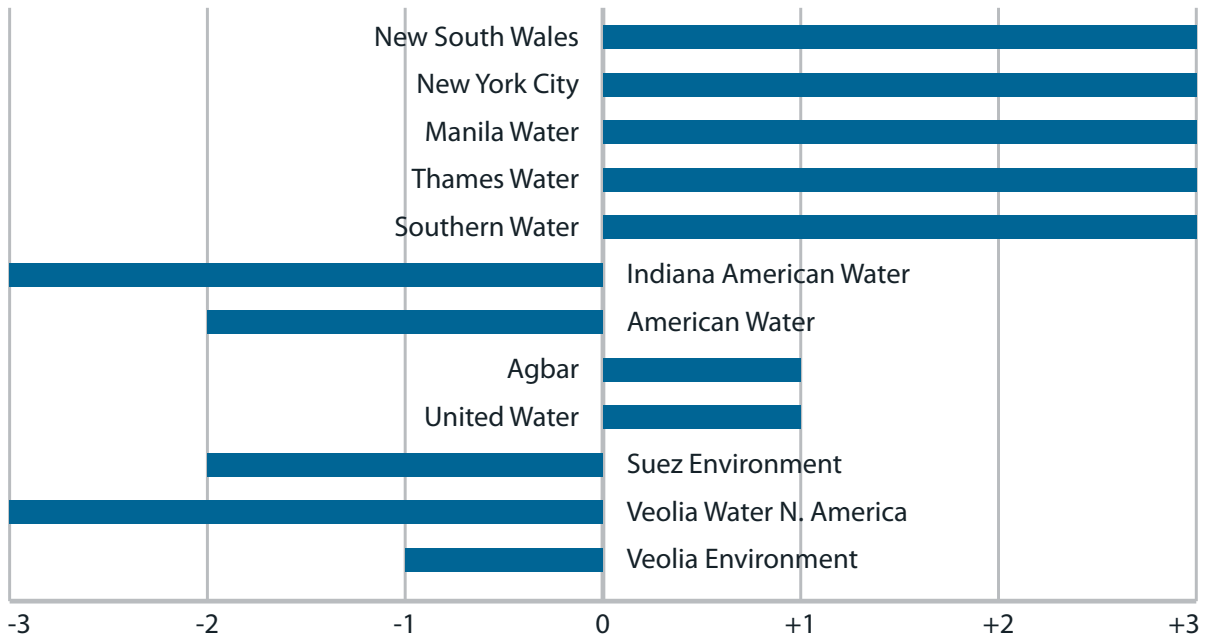
In urban areas, however, water is channeled into

Climate Change Assessment and Long-Term Planning



This figure shows the scores for the 12 water utilities surveyed for disclosure regarding climate change and its potential impacts on water resources, physical assets and future operations in water stressed areas. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

Areas of Water Scarcity or Stress



This figure shows the scores for the 12 utilities surveyed for disclosure of areas of operation where water resources are scarce or stressed or likely to be so in the near or long term. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

“How will people who can’t afford food pay for water?”

An African Diplomat

drainage systems and ultimately released, treated or not, into rivers, lakes or other surface waters. Although this water goes into the local watershed, it is often in degraded, unsanitary or toxic condition. According to UNESCO, two tons of human waste is dumped into the world’s waterways every day,²² most of it untreated in any way. Animal wastes from large livestock operations also get discharged into water bodies in rural and in metropolitan areas.²³

Worldwide, the impacts on human health caused by a lack of clean water and adequate sanitation are creating a tragedy of terrible proportion. Peter Gleick of the Pacific Institute estimates that by 2020, between 52 and 118 million people, mostly children, will die from preventable water-related diseases if the proportion of people without access to clean water continues at year 2000 levels.²⁴ Achieving the MDG for access to clean water by 2015 and maintaining the same rate of access until 2020 would reduce deaths from preventable water-related diseases to between 34 and 76 million, with most of the deaths still among children.²⁵

WATER FOR GROWTH

The World Summit on Sustainable Development in Johannesburg in 2002, adopted additional MDG targets: one for sanitation and another to reduce the rate of biological diversity loss by 2010.²⁶ The biological diversity target has received little attention and, like the MDG for sanitation, is not likely to be achieved.²⁷

“Achieving the Millennium Development Goals (MDGs) on poverty, hunger and environment simultaneously is a challenge, as the goals seem to be in direct conflict with each other, particularly when reflecting on the role of water management. This is because a reduction in poverty and hunger requires water for agriculture while environmental sustainability requires sufficient water for ecosystems to prosper.”²⁸

Water quality and, ultimately, availability depend on the ecological soundness of the watershed from which it is withdrawn. Even where water is plentiful, uncontrolled pollution from industrial and agricultural sources, as well as households, raises the cost of providing drinkable water or even usable water for crops and manufacturing. In the emerging economies

of Brazil, Russia, India and China rapid growth and unrestrained pollution of water resources are jeopardizing future development. Agricultural pollution and declining water tables have undermined productivity in important food-producing regions of the Aral Sea basin, the north China plains, and northwest India.²⁹

China offers a stark example of the toll unbridled economic growth can impose on water resources. It is estimated that the severe depreciation of the country’s natural capital costs the Chinese economy as much as 12% of Gross Domestic Product (GDP) annually. The toll on the Chinese people’s health is even greater: “fully 190 million Chinese are sick from drinking contaminated water” and along China’s major rivers, “villages report skyrocketing rates of diarrheal diseases, cancer, tumors, leukemia, and stunted growth.”³⁰ The Chinese government plans to build 375 wastewater treatment plants over the next five years but this will not be nearly enough without better pollution controls and watershed conservation efforts.

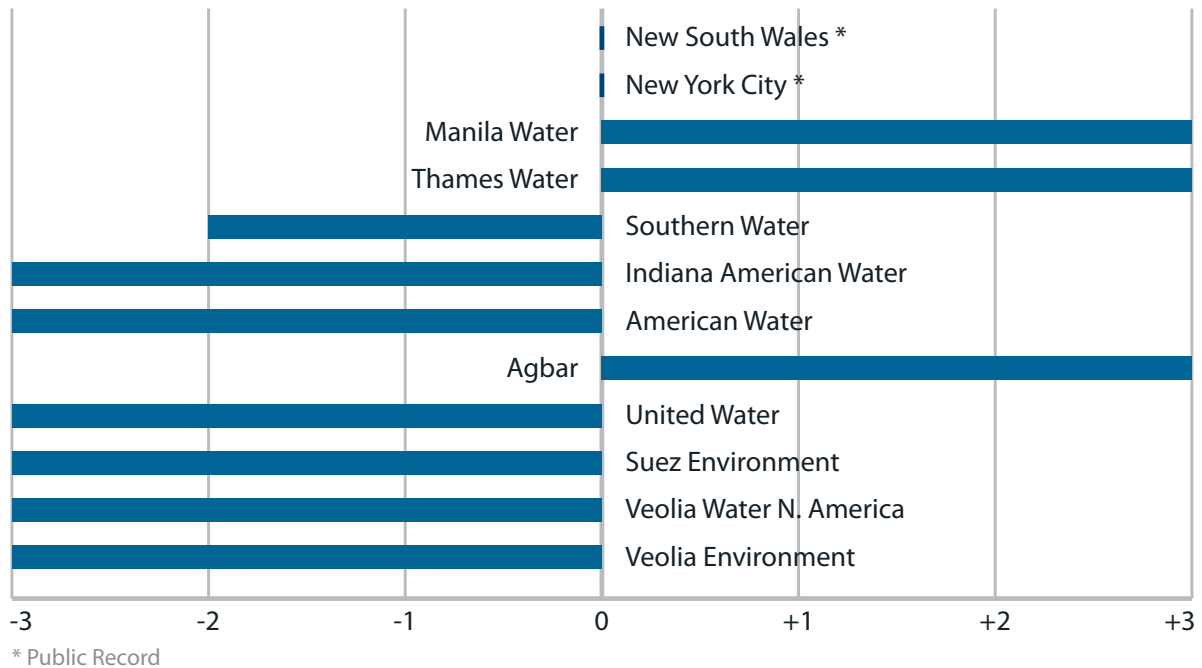
WATER GOVERNANCE

The world’s water crisis is now widely acknowledged to be a governance crisis,³¹ a failure of political will to protect watershed resources, invest in infrastructure, provide quality service and ensure access for the poorest members of the community. Water is a shared resource, a part of the natural commons, belonging to everyone and to no one and, consequently, susceptible to being overused or misused. The economist’s cure for this problem — putting a price on water to reflect its value as a commodity — has failed to resolve either the distributional conflicts over water or to protect watershed resources.

Treating water as an economic good raises ethical and practical concerns. The price of water must take into account not only its value to humans but to other species and entire eco-systems. This is an exercise which, if not impossible, is certainly fraught with difficulty because eco-systems are enormously complex and subtle sets of interdependent relationships that may not be fully understood. In pricing water, who speaks for the frogs, the fishes and the organisms that may play a vital but yet-to-be-discovered role in the ecological order?

Full cost recovery for water services, advocated by the World Bank, international development institutions and free market proponents, raises ethical concerns when poor people are priced out of the market for this necessity of life. No matter how high the price, there

Governance and Anti-Corruption Policies



This figure shows the scores for the 12 water utilities surveyed for disclosure of their good governance and anti-corruption policies. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

will be those who can afford to fill swimming pools and water golf courses while the poor lack water to drink. Water has a set of characteristics that distinguish it from “normal” economic goods. Consequently, decisions about water allocation cannot be based solely on who is willing to pay the most for it. Rather, they must be based “on a multi-sectoral, multi-interest and multi-objective analysis in a broad societal context, involving social, economic, environmental and ethical considerations.”³²

Water and sewerage services are natural monopolies where the discipline of market competition is absent and regulation is required to ensure high quality and fair pricing. Privatization — hiring private enterprise to carry out public service functions — is intended to bring market efficiency and new sources of capital to under-funded and poorly managed public enterprise. But this may simply replace a state-owned monopoly with a private one. Instead of providing a solution to the challenge of sharing this common resource, the economic cure only displaces the problem from the realm of politics and public decision-making to the realm of markets and private profit seeking.

Policies of the last two decades favoring market-based solutions for problems with water and other util-

Why Water is Special

Water is not like other commodities because it is:

- Essential;
- Non-substitutable;
- Scarce, finite;
- Fugitive;
- Indivisible, part of a system;
- Location bound;
- Non-substitutable;
- Prone to market failure; and
- A public good that has aesthetic and cultural value.

Hubert H.G. Savenije

ity services sprang, in part, from a view of governments as inefficient, at best, and incompetent or corrupt, at worst. But the privatization of public services leaves a fundamental question unanswered: how can governments that are too corrupt or incompetent to operate a public utility be trusted to handle the procurement

Anti-Corruption Initiatives

- The U.N. Convention Against Corruption (UNCAC), enacted in December 2005 and ratified by 52 countries. http://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf
- The Organisation for Economic Co-operation and Development (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, adopted in 1997 and signed by 36 countries. <http://www.oecd.org/dataoecd/4/18/38028044.pdf>
- Transparency International's Business Principles for Countering Bribery: An essential tool for business. http://www.transparency.org/global_priorities/private_sector/business_principles

process for lucrative monopolies or to effectively regulate private service providers?

Corruption is “at the core of the governance crisis in the water sector” and privatization processes are prone to corruption.³³ According to World Bank, “20% to 40% of water sector finances are being lost to dishonest and corrupt practices.” Fifty percent of water-related firms in emerging economies pay bribes for public procurement practices and, among companies from Organisation for Economic Co-operation and Development (OECD) countries, the figure is 45%.³⁴ It is not just a problem in developing countries. In the U.S., France and other OECD countries, politicians and corporate officials have been jailed or fined for corrupt practices in water services procurement.³⁵ Most recently, the mayor of Birmingham, Ala., was arrested for bribery and investment bankers involved with the financing of the Ala. sewer bonds may also face charges. The transaction has left a \$3.2 billion deficit in local finances and may cause the largest municipal bond default in U.S. history.³⁶

While privatization can bring efficiency gains that reduce costs, poor governance and institutional weakness are just as important as the ownership debate.³⁷ Addressing corruption in the water services sector requires both government reform and reform of corporate practices as well. Several international initiatives have been undertaken to combat corruption by public agencies and private corporations.

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2 The Human Right to Water:

A Legal Risk for Investors in the Water Industry

The international community has recognized a human right to water since 2002, and national governments are increasingly adopting laws protective of this right. Although the definition and scope of a human right to water are still evolving, the implications of this right can present significant legal risk for the ownership, supply, and delivery of water and water services for private and public entities managing access to this basic necessity.

International and national tribunals have inferred a human right to water, from constitutional and international treaty norms, even where such documents do not expressly articulate such a right. Civil society organizations and social movements are invoking obligations arising from the human right to water in challenges to private operators in national courts, as well as successfully challenging beverage companies on environmental grounds. This area of human rights law is rapidly evolving, despite opposition from some U.N. member states, including the U.S.

ACCESS TO WATER AS A HUMAN RIGHT: INTERNATIONAL LAW

International human rights law establishes three basic principles: governments must respect, protect,

“The U.N. has recognized the human right to water and defines it as ‘the right of everyone to sufficient, safe, acceptable, physically accessible, and affordable water for personal and domestic uses.’”

**Committee on Economic,
Social, and Cultural Rights,
General Comment No. 15, *The Right to Water*,**

*U.N. Doc. E/C.12/2002/11 (Nov. 26, 2002), reprinted in
Compilation of General Comments and General Recommendations
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HRI/GEN/1/Rev.6 at 105 (2003)*

and fulfill human rights obligations that have been adopted by a state.¹ The law requires corporations, at a minimum, to respect the human rights recognized by the state and not to take any action that would undermine a state’s obligations to its citizens.²

As a fundamental requirement to support life and health, the human right to water has been implicitly recognized in the International Convention on Civil and Political Rights (ICCPR)³ and the International Convention on Economic, Social and Cultural Rights (ICESCR).⁴ These conventions legally bind states not to enter into any contracts or agreements that under-

The human right to water is explicitly recognized in the following binding international human rights treaties adopted by a majority of U.N. member states:

- **The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)**

[United Nations, Convention for the Elimination of All Forms of Discrimination against Women, article 14, G.A. res. 34/180, 34 U.N. GAOR Supp. (No. 46) at 193, U.N. Doc. A/34/46, entered into force Sept. 3, 1981, available at: <http://un.org/womenwatch/daw/cedaw/>]

- **The Convention on the Rights of the Child (CRC)**

[United Nations, Convention on the Rights of the Child, article 24, G.A. res. 44/25, annex, 44 U.N. GAOR Supp. (No. 49) at 167, U.N. Doc. A/44/49 (1989), entered into force Sept. 2 1990, available at: <http://www.unhchr.ch/html/menu3/b/k2crc.htm>]

- **The Convention on the Rights of Persons with Disabilities.**

[United Nations, Convention on the Rights of Persons with Disabilities, article 28, A/RES/61/106, entered into force May 3, 2008, available at: <http://www.un.org/disabilities/default.asp?navid=12&pid=150>]

Water is also recognized as a cultural right in Article 25 of the Declaration on the Rights of Indigenous Peoples.

[United Nations, Declaration on the Rights of Indigenous Peoples, article 25, A/61/L.67 and Add.1, entered into force Sept. 13, 2007, available at: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf]

mine their obligations to respect, protect and fulfill the human right to water.

WHO has developed standards for potability and accessibility to water as a guide for international and national standards on the human right to water.⁵ In addition, the U.N. Human Rights Council has appointed to a three-year term an independent expert on human rights obligations regarding access to safe drinking water and sanitation. The expert will consult with governments and the U.N. to develop best practices and clarify human rights obligations.⁶

WATER AS A HUMAN RIGHT: NATIONAL CONSTITUTIONS, LEGISLATION AND CASE LAW

As the international definition and scope of the human right to water evolve, many countries have adopted

provisions in their national laws or constitutions regarding a human right to water

Ten countries have implemented a constitutional human right to water provision within the last ten years.⁷ Uruguay's 2004 constitutional amendment protects its citizens' human right to water while making private investment in water services unconstitutional. Ecuador has made privatization of water services unconstitutional — providing a transition clause for the Bechtel subsidiary InterAgua to turn over operations to the public sector. Bolivia and Colombia are in the process of adopting provision on the human right to water, and India and Argentina have recognized this right through interpretations of other constitutional provisions — the right to life and the right to a healthy environment, respectively.⁸

Courts in South Africa and India have ruled that governments or private corporations that violate the human right to water can be held liable. Even though India's constitution does not contain an explicit provision, the Kerala High Court in *Attakoya Thangal v. Union of India*, determined that safe, sufficient water is encompassed in the right to life.⁹ This decision was upheld by the Indian Supreme Court in *M C Mehta v. Union of India*, which resulted in Coca-Cola's ceasing operations in Kerala.¹⁰ In South Africa, where the national constitution affirms a human right to water, courts have required the state and municipal water utility to suspend water shutoffs due to an inability to pay.¹¹ In 2006, the residents of Phiri, Soweto, filed suit against Johannesburg Water, challenging its violation of the constitutional human right to water.¹² In April 2008, the High Court declared that pre-paid water meters constitute a denial of access to water and were therefore unconstitutional. The court also declared that the municipality was required to provide 50kl of water per person per day to comply with the human right to water, health and dignity.¹³ In the U.K. as well, pre-pay water meter schemes were found to violate due process requirements.¹⁴

INTERNATIONAL WATER SERVICES INVESTMENTS AND THE HUMAN RIGHT TO WATER

Investors and governments alike have encountered problems with concession agreements governing international investments in water services. Recently, a London tribunal operating under the laws of United Nations Commission on International Trade Law (UNCITRAL), heard a case brought by City Water Ser-

vices, a subsidiary of British company Biwater against Tanzania, which had cancelled Biwater's concession for nonperformance.¹⁵ The Tribunal found that local water services had worsened under Biwater's oversight, awarding the government of Tanzania \$7 million in damages and legal costs. The International Center for the Settlement of Investment Disputes (ICSID), the arbitral facility related to the World Bank with jurisdiction over investment disputes involving foreign corporations and national governments under bilateral investment treaties, has nine cases pending involving foreign investments in water services in Africa and Latin America.¹⁶ Biwater submitted a complaint to ICSID on the Tanzania concession; the ICSID tribunal found in favour of Tanzania. ICSID tribunals have recognized the complexity of water services concessions, allowing civil society groups to present amicus in proceedings on the grounds of the "public interest" embodied in water services.

