CDP
DRIVING SUSTAINABLE ECONOMIES

Moving beyond business as usual

A need for a step change in water risk management
CDP Global Water Report 2013

Written on behalf of 530 investors with US$57 trillion in assets

Lead sponsor and report writer

Deloitte.

The evolution of CDP

CDP
DRIVING SUSTAINABLE ECONOMIES

With great pleasure, CDP announced an exciting change this year.

Over ten years ago CDP pioneered the only global disclosure system for companies to report their environmental impacts and strategies to investors. In that time, and with your support, CDP has accelerated climate change and natural resource issues to the boardroom and has moved beyond the corporate world to engage with cities and governments.

The CDP platform has evolved significantly, supporting multinational purchasers to build more sustainable supply chains. It enables cities around the world to exchange information, take best practice action and build climate resilience. We assess the climate performance of companies and drive improvements through shareholder engagement.

Our offering to the global marketplace has expanded to cover a wider spectrum of the earth's natural capital, specifically water and forests, alongside carbon, energy and climate.

For these reasons, we have outgrown our former name of the Carbon Disclosure Project and rebranded to CDP. Many of you already know and refer to us in this way. Our rebrand denotes our progress as we continue to catalyze action and respond to business, finance, investment and environmental needs globally.

We now have a bolder, more dynamic look and logo that reflects the scale of the work we must undertake in the coming years to move the markets ahead of where they would otherwise be on these issues and realize truly sustainable economies.

- Over 1,000 companies from all over the world have been asked to report vital water-related information to CDP this year;
- More than 593 of the world's largest companies[1] engage with CDP to enable effective measurement and management of water-related issues, including reduction of risks and detrimental impacts;
- This is a 59% increase in the number of companies using CDP to communicate their water management efforts to investors since last year, making the primary corporate water information now available at www.cdp.net the largest and most comprehensive set in the world.

CDP is a not-for-profit organization. If you would like to support our vital work to safeguard water resources through donations or sponsorship opportunities, please email the Head of Water, cate.lamb@cdp.net.

1 This includes respondents who have submitted corporate water-related information through CDP's supply chain program. Please refer to CDP's website for information on this program. https://www.cdproject.net/en-US/Programmes/Pages/CDP-Supply-Chain.aspx

Contents

CEO foreword p4
Executive summary p6
Global 500 responding companies p6
Substantive water risks are becoming more immediate p8
Company efforts to mitigate risk and achieve water stewardship p13
The case for investor intervention p19
Commentaries p22
Sector summaries p26
Appendices p42

To read 2013 company responses in full please go to www.cdp.net/en-US/Results/Pages/responses.aspx

Important notice
The contents of this report may be used by anyone provided that acknowledgement is given to CDP. This does not represent a license to repackage or resell any of the data reported to CDP and presented in this report. If you intend to do this, you need to obtain express permission from CDP before doing so.

Deloitte and CDP prepared analysis in this report based on responses to CDP's 2013 water questionnaire. Deloitte and CDP do not guarantee the accuracy or completeness of this information. Deloitte and CDP make no representation or warranty, express or implied, and accept no liability of any kind in relation to the report including concerning the fairness, accuracy, or completeness of the information and opinions contained herein. All opinions expressed herein by CDP and/or Deloitte are based on their judgment at the time of this report and are subject to change without notice due to economic, political, industry and firm-specific factors. Guest commentaries where included in this report reflect the views of their respective authors.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively, the "Deloitte Network") is, by means of this communication, rendering professional advice or services. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this communication.

Deloitte and CDP and their affiliated member firms or companies, or their respective shareholders, members, partners, principals, directors, officers and/or employees, may have a position in the securities discussed herein. The securities mentioned in this document may not be eligible for sale in some states or countries, nor suitable for all types of investors; their value and the income they produce may fluctuate and/or be adversely affected by exchange rates.

As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting.

"Carbon Disclosure Project" and "CDP" is a United Kingdom company limited by guarantee, registered as a United Kingdom charity number 1122330.

© 2013 Carbon Disclosure Project. All rights reserved.

CEO Foreword

> As countries around the world seek economic growth, strong employment and safe environments, corporations have a unique responsibility to deliver that growth in a way that uses natural resources wisely. The opportunity is enormous and it is the only growth worth having.

The economic effects of mismanaging water resources are becoming increasingly apparent. The newly released Intergovernmental Panel on Climate Change (IPCC) report forecasts longer periods of drought and heavier extreme rainfall. The United Nations has reported that several countries are close to their water limits but that food output must increase by up to 100% by 2050 if current population growth is to be sustained.

These factors will limit economic development and greatly exacerbate rural poverty, particularly in emerging and developing economies. Already countries such as China and India are realizing they have to solve water problems if they are to sustain growth or improve quality of life. The Indian Planning Commission last year established that the country's existing approach to water jeopardizes its economic growth and political stability. In China, home to 20% of the global population but only 7% of its fresh water, former premier Wen Jibao said water shortages threaten "the very survival of the Chinese nation".

In Peru, violent protest from communities fearing for their own water supply has led to the suspension of a US$4.8 billion gold and copper mining project. This was Peru's largest such investment and clearly demonstrates companies face a license to operate risk if they are unable to effectively manage complex demands on water resources.

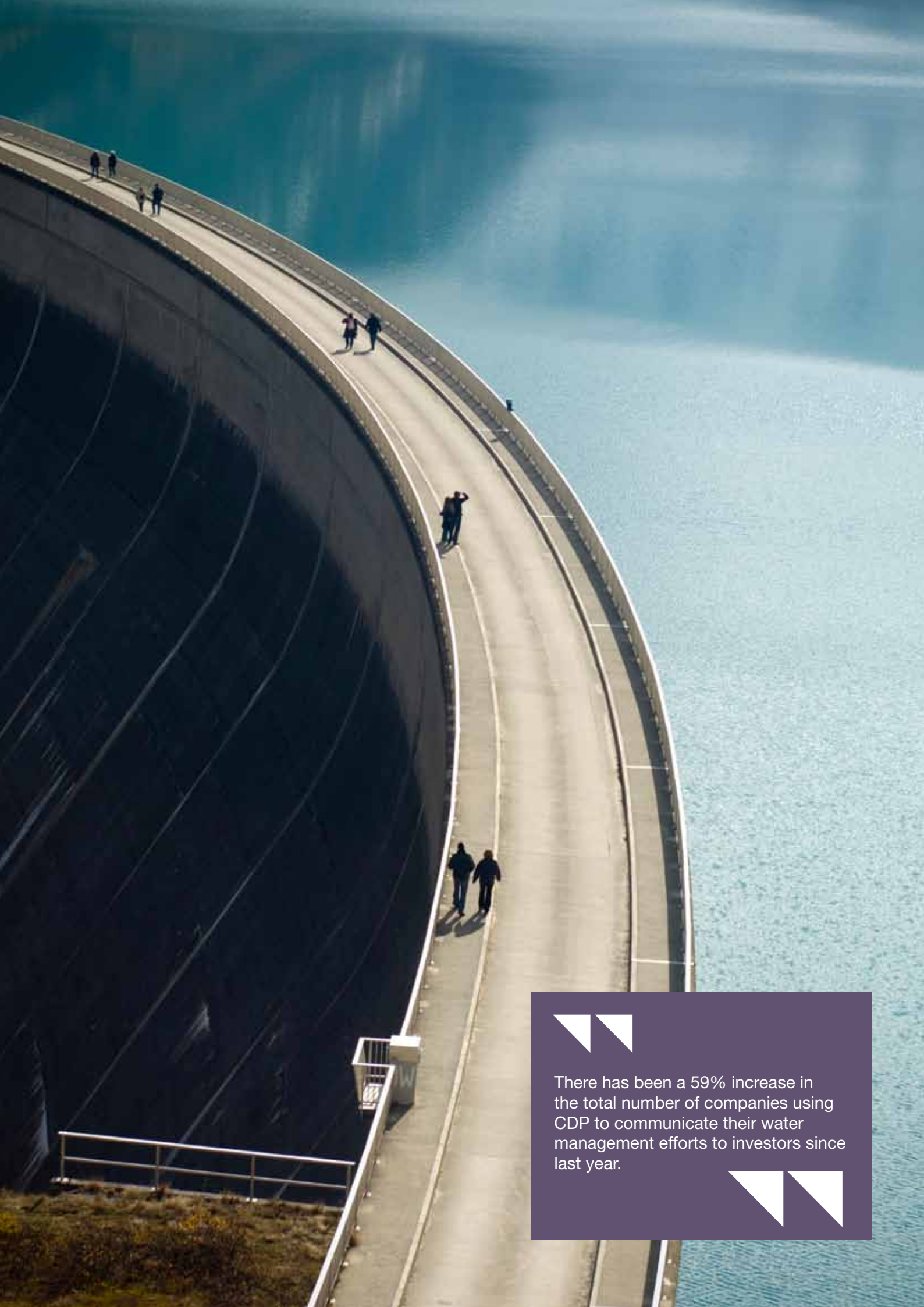
It is therefore no surprise that investors are filing record numbers of environmental and social policy resolutions, particularly in the United States[2]. Investors and companies that understand the complexities of water and devise and implement a strategy that drives water stewardship will be the long term winners in an increasingly water stressed world. A report released earlier this year by CDP and Eurizon Capital analyzing the metals & mining sector, revealed that companies acting to manage water strategically, perform better financially.

Companies that are responding to water challenges and are using CDP's unique system are able to identify profitable business opportunities as a result. General Motors, for example, forecast that recognized brand value in areas of water stress where it has demonstrated leadership in water efficiency and conservation could have a direct impact on revenue. A 10% rise of vehicle sales in Mexico would yield an additional US$301 million in revenue. General Electric has established that reducing projected water use at a Texan site by 52% would save an estimated US$230,000 per year.

While some companies are realizing water-related gains, a significant disparity between investor expectations and company actions exists. The number of investors requesting corporate water data through CDP has quadrupled in just three years, the number of Global 500 companies taking action and disclosing this has not matched this pace. A shift in practice is required if companies are to realize the true benefits of water stewardship, achieve business resilience and competitive advantage. Using the insights from standardized company disclosures, investors can enhance risk management of this critical issue.

Paul Simpson,
CEO,
CDP

2 Sustainable Investments Institute (Si2), 20th August 2013.



There has been a 59% increase in the total number of companies using CDP to communicate their water management efforts to investors since last year.

Executive summary

CDP is proud to present the results from the fourth year of water reporting by the world's largest listed corporations. It was an impressive year.

In 2013, 530 institutional investors representing approximately US$57 trillion in assets and a number of major purchasing organizations called for greater transparency on corporate water issues from 1,036 companies. 593 companies from **Antofagasta** to **Hewlett-Packard** and **L'Oreal** to **Unilever** responded; a 59% increase since last year. This analysis and report is presented to provide those investors and purchasers with insight on the adequacy of the corporate response to water issues.

In this report, CDP and Deloitte Consulting LLP (Deloitte) present results of the analysis based on the water disclosures of 184 Global 500 corporations[3] that participated this year; a 60% response rate. Together, these corporations account for approximately 11 billion megaliters of water withdrawals per year, enough to provide 50 liters of water per day to the world's current population of approximately 7 billion people for nearly 82 years. Over 90% of these companies now have water management plans in place, and companies report more than 1,300 actions, targets and goals to reduce their impact on water resources, and thus their exposure to water risks.

Although there are signs of progress in addressing corporate water risks, challenges remain. This report is divided into two parts. The first presents the investor case for water stewardship and the benefits that investors, corporations and policy makers can secure through reducing risk, increasing business resilience and safeguarding water resources. The second half provides insight into how corporations are responding to water risks and striving towards better water stewardship.

CDP acknowledges the effort and dedication of many of the world's corporations in measuring and reporting these important data, particularly those that have consistently disclosed through CDP since the water program began in 2010[4].

This report finds that business as usual is often embedded in corporate water strategy and that a significant shift in approach is required to avoid large scale value destruction. It concludes with a call to action for investors and policy makers to assist and guide companies to move rapidly beyond existing practice, to establish regular engagement with stakeholders and lead a collaborative approach to safeguard water as a vital shared resource to contribute to sustainable revenue generation and a more resilient future.

Key findings

Substantive water-related risks are becoming more immediate.
Almost three quarters of respondents (70%) have identified water as a substantive business risk. For some respondents, anticipated financial impacts are as high as US$1 billion, and the majority (64%) of reported risks are expected to impact now or within the next five years. In one year, the number of near-term substantive risks reported by companies has increased by 16% to 614 risks.

Respondents' water stewardship activities are notably lacking, potentially exposing their company and investors to risks that could be mitigated.
The majority of respondents (63%) set concrete targets and goals for their direct operations and, in general, many of these are focused on reducing water use or increasing water recycling/reuse. Companies that continue with such a narrow focus could be missing potential opportunities and overlooking serious risks.

Investors must encourage a step change within companies to address water-related risks and associated impacts to financial performance.
Through CDP, investor signatories are promoting corporate water stewardship as a risk reduction strategy. They recognize that water stewardship is associated with a forward-looking, resilient company with a sound understanding of its risk profile contributing to the company potentially being viewed as a more attractive investment.

A note on the Text: All data and information presented in this report is based on the 180 self-disclosed responses from Global 500 companies received by August 9, 2013. To protect confidentiality, companies that chose not to make their responses publicly available are removed from aggregated statistics when two or fewer non-public responses were identified.

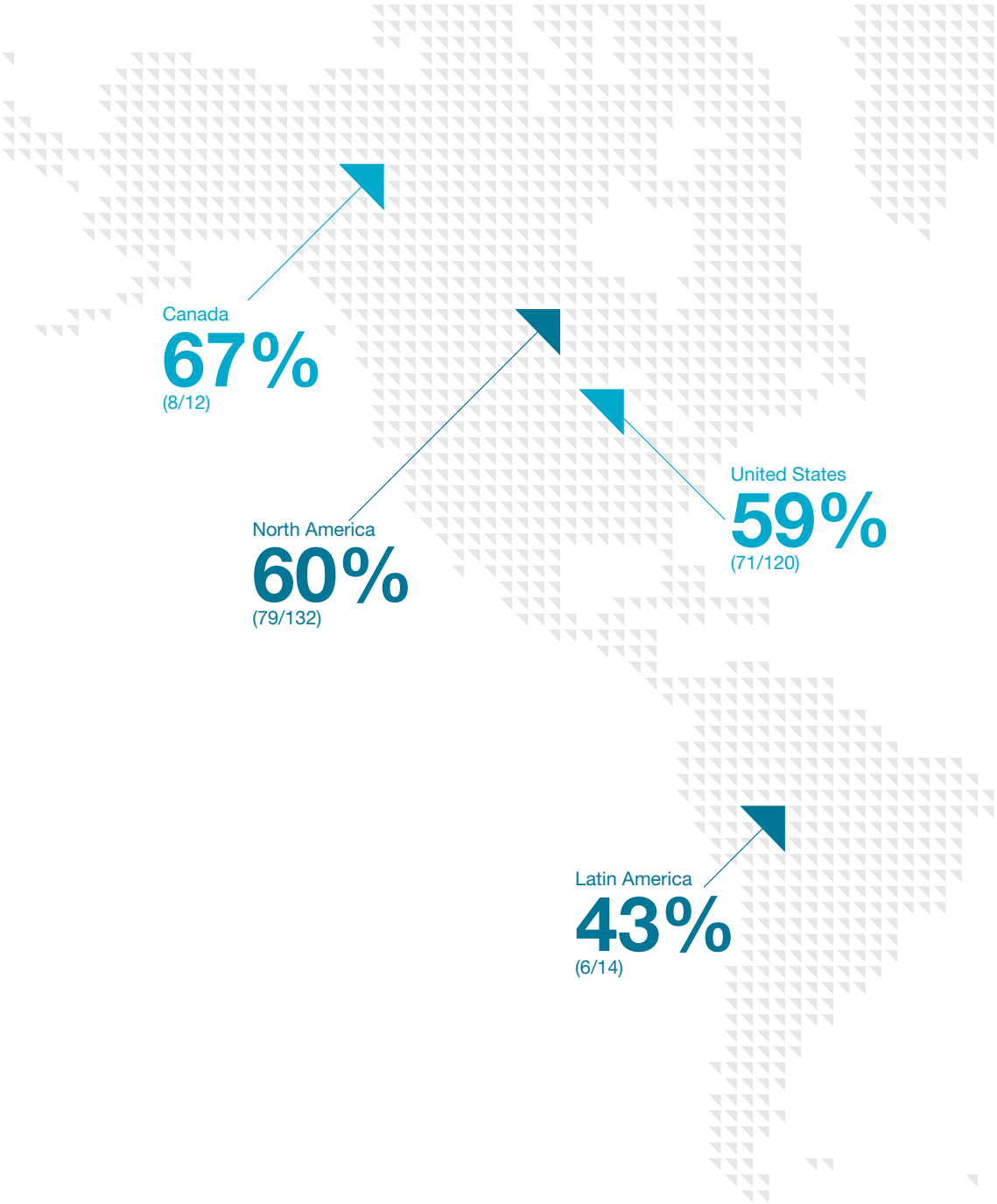
Full responses on a corporation-by-corporation basis are available to all investor signatories and via the CDP website, www.cdp.net.

3 530 investors representing US$57 trillion in assets asked 305 Global 500 corporations to report vital water data through CDP's water program this year; 180 responded by the deadline. To read the full-text response of any company in the survey, or for more information about any aspect of CDP's work on water, please visit www.cdp.net. A full list of all reporting corporations is available on page 46 of this report.
4 These companies are highlighted in appendix IV, page 46 of this report.

Water scarcity, especially in developing regions, may lead to greater political and economic instability and in turn affect VINCI's operations.

VINCI

184 Global 500 responding companies



1 Companies reporting per sector

Consumer Staples	Materials	Energy	Health Care	Consumer Discretionary	Industrials	Utilities	Information Technology
37	29	26	23	21	18	16	14

Europe
74%
(67/91)

United Kingdom
79%
(19/24)

Germany
83%
(10/12)

Switzerland
89%
(8/9)

East Asia
42%
(21/50)

Japan
70%
(14/20)

France
89%
(16/18)

Greater China
20%
(3/15)

South & West Asia
63%
(5/8)

India
57%
(4/7)

Africa
100%
(2/2)

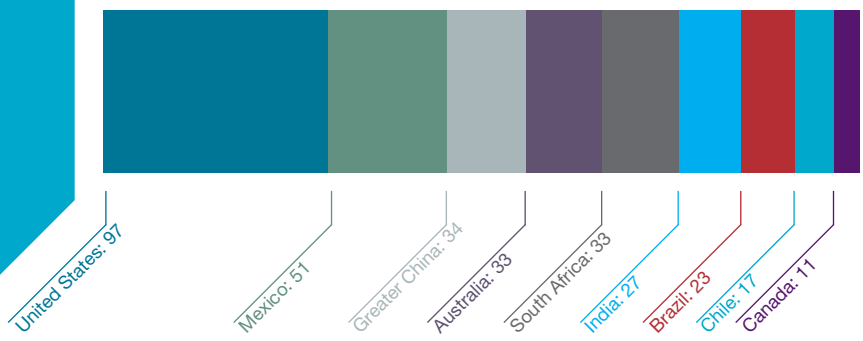
Australia
75%
(3/4)

South Africa
100%
(2/2)

Southeast Asia & Oceania
63%
(5/8)

952
total risks reported
(all countries)

2 No. of risks reported per country (countries with >10)



Substantive water-related risks are becoming more immediate

> Methods of water use, sources of water, consumption volumes and potential contamination are issues of interest to the public, media and regulatory bodies in areas where groundwater is used for multiple purposes.
>
> These issues are especially visible and important in areas where hydraulic fracturing is used. Perceived impact to groundwater resources by Apache would result in unfavorable public perception.
>
> **Apache**

> We acknowledge that changes in water availability will have an impact on our company and we believe it deserves serious attention.
>
> **Mondelez International**

Companies are more aware of the breadth and significance of water-related risk, such as business interruption due to inadequate public infrastructure, supply chain disruption due to water scarcity and reputational damage. Almost three quarters of respondents (70%) report exposure to one or more water-related risks that could substantively affect their business. In two years, the percentage of companies recognizing the risks that water presents has increased by 17%.

Water-related risks are also becoming more immediate. Two thirds of risks expected to impact both direct operations (65%) and supply chains (62%) are anticipated to materialize now or within the next five years. In just one year, the number of near-term substantive risks reported by companies has increased by 16% to 614 risks.

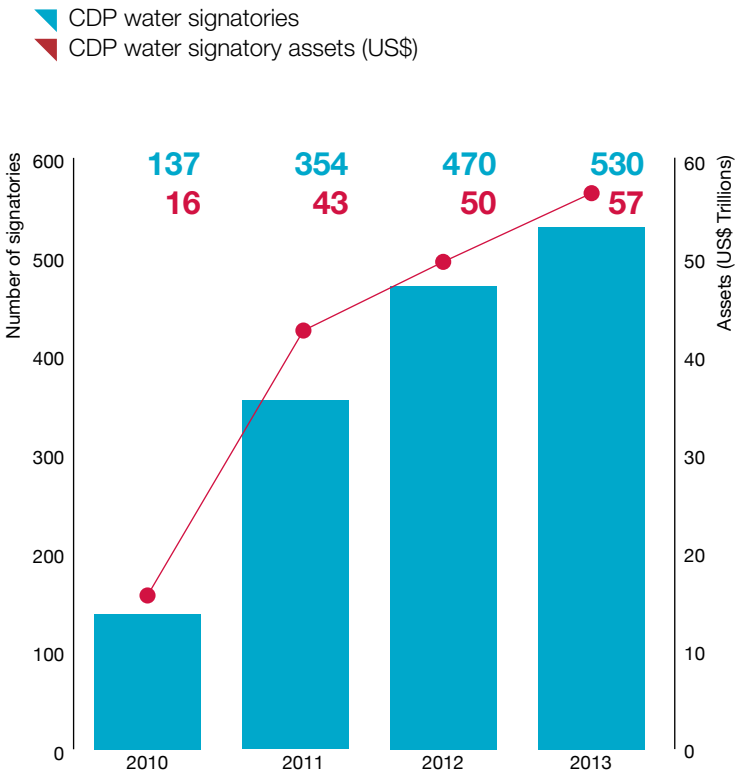
Further, more than half of respondents (53%) have already experienced detrimental impacts related to water in the past five years. For example, **Noble Energy** reports that the severe drought conditions of previous years have resulted in detrimental impacts to operations including increased operational costs. These impacts include delays to hydraulic fracturing and regulatory compliance difficulties. Specifically, the drought conditions have resulted in low surface water flows and an inability to withdraw water for use in hydraulic fracturing operations in some areas.