U.S. OPPOSITION

The U.S. opposes the human right to water, based on a narrow reading of General Comment 15 and the ICESCR's article 11(1).¹⁷ The U.S. argues that it is incorrect to infer a human right to water because the words "right to water" do not specifically appear as a phrase in binding human rights documents. A handful of nations, including Israel, Turkey, and Canada, have expressed similar concerns and also oppose the human right to water.¹⁸ Most nations, both developed and developing, have acknowledged and embraced the existence of a human right to water and the need to elevate its status within human rights law.¹⁹

Given the opposition at the federal level, communities in the U.S. are considering adopting local human right to water provisions. Barnstead, N.H., facing a potentially disastrous water bottling operation, adopted an ordinance based in part on the human right to water, outlawing the extraction of water resources within the town's limits for the purpose of for-profit sales. Communities in Maine, Vt., N.H. and Calif. have stopped other permitting processes on environmental grounds. Community groups in Boston and Oakland have begun work on adopting local human right to water laws, which they hope will protect the needs of low-income families and people on fixed incomes. African American plaintiffs in Ohio successfully sued the public water provider and won a \$10.9 million judgment in damages for discrimination against the City of Zanesville.²⁰ In the U.S., failure to pay water

"Everyone has the right to have access to sufficient food and water."

South Africa, Constitution (1996)

"The right to water is a fundamental and inalienable human right. It is a strategic national heritage of public use, inalienable, imprescriptible, unattachable, and essential to life."

Ecuador, Constitution (2008)

bills can trigger water shutoffs. Cases of water shutoffs have resulted in property being condemned and, tragically, children being removed from the home and placed in foster care. Increasing rates to pay for old and inadequate infrastructure, as well as rising costs related to climate change impacts on water resources, will continue to create social problems in the U.S.

EVOLVING STANDARDS FOR MULTINATIONAL CORPORATIONS

In 2005, at the request of the U.N. Commission on Human Rights, the Secretary General appointed a special representative on the issue of human rights and transnational corporations. John G. Ruggie was given the mandate, as special representative, to identify and clarify standards of corporate responsibility and accountability with regard to human rights, and to elaborate on the role of states in regulating and adjudicating the role of transnational corporations and other business enterprises regarding human rights.²¹

In his report of April 2008, Ruggie makes it clear that international human rights law is increasingly being adopted into national legal frameworks. Under international criminal, labor, and human rights law,

Decision of the Indian Supreme Court in *M C Mehta v. Kamal Nath*

"Article 21 of the Constitution [Right to Life] provides that no person shall be deprived of his life and liberty except in accordance with the procedure established by law. Any disturbance of the basic environment elements, namely air, water, and soil, which are necessary for 'life,' would be hazardous to 'life' within the meaning of Article 21 of the Constitution."

“We the People of the Town of Barnstead declare that we have the duty to safeguard the water both on and beneath the Earth’s surface, and in the process, safeguard the rights of people within the community of Barnstead, and the rights of the ecosystems of which Barnstead is a part [. . .].”

Water Rights and Self Government Ordinance,
Barnstead, N.H., March 2006

corporations have duties to respect human rights that are independent of states’ duties. Ruggie further affirms that the requirements of “due diligence” and “do no harm” entail positive obligations for companies whose operations directly or indirectly affect a community’s human rights.²²

Although the human right to water is still developing, the Office of the High Commissioner for Human Rights (OHCHR) has stated that cost recovery should not be a barrier to access for the poor.²³ Taking the pulse of the global political climate, the High Commissioner also noted that there are “increasing societal expectation[s] that companies ensure that their operations do not compromise access to safe drinking water and sanitation.”²⁴

Human rights impact assessments, similar to the environmental impact assessments companies have been using for years, have been developed by the International Finance Corporation and the International Business Leaders Forum, in conjunction with the U.N. Global Compact. These assessments are intended to encourage corporations to begin bringing their policies and practices in line with the evolving norms of human rights.²⁵

THE IMPACT ON INVESTMENT

This is a defining time for the human right to water. While the OHCHR has declared that water should be recognized as a human right, questions remain as to the scope and content of that right.²⁶ Companies like Coca-Cola have discovered that operations affecting water supply in violation of the human right to water can create legal problems undermining the credibility — and economic viability — of operations. PepsiCo shareholders were presented with a resolution regarding the human right to water at their annual meeting in May 2008. The resolution overcame a challenge filed by the company with the Securities and Exchange

Commission and on World Water Day 2009, PepsiCo announced its adoption of a human-right-to-water policy.²⁷

As the human right to water gains ground in national legal frameworks and more courts uphold this right investors would be well advised to consider carefully the new risks that water services or industries affecting water resources may encounter.

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3 The Water Services Sector

The water industry worldwide comprises many thousands of public water utilities and approximately 300 to 400 publicly traded companies. Provision of water and wastewater services constitutes only one segment of the industry, which includes:

- Bulk water supply;
- Infrastructure construction (dams, reservoirs, treatment plants);
- Equipment and materials (pipes, pumps, meters);
- Water utility services (drinking water abstraction, treatment and distribution; wastewater collection, treatment and discharge).

The public sector owns and operates most of the world's drinking water and sanitation utilities. Investor-owned companies operate approximately 5% of all water utilities worldwide, servicing about 6% of the world's population, primarily in Europe, the United Kingdom, North America and, increasingly, in Asia.¹ However, the population served by five of the world's largest private water companies (Suez, Veolia, Saur, Agbar and RWE) declined from 348 million people globally in 2001 to 288 million people in 2008.²

In the U.S., 80% of the population is served by publicly owned and operated water and sanitation systems. Large public systems account for only 1% of all the water systems in the U.S. but they produce 90% of the nation's drinking water.³ Although 51% of U.S. drinking water companies are privately owned, they mostly serve smaller communities and only 27% of them are operated as for-profit enterprises.⁴ Despite

“The annual water cycle from rainfall to runoff is a complex system where several processes (infiltration, surface runoff, recharge, seepage, re-infiltration and moisture recycling) are interconnected and interdependent with only one direction of flow: downstream. If you interfere upstream, there are downstream implications [. . .]. If you withdraw groundwater from an aquifer, further down in the cycle, at some later point in time, there will be less water in the river, for reliant uses. If you discharge waste at some point, damage is incurred somewhere downstream.”

Hubert H.G. Savenije

federal policies in the 1990s to foster private ownership and management of water systems, including changes to the tax code to facilitate contracting out by public utilities, “the proportion of water services in the U.S. provided by private water companies, whether measured by customers served or volume of water handled,” has remained largely unchanged since the 1940s.⁵

Utilities that operate drinking water and/or sanitation systems are consumers of the goods and services offered by companies in the other segments of the industry. The components of a water services system include: a freshwater supply; purification facilities; distribution and collection networks; sewage treatment facilities; and waste disposal sites.

Leading Companies in the Water Industry

	Company Name (Division)	Stock Symbol
Utilities (Drinking Water, Wastewater)	Veolia Environment (Veolia Water)	VE
	Suez Environment	SEV
	Agbar	—
	Thames Water	—
	American Water	AWK
Water Treatment (Chemicals, Membranes, UV, Ozonation)	Nalco	NLC
	General Electric (GE Water & Process Technologies)	GE
	Rohm and Haas	ROH
	Dow Chemical Co. (Dow Water Solutions)	DOW
	Danaher (Water Quality Group)	DHR
	Siemens AG (Siemens Water Technologies)	SIE
	ITT Corporation (ITT Fluid Technology)	ITT
Desalination (Technology, Engineering)	Dow	DOW
	General Electric	GE
	Veolia Environment	VE
	Siemens AG	SIE
	ITT Corporation	ITT
Infrastructure Construction	Sterling Construction	STRL
	Layne Christensen Company	LAYN
	Black & Veatch	—
	Bechtel Group, Inc.	—
Equipment (Pipes, Pumps, Meters)	Ameron International (Water Transmission Group)	AMN
	American Cast Iron Pipe Co.	—
	Gorman-Rupp Company	GRC
	ITT Corporation	ITT
	Itron	ITRI
	Northwest Pipe	NWPX
	General Electric	GE
	Siemens AG	SIE
	Valmont Industries	VMI

POTABLE WATER

As no human has ever created a single molecule of water, the supply of potable water depends upon natural sources. It may be abstracted from aquifers below ground or withdrawn from surface waters (lakes, rivers, and streams); captured in rainwater cisterns or in reservoirs filled by damming river flows; or taken from

saltwater bodies and desalinated. With the advent of advanced chemical purification, filtration and desalination technologies, potable water can be recycled from wastewater or obtained from seawater.

The capture and transfer of water (bulk water supply) is one of the most ecologically sensitive and controversial aspects of water systems, whether this is done within a watershed or across watersheds. All

water is part of an interconnected system both locally (watersheds and river basins) and globally. Diversion of water flows to reservoirs or extraction of ground water beyond the replenishment rate can destroy the ecology of a region and the livelihoods of those who rely most on natural resources — usually, the very poor.

Water for drinking nearly always requires some form of treatment — chemical, biological, or physical — to ensure safety and good quality. Treatment of drinking water is as old as civilization itself. Earliest methods included boiling and exposure to sunlight for biological purification, and filtering through charcoal or with alum for clarification. The 19th Century discovery of the link between water contamination and diseases such as cholera and typhus led to the establishment of large urban water systems throughout Europe and North America that relied on chlorination and filtration to purify drinking water. Later research revealed chlorine-resistant pathogens as the cause of other diseases (hepatitis, gastroenteritis, Legionnaire's Disease, and cryptosporidiosis), driving further advances such as reverse osmosis and ozonation in the 1980s.⁶

Today's purification technologies must also deal with the challenge of removing pharmaceutical, industrial and agricultural chemicals that contaminate ground and surface water supplies. As more is understood about the impact of these pollutants on human health, water quality standards will become more stringent and more costly to meet. Regulatory mandates will be a forceful driver of innovation in this sector.

DISTRIBUTION NETWORKS

An extensive network of pipes and powerful pumps is needed to move water from the source, to the treatment plant and then to consumers. Water meters measure the volume of water entering and leaving the system at various stages and customer usage. Maintenance of the network, which is mostly underground, is crucial but often deferred for decades. Deterioration of the fixed assets leads to water losses and poor water quality, increased operating costs and decreased quality of service.⁷ Customer dissatisfaction may negatively impact cost recovery as ratepayers balk at increased tariffs.

Water supply and wastewater systems are major energy consumers. Water is heavy⁸ and it takes considerable energy to lift and transport it from place to place. The California State Water Project, for example,

The Three Stages of the Water Industry

- In the first stage, reservoirs and aqueducts are developed by civil engineers to bring ever greater volumes of water from ever more distant sources. But water transfers generate conflicts with other users; also the water may be contaminated
- At some point, water transfer is more costly and more risky than pumping water from rivers just upstream of the city and treating it (by filtration, and later with chlorine, ozone, or granular activated carbon beds) before distribution. This is made possible by the rise of chemical/sanitary engineering, which also provides solutions to treating wastewater before it is discharged into rivers. This second stage is supportive of the local character of water services
- As water quality standards keep rising, it is becoming too expensive to produce drinking water from increasingly polluted sources. Even the chemical engineering response may reach its limits. This is the third stage, where environmental engineering will assist the movement toward integrated river management, demand-side management, and pollution control at the source

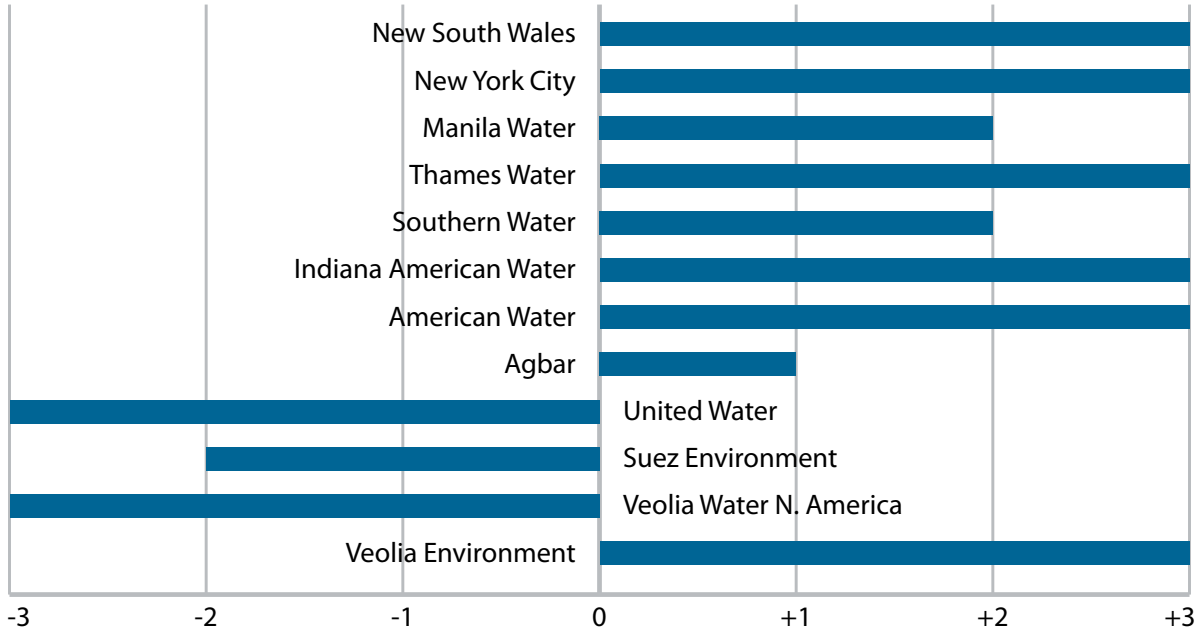
B. Barraqué

is the largest single user of energy in Calif., taking 2% to 3% of all electricity consumed in the state.⁹ The energy intensity of a water system depends on the distance from the water source to treatment facilities, elevations, the size of the distribution network and the amount of water that is lost at various points. Energy is the second highest operating cost of water plants in the U.S. after personnel, and energy costs are certain to increase when there is a price to pay for carbon intensive energy use. Significant opportunities for energy efficiency exist in water systems, facilities and equipment that were designed in the era of cheap energy, without concern for the climate impacts from energy use.

WASTEWATER COLLECTION AND TREATMENT

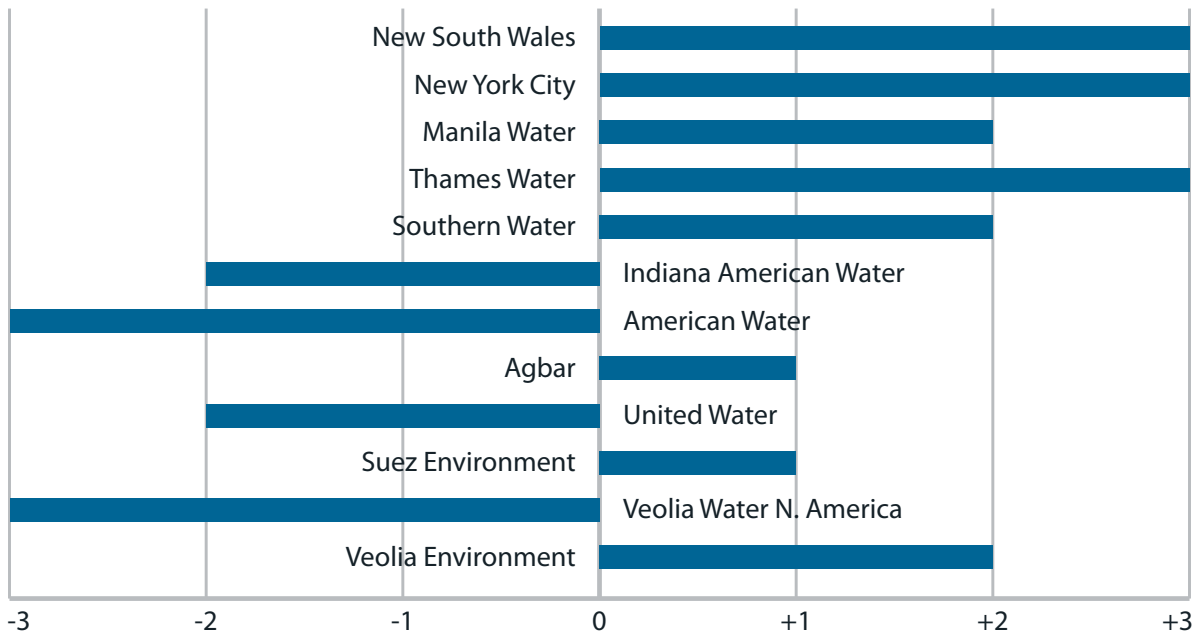
Water drainage and sewage collection systems were known in early human settlements as far back as 3500 BCE. The ancient Romans worshiped the goddess Cloacina who presided over the *Cloaca Maxima*, a vast

Water Quality Compliance & Fines and Violations



This figure shows the scores for the 12 water utilities surveyed for disclosure of water quality compliance reports for drinking water and/or wastewater, including their record of fines and violations. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

Sewage Treatment and Wastewater Returns



This figure shows the scores for the 12 water utilities surveyed for disclosure regarding their sewage treatment operations and volume of wastewater returns. (For survey methodology and results for each utility, see *Benchmarking Environmental, Social and Governance Performance*, page 40.)

network of pipes that drained swamps and deposited wastes into the Tiber. Built in the 6th Century BCE, it was hailed as one of the marvels of Rome. In the absence of wastewater infrastructure, humanity has relied on cesspits and septic tanks for waste disposal.

The modern practice of obtaining clean water from distant sources and using local water bodies as sewers was facilitated worldwide following World War II by international financing institutions offering cheap money, and various forms of support for government infrastructure projects.¹⁰ By the 1970s, however, rising population and declining water resources, forced governments to address concerns about the levels of contamination in public drinking water, beach pollution and the decline of coastal fisheries. The first international effort to deal with this problem led to the London Convention of 1972 on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. In the U.S., the Ocean Dumping Ban Act of 1988 outlawed low-cost practices of ocean dumping for sewage and industrial waste by all U.S. cities after 1991, requiring expensive treatment of wastewater and sewage sludge prior to discharge.

Sewage is treated in three stages. Primary treatment consists of separating out solids, usually through sedimentation. Secondary treatment involves decomposition of the biological solids by micro-organisms and de-watering of the sludge, which may then be buried in landfills or further treated for “beneficial use.” U.S. wastewater systems generate 6.9 million dry tons of sludge each year. Half of this is used in forestry, public parks and for land reclamation. Tertiary treatment removes harmful nutrients (nitrogen and phosphorous) from the effluent, which is disinfected prior to discharge into a receiving water body. Chlorine, the most commonly used disinfectant, must be followed by de-chlorination to avoid harmful impacts on health and the environment and formation of dioxin, a carcinogen. Ozone treatment and ultra-violet disinfection are preferred alternatives.

Sludge treatment consumes 30% to 80% of the electricity used in wastewater facilities. However, publicly owned water treatment plants in the U.S. consume half as much electricity as smaller, privately operated facilities for industrial wastewater treatment.¹¹ In addition to being energy intensive, wastewater treat-

ment can also have serious pollution impacts and odor problems that affect surrounding communities. The wastewater industry is a significant source of greenhouse gases including methane and nitrous oxide, both significantly more potent than carbon dioxide. Of the 16,676 municipal wastewater treatment plants in the U.S. only 106 of them capture bio-gas (methane and carbon dioxide). It is estimated that the bio-gas methane from the remaining facilities could produce 340 MW of electricity and eliminate 2.5 million tons of carbon dioxide annually, the equivalent of removing from 430,000 cars from the road.¹²

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4 Opportunities for Investment in Water Services

INVESTMENT IN PUBLICLY OWNED WATER UTILITIES

Over 90% of the water utilities worldwide are publicly owned¹ and governments finance most of the capital investment in drinking water and sanitation, usually through issuance of long-term debt backed either by tax levy funds (general obligation bonds) or by user fees (revenue bonds). The bonds may be issued by the local governmental owner or by a special entity created for the purpose of financing the water utility, such as the New York City Municipal Water Finance Authority. Municipal bond financing is used extensively in the U.S.² and other countries where credit markets are well established. International financial institutions, aid agencies and donor governments have promoted efforts to create and strengthen credit markets for sub-national debt in developing and emerging market countries with notable success in some countries.³

Public utility bonds often enjoy tax exemptions or other preferential treatment that makes them more attractive to investors and reduces the cost of borrowing. The cost of capital for municipal debt issued in the U.S. is largely determined by the private companies that rate securities (Moody's, Standard & Poor's, and Fitch), using letter grades to indicate the credit worthiness of the bonds — e.g., AAA (nearly zero risk of default) or CCC (high risk of bankruptcy). The recent crisis in the credit markets revealed a disparity

“Despite the lack of defaults of municipal bonds, issuers of these securities have historically earned a lower rating than comparable corporate bonds when viewed in terms of likelihood of default. Moody's Investor Services, for example, has employed a distinctly separate method of evaluating municipal bonds for 70 years. In general, Moody's bases its municipal bond ratings on the fiscal strength of the municipality that issues the bonds. For corporate bonds and structured, or asset-backed bonds, on the other hand, Moody's bases its rating on risk of loss.”

**U.S. Congress, House Committee on
Financial Services⁴**

in the system used by these companies to evaluate public and private debt.

If the same criteria used to evaluate corporate bonds were applied to municipal water and sewer bonds, then municipal bonds that were rated below investment grade (Caa) would have received investment grade ratings (Ba-Baa). This disparity has forced municipal issuers to buy “credit enhancement” in the form of bond insurance at a cost of billions of dollars.

At least one municipal water utility has attempted to improve its credit status and reduce its cost of borrowing by documenting improvements in environmental performance. Charleston Water, the water and wastewater services utility of Charleston, S.C.,

became the first public water utility in the U.S. to receive ISO 14001 certification for its Environmental Management System (EMS). The EMS led to substantial, verifiable operational and environmental improvements. Charleston Water approached Fitch Ratings with the data to discuss upgrading its credit status. The utility's bond rating was upgraded, at least in part, because of the data from its EMS showing avoided costs, risk reduction and improved efficiencies.⁵

INVESTMENT IN PRIVATE SECTOR WATER COMPANIES

As the dimensions of the water crisis and the vast need for capital have become apparent, private investment in the water industry has surged.⁶ Eleven new water funds were launched in the first half of 2007; Promethean Investments, a U.K. private equity firm, and the Dutch firm Maxx Water Management both announced plans for new water funds in 2008; Calvert launched its Global Water Fund in September 2008.

Growing freshwater scarcity and increasing demand have given rise to investment strategies based on water as a commodity like oil, with the prospect of "peak water" summoning visions of peak profits from "blue gold." Speculators, anticipating the growth of markets in which water rights can be traded or water sold to thirsty cities, are acquiring land with water on it or under it, or paying landowners (usually farmers) for the right to use their water allocations.

Replacement of aging water infrastructures in developed countries as well as the demand for new infrastructure in emerging markets and developing countries points to enormous profit potential. China alone plans to build 375 wastewater treatment facilities and, according to World Bank estimates, \$400 billion to \$600 billion in global water infrastructure investments will be needed in the coming years.⁷ Increasingly stringent water quality standards and adaptation of water systems to meet changing climate and hydrological conditions will create opportunities in all segments of the water industry.

In addition to stocks and bonds of investor-owned water utilities, a variety of investment vehicles are now poised to take advantage of the perceived opportunities in the sector, including water indexes and Exchange Traded Funds (ETF). Water index funds and ETFs offer diversification within the sector, with ETFs providing the added ability to buy on margin and sell short. Recent changes in the U.S. now allow for actively managed ETFs. Most water ETFs track the

performance of an index — e.g., PowerShares Water Resources Fund (PHO) and PowerShares Global Water Portfolio which track the Palisades water index, Claymore S&P Global Water (CGW) which tracks the S&P global water index, and First Trust ISE Water (FIW) which tracks the ISE water index.

The Australian investment bank, Macquarie Group, led the way in creating private equity utility funds when it began to purchase infrastructure assets being sold off by the Australian government in the 1990s. Macquarie leveraged the cash flow from the utilities for the acquisitions, then repackaged these assets as listed infrastructure funds and sold them to Australian pension plans.⁸ The steady cash flow from water utilities has attracted direct investment from Australian, European, and Canadian pension funds.⁹ This strategy prompted creation of infrastructure funds by other investment banks, including: Goldman Sachs (\$3 billion), Morgan Stanley (\$1 billion) and Credit Suisse (\$1 billion). Private equity interest in water continued to grow throughout 2007.¹⁰

The sector underwent significant changes in ownership as water and wastewater companies acquired in earlier years were sold off by the largest transnational companies. To facilitate the merger of French utility conglomerate Suez with state-owned Gaz de France, Suez agreed in 2007 to sell its water and wastewater division, although GdF-Suez continued to hold a controlling interest in Suez Environment.¹¹ In some instances, the water services business proved less lucrative than expected, partly because of rate caps by regulators, and companies sought to exit it altogether.¹² After selling Thames Water to Macquarie in 2006, German utility conglomerate RWE attempted to spin off its U.S. subsidiary, American Water Works (now American Water), which had been operating at a loss since 2005. The initial public offering came just as financial markets were unraveling in 2008 and failed to meet expectations; RWE ended up retaining majority ownership.

Cheap credit made the cost of infrastructure assets attractive, especially as those assets, like housing, kept rising in value. As with commodities, utilities and water service companies provided a useful hedge for bets that bank and brokerage stocks would lose value. The Bloomberg World Water Index of 11 stocks showed a 35% return for the year ending August 2007, compared with 29% returns for oil and gas and 10% for the S&P 500.¹³ Performance of other water sector funds ranged from 19.6% to 64.9%, according to Environmental Finance magazine.¹⁴ However, by

the third quarter of 2008, infrastructure funds were hastening to divest assets from airports to utilities in the face of tightening credit and heightened scrutiny of highly leveraged firms as debt contracts came up for renewal.¹⁵ Although water funds weathered the storm better than many other assets in 2008, they too were battered.

The principal distinctions among the water funds are the management style (active or passive), the selection and weighting of companies in the portfolio, and whether ESG screens are applied.

Water funds are often marketed as “clean tech” or “green” investments. However, not all funds apply environmental or social screens. Some fund managers simply consider the water theme “implicitly sustainable.”¹⁶ This is a questionable assumption. While pollution control and watershed conservation are certainly good for the environment, there is little to support the notion that portfolios focusing on the water “theme” are intrinsically “green” or environmentally beneficial. The diversion of rivers and construction of dams can have devastating environmental consequences; drinking water and wastewater treatment plants can themselves be major sources of pollution, pathogens and odors.

Water funds, such as SAM Sustainable Water Fund, KBC Eco Fund Water Strategy and, most recently, the Calvert Global Water Fund do employ ESG screens. The Calvert fund, an actively managed Socially Responsible Investment (SRI) mutual fund, includes among its screening criteria: equitable access to water as a fundamental human right, and

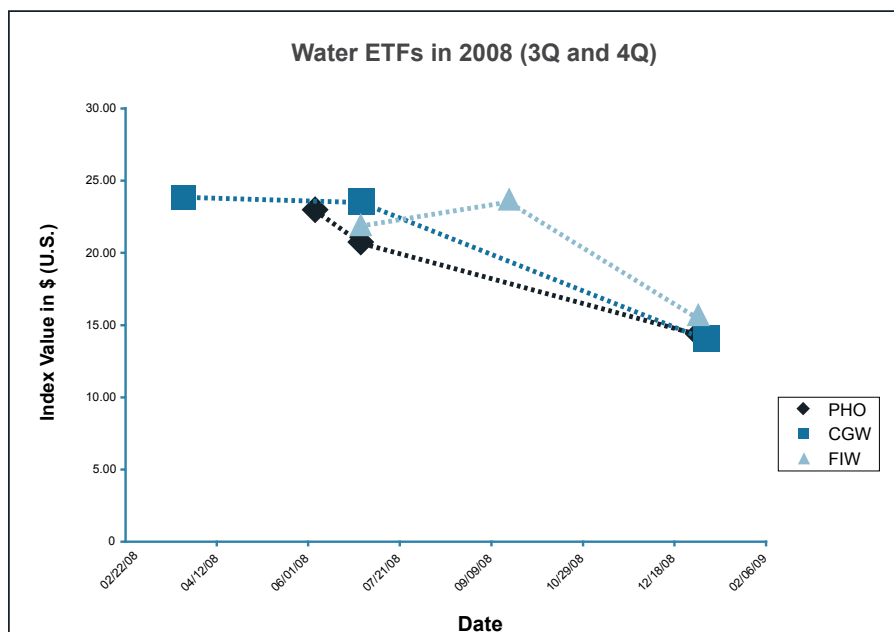
commitment to environmental protection and good governance. Calvert has made an explicit commitment to use the fund as an advocacy platform. According to Bennett Freeman, Senior Vice President for Social Research and Policy at Calvert, investors “can encourage companies to manage their environmental impact responsibly by using less of this scarce resource and ensuring that communities have affordable access to clean water.”¹⁷

It is essential for investors to understand each fund’s approach to different segments of the water industry and weighting of companies. Depending on the strategy pursued, a water fund may include a mix of companies in different segments of the industry and the percentage of revenue derived from water services varies. Some water funds include conglomerates, such as General Electric or Nestlé, which derive only a portion of their revenues from water. According to the President of Sextant Capital Management, funds that hold conglomerates “on average have only about 50% exposure in their portfolio to the water sector as a whole.”

The Pictet Water Fund, the oldest and largest water fund with \$6.2 billion in assets under management, requires a minimum of 20% of revenue from water-related activities; the Calvert fund’s threshold for inclusion is 50% of revenue from water. Companies in the PHO are valued based on water treatment or engineering services rather than as raw water suppliers while Sextant’s \$100 million water hedge fund invests in pure-play companies “with long-term rights to a pure water source.”¹⁸ Sextant and other water

investors see freshwater as “the new oil” — an essential commodity, the value of which will only increase over time as demand outruns supply.

Companies engaged in bulk water transfers — i.e., the acquisition rights to water resources for the purpose of abstracting and transporting the water at a profit — have a higher ESG risk profile than water service utilities. Texas oilman T. Boone Pickens, the best known of the water speculators, has acquired extensive water rights in a sparsely populated Texas county that entitle him to withdraw mil-



“Water no longer flows to gravity, it flows to money.”

Dr. Vandana Shiva,
Physicist and Environmental Activist

lions of gallons of water from the Ogallala aquifer, far in excess of the aquifer’s replenishment rate. Pickens hopes to sell this water to Dallas or some other fast growing, water-stressed city. Dallas, however, currently considers the price of Pickens’ water too high and opposition to his water scheme is growing among neighboring landowners.¹⁹

Business groups like the Global Water Partnership (GWP) and the World Business Council on Sustainable Development (WBCSD) assert that all parties “accept that business should not own or control fresh water,”²⁰ and that corporations advocate “privatization of water delivery services but not private ownership of water.”²¹ Clearly, however, they do not speak for T. Boone Pickens, Sextant Capital Management and other investors who seek to exploit water as a commodity. The GWP would discount the concerns of industry critics and others in civil society about private ownership of water resources as “ideological.” However, there is real cause for concern about the environmental and social consequences of the privatization of a shared resource.

Bulk water transfer schemes have unleashed fierce opposition. The more control private interests — whether water utilities or water speculators — have or are perceived to have over the water resource, the greater the risk to their social and legal license, as several beverage companies, including Coca-Cola, PepsiCo and Nestle, have found. The Nova Group’s 1998 efforts to ship water from Lake Superior to Asia by tanker were thwarted when public outcry forced the Ontario government to revoke the permit. Subsequently, the Canadian government banned bulk export of water and the 2001 Annex to the Great Lakes Charter would prevent large-scale diversions from the watershed.²² The water rebellion in Cochabamba, Bolivia, that ousted the international consortium led by a Bechtel subsidiary, was partly fueled by outrage over the consortium’s assertion of exclusive rights to all water in the district including water in the citizens’ own wells.²³

Chile was one of the first countries to experiment with laws fostering trade in water rights. The 1981 Water Code, adopted by the Chilean government along

with sweeping market-oriented economic policies, abolished anti-speculation provisions and recognized water rights as private property separate from the land. This resulted in speculative purchases of water rights, particularly by hydropower interests to shut out competitors. This proved very unpopular and provoked confrontations with Chile’s indigenous peoples over their land and water resources. When the water code was amended in 2005, unused water rights became subject to an annual tax, motivating owners to sell their unused rights to avoid the tax.

Several states in the western U.S. allow “water banking,” in which water rights that are deposited may be withdrawn by others for different uses in different locations. The state of Idaho initiated water banking 60 years ago to allow transfer of irrigation rights among growers and to ensure in-stream flows for salmon on the Snake River. Ore., Calif., Colo. and other states have created water banks for both public and private ends, usually to transfer water rights from agricultural uses to urban uses with higher economic value. The Australian government “de-linked” irrigation rights from the land in 2001, allowing farmers to sell water across state lines.

Trade in water, however, encounters several obstacles, among them: the difficulty of transporting water which is bulky and heavy; the lack of an underlying marketplace to set prices; and the fact that actions with significant impacts on water resources soon become political. As one observer noted, even in the western U.S. where there is “a fairly sophisticated scheme of pricing water rights,” this is a far cry from having “a specific exchange that trades in futures contracts as we see in oil.”²⁴ Unlike electricity, there is no network for trans-basin water diversions — at least, not yet. Michael Arceneaux of the Association of Metropolitan Water Agencies explained, “water marketing is difficult because water utilities are self-contained. You can’t really wheel water from one part of the country to another.”