Some companies demonstrate a mature understanding of the range of water-related risks. **The Coca-Cola Company**, for example, reports that *"water stress has many faces and should not be defined solely as physical availability. The risks to any particular location are a function of a number of factors including physical availability, water quality, infrastructure existence/ pressure, pricing, drought, competing use, increasing demand, climate change, policy, public sector management capacity, regulatory limits and social acceptance."*

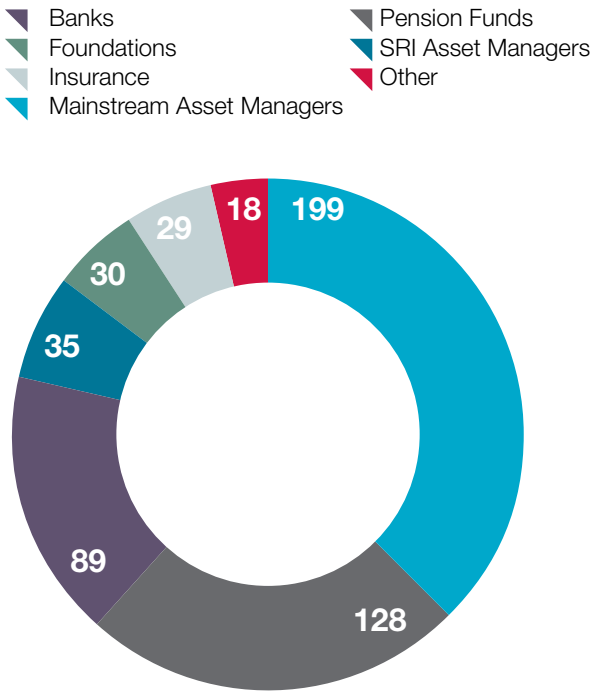
This improved ability to identify and forecast risk scenarios may demonstrate a degree of maturation in the corporate understanding of the relationship between water resources and corporate activities. However, increasing social, political and regulatory focus on water globally is another likely driver.

The growing level of reported risk is accompanied by more investors turning their attention to water. The number of investors calling for greater corporate transparency on water has quadrupled in the last three years; the case for company action is both clear and immediate.

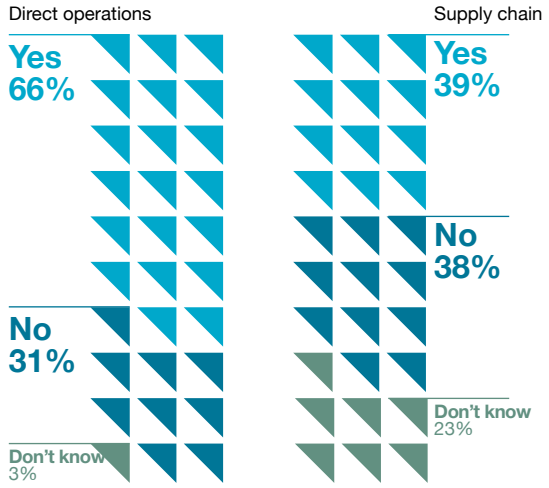
3 CDP's water investor signatories and assets over time



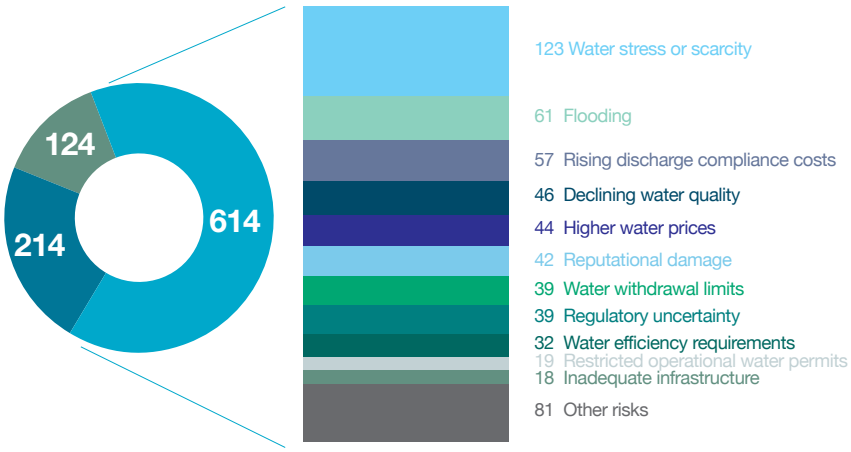
4 Investor signatory breakdown-type



5 Respondents reporting exposure to substantive water-related risks (% of respondents)



6 Timeframe of risks and near-term substantive risks reported (# of risks)*



* The following risks were also reported: Changed product standards (2 respondants), Litigation (2 respondants) and Product risk (9 respondants).

Substantive water-related risks

Physical risk: General Motors
Increases in the frequency of drought conditions can further depress water availability for production in water-stressed areas. GM has production facilities in Mexico, an area that was hit hard by drought in 2012, and there is a risk that increases in the frequency of such events could disrupt production due to lack of water availability. Mexico accounts for about 6% of total global production. A one month disruption of GM's production, for example, could result in loss of US$27 Million in net income.

Regulatory risk: American Electric Power
New Environmental Protection Agency (EPA) regulations, which will govern the potential effects of water intake structures on fish populations, could affect as many as 31 power plants owned and operated by AEP. The EPA is also expected to propose changes to regulations that govern the treatment and discharge of power plant waste waters. The impact of these new regulations could cost as much as US$1 billion for the entire AEP fleet of coal-fired power plants.

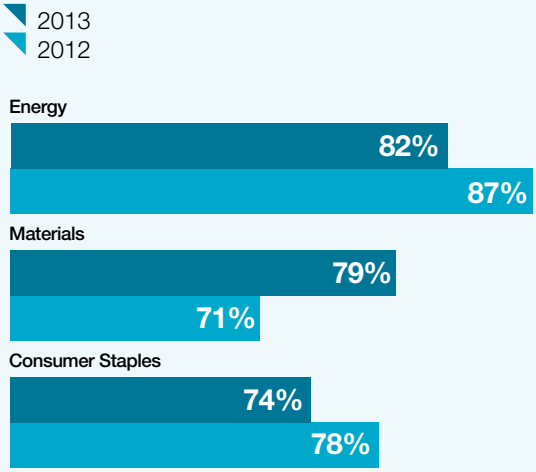
952
substantive water-related risks reported

614
near-term substantive water-related risks reported

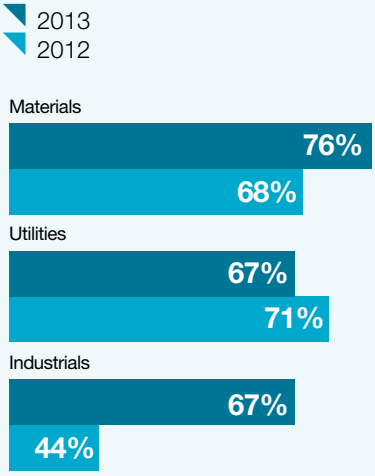
7
risks reported by each respondent on average

7 Total number of detrimental impacts experienced in past 5 years (# of impacts)

8 Sectors most exposed to substantive water risks (% of respondents)



9 Sectors most impacted by water in the past five years (% of respondents)

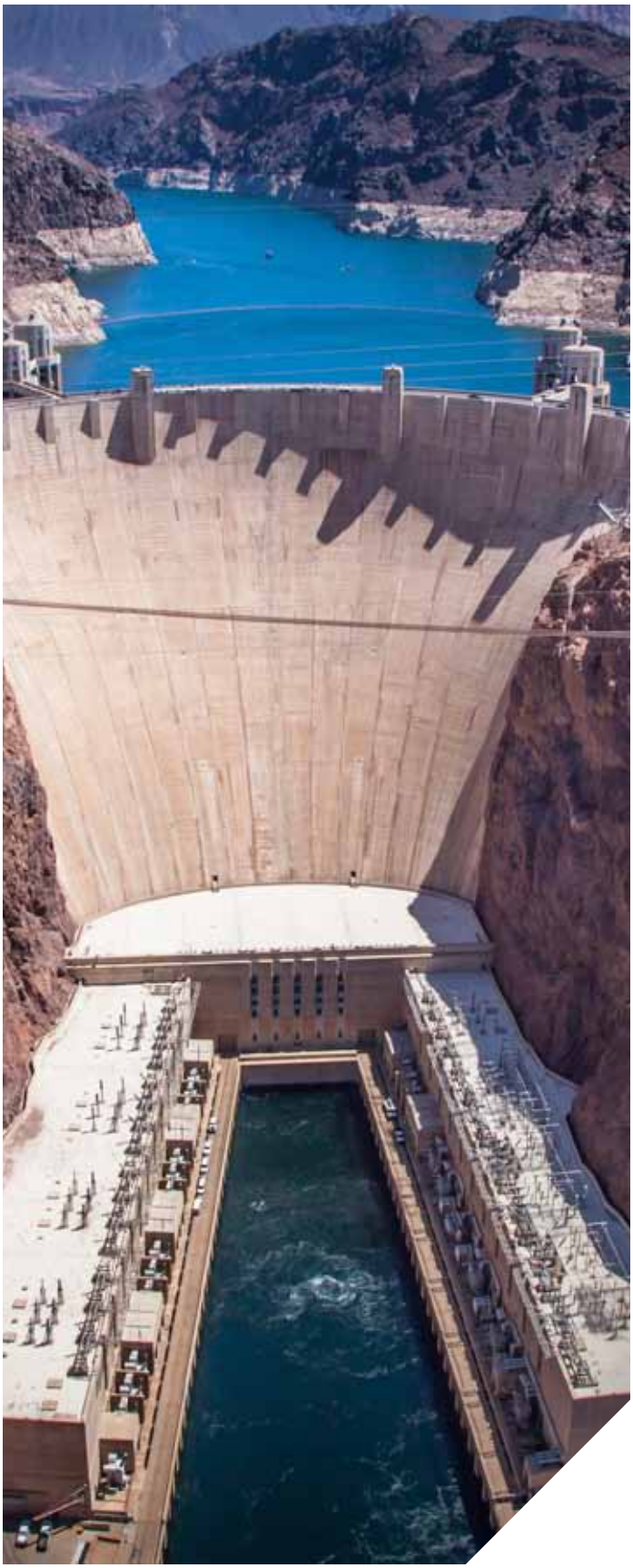


415
physical risks

338
regulatory risks

58
reputational risks

Detrimental water-related impacts



Water impacting the bottom line: E.ON experienced water shortages, leading to reduced water flow for its hydroelectric power generators in 2011 that resulted in 0.5 billion kWh (9%) less power generated than usual.

Business suspended: Barrick Gold experienced a water shortage at one of its mines in Papua New Guinea in 2010 that forced a plant to shut down for two weeks straight, resulting in an undetermined loss of revenues.

Company efforts to mitigate risk and achieve water stewardship

Water risk stems from the impact an organization has on water resources. For example, corporations that degrade already scarce water supplies, perhaps through over consumption, are potentially exposed to penalties and reputational damage. The businesses that fail to build long-term, holistic plans to reduce their impact on water resources are potentially exposed to costly physical, regulatory and reputational water-related risks as outlined in Figure 6.

The pressing questions for many investors and companies are not whether they face water risks, but how severe impacts will be, how soon they will be felt and how frequently they will impact corporations. There are several ways that these water-related risks and impacts can be mitigated, but the majority of respondents are currently focusing their strategic attention on discreet activities within the fence line to reduce water dependency within their operations with little attention to other aspects of their value chain or local watersheds. Two thirds of respondents (63%) report concrete targets or goals for their direct operations. In general, the majority of these are focused on reducing water use or increasing water recycling/ reuse in an effort to reduce freshwater dependence.

The "within the fence line" focus may be attributed to a tendency to apply carbon mitigation strategies to water, coupled with a bias to tackle the most readily achievable targets first – water efficiency in direct operations. Due to water's temporal and spatial nature, water in one basin is not the same as water in another basin so applying a blanket strategy that focuses on reducing water use, similar to a carbon strategy, will be insufficient to mitigate the underlying risks. While focusing on water usage is an important first step that may indicate where efficiency and reduction opportunities lie, companies that continue with such a narrow focus could be missing opportunities and overlooking serious risks.

When considering the risks being reported - and the rapidly changing physical, regulatory and social contexts surrounding them – it is evident that many cannot be tackled solely by efficiency gains within the fence line. Companies should include actions, targets and goals for community engagement, supply chain management, watershed management, transparency and public policy. A robust strategy for minimizing risk and building long-term resilience will take each of these factors into account. However, respondents' activities in these areas are notably lacking, potentially exposing their company and investors to risks that could be reduced. Only 6% of respondents set concrete targets or goals for community engagement, 4% for supply chain, 3% for watershed management, 1% for transparency, and no respondents set concrete targets or goals around public policy.

Corporations need to 'know their basin' and understand the impact they have upon it. Only then can appropriate action be established. In addition to striving for greater efficiency, corporations should seek innovative, strategic and comprehensive ways to address water-related risks both within their watersheds and throughout their value chains.

> Investors also know how damaging inaction, inappropriate action or delaying interventions on water-related issues can be... The global economy will favour businesses that take a pro-active approach to water stewardship.
>
> **Eurizon Capital**

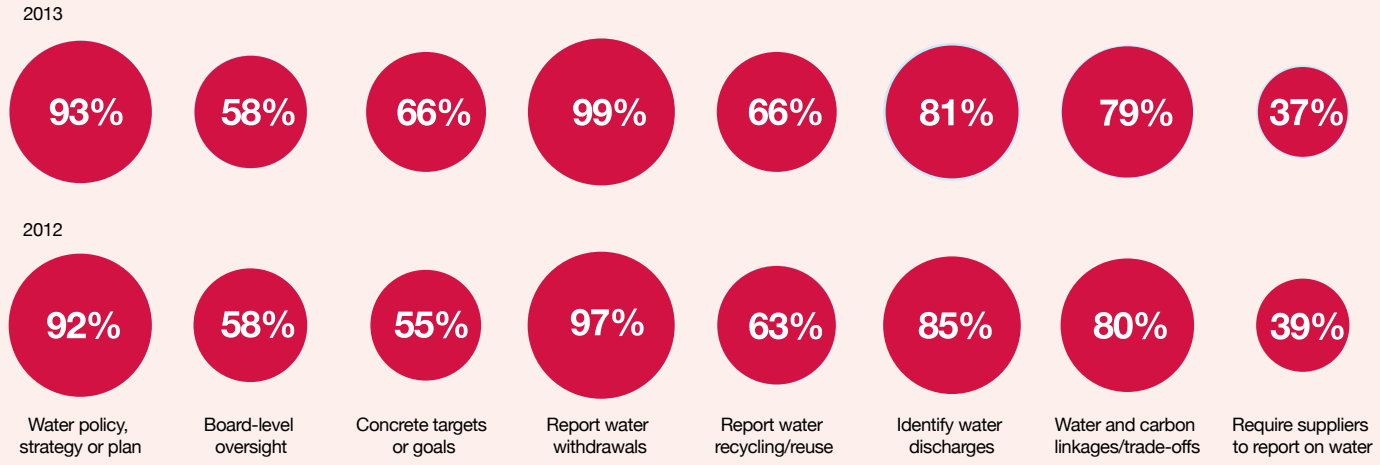
As Gianluca Manca from **Eurizon Capital** states, "Investors also know how damaging inaction, inappropriate action or delaying interventions on water-related issues can be." As has already been demonstrated, water impacts can severely reduce profit in a number of ways, including delays in securing licenses to operate, infrastructure damage and halts in production. Investors increasingly understand that companies should be evaluated not just on the amount of water they use, but on the water-related risks they face and how they plan to manage these over both the short and the long-term.

Water Stewardship

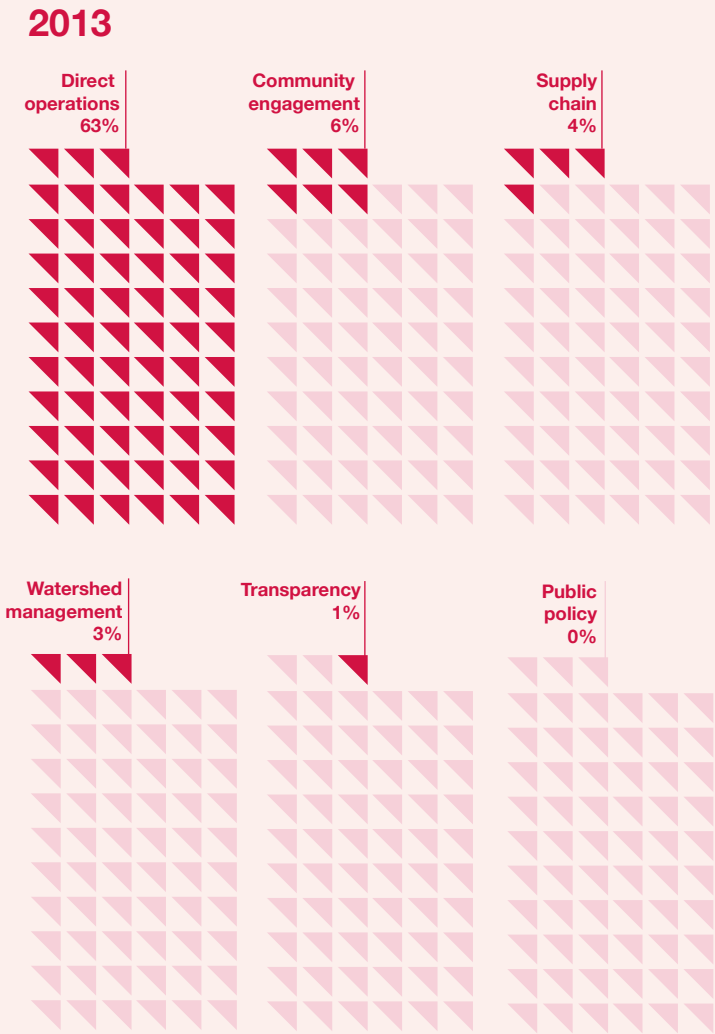
Companies with robust water stewardship strategies are characterized by having a comprehensive knowledge of water use across their value chain and the impact (current and projected) that water-related issues have on their business and vice versa. Most importantly, they have appropriate plans and processes in place to mitigate risks that give adequate consideration to priorities of the local water basin in which they operate.

Respondents must consider their water needs and corporate interests against the backdrop of the water basin in which they operate. Those that become water stewards will more effectively mitigate risks by reducing their impact on water resources. By managing their risks, they will be better able to avoid value destruction and seize competitive advantage, thereby building business resilience.

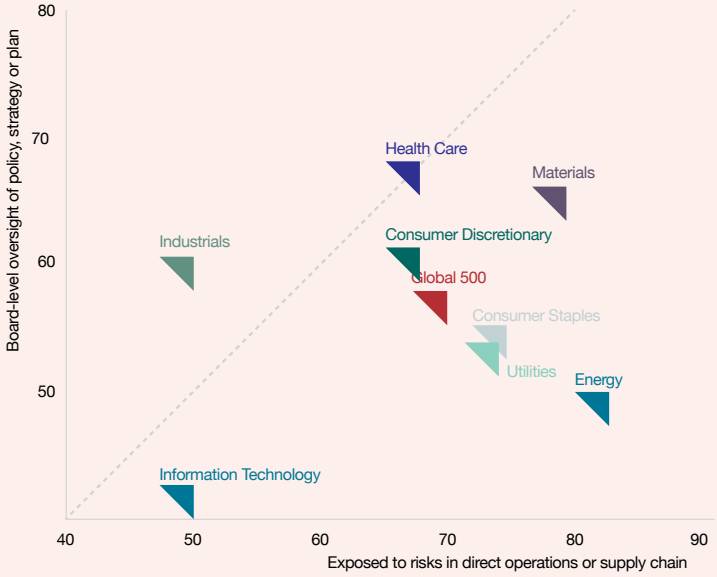
10 Water management and governance responses (% of respondents)



11 Proportion of respondents setting concrete targets or goals by type (% of respondents)



12 Board-level oversight vs. risk exposure by sector (% of respondents)



When efficiency is not enough

AU Optronics[5]: "The Longtan site received its environmental impact assessment approval in 1996 and entered production in 2001. The plant has also received a government permit to discharge into the Xiaoli River. Even though nearly 20 factories discharge into the Xiaoli River, river water and underground water is still used for irrigation in the area. As a result, local residents have lobbied the AUO Longtan plant to stop discharging wastewater into the river on many occasions over the years. The Longtan site had previously proposed to pipe wastewater to the Laojie River in Taoyuan County. The move has been delayed due to a lack of government cooperation."

Israel Chemicals[6]: The Dead Sea is a significant source of raw materials for Israel Chemicals; however, the water levels drop by around one meter each year. Solutions proposed by the Israeli Government are likely to affect the composition of the sea water and, hence, the quantity of materials the company can produce. *"Today, before these effects have been examined scientifically and the planning decisions made, it is difficult to determine the impact of the proposals, although, we can expect significant expenses."*

5 Other responding company
6 Other responding company

Water stewardship

Nestle: Nestle Water North America spends about US$8 million annually to maintain and protect the quality of its spring sources and its immediate watershed areas. Approximately 14,000 acres of land around its spring sources are managed as open space and are an environmental benefit to the local community.

Imperial Tobacco Group: The Group's subsidiary Manufacture de Cigarettes du Tchad (MCT) is helping to put in place deep water pumps in villages in the east of Chad. The first was installed in Magarine, followed by three more wells providing drinking water to remote settlements. MCT is also supporting a project that helps former tobacco growers in the south of Chad switch to a more suitable crop to cope with the country's changing environment. In the last five years, MCT has invested around US$190,000 on improving communities. "*In a country where many live on less than £1 a day, we have a duty as a responsible business to support community projects.*"

> Effective water stewardship will require that provisions are made firstly for water to meet the human right to water, then to ensure that ecosystems are able to function, and finally to ensure that water is used efficiently for agricultural and industrial use.
>
> **Nestle**

The case for investor intervention

While some progress has been demonstrated since 2011, such as a 15% increase in the proportion of respondents setting concrete targets and goals, a 39% increase in the proportion of respondents requiring key suppliers to report water use, risks and management, and a 39% increase in the proportion of respondents identifying opportunities, there is still some way to go to address water-related risks:

- **23% remain unable to identify whether or not they are exposed to risks across their supply chains;**
- **19% remain unable to identify water discharges by destination, treatment type and quality;**
- **15% fail to meet discharge regulations;**
- **42% of boards are not engaged on water; and**
- **Only 37% require key suppliers to report on water risks and management despite more than half (52%) sourcing key inputs or raw materials from regions subject to risk.**

To move companies beyond business as usual approaches and to protect assets from current and future water-related risks, investors must provide the guidance and leverage needed to cause a step change in thinking. There is a clear and urgent need for companies to develop effective risk mitigation responses to sustain corporate activities, avoid value destruction and help ensure resilience in the face of water risks.

There are 530 investor signatories with a total of US$57 trillion in assets holding companies accountable for the economic, environmental and human consequences of their water use and management. Corporate water stewardship is increasingly being recognized by investors, policy makers and NGOs as a useful way to appropriately manage water-related risks. In response, a framework of shared risk and water stewardship is emerging.