FINANCING THE MDG FOR WATER AND SANITATION

The greatest need for capital to meet the MDGs is in sub-Saharan Africa and south Asia. Expectations that public-private partnerships would provide significant infrastructure capital to these regions have not been met because there is little profit and high risk. An analysis of water sector contracts that require capital investment by private parties (concessions,

build-operate-transfer, and divestiture) found that the regions which have “many of the poorest countries of the world, have had very little success in attracting private capital” to the water sector.²⁵ As of 2004, out of 55 low-income countries surveyed, only 18% had attracted private capital investment for drinking water and sanitation.²⁶

Financing water for the poor is, by default, the role of government given that “in the poorest countries, there is a limit to full cost recovery that can be imposed on the poorest. This implies that direct or cross-subsidies are likely to be part of the financial equation”²⁷ and the cost will be very high:

“The poorest countries need to spend about 9% of their GDP on operation, maintenance and expansion of their infrastructure if they are to reach the MDGs. They are now probably spending about half of that, although we do not know because nobody is really measuring the allocation of public resources to the various sectors properly.”²⁸

It remains to be seen what role private investment will play in helping cash strapped governments provide these vital services. However, even the staunchest opponents of privatization of water services recognize that there is a role for private capital in financing water for all through investment in water utility bonds.²⁹

Prior to the financial market debacle of 2007 there were promising signs of growth in domestic bond markets in some low- to middle-income countries.³⁰ As micro-enterprise has shown, very poor communities can generate savings for investment if capital formation is stimulated and encouraged through appropriately structured finance. Local capital markets need to be strengthened to ensure the safety of domestic savings, reduce the cost of borrowing and overcome obstacles to long-term investment.

Responsible investors might seek opportunities to facilitate credit enhancements for sub-sovereign debt in developing countries by investing in independent, local financial intermediaries (rating agencies, bond insurers). Revolving loan funds modeled on the South African Infrastructure Finance Corporation (INCA) could also provide low-cost capital to local governments to finance infrastructure.³¹ INCA is the main private sector investor in “socio economic infrastructure” in South Africa. It mobilizes funds for lending to infrastructure from local and international market funds, through a series of INCA bond issues and long-

term loans extended to the corporation by international financial institutions.³²

Key to the success of these initiatives, however, is the availability of standardized public information on the financial and ESG performance of local water utilities.

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5 Benchmarking Environmental, Social, and Governance Performance

Drinking water and wastewater utilities, public and private, are entrusted with the management of essential services affecting human health, community development and the water commons. They should, therefore, be required to demonstrate to all stakeholders their competence in carrying out these important responsibilities, as well as their ability to manage the ESG risks they face. Unfortunately, disclosure of consistent, comprehensive and comparable ESG performance data by water and sanitation utilities in many countries appears to be the exception not the rule.¹

The absence of essential data needed to benchmark ESG performance in the water services sector is a major problem for investors and policy makers. Former World Bank economist Antonio Estache observed that reporting by infrastructure utilities in general is grossly deficient:

“[...] the data gaps are so large that they impede an effective monitoring of the evolution of performance in terms of access, efficiency, equity or fiscal costs for most sub-sectors. As a consequence, there is less global accountability in this sector than in health or education.”²

This observation is especially true for the water services sector, as other monitors of the sector have noted as well. The Water Services Regulation Author-

ity, the economic regulator of the U.K.’s privatized water utilities (known as Ofwat), publishes a comparison report of water and sewage services in several countries. According to Ofwat, crucial information “is generally difficult to find” and “no data on the levels of customer service for the USA” could be found.³

Although most of the major investor-owned water utilities issue corporate responsibility or sustainability reports, too often these reports provide little consistent, meaningful ESG data that can be compared across systems. The U.K.’s Department for Environment, Food and Rural Affairs (DEFRA) found that while the number of corporations in all sectors issuing sustainability reports has increased, “there is still a lack of quantification in most reporting.”⁴

The sustainability reports issued by the private water companies using the Global Reporting Initiative (GRI)⁵ protocols similarly fail to provide useful ESG performance data. A recent study of GRI reporting across a number of sectors found that although water utilities had the highest GRI reporting rate, “the growing supply of corporate sustainability reports does not meet investor demand for material, comparable reporting of environmental, social and governance issues.”⁶ The principal problem with use of the GRI by the water services sector is that the data are aggregated and reported globally,⁷ whereas water resources

must be managed locally or regionally within a given watershed. Globally aggregated information about water supply, for example, is of little use to investors seeking to understand how well a utility in a water stressed area is managing supply risk.

The guidelines for GRI reporting recognize this problem and leave it to the reporting company to determine the appropriate level of aggregation for the data disclosed:

“Aggregation of information can result in the loss of a significant amount of meaning, and can also fail to highlight particularly strong or poor performance in specific areas. On the other hand, unnecessary disaggregation of data can affect the ease of understanding the information. Reporting organizations should disaggregate information to an appropriate level using the principles and the guidance in the reporting indicators. Disaggregation may vary by Indicator, but will generally provide more insight than a single, aggregated figure.”⁸ Nevertheless, the utility holding companies surveyed used the GRI reported aggregated data even where the GRI protocols suggest that disaggregated data for watershed impacts would be more appropriate.⁹

The systematic collection and reporting of material ESG data and performance indicators should be required of all water services utilities as a condition for receiving financing, as it is in Brazil. In Brazil, Colombia and Peru the raw data and key performance indicators for all water and wastewater utilities is available on the Internet in downloadable format. Public and private water services utilities in most developing countries and emerging market nations disclose far more performance data via the World Bank’s International Benchmarking Network on Water and Sanitation Utilities (IBNET) than do the utilities operating in OECD countries.

The ICCR survey conducted for this report (p. 42 *et seq.*) found that ESG disclosure by the world’s largest water utility companies is woefully lacking. With the exception of Manila Water and the two U.K. water services companies, none of the investor-owned companies surveyed reported basic ESG performance data in a comprehensive, consistent, or comparable manner for their local water utilities. Very little performance information was disclosed for the private utilities operating in the U.S. apart from the water quality reports mandated by regulatory authorities, and in some instances, even that information was lacking. The reports from the large utility companies surveyed indicate that their ESG disclosures are driven by regu-

latory, rather than by corporate mandates.

The performance monitoring report issued by the regulatory authority in New South Wales, Australia, covering 111 water and sanitation utilities, was far and away the best in both content and presentation of all the utility reports surveyed. Reports by New York City and Manila Water came close to the “gold standard” set by New South Wales, although in both cases these operators are each responsible for one municipal water and sanitation system, as is also the case for the two U.K. water utilities. However, the fact that the large water utility holding companies surveyed own or operate hundreds of local utilities is not an excuse given that the New South Wales authority does an excellent job of compiling comprehensive reports for 111 local water and sanitation utilities.

The wide disparities and significant information gaps in ESG reporting for the local utilities owned or operated by the large water companies, is a serious problem for investors. Disclosure of consistent and comparable ESG data and performance indicators is the only way for investors to be assured that:

- Management systems are in place to capture data needed for protection of water supply, maintenance of infrastructure, and early identification of ESG risks;
- Appropriate risk management policies exist and are being followed; and
- Data are being used to monitor trends and progress in attaining benchmarks for continuous improvement.

This is critical information that should inform investment decisions by governments as well as private investors. It is a failing that must be cured.

If we are to manage the crisis of our global water commons, then everyone who has an interest in clean water, and the ecosystems that make it available, must demand that those who are entrusted with our water and wastewater systems publicly report to their stakeholders. To protect the water commons, we must create a global “data commons” that contains essential ESG performance information. The Internet makes this possible and the reporting tools and templates already exist. Responsible investors can play a key role in development of the “data commons” by exerting their considerable influence over the financing of public and private water utilities to require greater ESG disclosures.

ICCR SURVEY OF ESG REPORTING BY WATER UTILITIES

To determine whether investors and other stakeholders have sufficient information to assess ESG performance in the water services sector, we undertook a survey of the information made available on the Internet by 12 water utilities. While this survey was not scientific, it was revealing. We selected two government-owned and operated water utilities (in New South Wales, Australia, and New York City); and ten investor-owned

water services companies. Three of the ten investor-owned utilities operate water and/or sanitation systems in a single city or region: Manila Water (Philippines); Southern Water and Thames Water (U.K.). The other seven are utility holding companies that own or control many local water services companies: American Water and Indiana American Water (U.S.); Suez Environment and two companies under its control, Agbar (Spain) and United Water (U.S.); Veolia Environment and Veolia Water North America.

All of the information surveyed was published

Table 1: ESG Indicators

Governance Indicators: Corporate-wide policies applicable to local utilities	
C.1	Corporate governance policies addressing bribery and corrupt practices.
C.2	Assessment of the impact that climate change may have on water resources, physical assets and future operations.
C.3	Policies regarding the human right to water and access for low-income members of the community to drinking water and/or sanitation services.
C.4	Stakeholder engagement practices.
C.5	Policies and procedures for securing community consent and maintaining social license to operate.
Performance Indicators: For local utilities operated or controlled by the reporting entity	
L.1	Areas of operation experiencing water stress or water scarcity, or that are likely to experience either condition in the near term (3-5 years) or longer-term.
L.2	Water resource management policies, goals and implementation systems.
L.3	Analysis of population demographics and projected growth by sector (residential, industrial, agricultural) in areas served.
L.4	Size and condition of the physical system (storage capacity, treatment facilities, miles or kilometers of pipes).
L.5	System operating costs.
L.6	Volumes of water withdrawn (abstracted), delivered, and unaccounted for.
L.7	Total energy used and percent supplied from renewable sources.
L.8	Compliance with regulatory standards for drinking water quality and/or wastewater treatment (including violations issued and/or fines assessed).
L.9	Percent of sewage receiving primary, secondary, or tertiary treatment; volume of wastewater reused or safely returned to the environment.
L.10	Percent of properties (households) with water and sanitation connections.
L.11	Percent of properties with operating meter.
L.12	Revenue collection and percent of accounts delinquent or in arrears.
L.13	Cost of basic drinking water supply (e.g., m ³ per person per day).
L.14	Cost of water and sanitation services (including connection fees) as a percent of income for poverty level households.
L.15	Frequency of service and service disruptions lasting more than 24 hours.
L.16	Complaints received and average response times.

on the Web sites either of the local water utilities, their parent companies, or the government agencies responsible for operating or regulating the public utilities. In addition to the Web sites, a variety of standalone reports were reviewed if a functioning link to the report was provided or they were specifically referenced and available on the Internet. Among these were: corporate annual reports; corporate citizenship and sustainability reports; water quality reports; and government publications. The 2007 and 2008 Internet-based reports were evaluated to assess the quality of the disclosure and the availability of information on material ESG risks that local water and wastewater utilities must manage.

Twenty-one indicators related to the material ESG challenges discussed in this report were used to assess: (1) management's perception of and response to non-financial risks; (2) evidence that effective management systems for data collection are used to monitor and benchmark local utility performance; (3) whether the performance data disclosed were comprehensive, consistent and comparable; and (4) whether the information was clearly presented and easily accessible.

The indicators were divided into two groups: five governance indicators regarding corporate level policies that demonstrate management's perception of and response to material non-financial risks; and 16 performance indicators regarding environmental and social challenges faced by local utilities owned, operated or regulated by the reporting entity. For each indicator a numerical score was given based on whether the supporting data were consistent, comparable and comprehensive (see Table 2).

The highest score given for an indicator was three points and the lowest was negative three, with the total possible score for ESG Content ranging from a maximum of 63 to minus 63. The ease of navigating the Web site to find the information and the clarity of its presentation were separately evaluated on a scale from ten (excellent) to one. The two scores were then added for the Total Disclosure Score.

The actual range of Total Disclosure Scores for the utilities surveyed was from 55 (New South Wales) to -56 (Veolia Water North America). The average of the ESG Content Scores for all 12 utilities was 1.42; for the 10 investor-owned utilities, the average of the ESG Content Scores was -7.2.

Table 2: Utility Report Scoring

3	Comprehensive, comparable and consistent data clearly presented; relevant goals and policy statements provided.	-3	No mention or discussion of the topic.
2	Data not comparable or not clear; scope or application of policy unclear.	-2	Topic raised and discussed in general manner, unrelated to operational goals or challenges.
1	Data inappropriately aggregated, disaggregated or not consistent; wide variation in disclosure for operating utilities.	-1	Isolated cases presented without context or sufficient supporting data to indicate systematic management approach.

Comprehensive: Performance data are provided for all operating utilities (or an explanation is given for limiting disclosure to certain utilities — e.g., only those in water stressed areas); policy statements specifically address issue.

Comparable: Data allow monitoring of trends within and across units, regions and reporting periods, and progress in meeting established benchmarks or goals.

Consistent: Same level of detail and units of measurement for data reported for all operating units (or an explanation is given for differing treatment).

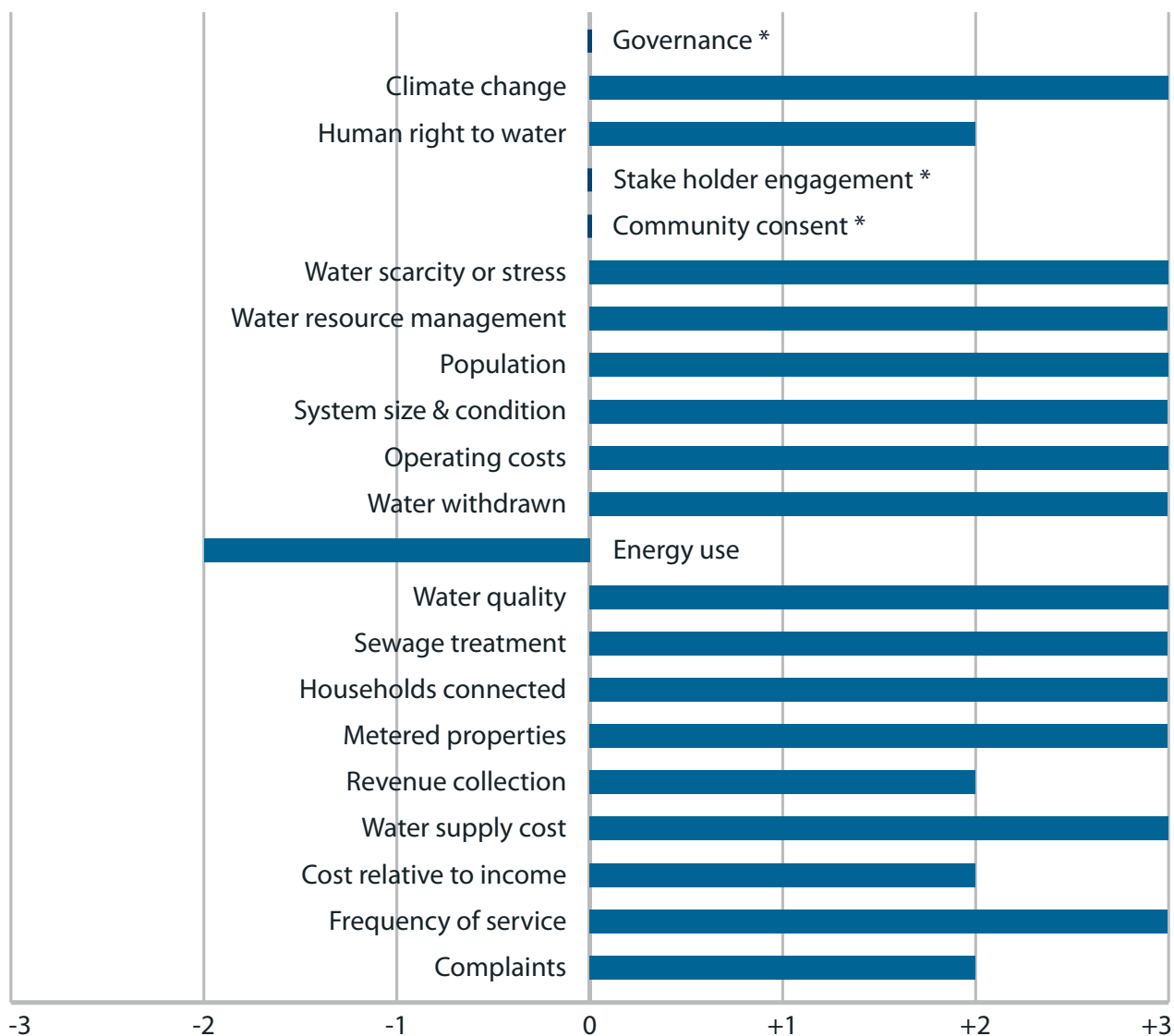
PR = Public record (no score). Public agency operators are required to comply with public policies and administrative procedures that are a matter of public record and are not subject to unilateral change by the agency. Reporting agencies should give specific citations to the relevant policies and procedures.

NR = No report to IBNET.

Summary of the ESG Disclosure Survey: Publicly Owned Utilities

Department of Water and Energy, New South Wales, Australia			
<p>The state of New South Wales encompasses the drought-stricken Murray-Darling river basin in southeastern Australia. The Department of Water & Energy for the state of New South Wales issues a comprehensive monitoring report for the 111 government-owned and operated water and wastewater utilities under its supervision, including four utilities serving the greater Sydney region and other metropolitan areas. The 107 water utilities outside the metropolitan areas serve 1.7 million people, or 30% of the state's population. Pursuant to the requirements of the National Water Initiative, all of the NSW water utilities abolished annual allowances for drinking water and a policy of full cost recovery from user fees is being implemented.</p>			
<p>Sources reviewed:</p> <p>Department of Water and Energy website: http://www.dwe.nsw.gov.au/about/index.shtml Department of Energy, Utilities, and Sustainability website: http://www.deus.nsw.gov.au/water/water.asp</p> <ul style="list-style-type: none"> • Country Towns Water Supply and Sewage • Metropolitan Water Utilities • Affordable Water and Energy Efficiency Project http://www.deus.nsw.gov.au/Sustainability/projects/projects.asp <p><i>2006/07 NSW Water Supply and Sewerage Performance Monitoring Report</i> http://www.deus.nsw.gov.au/water/water%20Utilities/water%20Utilities%20performance%20reporting.asp <i>2005/06 Water Supply and Sewerage NSW Performance Monitoring Report</i> http://www.deus.nsw.gov.au/water/water%20Utilities/water%20Utilities%20performance%20reporting.asp</p>			
<p>IBNET Report: Yes, for some of the utilities; last report 2003</p>		<p>CSR or Sustainability Report: No</p>	
<p>Disclosure Score = 55</p>	<p>ESG Content: 45</p>	<p>Presentation: 10</p>	<p>#1 of the 12 reporting entities</p>
<p>Comments</p>	<p>The NSW monitoring report includes comprehensive data on 27 environmental, social and economic indicators (increased from 20 in the previous report) for 111 NSW utilities. It aims to provide “a balanced view of the long-term sustainability of NSW utilities,” using a Triple Bottom Line focus and it succeeds admirably. In terms of content, the only shortcoming was the omission of data on energy use by the utilities.</p> <p>The challenges facing the NSW utilities and their progress in meeting them are discussed in the brief Executive Summary and the Performance Summary gives aggregate data for each indicator. Side-by-side comparisons of the performance results for each of the utilities on all 27 indicators are shown in bar graphs in the Tables and national performance comparisons going back to 1991 are shown in Appendix A. Other appendices give the underlying data for each indicator.</p> <p>The presentation of the indicators and the underlying data is excellent. The charts and tables are easy to read both online and in printed form. Although the report addresses utility managers as the primary audience, it is not overly technical and can be understood by a variety of stakeholders. Section 5.2, “Factors Affecting Performance,” is particularly helpful and Appendix H provides definitions of the terms used in the report. The monitoring report is easily found on the website for the Department of Energy, Utilities and Sustainability, which was responsible for issuing the monitoring report until 2007.</p>		

New South Wales

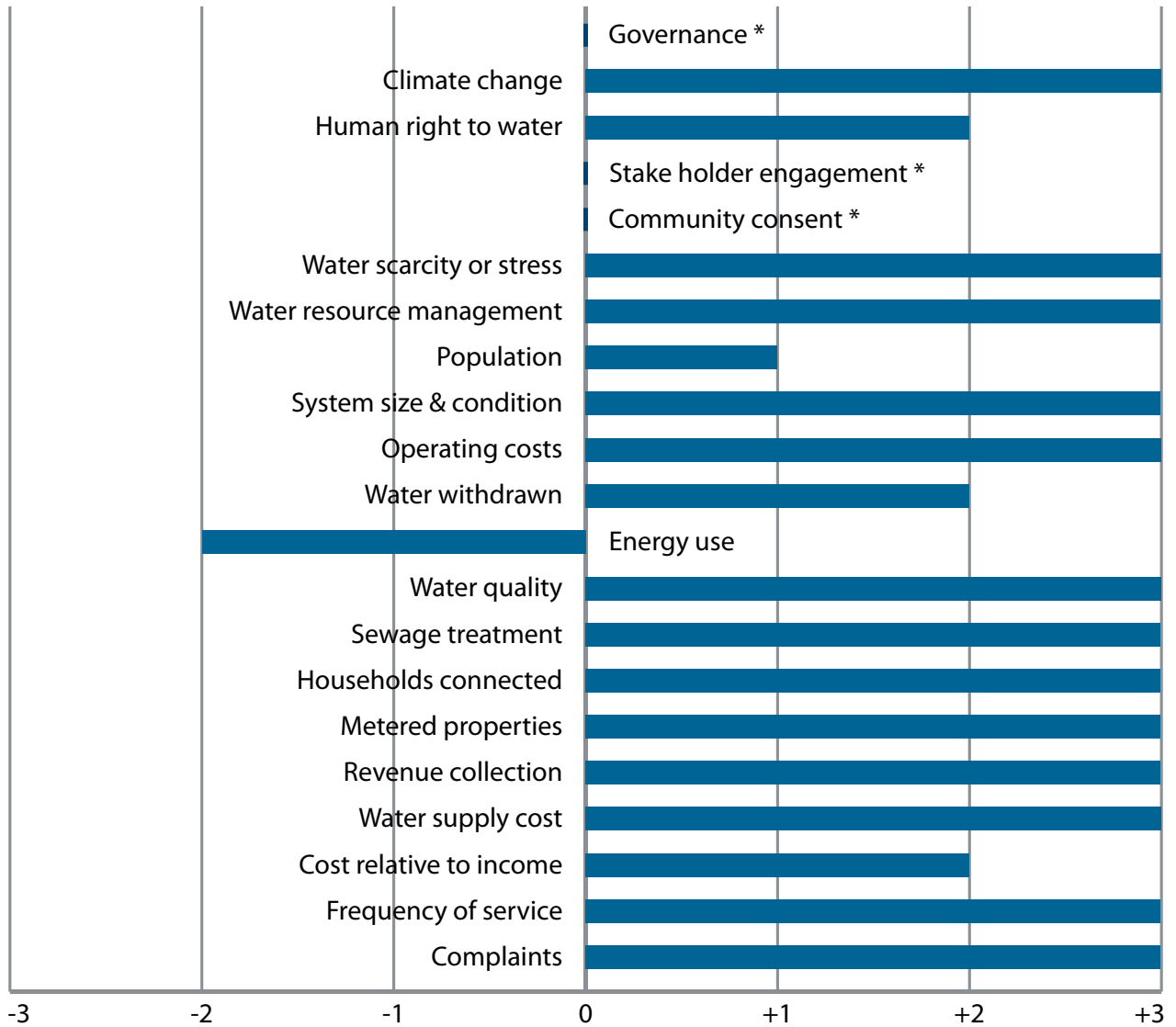


* Public Record

Summary of the ESG Disclosure Survey: Publicly Owned Utilities

City of New York Department of Environmental Protection			
<p>The New York City (NYC) water and wastewater systems are owned by the municipal government and operated by the City's Department of Environmental Protection (DEP). The drinking water system serves the 8 million residents of NYC and several upstate communities where the water supply reservoirs are located, and the sewerage system connects properties in the five boroughs (counties) of NYC. Both systems' operating and capital costs are entirely financed from water and sewer fees set by the New York City Water Board. The New York City Municipal Finance Water Authority, an independent corporate entity, raises capital through issuance of tax-exempt revenue bonds and notes. "Universal metering," required by local law adopted in 1987, has been implemented for 96% of DEP's customer accounts.</p>			
<p>Sources reviewed:</p> <p>DEP website: http://www.nyc.gov/html/dep/html/home/home.shtml</p> <ul style="list-style-type: none"> • Water Supply System Maps http://www.nyc.gov/html/dep/html/drinking_water/wsmaps_wide.shtml • History of Draught and Water Consumption http://www.nyc.gov/html/dep/html/drinking_water/droughthist.shtml • Citywide Accountability Report http://www.nyc.gov/html/dep/html/about_dep/caps.shtml <p><i>DEP Performance Report (Mayor's Management Report 2008)</i> http://www.nyc.gov/html/ops/downloads/pdf/_mmr/dep.pdf</p> <p><i>New York City 2007 Drinking Water Supply and Quality Report</i> http://www.nyc.gov/html/dep/html/drinking_water/wsstate.shtml</p> <p><i>New York City's Wastewater Treatment System</i> http://www.nyc.gov/html/dep/pdf/wssystem.pdf</p> <p><i>Public Information Regarding Water and Wastewater Rates (NYC Water Board 2008)</i> http://home2.nyc.gov/html/nycwaterboard/pdf/blue_book/bluebook_2009.pdf</p> <p><i>Delaware Aqueduct System: Water Leak Detection and Repair Program, Office of the New York State Comptroller</i> http://www.osc.state.ny.us/audits/allaudits/093007/05n7.pdf</p>			
<p>IBNET Report: No</p>		<p>CSR or Sustainability Report: No</p>	
<p>Disclosure Score = 50</p>		<p>ESG Content: 42</p>	<p>Presentation: 8</p>
<p>#2 of the 12 reporting entities</p>			
<p>Comments</p>		<p>Although DEP does not issue a comprehensive report, most of the information sought for this survey was readily found on the DEP website or in various stand-alone reports that can be accessed through links on the website. The DEP website is well designed, easy to navigate and educational, with a history of the City's water supply system from colonial times to the present.</p> <p>The <i>Drinking Water Supply and Quality Report</i>, issued pursuant to mandates of the U.S. Environmental Protection Agency (EPA) and New York State law, and the <i>DEP Performance Report</i> provide some measurable performance indicators for the NYC water and wastewater systems that show trends over time. Most of the other information, however, is in narrative form, which makes benchmarking difficult.</p> <p>DEP does not report on energy use other than to state that the 95% of the water supply is delivered by gravity, which makes the system "relatively insensitive" to energy price volatility. The other deficiency in DEP's disclosure is in reporting lost or unaccounted for water. DEP has been criticized by the New York State Comptroller for not responding to massive losses of water taken from one of its reservoirs. The agency is reviewing its methodology for auditing water loss.</p>	

New York City

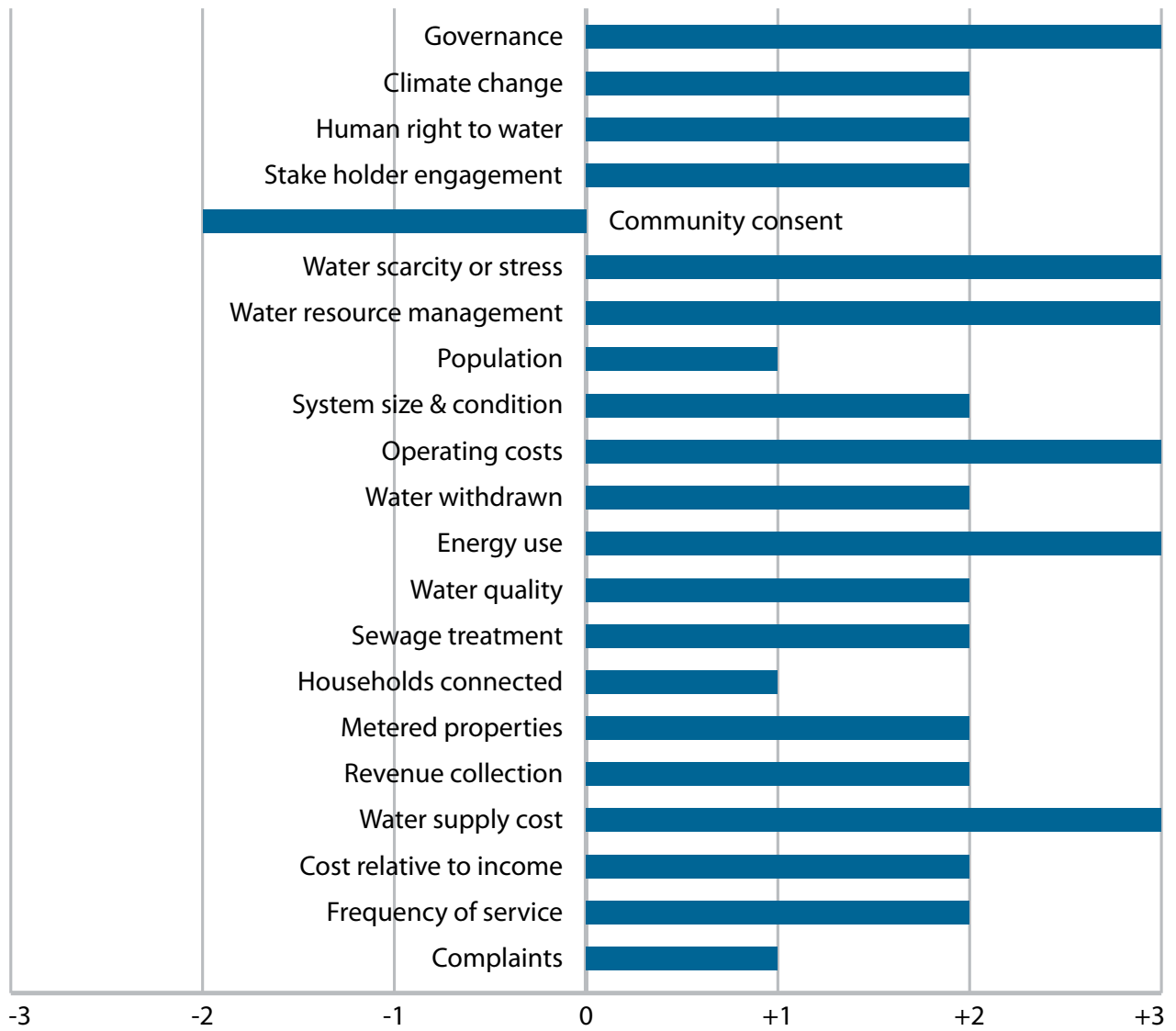


* Public Record

Summary of the ESG Disclosure Survey: Investor-Owned Utilities

Manila Water Company, Philippines			
<p>Manila Water is a publicly traded corporation, controlled by the Ayala Group (32.3%) and United Utilities (11.7%). It provides water and wastewater services to 5.6 million people in the East Zone of metropolitan Manila and Rizal Province. The company won the 25-year concession in 1997 when Manila's under-performing municipal utility was privatized. The company has operated profitably, although water rate increases have continued to trigger protests. The National Water Resources Board sets water quality standards and the Metropolitan Waterworks and Sewerage System Regulatory Office (MWSS) monitors service targets and rates charged by the utility.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.manilawater.com/</p> <ul style="list-style-type: none"> • Corporate Governance http://www.manilawater.com/corporate-governance • Sustainable Development http://www.manilawater.com/sustainable-development <p><i>Sustainability Report 2007</i> http://www.manilawater.com/sustainable-development/sustainability-report</p> <p><i>Code of Business Conduct and Ethics</i> http://www.manilawater.com/corporate-governance/code-of-business-conduct-and-ethics</p> <p><i>Corporate Governance Manual</i> http://www.manilawater.com/files/Corvgov_Manual.2007.pdf</p> <p>MWSS, Manila Water, Inc. http://www.mwssro.org.ph/publication_manilawater_inc.htm</p>			
<p>IBNET Report: Yes; last report 2004</p>		<p>Sustainability Report: follows GRI G3 guidelines</p>	
<p>Disclosure Score = 49</p>	<p>ESG Content: 41</p>	<p>Presentation: 8</p>	<p>#3 of the 12 reporting entities</p>
<p>Comments</p>	<p>Manila Water's <i>Sustainability Report</i> does an excellent job of covering most material ESG risks. However, reporting on some of the indicators was not sufficiently specific and the report could be improved by providing statistical tables for easier comparison of the data reported. Although this is the fourth <i>Sustainability Report</i> issued by the company, the 2007 report only gives data on water withdrawals for 2006 and 2007. However, it provides benchmarking data for other indicators (e.g., volume of potable water delivered) back to 1997.</p> <p>One weakness in the area of governance is the lack of specific information on company policies and practices regarding community consultation and consent. General statements regarding "regular meetings with homeowners" or "regular community consultations" are insufficient given the continuing controversy over water rate increases. The discussion of the company's programs to provide water for the poor and extending connections to marginalized groups lacks context as no information is provided on the extent of the population eligible or in need of this assistance. There is no data on the number of customer complaints, although the company policy regarding response time is provided.</p>		

Manila Water

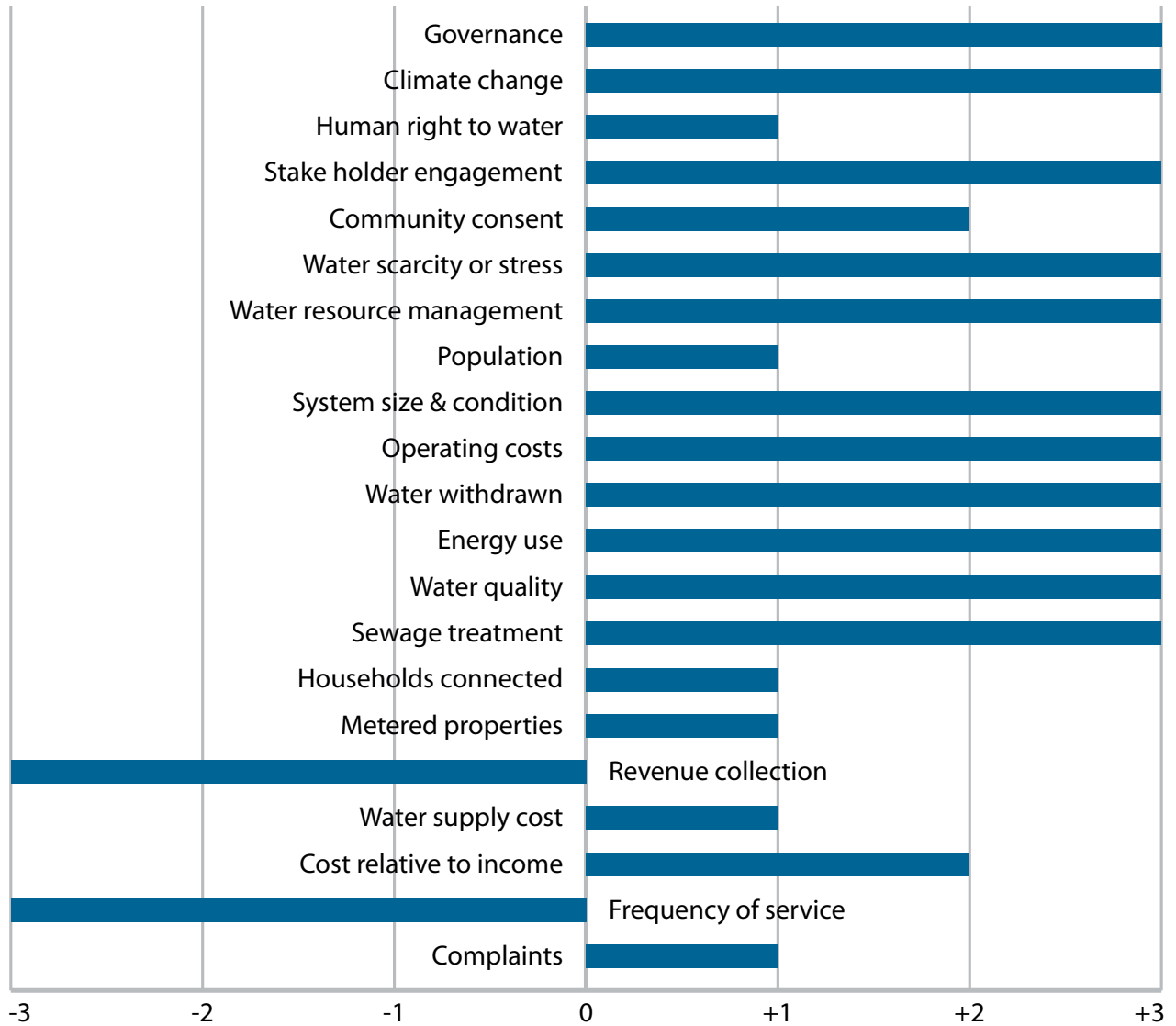


Summary of the ESG Disclosure Survey: The United Kingdom

The water services sector in the United Kingdom (U.K.) was privatized in 1989 when public water infrastructure assets were sold to private companies. The Water Services Regulation Authority (Ofwat), is the economic regulator of the investor-owned utilities in England and Wales. Water quality standards are set and enforced by the Drinking Water Inspectorate. As of 2008, only a third of the households in the U.K. had metered water connections. (Water U.K., Water Facts: Water Prices, <http://www.water.org.uk/home/resources-and-links/waterfacts/waterprices#cost>)