> As the manager of about €140 billion of pension assets, water risk is affecting PGGM investments in a variety of ways. The problem however, is that the business value at water risk remains unclear because company information on water is rarely comparable and meaningful. CDP's work on improving and standardizing water risk disclosure is therefore vital in helping PGGM assess the water risk in our portfolios. Beyond that, we want companies to reduce their water use and increase collective water security.
>
> **Piet Klop, Senior Advisor Responsible Investment PGGM Investments**

Although there is no globally agreed definition of water stewardship, CDP and its Water Advisory Council, which includes experts from Deloitte Consulting LLP, NBIM, the Pacific Institute, RobecoSAM, Sasol and the World Wildlife Fund (WWF), are working alongside a range of stakeholders to define what responsible corporate water use and engagement means on a practical level. We all agree that it goes beyond reducing water use to reducing impact on resources.

Emerging corporate water stewardship frameworks prescribe a much broader range of actions. For example, the Alliance for Water Stewardship Standard[7], the CEO Water Mandate's Water Management Maturity Progression[8] and WWF's Five Steps to Better Water Stewardship[9] encourage companies to look beyond their direct operations to consider supply chain and watershed management; collective action; public policy; and community and stakeholder engagement.

7 http://www.allianceforwaterstewardship.org/what-we-do.html#water-stewardship-standard
8 http://ceowatermandate.org/files/Ceo_water_mandate.pdf
9 http://wwf.panda.org/what_we_do/how_we_work/conservation/freshwater/water_management/stewardship_steps/

Shareholder action on water

Calvert Investments (Calvert) reports that *"strong votes on Calvert shareholder resolutions demonstrate growing investor focus on corporate sustainability."*[10]

Calvert actively engages with their portfolio companies to improve corporate sustainability and financial performance. One engagement strategy to improve environmental, social, and governance performance is to take an issue directly to the board of directors, senior management and fellow shareholders by filing shareholder resolutions. Calvert filed 22 proposals during the 2013 proxy season on a broad set of issues including water scarcity.

For example, recognizing that "water scarcity poses significant business risks and climate change is expected to exacerbate such risks," shareholders voted on a Calvert proposal that a particular company exposed to such risks "issue a sustainability report that includes a discussion of sustainability risks and opportunities, including an analysis of material water-related risks." The 2013 proposal received a very high supporting vote (>45%), representing an 11% increase in support from the same proposal issued in 2012. This sends a strong message to the board and senior management that nearly half of their shareholders believe it is important for the company to report on its approach and management of water-related risks.

As another example, recognizing that "water shortages can cause production shortfalls, price volatility, higher energy costs, and regulatory action, all while increasing competition for this scarce resource," Calvert presented a shareholder proposal asking another company "to describe its approach for managing water risks in its supply chain." Although support for the proposal decreased from 31% in 2012 to 29% in 2013, this level of support continues to demonstrate that a significant group of investors want the company to take steps to address these supply chain risks and protect shareholder value.

For details on more Calvert proposals, please see:
http://www.calvert.com/newsArticle.html?article=20454.

For details on additional water-related shareholder resolutions over the past few years, please see:
http://www.ceres.org/investor-network/resolutions#!/subject=&year=&company=&filer=&sector=&status=&memo=&all=water.

The water crisis can be alleviated, but to do this an updated way of thinking with increased momentum is required; we need to act now.

To increase water security, companies, investors and countries must glean insights from information, understand trade-offs among policy choices, and establish mechanisms to support execution and investment in water security.

Arguably, investors have a significant influence on the economy, and as a result they can drive positive change. Investors have the ability to conduct shareholder resolutions or even divest from companies that they perceive to be managing water issues poorly.

CDP's signatory investors recognize that the sectors approached through the CDP water disclosure process are the most exposed to water-related risks due to industrial and commercial requirements for water and the polluting nature of certain types of wastewater. Furthermore, many of the markets that these companies are targeting for growth are water-stressed countries, such as Chile, China, and India, where corporate water practices receive intense stakeholder scrutiny.

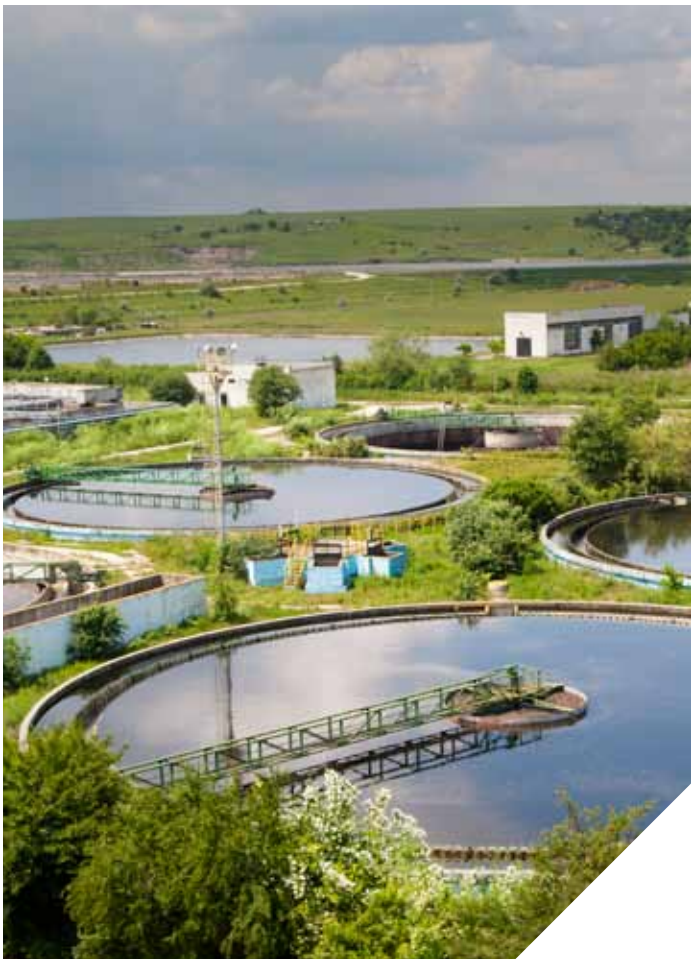
Many of these investors now realize that a company's social license to operate rests on good environmental stewardship and stakeholder engagement. Through CDP, investor signatories are promoting corporate water stewardship as a risk reduction strategy. They recognize that water stewardship is indicative of a forward-looking, resilient company with a sound understanding of its risk profile contributing to the company potentially being viewed as a more attractive investment prospect.

With recent research from the Sustainable Investments Institute[11] finding that investors are filing more environmental resolutions in the United States than ever before, coupled with the increasing number of investor signatories to CDP's water program, companies must move quickly, efficiently and collectively to address the global challenge posed by water.

In the interest of protecting current and future assets from the risks and challenges that lie ahead, investors must continue to engage with their portfolio to break the trend of business as usual and contribute to stable, long-term returns.

10 http://www.calvert.com/newsArticle.html?article=20454
11 http://siinstitute.org/press/2013/08202013_Si2_Press_Release_Proxy_Review_FINAL.pdf

Water stewardship safeguarding business value



SABMiller: Drinking water quality improvements

In 2009, SABMiller's operation in Colombia entered into a partnership with The Nature Conservancy, Colombia's National Parks administration, and the Aqueduct and Sewage Company of Bogotá to improve the quality of the drinking water consumed by people in Bogotá, and ecosystem conditions, by preventing excessive sediment delivery to the Chingaza and Tunjuelo Sumapaz rivers. This would also have important implications on the quality of water received by the brewery from the municipality. The partnership has used a combination of conservation and educational initiatives, environmental protection measures, and improvements in the management and sustainable use of ecosystems to achieve its objectives and is supported by the establishment of a collective fund to provide resources for the activities. When completed, the project will have extended across nearly 59,000 hectares and is projected to raise US$60 million for conservation projects over the next 10 years.

Sasol: Securing a license to grow

Sasol has successfully responded to mitigate water supply shortfalls by investing in the Vaal River Eastern Sub-system VRESAP pipeline and a water recovery project for Secunda to accommodate growth projects. The VRESAP pipeline investment has increased the price of water delivered to the Sasol Secunda complex by 30%. While the company acknowledges that this is a significant price increase, they report that it is still a relatively small contribution to total operating costs. In addition, Sasol has made greater efforts to better understand the water resource planning process adopted by the Department of Water Affairs. Continuous engagement has been undertaken with the authorities to have a greater opportunity to influence management decisions on the catchment to address identified water supply shortfalls in the first instance.

Catalyzing action on corporate water stewardship

> Companies and investors must move quickly, efficiently and collectively if the global challenges posed by water are to be addressed.

As a not-for-profit that works to deliver sustainable economies, CDP strives to move the market ahead of where it would otherwise be on environmental issues. Now in its fourth year, the water program provides the only global, standardized platform for companies to measure, manage and disclose vital water information. We are proud of the leadership position we have established in a nascent market in terms of visibility and the comprehensiveness of the data collected. This was recently acknowledged in a Greenbiz survey[12] of almost 300 sustainability leaders and there is much to celebrate:

- The number of investor signatories to CDP's water program has almost quadrupled in the space of just three years;
- 1,036 of the world's largest corporations in sectors that have the greatest potential to impact or be impacted by water issues were asked to disclose;
- 593 companies have already disclosed, a 59% increase in comparison to 2012; and
- CDP holds the largest and most comprehensive set of publicly reported corporate water information – spanning 112 countries, 91 industry sub-sectors - providing insights into corporate water risk exposure and mitigation strategies.

By posing questions to corporations on their relationship with water on behalf of investors and purchasing organizations, CDP has successfully sparked a dialogue and debate around water that until 2010 was limited in both scope and reach.

It has been an impressive journey but there is still much to be done to achieve the main objective of CDP's water program to safeguard water resources by catalyzing greater corporate water stewardship. In 2014:

- A revised water questionnaire that will facilitate better disclosure, drive greater water stewardship and elicit water data that the markets require will be introduced;
- Our work on water will grow in reach, starting with India and Japan in 2014 and China, Latin America and Europe in 2015; and
- The world's first public water scoring methodology will be introduced and trialed[13].

These water scores will be a key component in driving improved disclosure and corporate water stewardship. For investors and other stakeholders scores will highlight how prepared a company is in the face of rising water challenges.

Companies and investors must move quickly, efficiently and collectively if the global challenges posed by water are to be addressed. The markets will favor companies that lead a collaborative approach to safeguard water as a vital shared resource, to ensure sustainable revenue generation and contribute to a more resilient future.

CDP is proud to be a leader in this space and looks forward to continuing to catalyze the rapid step change that is so desperately required.

Cate Lamb
Head of Water
CDP

12 http://www.greenbiz.com/blog/2013/08/19/why-cdp-gri-djsi-stand-out-among-sustainability-frameworks
13 The scoring methodology will initially be tested on a confidential basis with Global 500 respondents only (i.e. a company's score will be made available only to that company). A wide range of stakeholders will be consulted throughout 2014 to test and refine the methodology which will be fully implemented across all respondents in 2015.

Translating water risks to potential "value at risk" and business opportunities

While progress has been made since the last CDP report, there is much to be done to quantify business value at risk from water and to develop new products, services and collective action programs to address these business risks.

CDP's 2013 global water report highlights two major trends – one with businesses and the other with investors.

CDP's water program has chronicled the maturing view by businesses that water represents both a business risk and a potential opportunity. With increasing recognition of current and projected risk exposure, companies have begun to build strategies to mitigate these risks. These strategies are now commonly referred to as "water stewardship." While the definition and components of water stewardship are currently being framed by organizations such as CDP, the Alliance for Water Stewardship, the CEO Water Mandate, the World Wildlife Fund and by consultants such as Deloitte, there are a few key aspects many can agree upon. These include the need for stewardship strategies to: evaluate water-related risks across the entire value chain; promote water efficiency and water recycling/reuse; develop local watershed strategies; and pursue "collective action" with stakeholders.

While the framework for "water stewardship" is being solidified, some companies are in parallel moving from managing water risk within their direct operations to evaluating and, in some cases, mitigating water risk across their entire value chain. This year at events such as Stockholm World Water Week, there were discussions of what leadership in addressing water-related risk looks like; what are the expectations of stakeholders for companies to address water-related risks and who in fact are the leaders?

A "maturity model" for water stewardship is being crafted. For those companies mitigating water risk across their value chain, engaging in collective action programs and taking responsibility for externalities such as WASH (access to clean water, sanitation and hygiene), leadership is within reach if not already achieved.

We applaud these companies in addressing one of our most important resource challenges, water scarcity.

In parallel to actions by companies such as those responding to CDP's water program, investors are also on a path to better understand the financial impact of water-related risks on their investments. While this is challenging due to the complexity of water, investors are exploring how to simplify the abundance of water risk data and quantifying water-related "business value at risk". We are getting closer to simplifying water risks to support decisions by investors.

Investors and businesses will need to work together to translate water-related risks to "business value at risk" to understand how best to mitigate these risks. We must also be mindful that with business risks come business opportunities. This is also an important trend and investors are paying attention – what are the new technologies and business models? We believe that CDP has an important role to play in focusing the investor community on how they can address water-related risks in their investment portfolios. Quantifying value at risk from water scarcity and quality is at the center of mobilizing action to address these private and public sector issues.

While progress has been made since the last CDP report, there is much to be done to quantify business value at risk from water and to develop new products, services and collective action programs to address these business risks.

Will Sarni
Director and Practice Leader,
Enterprise Water Strategy
Deloitte Consulting LLP

Investor perspective

NBIM looks forward to continued joint efforts with CDP to promote transparent water reporting and sustainable water management by companies.

NBIM is exposed to water-related risks through its investments in about 7,500 companies, many of which rely on water as an input or output factor in their operations and supply chains. Water Management has been a strategic focus for NBIM since 2009. Within a context of increasing water scarcity and adverse water-related events, the Fund's long-term return may be impacted through company specific risks or increased systematic risks driven by these externalities. Mapping and understanding such risks can be a challenge but is fundamental in supporting investment decisions.

The Government Pension Fund Global is broadly invested in several water-intensive sectors including Basic Resources, Chemicals, Food & Beverage, Health Care, Oil & Gas, Personal & Household Goods, Technology and Utilities. The World Bank highlights wide global disparities in water resources, with increasing needs being placed on the supply of concentrated freshwater in emerging economies. China and India alone account for over one third of total global water demand. Over-taxed aquifers in developing economies have elevated concerns, and inadequate resources to meet growing needs from population and industries in developing economies may impair future economic growth.

Transparent water reporting will help investors understand the specific risk exposures of different companies, as well as sectorial or regional challenges. Granularity of information reported at company and site levels is essential to understand the operational business resilience of companies to local water challenges and relevance of risk mitigation strategies. This is a necessary step towards assisting investors in managing and mitigating risks across their investment portfolio and a valuable process to support sustainable water management. NBIM encourages CDP's water program to develop deeper and richer reporting of water-related risks.

CDP's Global Water Report provides investors with critical information on how companies identify, manage and mitigate risks and opportunities related to water. We welcome the release of CDP's 2013 Global Water Report and corresponding response data as it facilitates an understanding of water related risks. The reports indicate that water-related events may have increased in magnitude, emphasizing the need for companies and investors to better understand the events and likelihood of future water risks. More than half of the respondents have already experienced detrimental water-related business impacts in the past five years, with respondents in the industrial sector reporting a 52% increase in impacts. In addition, the 2013 report highlights that approximately three quarters of respondents have identified water as a substantial business risk with more than 60% of those risks expected to materialize in the next five years. As companies move towards an increasingly resource-constrained world, water-related risks may affect the global competitive landscape and may need to be managed.

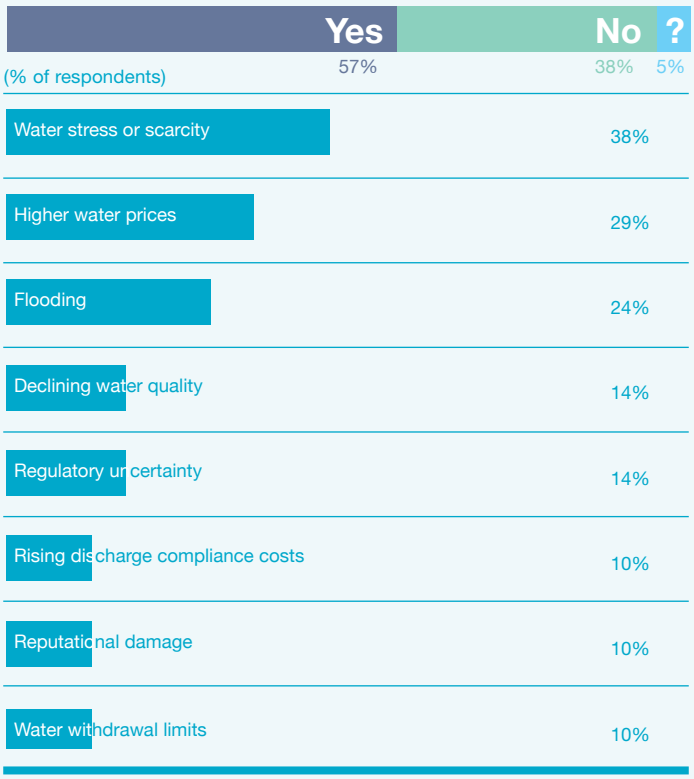
As a lead sponsor of CDP's water program since 2009, NBIM looks forward to continued joint efforts with CDP to promote transparent water reporting and sustainable water management by companies. The continued development of CDP's water program and risk related response data, together with the introduction and testing of scoring in 2014, is an important milestone in helping investors secure valuable information in their investment decision process. Beyond 2014 we look to further developments to increase depth in the figures to better measure performance and risk at corporate and company site levels.

Jan Thomsen,
Chief Risk Officer
Norges Bank Investment Management (NBIM)

Consumer Discretionary
Consumer Staples
Energy
Health Care
Industrials
Information Technology
Materials
Utilities

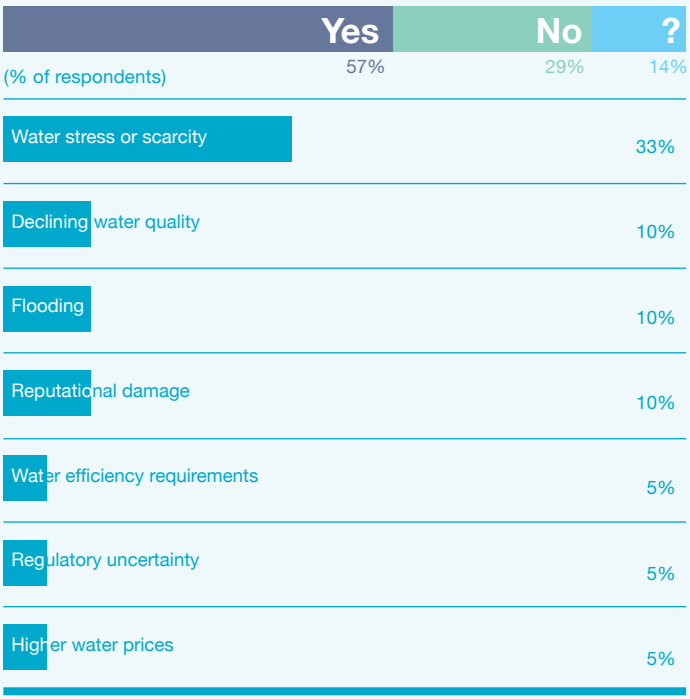
Consumer Discretionary

Risks in Direct Operations



*Inadequate infrastructure and water efficiency requirements were also reported by 5% of respondents

Risks in Supply Chain



*Rising discharge compliance costs, restricted operational water permits, product risk, and inadequate infrastructure were also reported by 3% of respondents'

Response rate

48%

(21/44)

- 2012 response rate: 51% (23/45)
- Industry response rate breakdown:

Auto Components: 2/5

Automobiles: 6/11

Hotels, Restaurants & Leisure: 5/5

Household Durables: 1/1

Internet & Catalog Retail: 0/3

Media: 0/2

Multiline Retail: 1/2

Specialty Retail: 3/7

Textiles, Apparel & Luxury Goods: 3/8

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- Although the sector has a relatively low response rate when compared to other sectors, respondents appear to be making progress in certain aspects of water stewardship.
- The proportion of respondents unable to identify risk exposure has decreased. There has been a 63% reduction in the proportion of respondents unable to identify whether or not they are exposed to risks in direct operations and a 34% reduction in supply chain compared to 2012.
- The supply chain remains a significant area of risk, and as such, more respondents are engaging suppliers and setting concrete water-related targets or goals for their supply chain.

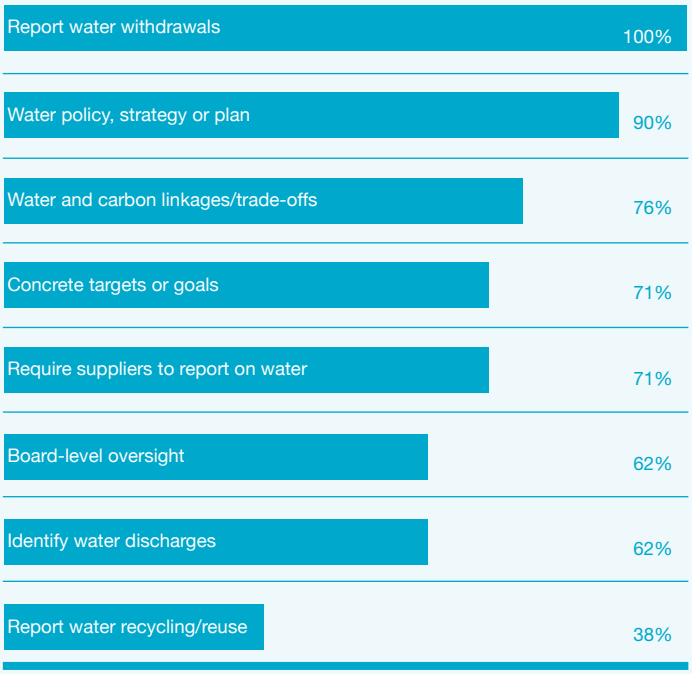
Overall risk exposure

57% of respondents report exposure to risks in direct operations, with two thirds (66%) of these risks expected to materialize now or within the next five years.

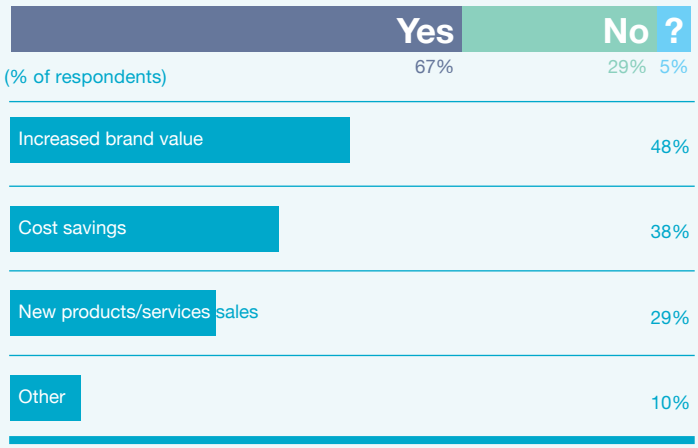
Interestingly, respondents experiencing water-related business impacts in the past 5 years decreased 30% since 2012; however, impacts reported remain significant. *"Operations at the* **Nissan Motor** *Thailand (NMT) plant at Samut Prakan remain unaffected by [regional flooding], but due to shortages in parts supply, production at the plant was suspended. The total production loss in Thailand due to the floods is around 40,000 units."*

Many respondents (57%) also report exposure to supply chain risks (compared to 39% in the Global 500), 60% of which are expected to materialize now or within the next five years. Encouragingly, 71% of respondents require key suppliers to report water use, risks and management; the highest among all sectors for the third consecutive year. In addition, 14% of respondents set concrete water-related targets or goals for their supply chains to mitigate these risks, compared to just 4% in the Global 500. For example, **Starbucks**

Management and Governance
(% of respondents)



Opportunities



> Working on solutions helps us to secure a 'license to operate' in diverse global locations and can enhance our reputation in local communities.
>
> **Ford Motor**

set a target to ensure that 100% of its coffee is ethically sourced by 2015. The Starbucks' C.A.F.E. Practices guidelines include strategies for farmers and mills to protect water sources and reduce water use.

Management and governance

The ability to measure and report water accounting metrics is essential for better management of water resources and demonstrates an awareness of water issues. Although all respondents in the sector report water withdrawals, only 38% report water recycling/reuse and just 19% verify that data (both the lowest among all sectors), indicating that there is room for improvement.

Seizing opportunities

Increased brand value and cost savings are the most frequently reported opportunities, but sales of new products or services demonstrated the most significant increase since 2012.

"Buildings account for the use of 40% of all energy, 68% of electricity and 88% of all potable water throughout the world. By performing water and energy retrofits on facilities, we help customers reduce energy and water consumption up to 50% through conservation and operational changes." - **Johnson Controls**

Risk mitigation strategy

Inditex

Inditex works closely with suppliers and subcontractors to build the technical capacity needed for proper use and disposal of chemicals; they conduct supplier audits and create master plans to help suppliers manage water sustainably and efficiently; and they work with local authorities, international organizations, NGOs, universities and other stakeholders to provide new solutions in water management.

Carnival

Carnival is engaged with regulators and interested stakeholders either directly or through industry trade organizations to address water concerns and to discuss feasible solutions. The R&D program manager is tasked with managing action plans related to researching and testing potable water production and wastewater treatment technologies to address water-related risks applicable to both existing fleet and future new builds.

Case study

H&M (Hennes & Mauritz): Water stewardship strategy

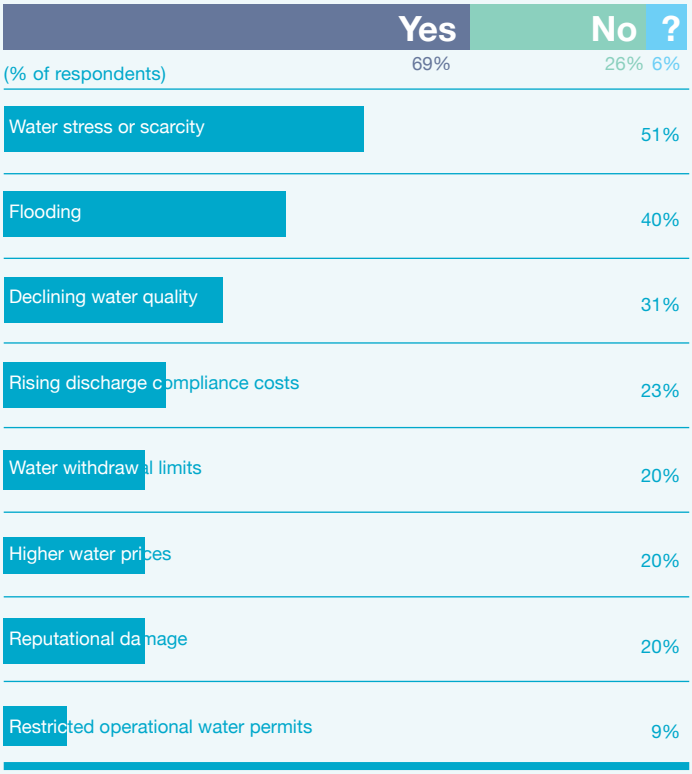
In 2012, H&M adopted a new water strategy based on WWF's five steps to water stewardship and the six key elements of the UN Global Compact's CEO Water Mandate. H&M entered into a three year partnership with WWF to implement the water strategy. Recognizing that its largest water impacts are in raw material production and wet processing in its supply chain, the strategy to address those impacts will be implemented across all markets. All 750 direct suppliers and many fabric manufacturers will receive information about the new water strategy.

Considerations for respondents

- Continue to obtain comprehensive water accounting data and take steps to improve water measurement and management.
- Continue to develop water stewardship strategies to mitigate near-term risks.

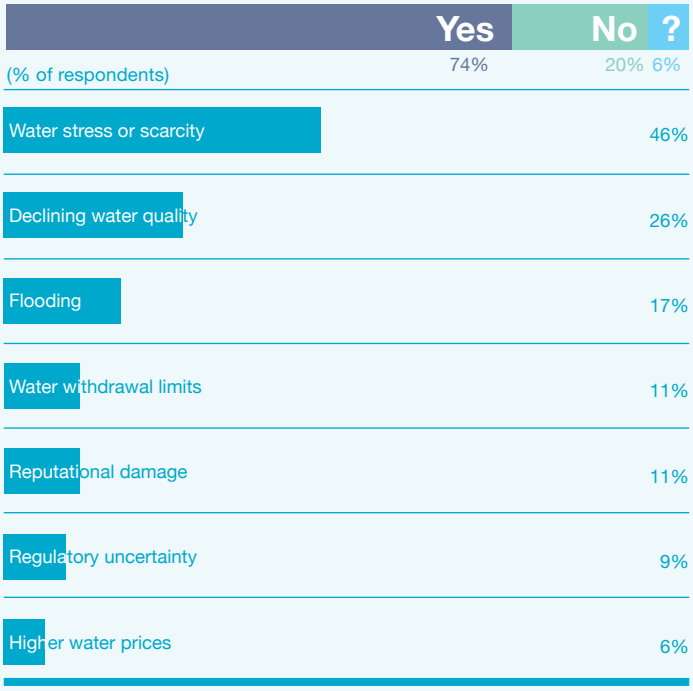
Consumer Staples

Risks in Direct Operations



*Inadequate infrastructure, regulatory uncertainty, water efficiency requirements and product risk were also reported by 9% of respondents and 3% reported litigation

Risks in Supply Chain



Response rate

76%

(37/49)

- 2012 response rate: 71% (32/45)
- Industry response rate breakdown:

Beverages: 7/9

Food Products: 8/13

Food & Staples Retailing: 9/12

Household Products: 2/2

Personal Products: 5/5

Tobacco: 6/8

(see Appendix IV for a list of companies that that did not respond, classified as DP, IN or NR)

Key findings

- The Consumer Staples sector has the highest response rate among all sectors.
- Respondents report a greater level of exposure to supply chain risks than any other sector.
- Worryingly, the majority of concrete targets or goals remain focused on direct operations and the proportion of respondents requiring key suppliers to report water use, risks and management has declined since 2012.

Overall risk exposure

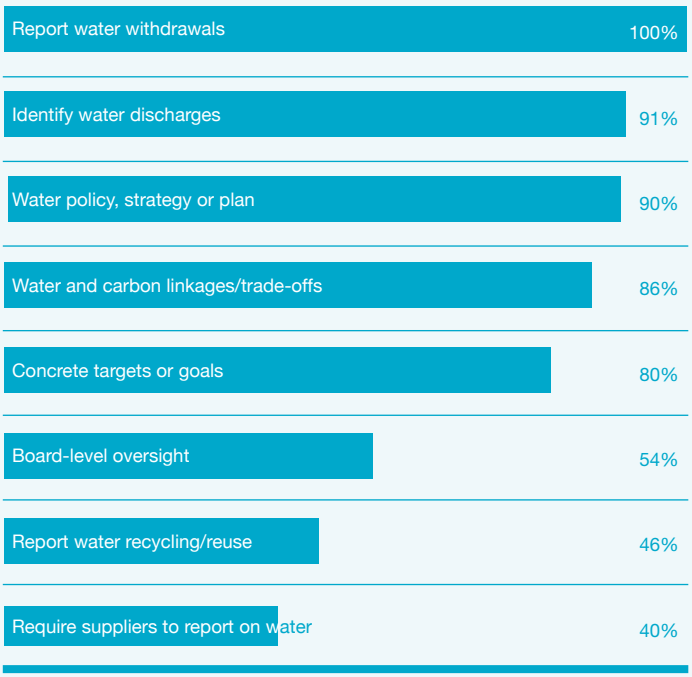
69% of respondents report exposure to risks in direct operations and 74% report exposure to supply chain risks, with the majority of risks expected to materialize now or within the next five years. Moreover, 80% of respondents report key inputs or raw materials coming from regions subject to water-related risk; the highest among all sectors.

57% of respondents have experienced water-related business impacts in the past 5 years - a 30% decrease since 2012. However, some of the reported impacts have had significant consequences. For example, **Diageo** experienced water shortages at two of its facilities in Ghana over the past 5 years that directly impacted the company's ability to produce and ship product. The current estimated impact to the business in lost sales due to these production stoppages is in excess of £2M.

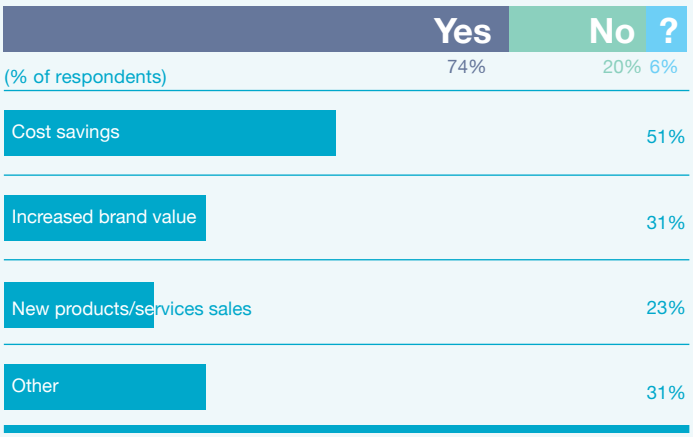
Management and governance

Although the sector has the highest proportion of respondents with concrete targets or goals, the majority of these are focused on direct operations despite reported risk exposure being greater in the supply chain. Furthermore, respondents requiring key suppliers to report water use,

Management and Governance
(% of respondents)



Opportunities



> We are committed to optimizing the use of water associated with sourcing, manufacturing and use of our products and to protect the water resources that we may impact.
>
> **Hillshire Brands**[1]

1 Other responding company

risks and management has declined 17% since 2012 to 40%.

The Coca-Cola Company has set a goal to *"replenish the water used in finished beverages by participating in locally relevant community water projects that support communities and nature, and meet and maintain this goal by 2020."*

Seizing opportunities

Over half of the respondents identify cost savings as a water-related opportunity. However, sales of new products or services have increased the most since 2012. For example, **Unilever** intends to reach 200 million consumers with products and tools that will help them to use less water while washing and showering by 2015, and the company has a goal to reach 400 million by 2020.

"Through its company-wide water supply risk assessment, **SABMiller** *developed further opportunities to ensure business continuity. It also provides a strong basis for the implementation of relevant mitigation actions at the watershed level, notably through the creation of public-private partnerships."*

Risk mitigation strategies

Nestle

Water Resource Reviews (WRR) are field assessments that evaluate potential impact on a community's right to water, as well as the long-term availability of water resources around factories at a watershed level, especially in water stressed/water scarce regions. The reviews consider five pillars related to the impact of direct operations on local water resources: quantity, quality, regulatory compliance, site protection, and stakeholder relations.

Colgate Palmolive

Colgate's Supplier Responsible Sourcing Assessment (SRSA) asks suppliers about the following topics: written policy on water management, targets for reduction or reuse of water, impact of water usage on the water catchment, water stress or shortage and management of impact on water quality and wastewater discharge. In 2012, Responsible Sourcing Assessments were conducted for 30% of Colgate's direct materials spend.

Case study

PepsiCo: Water and energy conservation opportunities

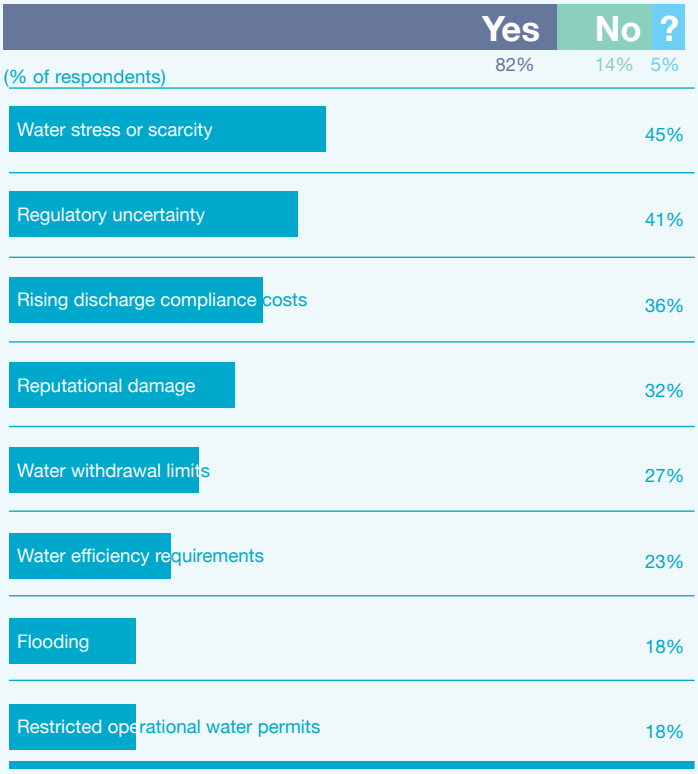
PepsiCo's ReCon tool guides manufacturing facilities through detailed self-audits of their resource management practices to identify and prioritize water and energy conservation opportunities by mapping all streams within the facility and assigning relative values to each of these streams based on local economics. ReCon Water maps all water uses and determines the effective cost of each use based on the cost of water, of energy used to heat and pump water, and of chemicals used to treat water.

Considerations for respondents

- In general, since agricultural water use within the sector accounts for the largest consumptive use of water, it is recommended that respondents engage more actively with their suppliers.
- Engagement and collective action in watershed management are strongly encouraged.

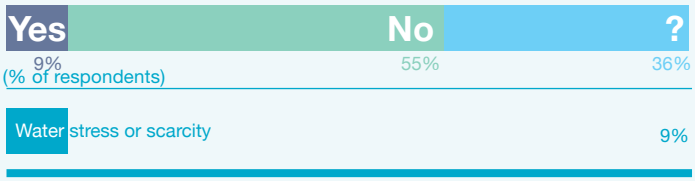
Energy

Risks in Direct Operations



*Declining water qualiy and higher water prices were also reported by 18% of respondents and 9% reported inadequate infrastructure

Risks in Supply Chain



Response rate

47%

(26/55)

- 2012 response rate: 44% (25/57)
- Industry response rate breakdown:

Energy Equipment & Services: 2/5

Oil, Gas & Consumable Fuels: 24/50

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- For the third consecutive year, the Energy sector has the lowest response rate yet the highest proportion of respondents reporting exposure to risks.
- Although all Energy respondents report having a water policy, strategy or plan, only half of respondents report having board-level oversight of water issues and set concrete targets or goals.
- The low response rate, lack of board-level oversight and concrete target/goal setting contrast the reported exposure and immediacy of risks to direct operations.

Overall risk exposure

82% of respondents report that water poses a substantive risk to their business. Almost two thirds (64%) of risks to direct operations are expected to materialize now or within the next five years. Many (54%) of the reported risks to direct operations are categorized as regulatory risk types; however, respondents reporting reputational damage increased significantly since 2012.

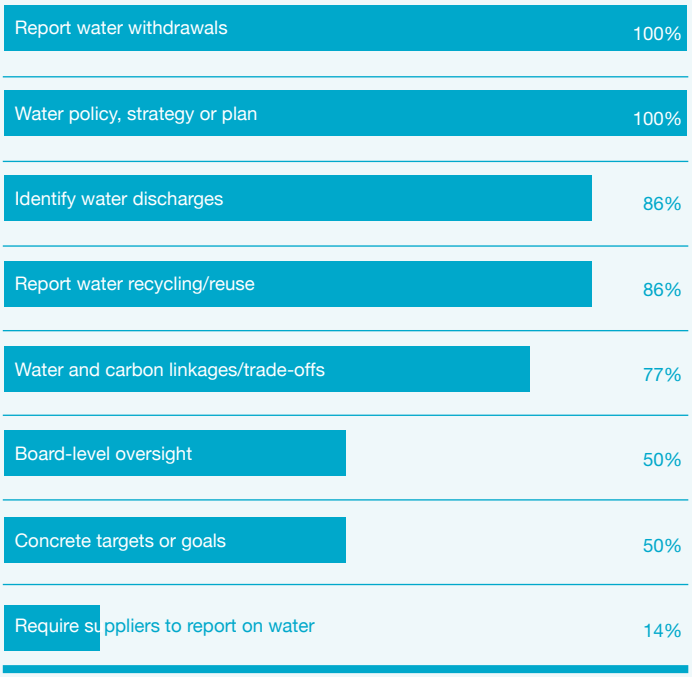
"Hydraulic fracturing has become a significant concern to stakeholders due to the types and amounts of chemical additives used in the frac fluids, the volumes of freshwater needed, the quality and amount of returned water, and its management method… major regulatory restrictions on hydraulic fracturing could limit access to shale reserves and future production, increase exploration and production costs, and extend timelines." – **Hess**

59% of respondents have experienced water-related business impacts in the past five years, a 24% increase since 2012. For example, **Baker Hughes** was affected by back-to-back hurricanes in the United States in 2008, which caused severe flooding in its facilities and significantly disrupted its operations. The company estimated over US$78 million in revenue and US$50 million in profit before tax was lost as a result. In addition, the cost to rebuild the facilities damaged by the hurricanes and remediation activities was more than US$2.5 million.

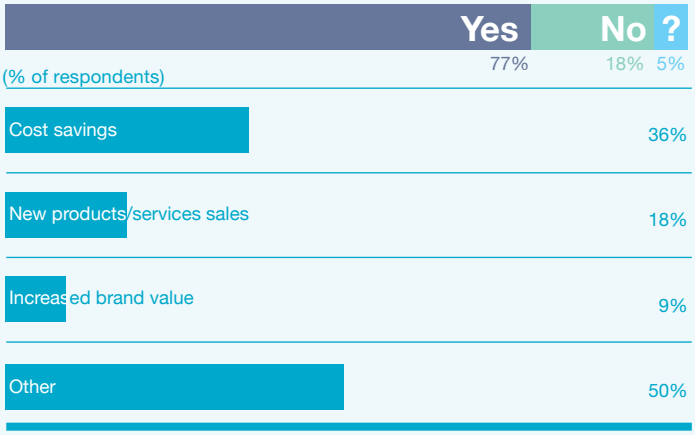
Management and governance

Energy is the only sector in the Global 500 where all respondents report having a water policy, strategy or plan, but only

Management and Governance
(% of respondents)



Opportunities



> Water is an essential component of our value chain that must be managed sustainably and strategically.
>
> **Noble Energy**

half of respondents report having both board-level oversight and concrete targets or goals. Although these figures have improved significantly over 2012 (28% and 64%, respectively) such a low percentage is surprising given the scale and immediacy of reported risks to direct operations.

Although respondents report taking action in some areas such as public policy and watershed management, no respondents have set concrete targets or goals in these areas. Rather, a significant proportion of reported concrete targets or goals are focused on water recycling and reuse. For example, **BG Group** set a goal of 100% reuse of flowback water and 50% reuse of produced water at its former JOJV in Pennsylvania.

Seizing opportunities

77% of respondents identify water-related business opportunities, and 81% of opportunities are expected to materialize now or within the next five years.

'Other' water-related opportunities, such as innovation in water management and improved production, are the most frequently reported opportunities. For example, **Devon Energy** in Canada is participating in Canada's Oil Sands Innovation Alliance (COSIA), whose member companies have shared 445 distinct technologies and innovations worth more than US$700 million to develop. Through this program, Devon can accelerate the pace of water performance improvements.

Risk mitigation strategy

Sasol

Sasol seeks to mitigate water supply shortfalls to accommodate growth projects through: continuous engagement with the Department of Water Affairs and government authorities involved with the setting of water prices, water pricing policies, long-term planning of water infrastructure to support catchment initiatives, and research and development of alternative treatment technologies able to handle poorer quality feed streams.

Suncor Energy

Suncor Energy recognizes that as you strive towards 100% water recycle or zero liquid discharge, you can potentially increase your carbon footprint (energy requirements) and land footprint (landfilled solid waste). Suncor Energy has developed a tool through the Oil Sands Leadership Initiative to evaluate the net environmental effects of a project or decision to find the balance between land, air, and water. Suncor Energy has used it in decision-making around selection of new water sources and disposal needs.

Case study

Apache: Utilizing non-potable water sources

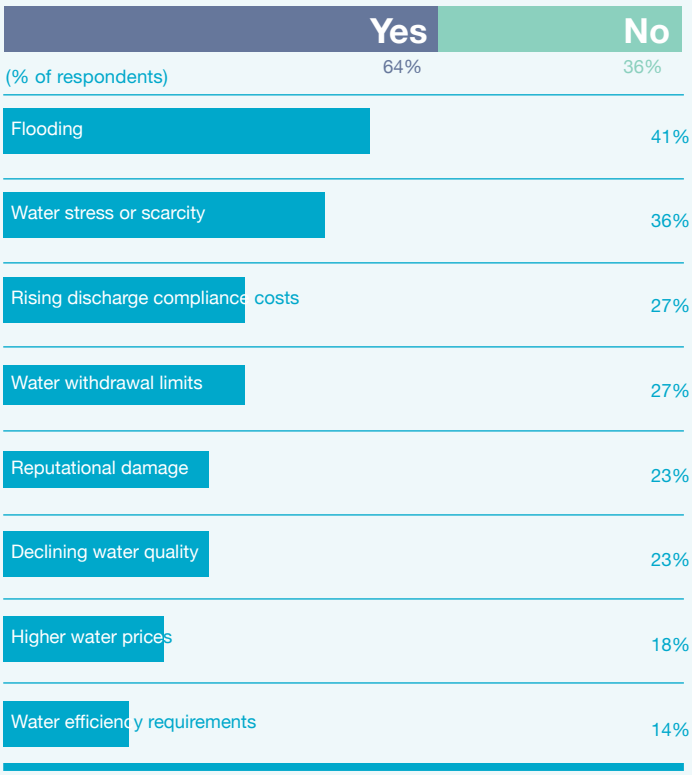
Apache has invested in technology to increase recycling and reuse of water in drilling operations and to utilize other water sources that are not in high demand, reducing its exposure to potential future legislative changes. This activity addresses multiple water-related risks in that it decreases vulnerability to price fluctuations and any restrictions to access of the source, providing the assurance of a constant supply. Approximately 95% of Apache's total water withdrawals come from non-potable water sources such as saline aquifers or seawater.