Thames Water			
<p>Thames Water is the U.K.'s largest water and wastewater services company, providing drinking water to 8.5 million customers across London and the Thames Valley and wastewater treatment for an area covering 13.5 million customers. Kemble Water Limited, a consortium of institutional investors managed by the Macquarie Capital Funds (Europe) Limited, acquired Thames Water in 2006.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/536.htm</p> <ul style="list-style-type: none"> • Climate Change http://www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/3778.htm • Facts & Figures http://www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/4625.htm • Stakeholder Engagement http://www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/861.htm <p><i>Annual Drinking Water Quality Report</i> http://www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/7500.htm</p> <p><i>Corporate Responsibility Policy 2007/2008</i> http://www.thameswater.co.uk/cps/rde/xchg/corp/corporate-responsibility-policy.pdf</p> <p><i>Key Performance Measures and Targets</i> http://www.thameswater.co.uk/cps/rde/xchg/corp/csr-measures-performance-targets-0708-2.pdf</p> <p><i>Business Ethics Policy</i> http://www.thameswater.co.uk/cps/rde/xchg/corp/csr-policy-business-ethics-policy.pdf</p> <p><i>Effective and Efficient Use of Energy</i> http://www.thameswater.co.uk/cps/rde/xchg/SID-C51597B6-7D46209E/corp/hs.xsl/768.htm</p> <p><i>Renewable Energy</i> http://www.thameswater.co.uk/cps/rde/xchg/SID-C51597B6-7D46209E/corp/hs.xsl/6887.htm</p>			
IBNET Report: Yes; last report 2003		2007 Corporate Responsibility Report: independently verified	
Disclosure Score = 44	ESG Content: 37	Presentation: 7	#4 of the 12 reporting entities
Comments	<p>The online Corporate Responsibility Report is well presented and easy to navigate. Bar charts show data from 2003–2007 for many of our survey indicators: water withdrawals; drinking water quality; and wastewater pollution incidents, which are broken out according to severity of incidents and cause (management failure, 3rd party, storm water discharge). Several important indicators, however, are missing: revenue collection and delinquent accounts data, service disruptions and complaints.</p> <p>Operating expenditures and other financial data are given for fiscal years 2005/6 through 2007/8. Greenhouse gas emissions data are provided for 2006/2007 and 2007/2008 and for the 1990/1991 base line. Key Performance Measures and Targets are shown in chart format. The report also features “Highlights and Lowlights” of the company’s performance, with apologies for pollution incidents and remedial actions taken or planned.</p>		

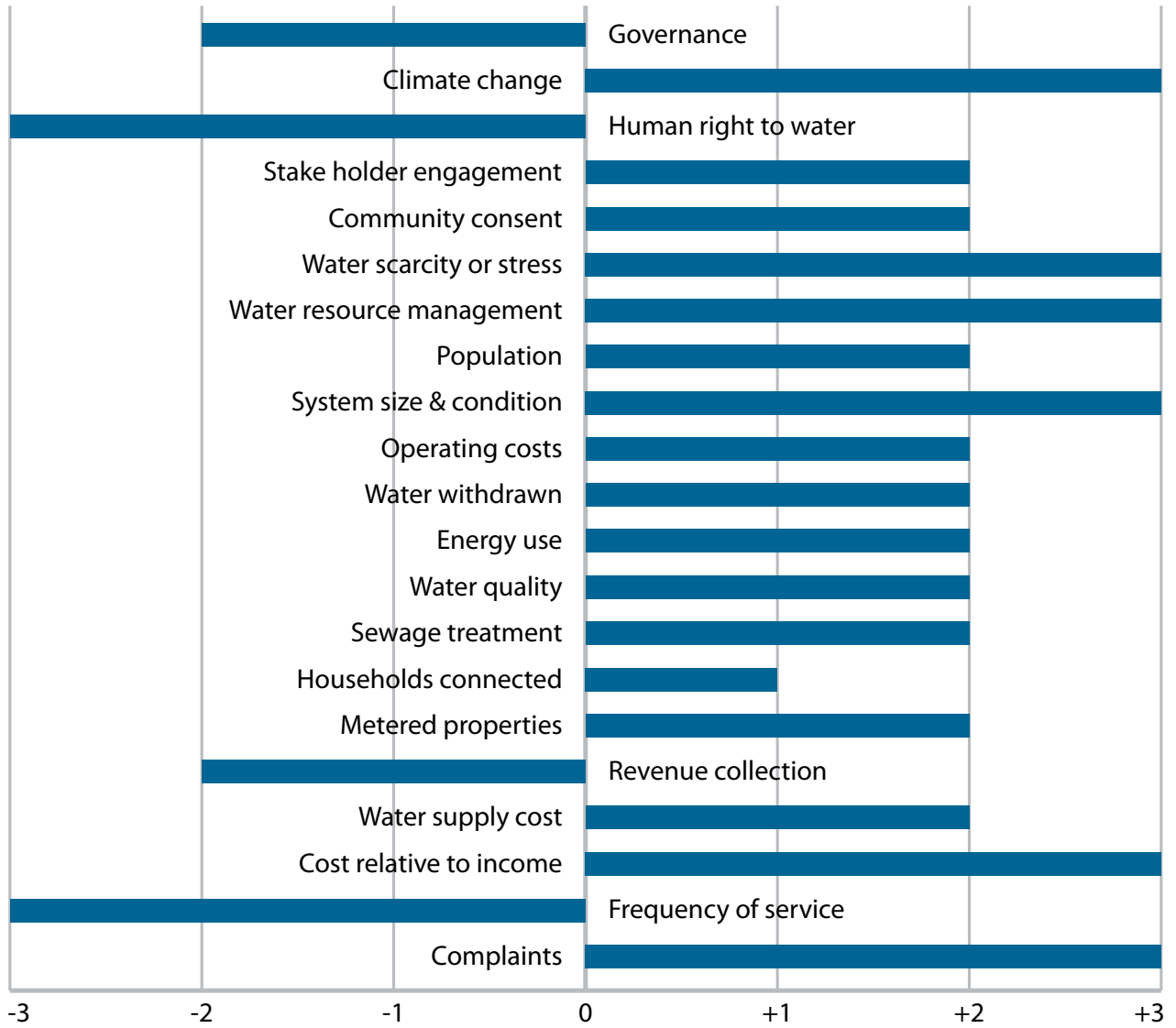
Thames Water



Summary of the ESG Disclosure Survey: The United Kingdom

Southern Water			
<p>Southern Water supplies drinking water to more than one million households and treats and recycles wastewater from nearly two million households across Sussex, Kent, Hampshire, and the Isle of Wight. (The population served totals: 2.3 million people for drinking water; 4 million people for sewerage.) Southern Water is owned by Greensands Investments Limited, a consortium made up of JP Morgan, Challenger, and UBS.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.southernwater.co.uk/</p> <ul style="list-style-type: none"> • Facts & Figures http://www.southernwater.co.uk/Aboutus/factsandfigures/default.asp • Corporate Social Responsibility policy http://www.southernwater.co.uk/aboutus/library/corporatePolicies/csrPolicy.asp • Working in the Community http://www.southernwater.co.uk/Aboutus/workingCommunity/default.asp • Environment http://www.southernwater.co.uk/Environment/default.asp <p><i>Drinking Water Quality Report 2007</i> http://www.southernwater.co.uk/pdf/aboutUs/dwiReport/DrinkingWaterQualityReport2007.pdf</p> <p><i>Stakeholder Report 2007-08</i> http://www.southernwater.co.uk/Environment/default.asp</p> <p><i>Strategic Direction Statement (December 2007)</i> http://www.southernwater.co.uk/Aboutus/library/strategicDirectionStatement.asp</p> <p><i>Our Company: Targets</i> http://www.southernwater.co.uk/pdf/aboutUs/stakeReport/OurCompany_Targets0708.pdf</p>			
IBNET Report: Yes; last report 2003		Stakeholder Report: verified by Audit and Risk Review Committee	
Disclosure Score = 35	ESG Content: 29	Presentation: 6	#5 of the 12 reporting entities
Comments	<p>Southern Water's Stakeholder Report, which is not externally verified, addresses most key ESG issues. However, with the exception of data on "environmental prosecutions" and odor complaints, it lacks measurable performance data that would allow comparisons over time. The Facts & Figures table on Southern Water's website provides current company data in one place but no trends or benchmarks are shown.</p> <p>The most noteworthy omission in ESG reporting was in the area of governance. There was only a single sentence in the CSR statement on corporate ethics despite the fact that Ofwat had recently fined the company £20.3 million for "historical misreporting" of data. The company agreed to reduce customer rates from 2007 through 2009. No data was provided regarding frequency of service disruptions or account delinquencies.</p>		

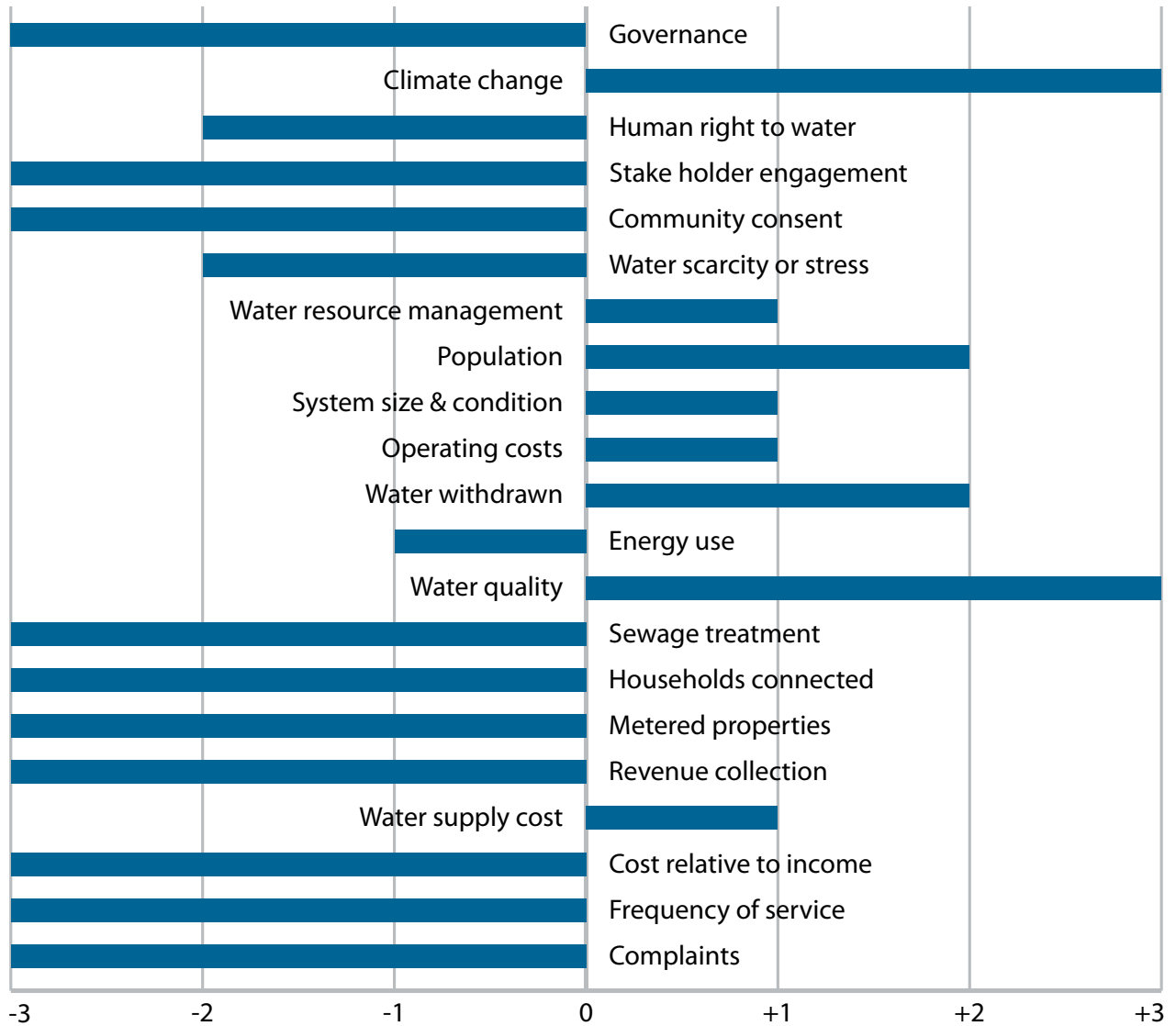
Southern Water



Summary of the ESG Disclosure Survey: RWE-Related Utilities

American Water			
<p>American Water (AWK), formerly American Water Works, is the largest investor-owned water and wastewater services company in the U.S. Its primary business involves the ownership of regulated utilities that provide drinking water and wastewater services to approximately 15.6 million people in 32 states and Ontario, Canada. The German utility conglomerate RWE owns the majority of shares.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.amwater.com/</p> <ul style="list-style-type: none"> • Our Subsidiaries http://www.amwater.com/about-us/our-subsiidiaries.html • Corporate Social Responsibility http://www.amwater.com/about-us/corporate-social-responsibility.html • Environmental Stewardship http://www.amwater.com/ensuring-water-quality/environmental-stewardship.html <p><i>Water Quality Reports</i> http://amwater.com/ensuring-water-quality/water-quality-reports.html (links to local utility reports)</p> <p><i>Climate Change</i> http://www.amwater.com/files/ClimateChange012609.pdf</p>			
IBNET Report: No		CSR or Sustainability Report: No	
Disclosure Score = -19		ESG Content: -21	Presentation 2
		#9 of the 12 reporting entities	
Comments	<p>AWK discloses very little performance data for its local operating utilities and its utility holding companies other than the U.S. EPA mandated water quality reports. The AWK website links to the water quality reports issued by the local utilities. Although the format of the water quality reports is standardized for the most part, the content of these reports varies significantly depending on the reporting requirements of the various states where the AWK companies operate. For example, the report for Long Island American Water (New York State) provides information on water withdrawals and lost water, customers served and average cost of water per household. This information is lacking in the reports for AWK utilities in other states (for example, Texas, Indiana, Florida).</p> <p>The CSR statement on AWK’s website focuses on corporate philanthropy and volunteer activities of its employees. AWK’s white paper on climate change gives information about possible impacts of global warming on water utilities in general but it does not discuss how AWK operating utilities will be affected nor does it state what actions AWK has taken or intends to take to address climate risks.</p>		