Considerations for respondents

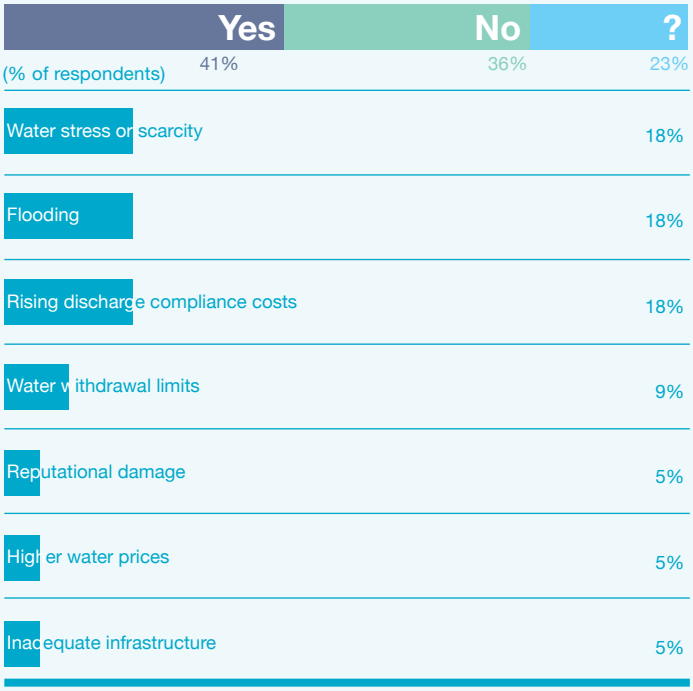
Many respondents reported increasing public concern over water withdrawals and water quality. As such, Energy companies should continue to explore innovative water treatment technologies and water recycling/reuse.

Health Care

Risks in Direct Operations



Risks in Supply Chain



*Regulatory uncertainty was also reported by 14% of respondents; inadequate infrastructure by 9%; and restricted operational water permits, changed product standards and product risk were reported by 5%

Response rate

74%

(23/31)

- 2012 response rate: 77% (24/31)
- Industry response rate breakdown:

Biotechnology: 4/6

Health Care Equipment & Supplies: 3/6

Life Sciences Tools & Services: 1/1

Pharmaceuticals: 15/18

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- Strategic responses to risks are increasing. More Health Care respondents have a water policy, strategy or plan, board-level oversight and concrete targets or goals than ever before.
- Similarly, supply chain risks are receiving greater attention with more respondents requiring key suppliers to report water use, risks and management.
- Water-related opportunities are ready for exploitation. The vast majority of opportunities identified are expected to materialize now or within the next five years.

Overall risk exposure

Awareness of risks in direct operations is increasing. 64% of respondents have identified water as a substantive risk to their direct operations, with the majority of risks expected to materialize now or within the next five years. 23% of respondents report declining water quality as a substantive risk to direct operations likely as a result of the sectors' reliance on high quality water as both an ingredient as well as for use in processing and cleaning.

Reporting of regulatory uncertainty risks in direct operations increased by 64% over 2012, perhaps due to the potential introduction of regulations in Europe and the US limiting the discharge of pharmaceuticals to the environment.

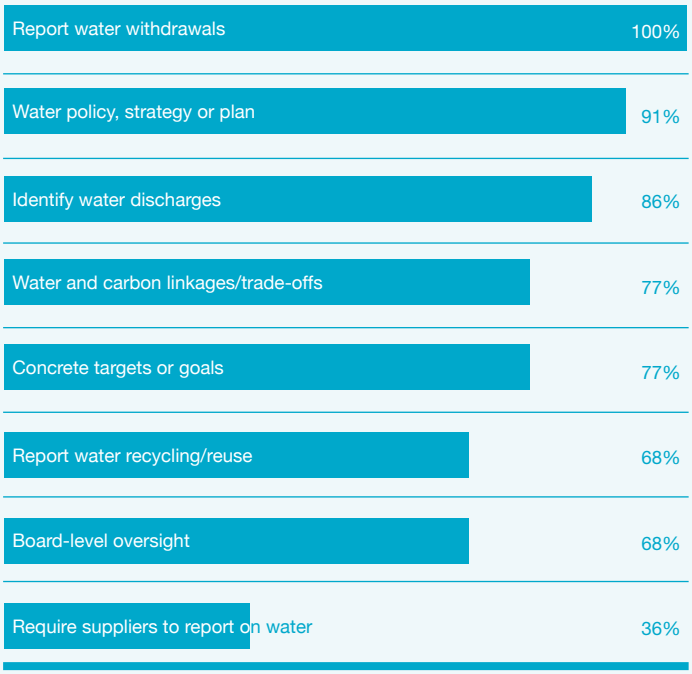
Further, risk exposure in the supply chain remains an issue with 41% of respondents reporting a total of 23 supply chain risks such as water stress or scarcity. For example, **Bristol-Myers Squibb** reports that *"readily available water is needed to produce medicines and access to water is a criteria in the selection of manufacturing locations and key suppliers."*

Interestingly, the proportion of Health Care respondents that have experienced water-related business impacts in the past 5 years is significantly lower than that of the Global 500 (27% vs. 53%).

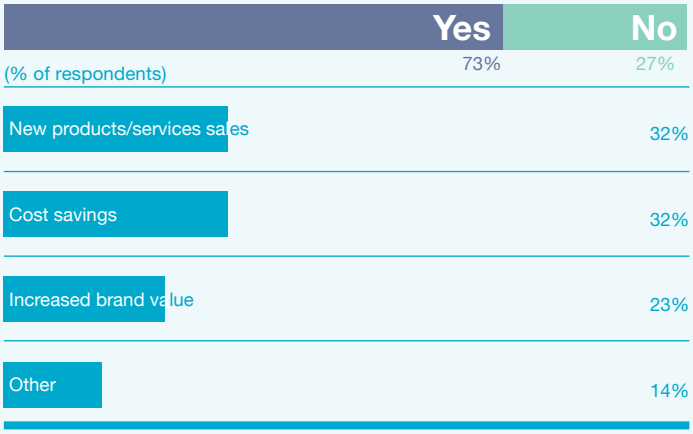
Management and governance

Perhaps as a result of this risk exposure, the strategic response to water-related issues has increased, as evidenced by an increase in respondents with a water policy, strategy or plan as well as board-level oversight (now the highest among all sectors) and concrete targets or goals. 2013 also saw a 45% increase in the

Management and Governance
(% of respondents)



Opportunities



> Pfizer engages directly with institutional and socially responsible investors such as ICCR and PGGM. Engagement has been both proactive (informing of water initiatives and outcomes) as well as reactive (response to investor demands for water sustainability initiatives).
>
> **Pfizer**

proportion of respondents requiring key suppliers to report water use, risks and management compared to 2012.

Despite the increasing public and regulatory scrutiny over pharmaceuticals in the environment (PIE) reported by respondents, just 9% of respondents report having paid penalties/fines for significant breaches of discharge regulations; this represents a 45% decrease since 2012.

Seizing opportunities

Almost three quarters (73%) of respondents identify water-related business opportunities, 71% of which are expected to materialize now or within the next five years.

Sales of new products or services remains the most commonly reported opportunity. For example, **Johnson & Johnson** recognizes that infectious diseases may become more prevalent as a result of climate change due to factors such as migration to cities, malnutrition, and water scarcity. The company's infectious diseases segment, including medicines that treat HIV, tuberculosis, and other bacterial infections, earned approximately US$3.2 billion in 2012, with 11-17% sales growth for HIV drugs and 30% sales growth for other infectious diseases.

Risk mitigation strategy

SANOFI

Regarding the PIE issue, the Group is collaboratively working with pharmaceutical and academic stakeholders to expand scientific knowledge in this area and assess the potential impact of pharmaceuticals in the environment, including impact on human health. Furthermore, the Group detects and quantifies active pharmaceutical ingredients within effluents at its production facilities.

Bayer

Concrete measures to mitigate the risk of declining water quality include: (1) constructing a river reservoir in Brazil to become independent from the municipal water supply when the Sarapui River is too polluted; (2) installing a new water filter system to improve tap water quality in Turkey; (3) joining "Project Catalyst" an initiative aimed at improving water quality from agricultural catchments and; (4) continually monitoring the risk of poor water quality at its sites.

Case study

Merck & Co.: Capital fund

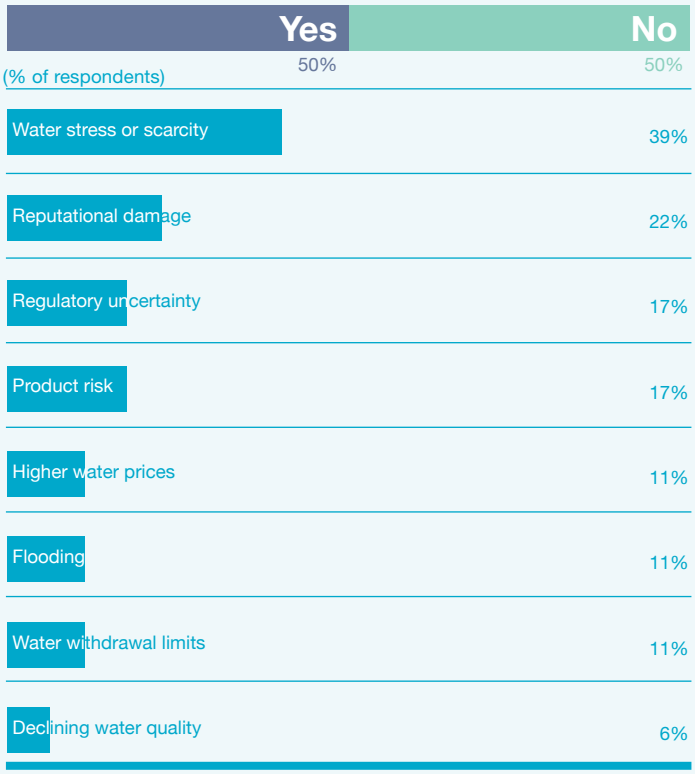
Merck has established a capital fund to invest in the company's water and wastewater infrastructure with the goal of reducing water demand, improving water quality, strengthening its compliance position, improving operational efficiency and addressing the discharge of active pharmaceutical compounds from manufacturing plants. To date, over 24 projects have been chartered.

Considerations for respondents

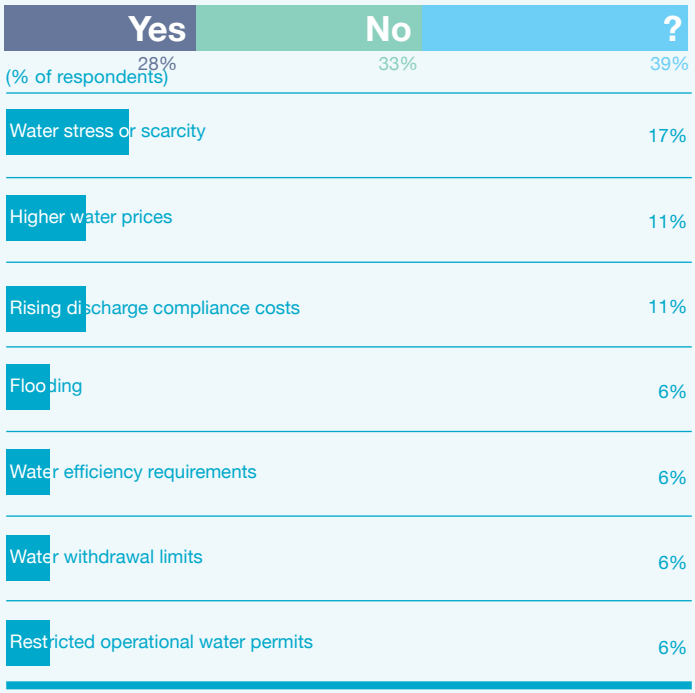
- Pharmaceuticals in the environment (PIE) is an area of emerging concern and should continue to be a focus for action.
- Given that high quality water is an essential input, respondents should consider their role in wider watershed conservation initiatives.
- Since production of ionized water is energy intensive, respondents should be mindful of potential trade-offs going forward.

Industrials

Risks in Direct Operations



Risks in Supply Chain



*Water efficiency requirements and litigation were also reported by 6% of respondents

Response rate

47%

(18/38)

- 2012 response rate: 47% (18/38)
- Industry response rate breakdown:

Aerospace & Defense: 3/10

Building Products: 1/1

Construction & Engineering: 2/2

Electrical Equipment: 0/2

Industrial Conglomerates: 4/8

Machinery: 6/12

Road & Rail: 0/1

Trading Companies & Distributors: 2/2

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- The proportion of respondents that have already experienced detrimental impacts related to water in the past 5 years has risen dramatically this year compared to last.
- Uncertainty remains in relation to supply chain risk exposure. More than one third of respondents are unable to identify whether or not they are exposed to substantive water-related risks across their supply chains, and a large proportion of the supply chain risks reported have an unknown timeframe.
- The majority of Industrials respondents identify water-related opportunities that are expected to materialize now or within the next five years.

Overall risk exposure

Two thirds (67%) of Industrials respondents report that they have experienced water-related business impacts in the past 5 years, a dramatic increase of 50% since 2012. However, just half of respondents report that water poses a substantive risk to business, with 50% of risks reported to direct operations anticipated to materialize now or within the next five years.

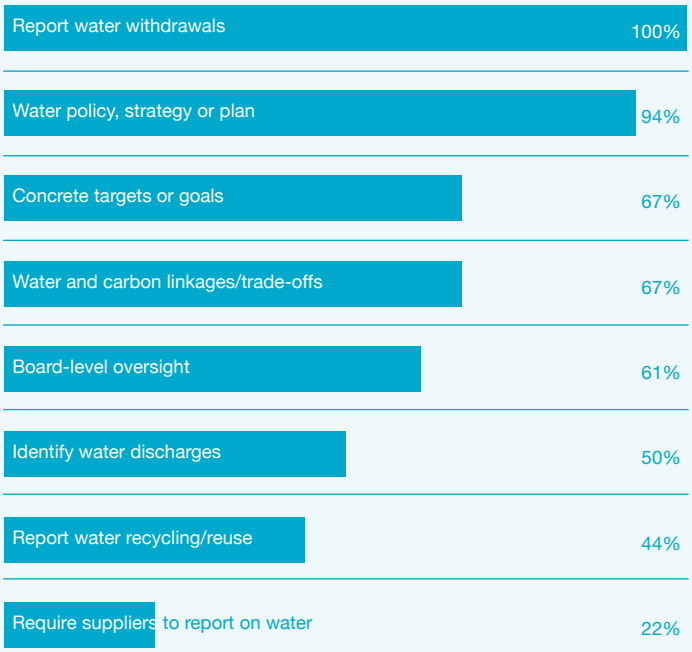
While identification of flooding as a risk to direct operations has decreased 33% from 2012, it has still caused significant impacts. For instance, in Thailand, due to flooding in Bangkok and neighboring regions, one of **Hitachi's** electric appliance plants was submerged for 49 days in 2011 and took nearly 3.5 months to restart its production.

A significant proportion of respondents (39%) are still unable to identify whether or not they are exposed to substantive water-related risks in their supply chains, and respondents also have difficulties identifying the anticipated timeframe associated with supply chain risks. 67% of supply chain risks are reported to have an unknown timeframe.

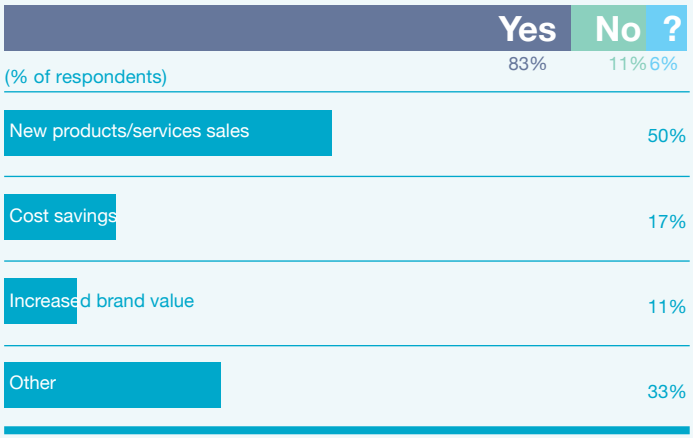
Management and governance

There is continued improvement in management and governance responses to water-related issues with increased board-level oversight, increased concrete targets or goals, all respondents reporting water withdrawals, and almost all (94%) respondents reporting a water policy, strategy, or plan. However, only 44% report water recycling/reuse (compared to 66% in the Global 500) and only half are able to identify discharges by destination, treatment type and quality (the lowest among all sectors).

Management and Governance
(% of respondents)



Opportunities



> Our corporate strategy is to continue the development and deployment of products and services that respond to growing water demand[s] and the need to manage limited global water resources.
>
> **Layne Christensen**[1]

1 Other responding company

"In 2012, the Action Committee for Environmental Sustainability (ACES) completed an initiative to analyze the materiality of environmental issues, including water, across our value chain. The data collected through this effort identified that 88% of our water footprint exists in raw materials processing in our supply chain. The most notable item is steel which represents 55% of our water footprint. As we continue to develop our comprehensive sustainability goals, metals will be a primary focus." - **Cummins**

Seizing Opportunities

83% of respondents identify water-related business opportunities, with the majority of these (84%) expected to materialize now or within the next five years. These opportunities predominantly focus on sales of new products or services. For example, **General Electric** works with over 50,000 industrial and municipal clients globally to help them manage stakeholder conflicts and assist with their overall water optimization strategy and execution, and **Deere & Company's** product and service offering enables its customers to manage agricultural water through efficient irrigation, soil moisture management, water-efficient tillage practices, and laser-leveled fields.

Risk mitigation strategy

Siemens Aktiengesellschaft

Siemens considers the entire product lifecycle in the design, development, manufacturing and marketing of products and services so as to protect the environment and human health in a manner that meets or exceeds any applicable regulations, and in order to minimize the impact on natural resources.

ACCIONA[1]

ACCIONA has a corporate tool for management of regulatory risks. The tool is coordinated at the corporate level and has been managed by each Business Line and Division since 2010. In this way, the tool allows the Corporate Environment Management to monitor the identification of legal requirements and other regulations applicable to each facility, as well as evaluation of their compliance. In 2012, 97% of ACCIONA facilities had access to and implemented the tool.

Case Study

VINCI: Eco-design

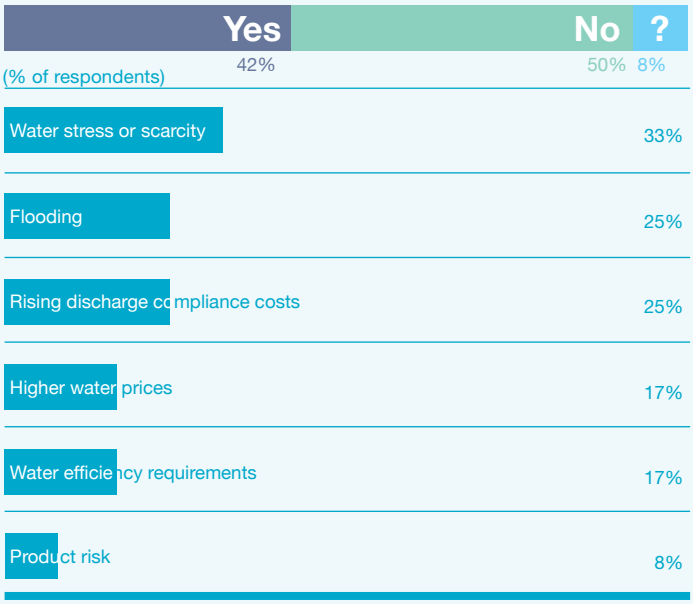
As environmental concerns are increasing, eco-design of buildings, infrastructures and districts represent a growing opportunity for VINCI companies. VINCI has created several tools to develop eco-design projects, which take into account water consumption and toxicity on water habitats of infrastructures during their lifecycle to facilitate reduced water consumption and improved water quality. VINCI has also partnered with ParisTech to create the Chair of Eco-design and develop new eco-responsible construction tools. In 2012, eco-design studies were carried out for 229 projects and 18 projects were carried out under the Oxygen eco-commitment.

Considerations for respondents

- Greater awareness of potential supply chain risk exposure is essential for this sector.
- Given that two thirds of respondents have experienced water-related business impacts in the past 5 years, but only half report water as a substantive risk to their business, the sector may potentially be underestimating its exposure to risks in direct operations, and as a result, more robust risk assessments are encouraged.

Information Technology

Risks in Direct Operations



*Regulatory uncertainty was also reported by 14% of respondents; inadequate infrastructure by 9%; and restricted operational water permits, changed product standards and product risk was reported by 5%

Risks in Supply Chain

Response rate

54%

(14/26)

- 2012 response rate: 63% (19/30)
- Industry response rate breakdown:

Communications Equipment: 2/3

Computers & Peripherals: 4/5

Electronic Equipment, Instruments & Components: 2/4

Internet Software & Services: 1/5

IT Services: 0/2

Semiconductors & Semiconductor Equipment:3/4

Software: 2/3

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- Only 50% of respondents report that water poses a substantive risk to their business.
- Uncertainty remains in relation to supply chain risk exposure.
- Perhaps as a result of the low reported risk exposure, fewer respondents disclosed to CDP this year compared to last and few respondents report board-level oversight and water-related concrete targets or goals.

Overall risk exposure

Reported exposure to water-related risks in the Information Technology sector is low with only 50% of respondents reporting that water poses a substantive risk to their business, the lowest among sectors for the second consecutive year. However, 17% of respondents report having the majority of operations located in regions at risk, which is a 217% increase from 2012. With 75% of respondents relying exclusively on water stress to identify regions subject to water-related risk (compared to 47% in the Global 500), more robust and thorough risk assessments are encouraged for the sector.

One quarter (25%) of respondents have experienced water-related business impacts in the past 5 years (the lowest among all sectors). For example, **Quanta Computer**[1] estimates that the annual typhoon damage it sustains to its property exceeds US$16,329 (100,000 Yuan).

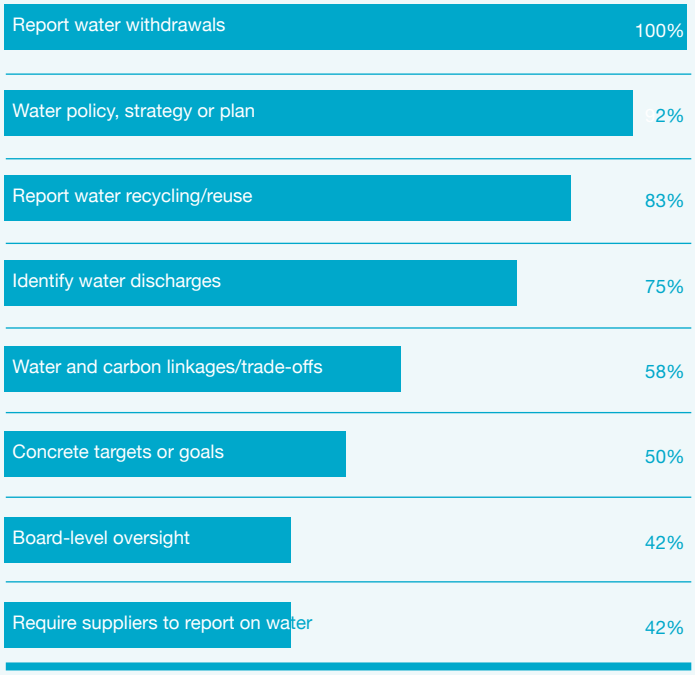
A significant proportion of respondents (50%) are unable to report whether or not they are exposed to risks in the supply chain. Furthermore, 44% of substantive supply chain risks reported have an unknown timeframe, indicating that uncertainty remains about how the sector may be affected by water issues.

Management and governance

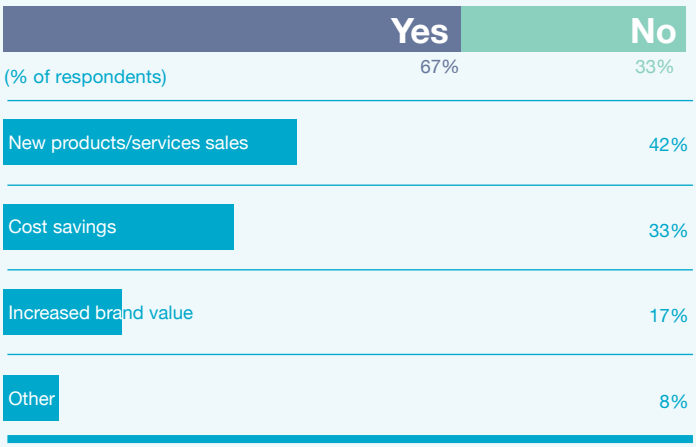
Perhaps unsurprisingly, the sector has the lowest proportion of respondents (42%) reporting board-level oversight of their water policy, strategy or plan. Furthermore, only half of the respondents have concrete targets or goals, compared to 66% in the Global 500, and fewer companies responded to CDP's water questionnaire this year compared to last (15% decrease).

In addition, only 58% of respondents identify linkages or trade-offs between water and carbon (lowest among all sectors). One example of how

Management and Governance
(% of respondents)



Opportunities



> TI recognizes that water is a precious resource – yet it is crucial to semiconductor manufacturing, which is why the company conserves and reuses water and works to preserve water quality to every extent possible.
>
> **Texas Instruments**

1 Other responding company

respondents are managing this linkage is **AU Optronics**[1]; the company has a zero discharge system, which reduced the wastewater output of its facilities from 18,000 cubic meters per day to 400 cubic meters. This new system also uses just 0.6% of the diesel needed in traditional systems. The recovery part of the zero discharge system also produces less than 3% of the CO_2 that traditional systems create.

Seizing opportunities

67% of respondents identify water-related business opportunities, again, the lowest proportion among all sectors. However, 80% of opportunities are expected to materialize now or within the next five years.

"IBM's Smarter Water initiatives use the broad capabilities of IBM, including integration, consulting and services, leading edge software and analytics technologies, and the worldwide resources of IBM Research to provide a robust IT and information infrastructure to address some of the most pressing water management challenges." - **IBM**

Risk mitigation strategy

Intel

In 2011, Intel requested baseline data and reduction goals from top suppliers for water, energy, and waste and collected responses from 98% of its top Tier 1 suppliers. Intel also requested water and waste metrics and looked for the presence of established goals, placing an emphasis on suppliers located in water-stressed countries. In 2012, 80% of Intel's top Tier 1 suppliers tracked water metrics.

Taiwan Semiconductor

TSMC, the R.O.C. Ministry of Economic Affairs Water Resource Agency, and the Taiwan Water Environment Association (TWEA) jointly held a Water Resource Forum, a new industry-led initiative for adapting to global climate change and lowering water resource risk. At the meeting experts in the field shared their experience in water resource recycling as well as developing and allocating water resources, aiming to build consensus and collaborate to lower Taiwan's water resource risk.

Case study

EMC: Technology

In EMC's new Durham Data Center in North Carolina, efficiency design innovations include a rooftop water collection system that has reduced water usage at the facility by more than 40% - one inch of rain on the 450,000 square foot roof equals 280,000 gallons of water. Air-intake plenums around the perimeter of the building and air-side economizers provide free cooling during cool months - approximately 5,000 hours per year - reducing water consumption required to cool the data center.

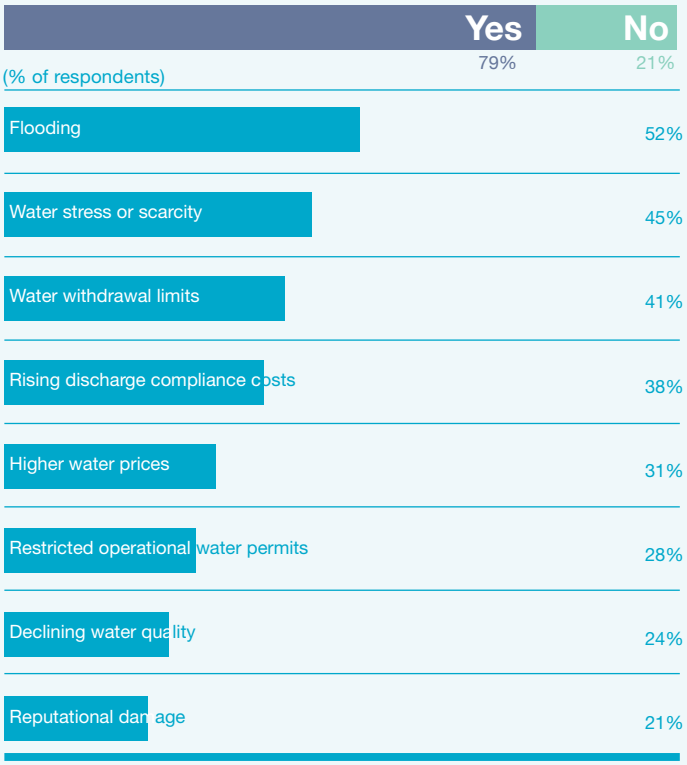
Considerations for respondents

- Greater transparency of water-related risk exposure is essential for this sector. Comprehensive risk assessments that cover the supply chain as well as direct operations should be considered.

- Many respondents haves been able to capitalize on water-related business opportunities, yet identification of opportunities by the Information Technology sector is still the lowest among all sectors. Respondents should further evaluate the true value associated with potential opportunities.

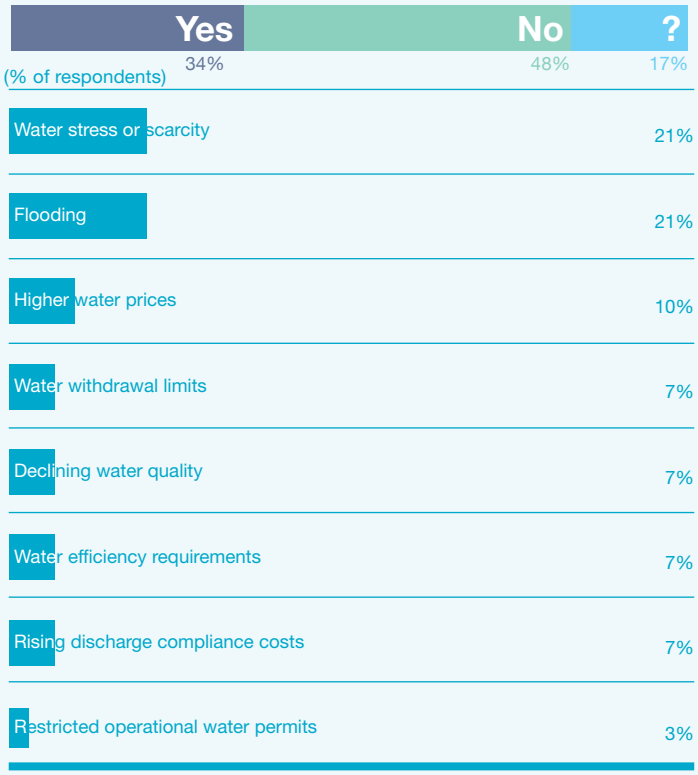
Materials

Risks in Direct Operations



*Regulatory uncertainty, inadequate infrastructure and water efficiency requirements were also reported by 17% of respondents and 10% of respondents reported litigation

Risks in Supply Chain



Response rate

74%

(29/39)

- 2012 response rate: 74% (31/42)
- Industry response rate breakdown:

Chemicals: 11/16

Construction Materials: 2/3

Metals & Mining: 16/20

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- The Materials sector has one of the highest response rates as well as one of the highest proportions of respondents reporting water as a substantive business risk.
- The sector also has the highest proportion of respondents that have experienced detrimental impacts related to water in the past 5 years.
- Respondents in the Materials sector are increasingly recognizing the immediacy of potential water-related opportunities.

Overall risk exposure

76% of respondents have experienced detrimental impacts related to water in the past 5 years - the highest among all sectors and significantly higher than the Global 500 average of 53%. For instance, **JSW Steel**[1] faced a complete lack of water in one of its factories in India that spanned 10 consecutive days, severely restricting production at the facility. More respondents than any other sector (37%) also report having the majority of their operations located in regions at risk.

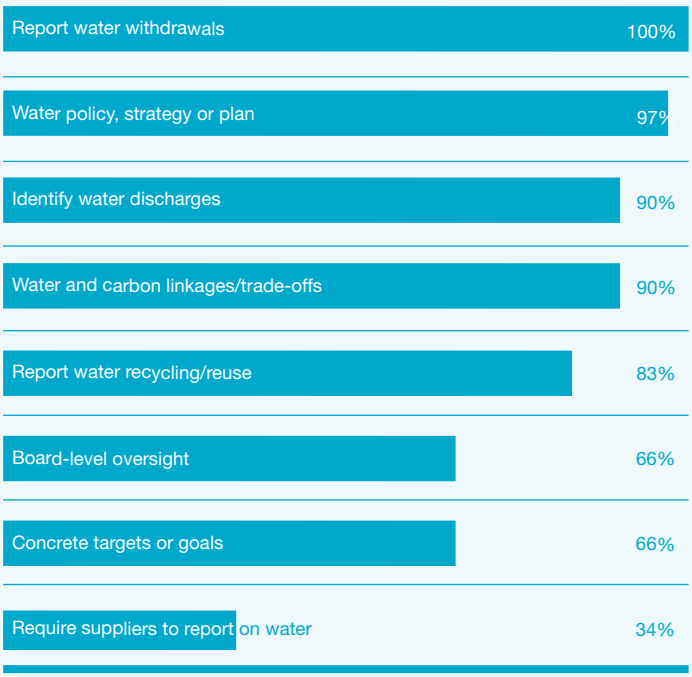
Perhaps unsurprisingly therefore, 79% of respondents report exposure to risks in direct operations, compared to 66% in the Global 500. Almost three quarters (73%) of these risks are expected to materialize now or within the next five years.

While only 34% of respondents report exposure to supply chain risks, 76% of all supply chain risks reported are expected to materialize now or within the next five years. Yet, less than half of the respondents reporting supply chain risk exposure also require key suppliers to report water use, risks and management.

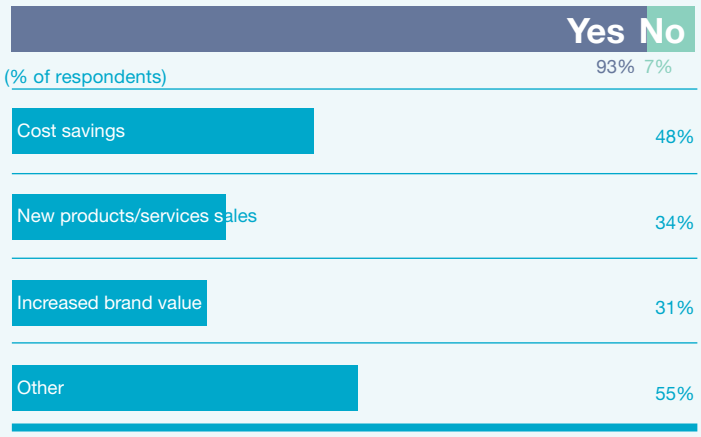
Management and governance

Board-level oversight in the sector decreased by 15% from 2012. This is surprising given that such a high proportion of respondents have reported water-related business impacts and exposure to substantive risks. **Barrick Gold**, for example, reports that reputational risks could lead to higher costs of capital or decreased share price and loss of social license to operate leading to business disruption. It could also make it more difficult to get access to land or lengthened permitting processes for new mines or expansions.

Management and Governance
(% of respondents)



Opportunities



> The sustainable use of water and the conservation of water resources are an integral part of the BASF strategy and important for our company's future success.
>
> **BASF**

1 Other responding company

However, this has also been accompanied by a 56% increase in respondents with concrete water-related targets or goals. For instance, **Akzo Nobel**[1] has set a target for 100% sustainable freshwater management at all production sites by 2015. Its sustainable freshwater management assessment tool evaluates individual site risks related to: water sources, supply reliability, efficiency, quality of discharges, compliance and social competitive factors; each location needs to obtain a low risk score in all six areas to achieve sustainable freshwater management.

Seizing opportunities

Almost all respondents (93%) identify water-related business opportunities; the highest proportion among all sectors. Additionally, 89% of these opportunities are expected to materialize now or within the next five years. For instance, Pioneer, a **DuPont** business, is investing in drought tolerance research to develop corn products that produce higher yields in areas that have limited precipitation.

Risk mitigation strategy

POSCO

There are regions with higher water costs due to water stress, thus increasing operational costs. Additionally, higher costs of water represent higher costs of raw materials and products for sale. POSCO's response strategy is to secure supply of water from non-conventional sources such as rainwater harvesting, reclaimed water and recovery water from store processes.

Ecolab

In 2012, Ecolab signed a two-year agreement with the World Wildlife Fund (WWF) to work with the Alliance for Water Stewardship (AWS) to test the beta draft version of the AWS International Water Stewardship Standard with select customers in the Yangtze Basin in Suzhou, China. The AWS Standard provides water users with an approach for evaluating the existing processes and performances within their sites, and ensures that responsible stewardship actions are in place to minimize negative impacts and maximize positive impacts on a particular watershed.

Case study

Newmont Mining: Water supply for surrounding communities

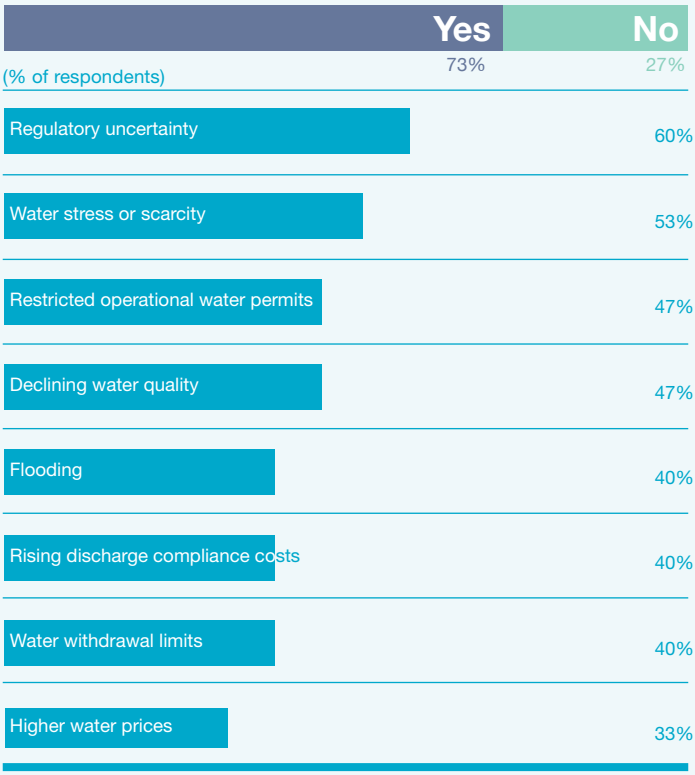
In partnership with rural neighbors and local authorities, Yanacocha built a 6 million cubic meter reservoir, which is now linked to rural projects that directly benefit recipients' agricultural production. Yanacocha committed to bringing potable water to 100% of surrounding communities and has achieved over 80% currently. Water from the reservoir flows to family reservoirs and watering systems for more than 5,000 users, allowing agricultural activities to take place throughout the year rather than only during the rainy season, increasing crop yields as well as incomes.

Considerations for respondents

- With such a high proportion of respondents reporting water-related business impacts and exposure to substantive risks, board-level oversight of water issues should be pursued.
- Given the immediacy of reported supply chain risks, additional supplier engagement is encouraged.

Utilities

Risks in Direct Operations



Risks in Supply Chain

*Litigation and reputational damage were also reported by 27% of respondents; water efficiency requirements was reported by 20%; and indequate infrastrcture by 7%

Response rate

70%

(16/23)

- 2012 response rate: 63% (19/30)
- Industry response rate breakdown:

Electric Utilities: 11/16

Gas Utilities: 1/2

Independent Power Producers & Energy Traders: 0/1

Multi-Utilities: 4/4

(see Appendix IV for a list of companies that did not respond, classified as DP, IN or NR)

Key findings

- Almost three quarters of respondents report that water poses a substantive risk to their business yet uncertainty remains across the supply chain.
- Respondents report significantly higher exposure to regulatory risks than the Global 500 average.
- Despite respondents showing improvements across all management and governance indicators since 2012, they still trail all other sectors in having a water policy, strategy or plan and concrete targets or goals.

Overall risk exposure

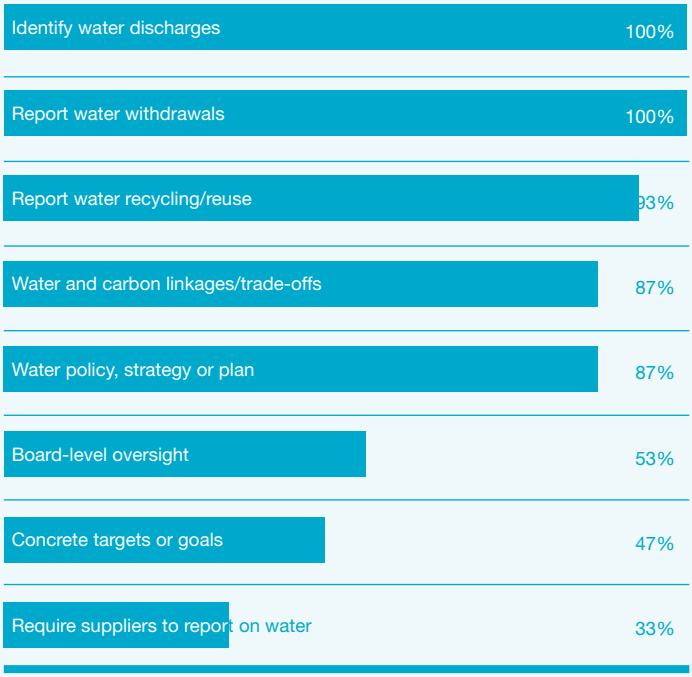
Almost three quarters (73%) of respondents in the Utilities sector report exposure to risks in direct operations, compared to 66% of respondents in the Global 500. The immediacy of these risks is also apparent with 61% of risks reported to direct operations expected to materialize now or within the next five years. Regulatory uncertainty is the most frequently reported risk to direct operations with 60% of respondents reporting exposure, compared to 20% in the Global 500.

"Stricter requirements on water quality/ quantity may be approved… impacting our operations. In Europe, the implementation of the Water Framework Directive comprises a series of management actions at river basin level…This Directive was, is and will be the main source of regulation upon minimal environmental flow, a critical issue especially for our hydropower assets in Europe." – **ENEL**

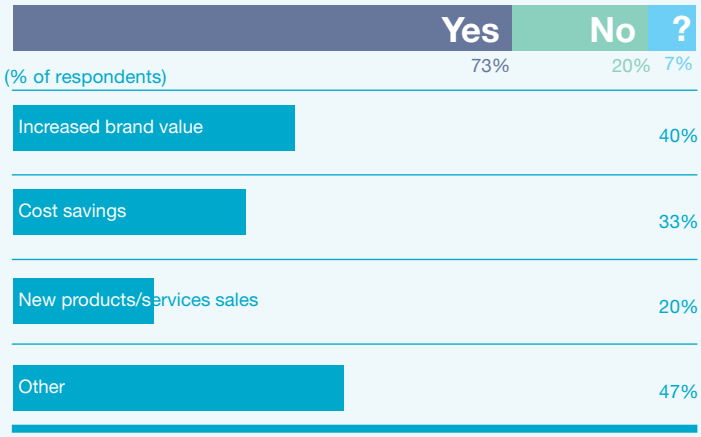
67% of respondents report that they have already experienced water-related business impacts in the past five years, compared to 53% in the Global 500. For example, **CLP Holdings** experienced the detrimental effects of water flooding at its Yallourn mine in 2012, which greatly decreased coal mine operations and forced Yallourn Power Station to produce less power. The associated cost was US$102 million (HKD790 million).

13% of Utilities respondents report exposure to supply chain risks (55% decrease from 2012), compared to 39% in the Global 500; however, a quarter of respondents remain unable to identify whether or not they are exposed to risks in their supply chain.

Management and Governance
(% of respondents)



Opportunities



> Iberdrola is very proud to participate in [CDP's water program] 2013 and is totally convinced that water is an essential resource and fundamental to its business development, being aware of the importance of water management and conservation.
>
> **Iberdrola**

Management and governance

The Utilities sector has the lowest percentage of respondents with a water policy, strategy or plan at 87%, as well as the lowest proportion with concrete targets or goals at 47% (a 32% decrease from 2012). With regards to water and carbon linkages and trade-offs, some respondents report that trade-offs will occur with carbon capture technologies. According to **The Southern Company** water use could increase by 33% to 90% on a per net megawatt-hour basis with carbon capture systems. Not only does the process of carbon capture and sequestration potentially increase the use of water, but it also requires additional energy to compress and transport carbon.

Seizing opportunities

73% of respondents identify water-related business opportunities; one of the lowest proportions among all sectors. However, 73% of all opportunities are expected to materialize now or within the next five years. While 'other' opportunities, such as water efficient electricity generation and alternative water supplies, are most frequently reported, increased brand value, cost savings, and sales of new products or services all increased by more than 40% from 2012.