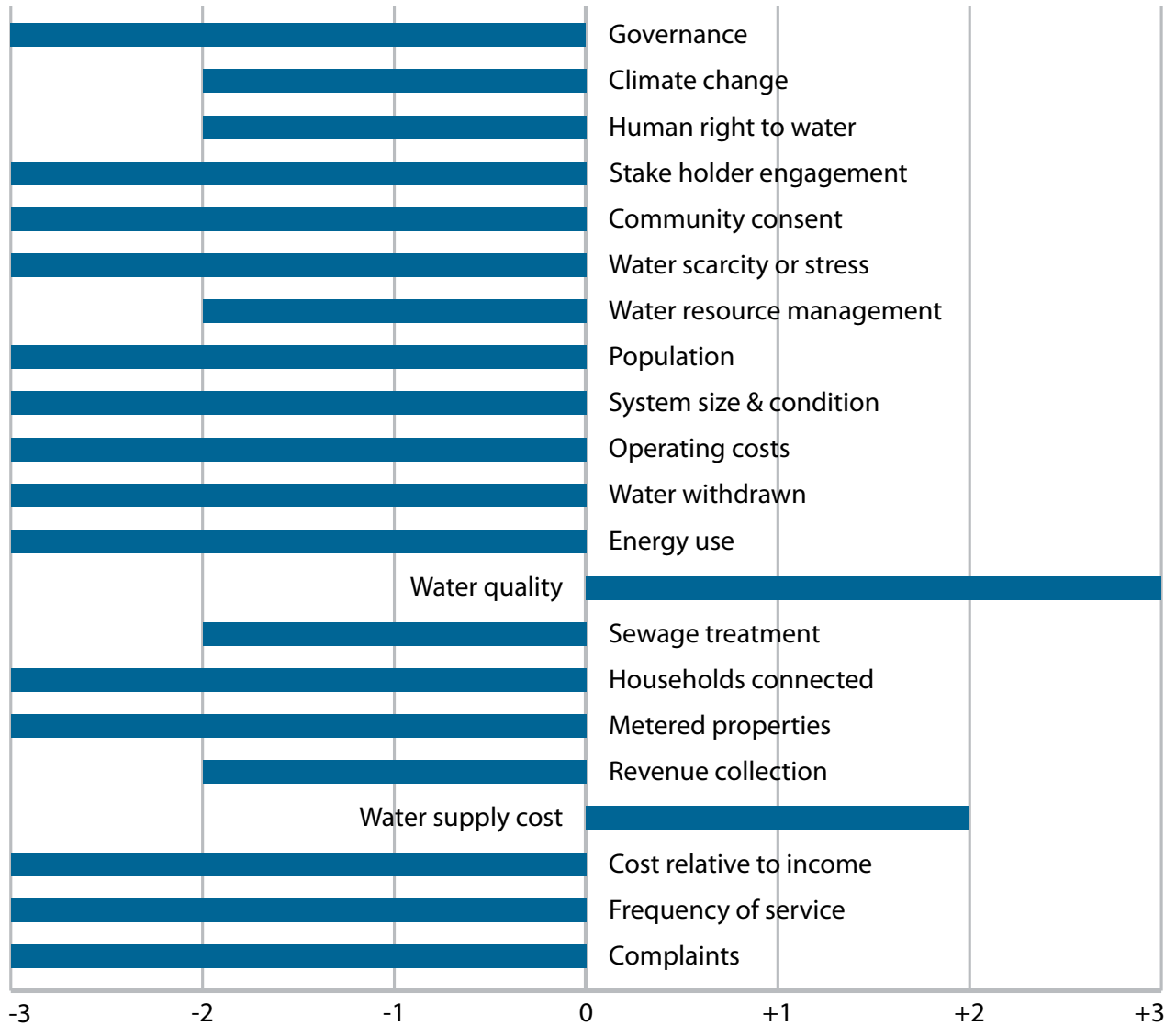
American Water



Summary of the ESG Disclosure Survey: RWE-Related Utilities

Indiana American Water			
<p>Indiana American Water is wholly owned subsidiary of American Water. It is the largest investor-owned water supply company in the state of Indiana, serving more than 1.2 million residents in over 122 communities. The company is regulated by the Indiana Utility Regulatory Commission.</p>			
<p>Sources reviewed:</p> <p>Indiana American Water website: http://www.amwater.com/inaw/About-Us/</p> <ul style="list-style-type: none"> • Water Quality Reports http://www.amwater.com/inaw/ensuring-water-quality/water-quality-reports.html • Rates Information http://www.amwater.com/inaw/customer-service/rates-information.html • Corporate Social Responsibility http://www.amwater.com/inaw/about-us/corporate-social-responsibility.html <p><i>Source Water Protection</i> http://www.amwater.com/files/Indiana%20Source%20Water%20Protection.pdf [file damaged, cannot be accessed]</p> <p><i>Customer Rights and Responsibilities</i> http://www.amwater.com/files/Indiana_Rights_and_Resp.pdf</p>			
IBNET Report: No		CSR or Sustainability Report: No	
Disclosure Score = -45	ESG Content: -47	Presentation: 2	#11 of the 12 reporting entities
Comments	<p>Apart from the data contained in the Water Quality Reports for 23 water districts, which water utilities are required to report under Federal law, Indiana American Water provides no performance data on its website. The CSR statement, like most of the other information on the company website, is identical to the one on the American Water website and provides no information specific to Indiana operations.</p>		

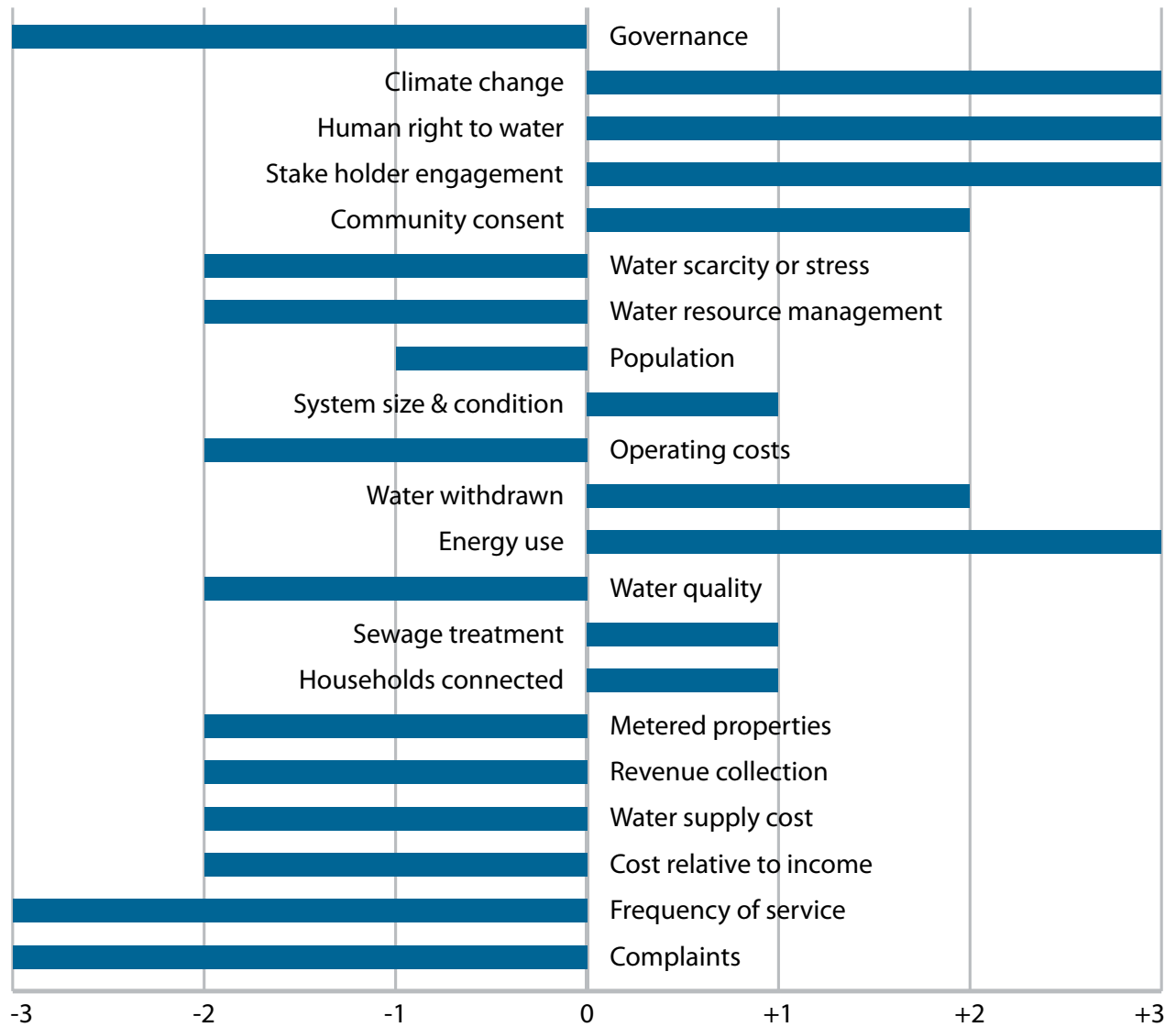
Indiana American Water



Summary of the ESG Disclosure Survey: Suez Environment and Related Utilities

Suez Environment S.A.			
<p>Suez Environment (SEV) is the world's second largest water and wastewater company, operating primarily in Europe (81% of revenues), the Middle East, Asia and the Pacific region, and North America. It is headquartered in Paris, France, and listed on the New York Stock Exchange (SEV). Worldwide, its subsidiaries provide drinking water to 68 million people and operate over 10,000 water treatment plants in 70 countries. Agbar and United Water are two of its principal subsidiaries.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.suez-environnement.com/</p> <ul style="list-style-type: none"> • Key Figures http://www.suez-environnement.com/en/profile/key-figures/key-figures/ • Water as a Right http://www.suez-environnement.com/en/activities/water/water/the-issues-at-stake/access-to-wate-and-sanitation/the-right-to-water/water-as-a-right/ • Subsidiary sites http://www.suez-environnement.com/en/homepage/subsidiary-sites/subsidiary-sites/ <p><i>Sustainable development report, 2006–07</i> http://www.suez-environnement.com/en/profile/corporate-publications/corporate-publications/</p> <p><i>Facts and Figures 2007–08</i> http://www.suez-environnement.com/en/profile/corporate-publications/corporate-publications/</p> <p><i>4 Priorities, 12 Commitments</i> http://www.suez-environnement.com/cms/suez-environnement/upload/commitments/en/files/4_priorites_12_engagements_VA.pdf</p>			
IBNET Report: No		Sustainable Development Report: not based on GRI; no verification statement	
ESG Disclosure Score = -3		ESG Content: -7	Presentation: 4
Comments		#7 of the 12 reporting entities	
		<p>The SEV Sustainable Development Report is a colorful compendium of information that provides aggregated data for the company's operations in North Africa, the Asia-Pacific region and Europe. It does not include North or South America, or Spain where its subsidiaries United Water and Agbar operate. However, the layout of the report makes it difficult to read online.</p> <p>The data for drinking water production and wastewater collection and treatment would be more useful if disaggregated and reported regionally or by service area; data on greenhouse gas (GHG) emissions and energy are appropriately aggregated to the corporate level. Other than the data for energy and GHG emissions, no ESG data is provided in comparable form. Although one of SEV's four priorities is to provide accessible and verified information on its sustainable development activities, there was no verification statement in the 2006–07 report.</p> <p>SEV's website offers statements of philosophy and intent regarding many of the performance indicators but very little data and key governance issues are not addressed. Corporate anti-corruption policies and guidelines are not provided — a serious shortcoming for a company that has been accused in the past of engaging in corrupt practices. Although SEV unequivocally states that it supports the human right to water and opposes the privatization of water, it does not discuss the practical implications of this right for a company in the water services business.</p>	

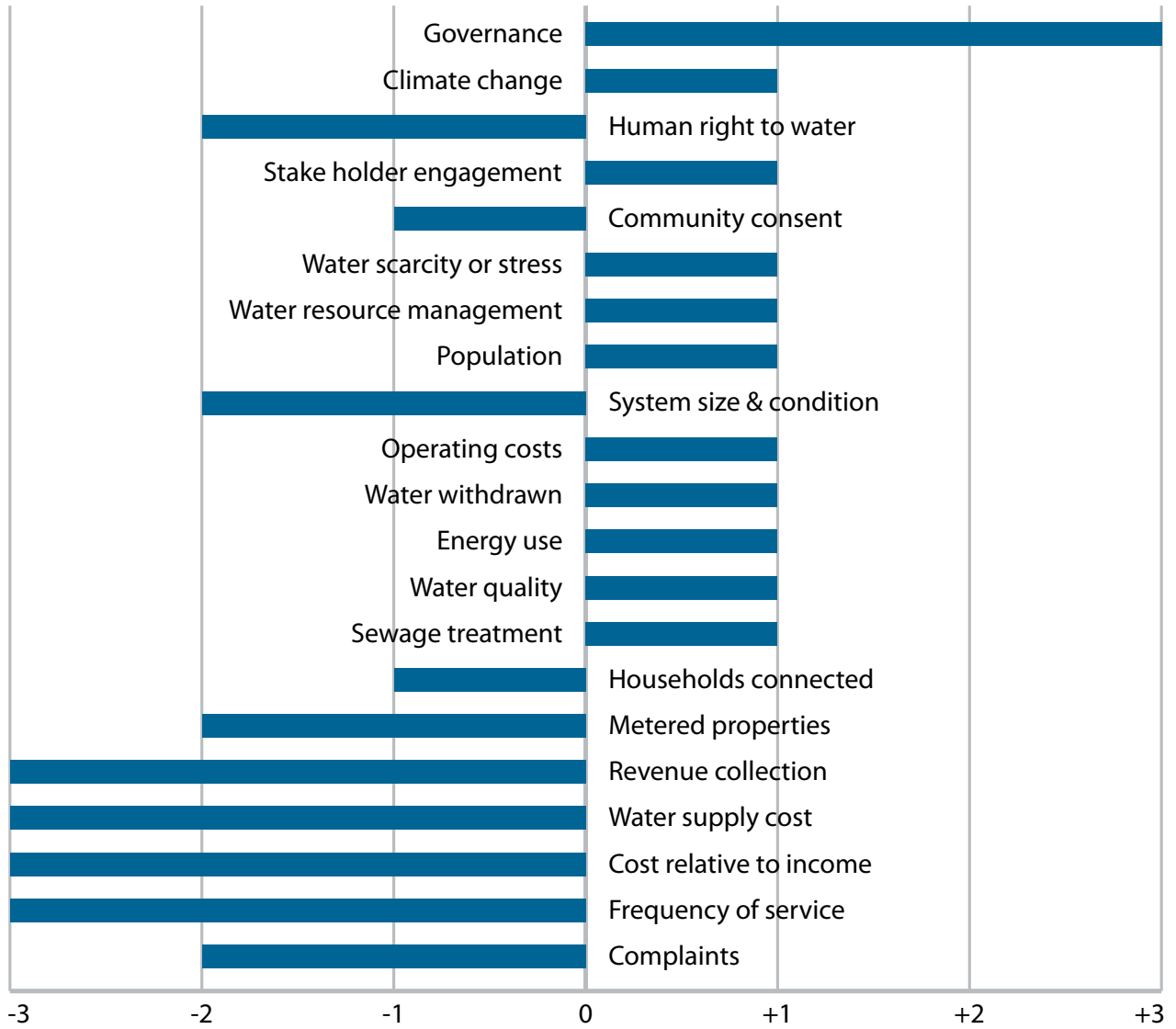
Suez Environment



Summary of the ESG Disclosure Survey: Suez Environment and Related Utilities

Agbar Group			
<p>Agbar Water, a division of the Agbar Group (Agbar) conglomerate, is a water utility holding company. It is the largest owner-operator and manager of urban water utilities in Spain, serving approximately 19 million people in over 1,200 municipalities. Agbar Water also provides water and wastewater services to 10 million people internationally, in Chile, Columbia, Cuba, Mexico, China and the U.K. Suez Environment owns 45.9% of Agbar's shares, directly and indirectly.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.agbar.es/eng/home.asp</p> <ul style="list-style-type: none"> • Water division http://www.agbar.es/eng/b-2_ciclo_integral_agua.asp • Important Data http://www.agbar.es/eng/b-2-1_datos_significativos.asp • Agbar Companies http://www.agbar.es/eng/b-1_listado_empresas.asp <p><i>Corporate Responsibility Report 2007</i> http://www.agbar.es/informes/2007/responsabilidad/english/magazine/download/magazine.pdf</p> <p><i>Corporate Code of Ethics and Conduct</i> http://www.agbar.es/eng/docs/pdfs/codigo_etico_eng.pdf</p> <p>Bristol Water plc website http://www.bristolwater.co.uk/index.asp</p> <p>Bristol Water <i>Corporate Social Responsibility Report 2005/06</i> http://www.bristolwater.co.uk/pdf/environment/corpSocialRes06.pdf</p>			
<p>IBNET Report: No</p>		<p>Corporate Responsibility Report: verified, in accordance with G3 guidelines</p>	
<p>Disclosure Score = -2</p>		<p>ESG Content: -9</p>	<p>Presentation: 7</p>
<p>#6 of the 12 reporting entities</p>			
<p>Comments</p>	<p>Agbar's Corporate Responsibility Report demonstrates the shortcomings of the GRI as an ESG reporting tool for the water services sector. Although Agbar's GRI report is very well done, providing a useful summary of the company's operations in Spain and worldwide, it gives little insight into how well the local water utilities under Agbar's control are being managed.</p> <p>The data for Agbar Water's local water utilities are aggregated for national operations (in Spain) and international operations, which is appropriate for reporting on energy and greenhouse gas emissions but not for reporting water withdrawals and consumption. The report is mostly narrative with data provided in tables throughout the text and at the end. There is also a summary chart of "strategies and trend" showing 2007 objectives, actions taken and 2008 objectives. Other than this action agenda, the company does not state what performance benchmarks it has set, for example, to measure "sustainable management of water resources."</p> <p>Agbar's website does list the hundreds of companies that it owns with their contact information. A random check of 12 of the water companies listed found that many of them either do not have functioning websites or the site is promotional in nature. Bristol Water plc, Agbar's U.K. subsidiary, is an exception. Its website provides much of the information that can be found on the Southern Water and Thames Water sites — including water quality reports and a rudimentary Corporate Social Responsibility Report for 2005/06 that includes some of the data sought in this survey.</p> <p>A conclusion that may be drawn is that reporting by Agbar's local water utilities is driven more by regulatory mandates and the public disclosure norms where the utility is located, rather than by Agbar's corporate mandates. Agbar could easily create a reporting platform on its website for all of its water utilities by developing a standardized template for ESG and other data that the subsidiaries might use.</p>		