Risk mitigation strategy

Fortum[1]

Fortum started on-site sustainability auditing, including environmental issues of fuel suppliers in 2011. Water management issues will be discussed in these audits whenever the supplier operates in a water stressed area.

Endesa

Endesa´s Legal Department analyzes all emerging legislation to be prepared for potential regulatory measures, and regulatory changes are also considered in its Risk Management System, with its Risk Ranking annually reviewed. Endesa actively participates in various industry association working groups, which analyze the potential impact of all emerging regulations related to the industry, including water-related regulations (UNESA, Eurelectric, etc.). In addition, Endesa is actively involved in water planning activities in Spain and Brazil through participation in local River Basin Committees. Endesa collaborates with the Commission of Regional Electric Integration (CIER) in the development of an environmental legislation database for Latin American countries and Spain, with water being one of the topics covered.

Case study

Dominion Resources: Collective action

Dominion has joined with other companies and government agencies to collaborate on wetland restoration projects in Massachusetts and Virginia. Projects include restoration of a wide variety of aquatic habitats — from salt marshes and fish runs along the coast to rivers, lakes and freshwater wetlands.

Considerations for respondents

- Respondents should continue to focus on improving performance in relation to management and governance indicators such as development of water policies, strategies or plans and concrete targets or goals.
- Given the immediacy of reported water-related business opportunities, respondents should continue to identify and evaluate potential opportunities.

1 Other responding company

Appendix I – Report methodology

For the purposes of this report, respondents from the Global 500 are categorized into eight sectors based on the Global Industry Classification Standard (GICS): Consumer Discretionary, Consumer Staples, Energy, Health Care, Industrials, Information Technology, Materials, and Utilities.[1]

Response rates are based on responses received from companies that were sent CDP's 2013 water questionnaire. Other responding companies are excluded from these calculations,[2] but responses may be used in leading practice examples, quotations, and case studies. In addition, analyses, findings, and conclusions discussed in the report are based only on invited companies that responded; these insights cannot be attributed to either companies who were invited but did not respond; other non-invited companies for a particular geography, sector, or other division; companies that responded as either a subsidiary or entities that merged during the reporting process whose responses reflect those of their parent companies; or companies that submitted after August 9, 2013.[3]

For the Global 500, analysis and discussion in the Consumer Discretionary, Consumer Staples, Energy, Industrials, and Materials sectors reflect all responding companies (public and non-public). However, given the small number of non-public responses in the Health Care, Information Technology, and Utilities sectors, analyses, findings, and conclusions in the sector summaries reflect responses only from companies that elected to make their submissions public. Except for number of responses and response rate, non-public responses are not included to protect the confidentiality of these companies' submissions. Non-public responses are also excluded from the Brazil and India country analysis included in the Geographic coverage and response rates section of this report.[4]

For most metrics, the percentage of responses is based on the number of reporting companies for the relevant geography, sector, or other division.[5] Blank responses to particular questions are tabulated as "No" or "Don't know" when calculating quantitative responses, based on the question which has been asked.[6]

The percentage of respondents indicating that they have board-level oversight is based on question 1.1a, which requests information on the position of the person responsible for the company's policy, strategy, or management plan. Board-level includes: board/executive board, individual board member, sub-set of the board, and committee appointed by the board. The percentage is based on the highest position described for each company.

Question 1.1c, which requests information on community engagement, direct operations, public policy, supply chain, transparency, and watershed management targets or goals, was responded to by some companies with qualitative goals or goals without concrete targets. Wherever the percentage of respondents with concrete targets or goals is referenced in the report, the figure is based only on respondents that provided concrete, quantitative targets or goals as part of this question.

Questions 1.1c and 1.2 were re-worded in CDP's 2012 and 2013 water questionnaires. As a result, direct comparison of response percentages to these questions is not possible, and analysis of questions 1.1c and 1.2 may be combined to gain a full understanding of the actions (both within and outside water policies) companies are taking to address the six key areas defined by the CEO Water Mandate to develop a comprehensive approach to water management.

For questions 7.1a and 7.2a, if a company included a range of verification percentages for water withdrawals and recycling/reuse data, the resulting verification percentage is based on the range provided for the majority of water withdrawals/quantity of water recycled or reused. If a company reported one verification percentage for all data, then that percentage is used.

When comparing data year-on year, the percentage change is based on the newer data minus the older data, divided by the older data. For example, if a response percentage was 95% in 2013 and 90% in 2012, the percentage change is calculated as: (95-90) / 90 = 5.6%.

Except where otherwise stated, all figures, tables, findings, and conclusions in the report are based on CDP's 2010-2013 water questionnaires and do not reflect external research or analysis by CDP or Deloitte.

Additional notes describing the methodology are provided throughout the report.

1 Companies that are considered to have the greatest potential to impact, or be impacted by, water resource issues were invited to respond to CDP's 2013 water questionnaire. These companies were selected from the largest publicly listed companies by market capitalization at the time of the analysis (Q4 2012). The Global 500 is based on the FTSE Global Equity Index Series.
2 Other responding companies include companies that were not formally invited as part of the Global 500, but chose to answer CDP's 2013 water questionnaire.
3 Companies that responded as either a subsidiary or entities that merged during the reporting process and companies that submitted after August 9, 2013 are included in the response rates but not in the analyses, findings, and conclusions.
4 Geographical regions are defined in accordance with CDP Cities definitions as follows: North America - Canada, US; Latin America - Brazil, Chile, Colombia, Mexico, Peru; Europe - Belgium, Czech Republic, Denmark, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom; Africa - South Africa; East Asia - Greater China (including China, Hong Kong, Taiwan), Japan, Russia, South Korea; South & West Asia - India, Israel; Southeast Asia & Oceania - Australia, Indonesia, Thailand.
5 Other metrics are also evaluated based on the total number of responses reported: questions 1.1c, 1.2, 2.1a, 2.1b, 2.5a, 3.1a, 3.4a, 4.1a, 5.1a, 6.1a, 9.1, and 9.2.
6 Blank responses tabulated as "No" include 1.1, 1.1b, 1.2, 2.2, 3.3, 6.1, 7.1, 7.1a, 7.2, 7.2a, 8.1, 8.2, 9.1, and 9.2; questions tabulated as "Don't know" include 2.1, 2.5, 3.1, 3.4, 4.1, 5.1, 7.4, and 8.3.

Appendix II – Global 500 companies by country

Region	Country	Public respondents	Non-public respondents	Total respondents	Total invited
North America		**69**	**6**	**75**	**132**
	Canada	8	0	8	12
	USA	65	6	71	120
Latin America		**3**	**3**	**6**	**14**
	Brazil	1	2	3	5
	Chile	0	0	0	2
	Colombia	0	1	1	1
	Mexico	2	0	2	5
	Peru	0	0	0	1
Europe		**52**	**15**	**67**	**91**
	Belgium	1	0	1	1
	Czech Republic	0	0	0	1
	Denmark	0	0	0	1
	France	12	4	16	18
	Germany	7	3	10	12
	Ireland	0	0	0	1
	Italy	1	1	2	4
	Luxembourg	1	0	1	2
	Netherlands	2	0	2	7
	Norway	1	0	1	1
	Spain	3	1	4	5
	Sweden	1	2	3	5
	Switzerland	6	2	8	9
	United Kingdom	17	2	19	24
Africa		**2**	**0**	**2**	**2**
	South Africa	2	0	2	2
East Asia		**16**	**5**	**21**	**50**
	Greater China	3	0	3	15
	Japan	10	4	14	20
	Russia	2	0	2	8
	South Korea	1	1	2	7
Middle East		**3**	**1**	**4**	**8**
	Israel	0	0	0	1
South Asia					
	India	3	1	4	7
Southeast Asia and Oceania		**4**	**1**	**5**	**8**
	Australia	3	0	3	4
	Indonesia	0	0	0	1
	Thailand	1	1	2	3
Totals		**153**	**31**	**184**	**305**

Appendix III – Summary of key indicators

Key Indicators
Total respondents
Public respondents
Non-public respondents
Non-respondents
Response rate
Water Management & Governance
Respondents with a water policy, strategy or plan
Respondents with board-level oversight of their policy, strategy or plan
Respondents with concrete targets or goals
Respondents reporting actions, targets or goals to manage water resources
Respondents that require key suppliers to report water use, risks and management
Risks & Opportunities
Respondents able to identify whether or not their operations are located in water-stressed regions
Respondents with the majority of operations located in regions at risk
Respondents with key inputs or raw materials from regions subject to water-related risk
Respondents able to identify whether or not they are exposed to risk in direct operations
Respondents exposed to risks in direct operations
Respondents able to identify whether or not they are exposed to risk in supply chain
Respondents exposed to risks in supply chain
Respondents exposed to risks in either direct operations or supply chain
Respondents that have experienced water-related business impacts in past 5 years
Respondents that identify opportunity
Respondents that identify linkages or trade-offs between water and carbon
Water Accounting
Respondents that report water withdrawals
Respondents that verify the majority of water withdrawal data
Respondents that report water recycling/reuse
Respondents that report water sources significantly affected by their water withdrawals
Respondents able to identify discharges by destination, treatment type and quality
Respondents that paid penalties/fines for significant breaches of discharge regulations
Respondents that report water bodies/habitats significantly affected by their discharges or runoff

Consumer Discretionary	Consumer Staples	Energy	Health Care	Industrials	Information Technology	Materials	Utilities	2013 Global 500	2012 Global 500	2011 Global 500
21	37	22	23	18	14	29	16	**180**	191	190
14	32	18	22	12	12	24	15	**149**	156	156
7	5	4	1	6	2	5	1	**31**	35	34
23	12	33	8	20	12	10	7	**125**	127	125
48%	76%	47%	74%	47%	54%	74%	70%	**59%**	60%	60%
90%	94%	100%	91%	94%	92%	97%	87%	**93%**	92%	93%
62%	54%	50%	68%	61%	42%	66%	53%	**58%**	58%	57%
71%	80%	50%	77%	67%	50%	66%	47%	**66%**	55%	57%
95%	97%	95%	95%	100%	92%	97%	93%	**96%**	97%	NA
71%	40%	14%	36%	22%	42%	34%	33%	**37%**	39%	26%
90%	94%	100%	100%	94%	92%	100%	100%	**96%**	95%	89%
0%	11%	32%	5%	6%	17%	38%	13%	**16%**	15%	11%
71%	80%	27%	50%	39%	25%	55%	33%	**52%**	43%	NA
95%	94%	95%	100%	100%	92%	100%	100%	**97%**	96%	93%
57%	69%	82%	64%	50%	42%	79%	73%	**66%**	63%	55%
86%	94%	64%	77%	61%	50%	83%	73%	**77%**	71%	62%
57%	74%	9%	41%	28%	25%	34%	13%	**39%**	37%	27%
67%	74%	82%	68%	50%	50%	79%	73%	**70%**	68%	59%
33%	57%	59%	27%	67%	25%	76%	67%	**53%**	53%	38%
67%	74%	77%	73%	83%	67%	93%	73%	**77%**	71%	63%
76%	86%	77%	77%	67%	58%	90%	87%	**79%**	80%	72%
100%	100%	100%	100%	100%	100%	100%	100%	**99%**	97%	95%
57%	60%	68%	73%	56%	33%	62%	53%	**60%**	55%	56%
38%	46%	86%	68%	44%	83%	83%	93%	**66%**	63%	58%
5%	9%	14%	5%	0%	0%	38%	20%	**12%**	9%	8%
62%	91%	86%	86%	50%	75%	90%	100%	**81%**	85%	81%
5%	26%	9%	9%	11%	0%	24%	27%	**15%**	17%	15%
0%	3%	0%	9%	6%	0%	17%	27%	**8%**	10%	7%

Appendix IV – Response status and sector by company

Responders
Key to Response Status:

AQ	Answered questionnaire
AQ(NP)	Answered questionnaire but response not made publicly available
AQ(SA)	Company is either a subsidiary or has merged during the reporting process; see Company in parenthesis for further information on company's status
AQ(L)	Answered questionnaire after submission deadline
	Responded to investor requests consistently since 2010

Consumer Discretionary	
Company	**Response Status**
BMW	AQ(NP)
Bridgestone	AQ(NP)
Carnival	AQ
Christian Dior	AQ(NP)
Compagnie Financière Richemont	AQ
Compass	AQ(NP)
Daimler	AQ(NP)
Ford Motor	AQ
General Motors	AQ
H&M Hennes & Mauritz	AQ
Inditex	AQ
Johnson Controls	AQ
LVMH	AQ
McDonald's	AQ(NP)
Nissan Motor	AQ
Philips Electronics	AQ
PPR	AQ
Starbucks	AQ
Target	AQ
Volkswagen	AQ
Yum! Brands	AQ(NP)

Consumer Staples	
Company	**Response Status**
Altria Group	AQ
Anheuser Busch InBev	AQ
Associated British Foods	AQ
Beiersdorf	AQ
BRF Brasil Foods	AQ(NP)
British American Tobacco	AQ
Carrefour	AQ
Colgate Palmolive	AQ
CVS Caremark	AQ
Danone	AQ
Diageo	AQ
General Mills	AQ
Heineken	AQ
Hindustan Unilever	AQ(SA)
Imperial Tobacco Group	AQ
ITC	AQ
Kellogg	AQ
Kimberly-Clark	AQ
L'Oréal	AQ
Mondelez International	AQ
Nestlé	AQ
PepsiCo	AQ
Pernod Ricard	AQ
Philip Morris International	AQ
Procter & Gamble	AQ
Reckitt Benckiser	AQ(NP)
SABMiller	AQ
Seven & I Holdings	AQ
Souza Cruz (see British American Tobacco)	AQ(SA)
Sysco	AQ
The Coca-Cola Company	AQ
Unilever	AQ
Wal Mart de Mexico	AQ
Walgreen	AQ(NP)
Wal-Mart Stores	AQ
Wesfarmers	AQ
Woolworths	AQ

Energy	
Company	**Response Status**
Anadarko Petroleum	AQ(L)
Apache	AQ
Baker Hughes	AQ
BG Group	AQ
BP	AQ
Canadian Natural Resources	AQ(L)
Cenovus Energy	AQ
Devon Energy	AQ
Ecopetrol	AQ(NP)
Eni	AQ(NP)
EOG Resources	AQ(L)
Gazprom	AQ
Halliburton	AQ
Hess	AQ
Husky Energy	AQ(L)
Inpex	AQ
Noble Energy	AQ
Novatek	AQ
Occidental Petroleum	AQ
Oil & Natural Gas	AQ
PTT	AQ(NP)
PTT Exploration & Production Public Company	AQ
Sasol	AQ
Statoil ASA	AQ
Suncor Energy	AQ
Total	AQ(NP)

Health Care	
Company	**Response Status**
Abbott Laboratories	AQ
Allergan	AQ
Amgen	AQ
Astellas Pharma	AQ
AstraZeneca	AQ
Baxter International	AQ
Bayer	AQ
Biogen Idec	AQ
Bristol-Myers Squibb	AQ
Celgene	AQ
CSL	AQ
Eli Lilly	AQ
Essilor International	AQ(NP)
GlaxoSmithKline	AQ
Johnson & Johnson	AQ
Medtronic	AQ
Merck & Co.	AQ
Novartis	AQ

Pfizer	AQ
Roche Holding	AQ
Sanofi	AQ
Takeda Pharmaceutical	AQ
Thermo Fisher Scientific	AQ

Industrials

Company	Response Status
3M	AQ
Atlas Copco	AQ(NP)
Cummins	AQ
Deere & Company	AQ
General Electric	AQ
Hitachi	AQ
Illinois Tool Works	AQ(NP)
Komatsu	AQ
Larsen & Toubro	AQ
Lockheed Martin	AQ
Mitsubishi	AQ(NP)
Mitsui & Co.	AQ(NP)
Raytheon	AQ
Saint-Gobain	AQ
Sandvik	AQ(NP)
Siemens Aktiengesellschaft	AQ
United Technologies	AQ(NP)
Vinci	AQ

Information Technology

Company	Response Status
Automatic Data Processing	AQ
Canon	AQ
Cisco Systems	AQ
EMC	AQ
Hewlett-Packard	AQ
Intel	AQ
International Business Machines (IBM)	AQ
Microsoft	AQ
Mitsubishi Electric	AQ
QUALCOMM	AQ
Samsung Electronics	AQ(NP)
Taiwan Semiconductor Manufacturing	AQ
Texas Instruments	AQ
Yahoo Japan	AQ(NP)

Materials

Company	Response Status
Air Liquide	AQ
Air Products & Chemicals	AQ
Anglo American	AQ
Antofagasta	AQ
Arcelor Mittal	AQ
Barrick Gold	AQ
BASF	AQ
BHP Billiton	AQ
Dow Chemical	AQ
E.I. du Pont de Nemours and Company	AQ
Ecolab	AQ
Freeport-McMoRan Copper & Gold	AQ
Fresnillo	AQ
Glencore International	AQ(NP)
Goldcorp	AQ
Holcim	AQ
Kumba Iron Ore	AQ
Lafarge	AQ(NP)
Linde	AQ(NP)
Newmont Mining	AQ
POSCO	AQ
Potash Corporation of Saskatchewan	AQ
Praxair	AQ(NP)
Rio Tinto	AQ
Shin-Etsu Chemical	AQ
Syngenta International	AQ
Teck Resources	AQ
Vale	AQ
Xstrata	AQ(NP)

Utilities

Company	Response Status
American Electric Power	AQ
Centrica	AQ
CLP Holdings	AQ
Dominion Resources	AQ
E.ON	AQ
Electricite de France (EDF)	AQ
Endesa	AQ
ENEL	AQ
Exelon	AQ
Gas Natural SDG	AQ(NP)
GDF Suez	AQ
Iberdrola	AQ
National Grid	AQ
Power Assets Holdings	AQ
RWE	AQ
The Southern Company	AQ

Non-responders
Key to Response Status:

DP	Declined to participate
IN	Provided information
NR	No response

Consumer Discretionary

Company	Response Status
adidas	DP
Amazon.com	NR
Astra International	NR
Belle International	NR
Continental	NR
Denso	NR
eBay	DP
Hermes International	NR
Honda Motor	NR
Hyundai Mobis	DP
Hyundai Motor	NR
Kia Motors	DP
Kinder Morgan	DP
Lowe's Companies	DP
Luxottica Group	NR
NIKE	NR
Prada	NR

Priceline.Com	NR
S.A.C.I. Falabella	NR
The Home Depot	NR
Thomson Reuters	NR
TJX Companies	DP
Toyota Motor	DP
Consumer Staples	
Company	**Response Status**
Ambev - Cia de Bebidas das Américas	DP
Archer Daniels Midland	NR
Costco Wholesale	DP
Femsa - Fomento Economico Mexicano	DP
H.J. Heinz	NR
Japan Tobacco	DP
Kraft Foods	NR
Magnit	DP
Reynolds American	NR
Tesco	DP
Unilever Nv Cva	NR
Want Want China Holdings	NR

Energy	
Company	**Response Status**
Canadian Natural Resources	NR
Chevron	DP
China Petroleum & Chemical	NR
CNOOC	NR
Coal India	NR
ConocoPhillips	DP
Enbridge	IN
Exxon Mobil	DP
Formosa Petrochemical	NR
Imperial Oil	DP
Lukoil	NR
Marathon Oil	DP
Marathon Petroleum	IN
National Oilwell Varco	NR
PETROCHINA	NR
Petróleo Brasileiro - Petrobras	DP
Phillips	NR
Reliance Industries	NR
Repsol	DP
Rosneft	NR
Royal Dutch Shell	NR
Schlumberger	NR
Spectra Energy	NR
Surgutneftegas	NR
Tenaris	NR
TransCanada	NR
Tullow Oil	DP
Valero Energy	IN
Williams Companies	NR
Woodside Petroleum	DP

Health Care	
Company	**Response Status**
Alexion Pharmaceuticals	NR
Covidien	NR
Gilead Sciences	NR
Intuitive Surgical	NR
Novo Nordisk	NR
Stryker	NR
Teva Pharmaceutical Industries	DP
Valeant Pharmaceuticals International	NR

Industrials	
Company	**Response Status**
ABB	NR
BAE Systems	DP
Boeing	DP
Caterpillar	IN
Danaher	NR
EADS	DP
Eaton	NR
Emerson Electric	DP
Empresas COPEC	DP
Fanuc	NR
General Dynamics	NR
Grupo Mexico S.A.B. de CV	NR
Honeywell International	DP
Hutchison Whampoa	NR
Jardine Matheson	NR
Jardine Strategic	NR
Precision Castparts	NR
Rolls-Royce	DP
Schneider Electric	DP
Volvo	NR

Information Technology	
Company	**Response Status**
Apple	NR
ASML Holding	NR
Corning	NR
Ericsson	NR
Facebook	NR
Google	NR
Hon Hai Precision Industry	NR
MasterCard	DP
Oracle	DP
Tencent Holdings	NR
Visa	DP
Yahoo!	DP

Materials	
Company	**Response Status**
Industrias Peñoles	NR
LG Chem	DP
LyondellBasell Industries	NR
Monsanto	NR
MMC Norilsk Nickel OSJC	IN
Nippon Steel & Sumitomo Metal	NR
PPG Industries	NR
Siam Cement	NR
Southern Copper	NR
Uralkali	NR

Utilities	
Company	**Response Status**
CEZ	NR
Duke Energy	DP
Hong Kong & China Gas	NR
Korea Electric Power	DP
NextEra Energy	NR
NTPC	NR
SSE	DP

Other responding companies

Other Responding Companies
Key to Response Status:

AQ	Answered questionnaire
AQ(NP)	Answered questionnaire but response not made publicly available
AQ(SA)	Company is either a subsidiary or has merged during the reporting process; see Company in parenthesis for further information on company's status
AQ(L)	Answered questionnaire after submission deadline
	Responded to investor requests consistently since 2010

Company	Sector	Response Status
Asiatan International	Consumer Discretionary	AQ
Caesars Entertainment	Consumer Discretionary	AQ(NP)
Duratex	Consumer Discretionary	AQ
Fiat	Consumer Discretionary	AQ
Hanesbrands	Consumer Discretionary	AQ
LG Electronics	Consumer Discretionary	AQ(L)
Lululemon Athletica	Consumer Discretionary	AQ
Maples Industries	Consumer Discretionary	AQ(NP)
METRO	Consumer Discretionary	AQ(L)
Panasonic	Consumer Discretionary	AQ(NP)
PrimeAsia Leather	Consumer Discretionary	AQ
Reed Elsevier Group	Consumer Discretionary	AQ
Staples	Consumer Discretionary	AQ
Sun International	Consumer Discretionary	AQ(NP)
Valeo	Consumer Discretionary	AQ(NP)
Bunge	Consumer Staples	AQ
C&C Group	Consumer Staples	AQ
Fresherized Foods	Consumer Staples	AQ
Hillshire Brands	Consumer Staples	AQ
JBS	Consumer Staples	AQ
KAO	Consumer Staples	AQ
Kirin Holdings	Consumer Staples	AQ
Marfrig Alimentos	Consumer Staples	AQ
Nordzucker	Consumer Staples	AQ(NP)
Olam International	Consumer Staples	AQ
Unilever Indonesia (see Unilever)	Consumer Staples	AQ(SA)
Crescent Point Energy	Energy	AQ
Talisman Energy	Energy	AQ(L)
Banco Santander	Financials	AQ
Bank of America	Financials	AQ
Corcoran Management	Financials	AQ
Industrial Development	Financials	AQ(L)
NYSE Euronext	Financials	AQ
AbbVie	Health Care	AQ
Coloplast	Health Care	AQ
ACCIONA	Industrials	AQ
CSX	Industrials	AQ
Cummins India (Cummins)	Industrials	AQ(SA)
Grindrod	Industrials	AQ
Hindustan Construction	Industrials	AQ
Layne Christensen	Industrials	AQ
Nankai Electric Railway	Industrials	AQ
Obrascon Huarte Lain (OHL)	Industrials	AQ
Owens Corning	Industrials	AQ(L)
Parsons Brinckerhoff	Industrials	AQ
Royal BAM Group	Industrials	AQ
South African Post Office	Industrials	AQ
Taisei	Industrials	AQ
TAV Havalimanlari Holding	Industrials	AQ
UPS	Industrials	AQ
Weckerle	Industrials	AQ(NP)
AU Optronics	Information Technology	AQ
Bel Fuse	Information Technology	AQ
Gold Circuit Electronics	Information Technology	AQ(NP)
HTC	Information Technology	AQ(NP)
International Rectifier	Information Technology	AQ
IO Data Centers	Information Technology	AQ(L)
Lexmark International	Information Technology	AQ
Marvell Technology Group	Information Technology	AQ
Nokia Group	Information Technology	AQ
Quanta Computer	Information Technology	AQ
SK Hynix	Information Technology	AQ(NP)
Sony	Information Technology	AQ
STMicroelectronics	Information Technology	AQ
Suyin Optronics	Information Technology	AQ
Toshiba	Information Technology	AQ
Unidata Automação	Information Technology	AQ
Akzo Nobel	Materials	AQ
Aquarius Platinum	Materials	AQ
Arrium	Materials	AQ
Asian Bamboo	Materials	AQ
Atlas Iron	Materials	AQ
China Steel	Materials	AQ
Cia. Siderurgica Nacional - CSN	Materials	AQ(L)
CRH	Materials	AQ
Croda International	Materials	AQ
Graphic Packaging	Materials	AQ(NP)
HudBay Minerals	Materials	AQ
Israel Chemicals	Materials	AQ
JSW Steel	Materials	AQ
Kemira	Materials	AQ
Koninklijke	Materials	AQ(L)
Norsk Hydro	Materials	AQ
PTT Global Chemical	Materials	AQ
Resolute Forest Products	Materials	AQ
Rexam	Materials	AQ(NP)
Sesa Goa	Materials	AQ
Tata Chemicals	Materials	AQ
UPM-Kymmene	Materials	AQ
AT&T	Telecommunication Services	AQ
Colbun	Utilities	AQ(NP)
EDP - Energias de Portugal	Utilities	AQ
Eskom	Utilities	AQ(L)
Fortum	Utilities	AQ
Snam	Utilities	AQ

Appendix V – Investor signatories

530 financial institutions with assets of US$57 trillion were signatories to the CDP 2013 water questionnaire dated February 1st 2013

Signatory investors

3Sisters Sustainable Management LLC
Aberdeen Asset Management
ABRAPP - Associação Brasileira das Entidades Fechadas de Previdência Complementar
Achmea NV
Active Earth Investment Management
Acuity Investment Management
Addenda Capital Inc.
Advanced Investment Partners
Advantage Asset Managers (Pty) Ltd
Aegon N.V.
AEGON-INDUSTRIAL Fund Management Co., Ltd
AK PORTFÖY YÖNETİMİ A.İ.
Alberta Investment Management Corporation (AIMCo)
Alberta Teachers Retirement Fund
Alcyone Finance
AllenbridgeEpic Investment Advisers
Alliance Trust
Allianz Elementar Versicherungs-AG
Allianz Global Investors AG
Allianz Group
Altira Group
AmpegaGerling Investment GmbH
Amundi AM
Antera Gestão de Recursos S.A.
APG Group
Apsara Capital LLP
Arisaig Partners
ASB Community Trust
ASM Administradora de Recursos S.A.
ASN Bank
Assicurazioni Generali Spa
ATI Asset Management
Atlantic Asset Management
Australian Ethical Investment
AustralianSuper
Avaron Asset Management AS
Aviva
Aviva Investors
Baillie Gifford & Co.
BaltCap
Banco Comercial Português SA
Banco do Brasil Previdência
Banco do Brasil S/A
Banco Espírito Santo SA
Banco Nacional de Desenvolvimento Economico e Social (BNDES)
Banco Popular Espanol
Banco Sabadell
Banco Santander
Banesprev – Fundo Banespa de Seguridade Social
Bank of America
Bank Sarasin & Cie AG
Bank Vontobel
Bankhaus Schelhammer & Schattera Kapitalanlagegesellschaft m.b.H.
Bankinter
BankInvest
Banque Degroof
Banque Libano-Francaise
Barclays
Basellandschaftliche Kantonalbank
BASF Sociedade de Previdência Complementar
Baumann and Partners S.A.
Bayern LB
BayernInvest Kapitalanlagegesellschaft mbH
BBC Pension Trust Ltd
BBVA
Bedfordshire Pension Fund
Beetle Capital
Befimmo SA
Bentall Kennedy
Berenberg Bank
Blom Investment Bank
Blumenthal Foundation
BNP Paribas Investment Partners
Boston Common Asset Management, LLC
Breckinridge Capital Advisors
British Airways Pensions
British Coal Staff Superannuation Scheme
British Columbia Investment Management Corporation (bcIMC)
Brown Advisory
BT Financial Group
BT Investment Management
CAAT Pension Plan
Cadiz Holdings Limited
CAI Corporate Assets International AG
Caisse de dépôt et placement du Québec
Caisse des Dépôts
Caixa de Previdência dos Funcionários do Banco do Nordeste do Brasil (CAPEF)
Caixa Econômica Federal
California Public Employees' Retirement System (CalPERS)
California State Teachers' Retirement System (CalSTRS)
California State Treasurer
Calvert Group, Ltd.
Canada Pension Plan Investment Board (CPPIB)
Canadian Labour Congress Staff Pension Fund
CAPESESP
Capital Innovations, LLC
Capricorn Investment Group
CARE Super
Caser Pensiones E.G.F.P
Catherine Donnelly Foundation
Catholic Super
CBRE Group, Inc.
Cbus Superannuation Fund
CCLA Investment Management Ltd
CDF Asset Management
Celeste Funds Management
Central Finance Board of the Methodist Church
Ceres
Change Investment Management
Christian Brothers Investment Services Inc.
Christian Super
Christopher Reynolds Foundation
Cleantech Invest AG
ClearBridge Investments
Climate Change Capital Group Ltd
CM-CIC Asset Management
Colonial First State Global Asset Management
Comgest
Comite syndical national de retraite Bâtirente
CommInsure
Commonwealth Bank of Australia
Commonwealth Superannuation Corporation
Compton Foundation, Inc.
Concordia Versicherungs-Gesellschaft a.G.
Connecticut Retirement Plans and Trust Funds
Conser Invest
Co-operative Asset Management
Co-operative Financial Services (CFS)
Daegu Bank
Daesung Capital Management
Daiwa Securities Group Inc.
Dalton Nicol Reid
de Pury Pictet Turrettini & Cie S.A.
DekaBank Deutsche Girozentrale
Delta Lloyd Asset Management
Deutsche Bank AG
Development Bank of Japan Inc.
Dexia Asset Management
DLM INVISTA ASSET MANAGEMENT S/A
Domini Social Investments LLC
Dongbu Insurance
Doughty Hanson & Co.
Earth Capital Partners LLP
Ecclesiastical Investment Management
Ecofi Investissements - Groupe Credit Cooperatif
Edward W. Hazen Foundation
EEA Group Ltd
Eko
Elan Capital Partners
Element Investment Managers
Environment Agency Active Pension fund
Epworth Investment Management
Equilibrium Capital Group
equinet Bank AG
Erik Penser Fondkommission
Erste Asset Management
Erste Group Bank AG
Essex Investment Management Company, LLC
ESSSuper
Ethos Foundation
Etica SGR
Eureka Funds Management
Eurizon Capital SGR S.p.A.
Evangelical Lutheran Church in Canada Pension Plan for Clergy and Lay Workers
Evangelical Lutheran Foundation of Eastern Canada
F&C Asset Management
FAELCE – Fundacao Coelce de Seguridade Social
FAPERS- Fundação Assistencial e Previdenciária da Extensão Rural do Rio Grande do Sul
Fédéris Gestion d'Actifs
FIDURA Capital Consult GmbH
FIM Asset Management Ltd
FIM Services
Financiere de l'Echiquier
FIPECq - Fundação de Previdência Complementar dos Empregados e Servidores da FINEP, do IPEA, do CNPq
First Affirmative Financial Network, LLC
First Commercial Bank
First State Investments
Firstrand Limited
Five Oceans Asset Management
Florida State Board of Administration (SBA)
Folksam
Fondation de Luxembourg
Forma Futura Invest AG
FRANKFURT-TRUST Investment Gesellschaft mbH
Friends Fiduciary Corporation
Fukoku Capital Management Inc
FUNCEF - Fundação dos Economiários Federais
Fundação AMPLA de Seguridade Social - Brasiletros
Fundação Atlântico de Seguridade Social
Fundação Banrisul de Seguridade Social
Fundação de Assistência e Previdência Social do BNDES - FAPES
Fundação Forluminas de Seguridade Social - FORLUZ
Fundação Itaipu BR - de Previdência e Assistência Social
Fundação Promon de Previdência Social
Fundação Rede Ferroviaria de Seguridade Social – Refer
Fundação Vale do Rio Doce de Seguridade Social - VALIA
FUNDIÁGUA - FUNDAÇÃO DE PREVIDENCIA

COMPLEMENTAR DA CAESB
Futuregrowth Asset Management
General Equity Group AG
Generali Deutschland Holding AG
German Equity Trust AG
Global Forestry Capital S.a.r.l.
GLS Gemeinschaftsbank eG
GOOD GROWTH INSTITUT für globale Vermögensentwicklung mbH
Governance for Owners
Government Employees Pension Fund ("GEPF"), Republic of South Africa
GPT Group
Greater Manchester Pension Fund
Green Cay Asset Management
Green Century Capital Management
GROUPAMA EMEKLİLİK A.İ.
GROUPAMA SİGORTA A.İ.
Groupe Crédit Coopératif
Groupe Investissement Responsable Inc.
GROUPE OFI AM
Gruppo Monte Paschi
Harbour Asset Management
Harrington Investments, Inc
Hauck & Aufhäuser Asset Management GmbH
Hazel Capital LLP
Healthcare of Ontario Pension Plan (HOOPP)
Helaba Invest Kapitalanlagegesellschaft mbH
Henderson Global Investors
Hermes Fund Managers
HESTA Super
HIP Investor
Holden & Partners
HSBC Holdings plc
Humanis
Hyundai Marine & Fire Insurance Co., Ltd.
Hyundai Securities Co., Ltd.
IBK Securities
IDBI Bank Ltd
Illinois State Board of Investment
Ilmarinen Mutual Pension Insurance Company
Impax Group plc
Independent Planning Group
Industrial Bank of Korea
Industrial Development Corporation
Inflection Point Capital Management
ING Group
Insight Investment Management (Global) Ltd
Instituto Infraero de Seguridade Social - INFRAPREV
Instituto Sebrae De Seguridade Social - SEBRAEPREV
IntReal KAG
Investec plc
Investing for Good
Irish Life Investment Managers
Jessie Smith Noyes Foundation
JPMorgan Chase & Co.
Jubitz Family Foundation
Jupiter Asset Management
Kaiser Ritter Partner Privatbank AG (Schweiz)
KB Kookmin Bank
KBC Asset Management NV
KCPS and Company
KDB Asset Management Co., Ltd.
KEPLER-FONDS Kapitalanlagegesellschaft m. b. H.
KEVA
KeyCorp
KfW Bankengruppe
Killik & Co LLP
Kiwi Income Property Trust
Kleinwort Benson Investors
KLP Insurance
Korea Technology Finance Corporation
KPA Pension
La Banque Postale Asset Management
La Financiere Responsable
Lampe Asset Management GmbH
LBBW Asset Management Investmentgesellschaft mbH
LD Lønmodtagernes Dyrtidsfond
Legal & General Group plc
Legg Mason, Inc.
LGT Capital Management Ltd.
Light Green Advisors, LLC
Limestone Investment Management
Living Planet Fund Management Company S.A.
Lloyds Banking Group
Local Authority Pension Fund Forum
Local Government Super
LOGOS PORTFÖY YÖNETIMI A.İ.
London Pensions Fund Authority
Lothian Pension Fund
LUCRF Super
MainFirst Bank AG
MAMA Sustainable Incubation AG
MAPFRE
Maple-Brown Abbott
Marc J. Lane Investment Management, Inc.
Maryland State Treasurer
Matrix Group
McLean Budden
Meeschaert Gestion Privée
Mercy Investment Services, Inc.
Mergence Africa Investments (Pty) Limited
MetallRente GmbH
Metzler Investment Gmbh
Midas International Asset Management
Miller/Howard Investments
Mirae Asset Global Investments Co. Ltd.
Mirae Asset Securities
Missionary Oblates of Mary Immaculate
Mistra, Foundation for Strategic Environmental Research
Mitsubishi UFJ Financial Group, Inc.
Mitsui Sumitomo Insurance Co.,Ltd
Mizuho Financial Group, Inc.
Mn Services
Momentum Manager of Managers (Pty) Ltd
Monega Kapitalanlagegesellschaft mbH
Mongeral Aegon Seguros e Previdência S.A.
Morgan Stanley
MTAA Superannuation Fund
Mutual Insurance Company Pension-Fennia
Natcan Investment Management
Nathan Cummings Foundation, The
National Australia Bank
National Bank of Canada
National Grid Electricity Group of the Electricity Supply Pension Scheme
National Grid UK Pension Scheme
National Pensions Reserve Fund of Ireland
National Union of Public and General Employees (NUPGE)
Nativus Sustainable Investments
Natixis SA
Natural Investments LLC
Nedbank Limited
Needmor Fund
Nelson Capital Management, LLC
Neuberger Berman
New Alternatives Fund Inc.
New Amsterdam Partners LLC
New Forests
New Mexico State Treasurer
New York State Common Retirement Fund (NYSCRF)
Newton Investment Management Limited
NGS Super
NH-CA Asset Management
Nikko Asset Management Co., Ltd.
Nipponkoa Insurance Company, Ltd
NORD/LB Kapitalanlagegesellschaft AG
Nordea Bank
Norfolk Pension Fund
Norges Bank Investment Management (NBIM)
North Carolina State Treasurer
Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)
Northern Trust
Northward Capital
Northwest and Ethical Investments L.P. (NEI Investments)
OceanRock Investments Inc.
Oddo & Cie
oeco capital Lebensversicherung AG
ÖKOWORLD
OMERS Administration Corporation
Ontario Teachers' Pension Plan
OP Fund Management Company Ltd
Oppenheim & Co Limited
Opplysningsvesenets fond (The Norwegian Church Endowment)
OPSEU Pension Trust (OP Trust)
Oregon State Treasurer
Orion Energy Systems
Osmosis Investment Management
Panahpur
Parnassus Investments
Pax World Funds
Pensioenfonds Vervoer
Pension Protection Fund
Pensionsmyndigheten
Perpetual Investments
PETROS - Fundação Petrobras de Seguridade Social
PFA Pension
PGGM
Phillips, Hager & North Investment Management Ltd.
PhiTrust Active Investors
Pictet Asset Management SA
Pinstripe Management GmbH
Pioneer Investments
Piper Hill Partners, LLC
PKA
Pluris Sustainable Investments SA
PNC Financial Services Group, Inc.
Pohjola Asset Management Ltd
Portfolio 21 Investments
PREVHAB PREVIDÊNCIA COMPLEMENTAR
PREVI Caixa de Previdência dos Funcionários do Banco do Brasil
PREVIG Sociedade de Previdência Complementar
Progressive Asset Management, Inc.
Provinzial Rheinland Holding
Prudential Investment Management
Psagot Investment House Ltd
PSP Investments
Q Capital Partners Co. Ltd
QBE Insurance Group
Rabobank
Raiffeisen Fund Management Hungary Ltd.
Raiffeisen Kapitalanlage-Gesellschaft m.b.H.
Railpen Investments
Rathbone Greenbank Investments
RCM (Allianz Global Investors)
Real Grandeza Fundação de Previdência e Assistência Social
REI Super
Representative Body of the Church in Wales
River Twice Capital Advisors, LLC
RLAM
Robeco
RobecoSAM AG
Robert & Patricia Switzer Foundation
Rockefeller Asset Management
Rose Foundation for Communities and the Environment
Rothschild
Royal Bank of Canada
Royal Bank of Scotland Group
RREEF Investment GmbH
Russell Investments

Sampension KP Livsforsikring A/S
Samsung Fire & Marine Insurance
Samsung Securities
Sanlam
Santa Fé Portfolios Ltda
Santam Ltd
Sarasin & Partners
SAS Trustee Corporation
Schroders
Scottish Widows Investment Partnership
SEB Asset Management AG
Seligson & Co Fund Management Plc
Sentinel Funds
SERPROS - Fundo Multipatrocinado
Service Employees International Union Benefit Funds
Servite Friars
Seventh Swedish National Pension Fund (AP7)
Shinhan Bank
Shinhan BNP Paribas Investment Trust Management Co., Ltd
Shinkin Asset Management Co., Ltd
Siemens Kapitalanlagegesellschaft mbH
Signet Capital Management Ltd
Skandinaviska Enskilda Banken AB (SEB AB)
Smith Pierce, LLC
SNS Asset Management
Social(k)
Socrates Fund Management
Solaris Investment Management
Sompo Japan Insurance Inc.
Sonen Capital LLC
Sopher Investment Management
Soprise! LLP
SouthPeak Investment Management
SPF Beheer bv
Spring Water Asset Management, LLC
Sprucegrove Investment Management Ltd
Standard Chartered
Standard Chartered Korea Limited
Standard Life Investments
State Street Corporation
StatewideSuper
Stockland
Strathclyde Pension Fund
Stratus Group
Superfund Asset Management GmbH
Sustainable Capital
Sustainable Development Capital LLP
Sustainable Insight Capital Management
Svenska Kyrkan, Church of Sweden
Svenska Kyrkans Pensionskassa
Swedbank
Swift Foundation
Swisscanto Holding AG
Sycomore Asset Management
Syntrus Achmea Asset Management
T.SINAİ KALKINMA BANKASI A.İ.
TD Asset Management
Telluride Association
TerraVerde Capital Management LLC
TfL Pension Fund
The Brainerd Foundation
The Bullitt Foundation
The Central Church Fund of Finland
The Children's Investment Fund Foundation
The Clean Yield Group
The Daly Foundation
The Environmental Investment Partnership LLP
The Joseph Rowntree Charitable Trust
The Korea Teachers Pension
The New School
The Pension Plan For Employees of the Public Service Alliance of Canada
The Pinch Group
The Presbyterian Church in Canada
The Russell Family Foundation
The Sandy River Charitable Foundation
The Sisters of St. Ann
The Sustainability Group
The United Church of Canada - General Council
The University of Edinburgh Endowment Fund
The Wellcome Trust
Threadneedle Asset Management
Tobam
Tokio Marine & Nichido Fire Insurance Co., Ltd.
Toronto Atmospheric Fund
Trillium Asset Management, LLC
Triodos Bank
Tri-State Coalition for Responsible Investment
Turner Investments
UBI Banca
Union Asset Management Holding AG
Union Investment Privatfonds GmbH
Unionen
UNISON staff pension scheme
UniSuper
Unitarian Universalist Association
United Methodist Church General Board of Pension and Health Benefits
Universities Superannuation Scheme (USS)
Vancity Group of Companies
VCH Vermögensverwaltung AG
Veris Wealth Partners
Vermont State Treasurer
Vexiom Capital, L.P.
VicSuper
Victorian Funds Management Corporation
VIETNAM HOLDING ASSET MANAGEMENT LTD.
Vinva Investment Management
Voigt & Collegen
Waikato Community Trust
Walden Asset Management, a division of Boston Trust & Investment Management Company
WARBURG - HENDERSON Kapitalanlagegesellschaft für Immobilien mbH
WARBURG INVEST KAPITALANLAGEGESELLSCHAFT MBH
Water Asset Management, LLC
West Yorkshire Pension Fund
WestLB Mellon Asset Management (WMAM)
Westpac Banking Corporation
WHEB Asset Management
White Owl Capital AG
Woori Bank
York University Pension Fund
Youville Provident Fund Inc.
Zegora Investment Management
Zevin Asset Management
Zurich Cantonal Bank

CDP
DRIVING SUSTAINABLE ECONOMIES

CDP Contacts

Paul Dickinson
Executive Chairman

Paul Simpson
Chief Executive Officer

Frances Way
Co-Chief Operating Officer – Programs

Sue Howells
Co-Chief Operating Officer – Global Operations

Cate Lamb
Head of Water

Sarah Robertson
Senior Program Officer – Water

CDP
40 Bowling Green Lane
London, EC1R 0NE
United Kingdom
Tel: +44 (0) 20 7970 5660
www.cdp.net
info@cdp.net

Deloitte Contacts

Will Sarni
Director and Practice Leader, Enterprise Water Strategy

Therese Karkowski
Senior Consultant

Ben Dukes
Senior Consultant

Deloitte Consulting LLP
555 17th Street, Suite 3600
Denver, Colorado
80202-3942
United States of America
Tel: +1 303 294 4217
Fax: +1 866 344 1562
wsarni@deloitte.com

CDP Board of Trustees

Chairman: Alan Brown
Schroders

Ben Goldsmith
WHEB Group

Chris Page
Rockefeller Philanthropy Advisors

Dr. Christoph Schroeder

James Cameron
Climate Change Capital & ODI

Jeremy Smith

Takejiro Sueyoshi

Tessa Tennant

Martin Wise
Relationship Capital Partners

Lead Sponsor

NBIM
Norges Bank Investment Management

Lead Sponsor and Report Writer

Deloitte.

Our sincere thanks are extended to the following

Individuals
Isabelle Juillard Thompsen, Jason Morrison, Magdalena Kettis, Marc-Olivier Buffle, Martin Ginster, Piet Klop, Stuart Orr, Will Sarni.

Organisations
Bloomberg, Alliance for Water Stewardship, Defra, Global Reporting Initiative, Investor Group on Climate Change, National Business Initiative (South Africa), United Nations Global Compact, United Nations Principles for Responsible Investing, World Resources Institute, WWF.