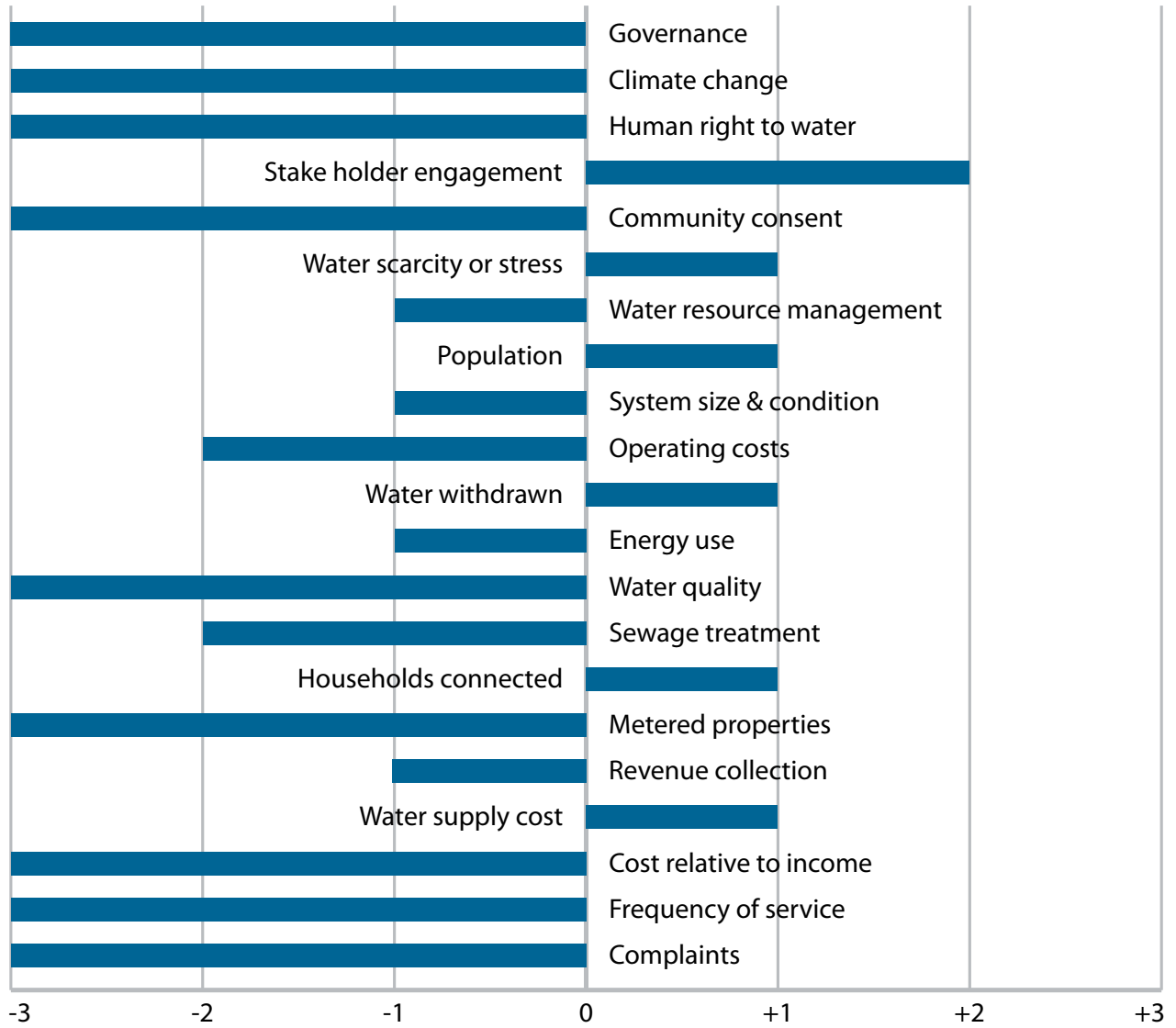
Agbar



Summary of the ESG Disclosure Survey: Suez Environment and Related Utilities

United Water			
United Water owns 20 regulated water utilities and operates 240 municipal water systems that serve 7 million people in 26 states throughout the U.S. It is a wholly owned subsidiary of Suez Environment.			
<p>Sources reviewed:</p> <p>Corporate website: http://www.unitedwater.com/index.aspx</p> <ul style="list-style-type: none"> • Facts & Figures http://www.unitedwater.com/facts-and-figures.aspx • Locations http://www.unitedwater.com/localutility.aspx • Sustainable Development http://www.unitedwater.com/sustainable-development.aspx <p>Corporate Responsibility brochure http://www.unitedwater.com/uploadedFiles/Corporate_Content/50/Publications/UW_Corporate_Social_Responsibility_Brochure.pdf</p> <p>United Water Arkansas http://www.unitedwater.com/SearchResult.aspx?search=water%20quality%20report</p> <p>United Water Pennsylvania</p> <p>United Water Westchester http://www.unitedwater.com/westchester/water.aspx</p>			
IBNET Report: No		CSR or Sustainability Report: No	
Disclosure Score = -24	ESG Content: -28	Presentation: 4	#10 of the 12 reporting entities
Comments	<p>The company claims that it sets the benchmarks for water services using best management practices, cost-effective technologies, and environmental improvements. Yet, it does not report on a single benchmark or set forth any of the management practices it uses. Its 8-page corporate responsibility brochure is equally devoid of performance data of any kind.</p> <p>United Water does provide a listing of its local water subsidiaries by state and links to the websites for some of them (Arkansas, Connecticut, Idaho, New Jersey, New York and Pennsylvania). Most of these websites are identical to the United Water corporate site and they are similarly lacking in performance data. A key-word search for the EPA mandated water quality (consumer confidence) reports on the websites of United Water Arkansas, United Water Westchester (NY) and United Water Pennsylvania was instructive. In each case the search was unsuccessful. However, the reports could be found under “publications” tab in the “news center.” These reports contain the only measurable data that any United Water-related companies disclose.</p>		

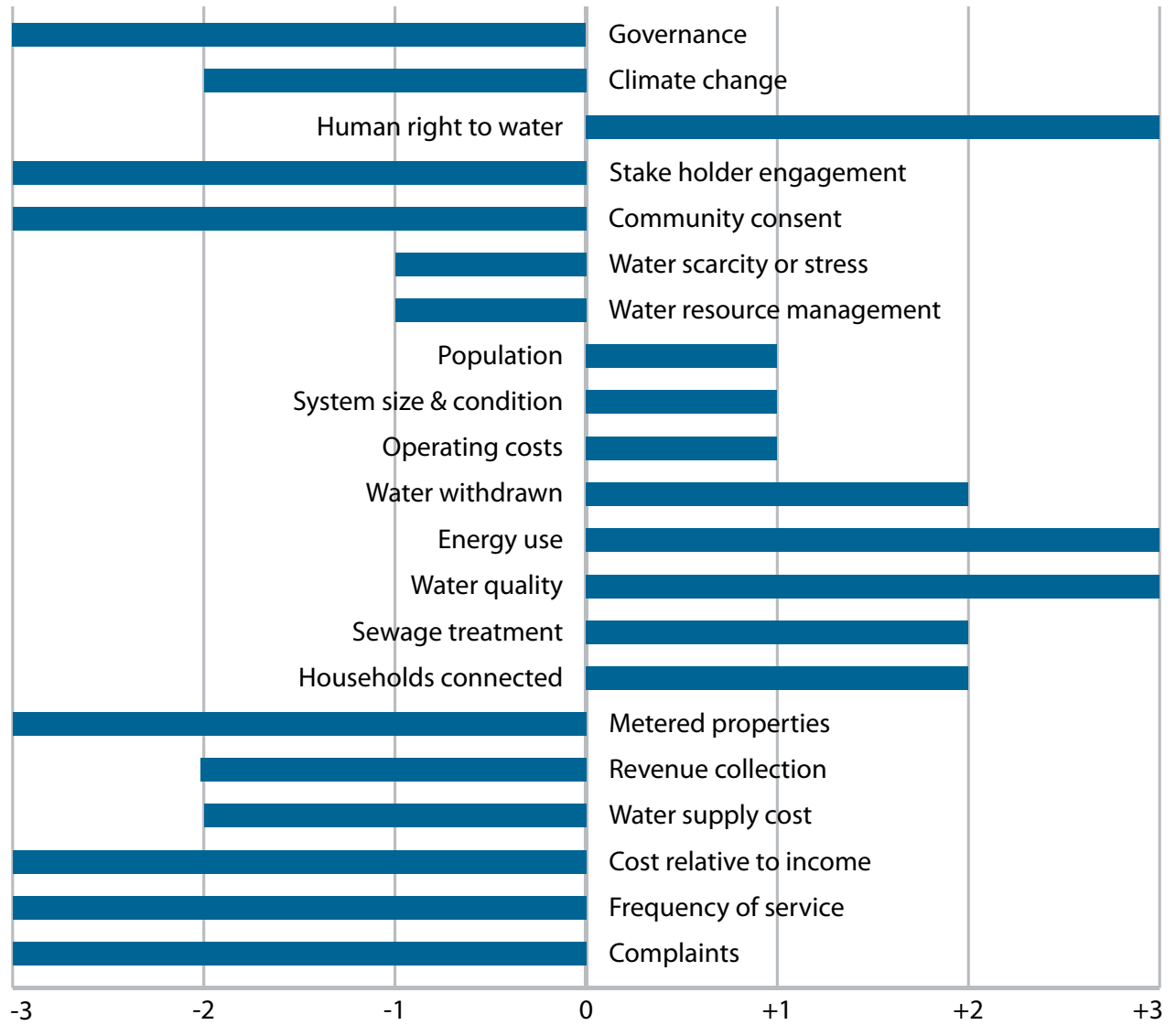
United Water



Summary of the ESG Disclosure Survey: Veolia Environment and Related Companies

Veolia Environment			
<p>Veolia Water, a division of Veolia Environment (VE), is the world's largest water and wastewater treatment company, serving more than 131 million people in 60 countries through its company-owned utilities and a variety of public-private contractual arrangements.</p>			
<p>Sources reviewed:</p> <p>VE Corporate website: http://www.veoliaenvironnement.com/en/ VE Sustainable Development site http://www.sustainable-development.veolia.com/en/</p> <ul style="list-style-type: none"> • Climate Change http://www.sustainable-development.veolia.com/en/challenges-sustainable-development/climate-change.aspx <p>VE Sustainable Development Report http://www.sustainable-development.veolia.com/en/</p> <ul style="list-style-type: none"> • Environmental Performance http://www.sustainable-development.veolia.com/en/performance-sustainable-development/environmental-performance/ • Environmental Performance Indicators http://www.sustainable-development.veolia.com/en/performance-sustainable-development/environmental-indicators.aspx [server error reported] • Promoting Respect of Human Rights http://www.sustainable-development.veolia.com/en/challenges-sustainable-development/access-essential-services.aspx • External Assurance http://www.sustainable-development.veolia.com/en/performance-sustainable-development/external-assurance.aspx <p>Veolia Water website http://www.veoliawater.com/</p> <ul style="list-style-type: none"> • Measuring Performance http://www.veoliawater.com/sustainable-development/results/indicators/ • Environmental Indicators http://www.veoliawater.com/sustainable-development/results/indicators/environmental/ • Climate Change and Energy Optimization http://www.veoliawater.com/sustainable-development/solutions/climate-change/ • Veolia Water in the United States of America http://www.veoliawater.com/veolia-water/key-figures/locations/americas/united-states.htm 			
IBNET Report: No		Performance Report: using VE defined procedures, 3rd party verified.	
Disclosure Score = -3		ESG Content: -7	Presentation: 4 #7 of the 12 reporting entities
Comments	<p>Veolia Water reports on most of the indicators in this survey, however, the environmental and social performance data are aggregated for its operations in 60 countries. There is a page for each country with links to the websites of the Veolia Water subsidiaries. The environmental performance report is 3rd party verified for conformity with the company-wide measurement and reporting protocol environmental management system.</p> <p>The VE website provides a great deal of information in different reports, making it somewhat complicated to navigate. For example, the VE Sustainable Development Report provides the 2007 data for four of Veolia Water's performance indicators and the 2011 targets, while the Veolia Water website gives performance data for 21 environmental indicators for 2004 through 2007. It would be simpler to add the 2011 targets to the Veolia Water page and link to that page on the VE site.</p>		

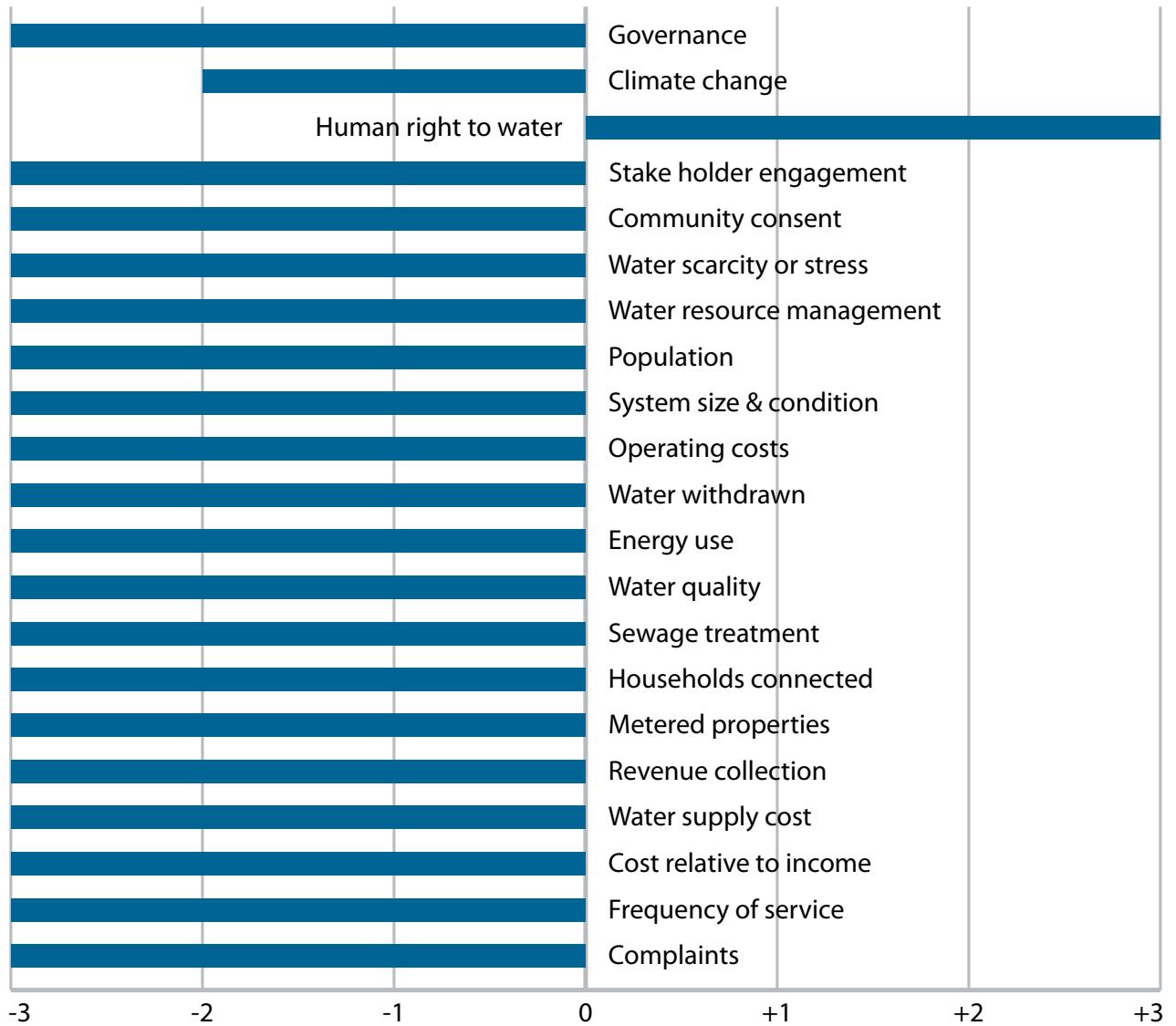
Veolia Environment



Summary of the ESG Disclosure Survey: Veolia Environment and Related Companies

Veolia Water North America			
<p>Veolia Water North America operates and manages over 90 drinking water treatment and 190 wastewater treatment plants that serve approximately 14 million people in 600 communities in the U.S. The company is a wholly owned subsidiary of Veolia Environment.</p>			
<p>Sources reviewed:</p> <p>Corporate website: http://www.veoliawaterna.com/default.htm</p> <ul style="list-style-type: none"> • Project Map http://www.veoliawaterna.com/project/projmap.asp • Case Study for Atlanta-Fulton County Water Resources Commission http://www.veoliawaterna.com/project/documents/Atlanta.pdf <p><i>Water Quality Report for the City of Atlanta (GA)</i> http://www.atlantawatershed.org/pdf/WQR2007.pdf</p> <p><i>Annual Fulton County Water Quality Report 2008</i> http://www.fultoncountyga.gov/images/stories/Public%20Works/Fulco%202008%20CCR-web.pdf</p>			
IBNET Report: No		CSR or Sustainability Report: No	
Disclosure Score = -53		ESG Content: -56	Presentation: 3
Comments		#12 of the 12 reporting entities	
		<p>The Veolia Water North America website is a promotional site. The Project Map links to standardized “case studies” on company operations across the U.S. but no performance data was found in the case studies (see, Atlanta-Fulton County case study). The company does not even provide links to the water quality reports for the drinking water facilities that it manages.</p> <p>For example, the company operates a 90 million gallon/day water treatment plant for the Atlanta-Fulton County Water Resources Commission that provides drinking water to 350,000 people in north Atlanta and Fulton County, Georgia. This area of the U.S. faces a severe water crisis due to regional drought. However, Veolia Water North America provides no information on how this situation is affecting its operations or planning. It does not even provide links to the water quality reports for the City of Atlanta (issued by the City’s Department of Watershed Management) or for Fulton County (issued by the Fulton County Public Works Department).</p>	

Veolia Water North America



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The Web sites in the citations were last accessed on February 25, 2009.

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