

CDP Japan 500 Water Report 2017

On behalf of 639 investors with assets of US\$69 trillion



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Our research shows more large corporations rising to the challenge with the number of A List companies nearly tripling in a year and almost 8% using internal accounting to assess the true value of water to their business. Congratulations to those organizations leading the way.



Seventeen years ago, CDP set out to transform capital markets by making environmental disclosure and risk management a new business norm.

The Paris Agreement, Sustainable Development Goals and evolving market forces, from shareholder and customer requirements to the rapidly improving cost curves of clean technology, are moving us towards a tipping point that will help protect us from climate change, water insecurity and the effects of deforestation. To reach that point we need critical shifts in financial capital and policy, as well as strong leadership, innovation, measurement, transparency and accountability.

Our vision is for a thriving economy that works for people and planet in the long term.

Our mission is to focus investors, companies and cities on taking urgent action to build a truly sustainable economy by measuring, understanding and reducing their environmental impact.

The stakes are high as we assess the progress companies have made to date in supporting the realization of a water-secure world.

Paul Simpson
CEO, CDP



Both corporate entities and investors accurately recognize and understand the issues and continue engaging on water issues. These actions will help address global water risk and create a sustainable world and society, which is the true significance of the CDP.

Water risk is not well recognized in Japan. This is in part because of Japan's abundant natural resources. Forests make up around two thirds of the country's national land area and numerous rivers and lakes exist throughout Japan. This can make water quality and availability easy to take for granted.

Water covers 70% of the Earth's surface and its volume is estimated at roughly 1.386 billion km³. However, only 2.5% of this volume is fresh water. Excluding underground water and glaciers, this number is further reduced, narrowing the total amount of water accessible to humans to roughly 100,000 km³, a meager 0.01% of the world's total water.

Water is a valuable yet limited resource that is essential for life. In January 2012, the 2030 Water Resources Group reported that 894 million people, 12.7% of the world's population, do not have access to safe drinking water. Drought also brings significant negative economic consequences, resulting in 12 trillion JPY in lost income, or 0.15% of the world's GDP. Furthermore, water consumption will increase due to population and economic growth; by 2030, fresh water demand will exceed its supply by 40%. The world is faced with serious water risk.

Institutional investors globally, mainly in Europe and the U.S., have taken action as responsible investors with a belief that water risk, following climate change risk, is a material issue affecting the risk and return of long-term investment.

The number of institutional investors signing the CDP Water Program comes to 639, approximately a fivefold increase from when the program was launched in 2010, and the total AUM has quadrupled, now representing US\$69 trillion. CDP represents these investors by surveying, evaluating, and reporting corporate efforts on water risk.

Among others, public pension funds in Norway, the Netherlands, and Canada, substantial asset owners of the corporate entities, take water issues as a key aspect of investment, and publically disclose their water policies. Additionally, these funds evaluate corporate efforts and approaches from both a risks and opportunities perspective, incorporating them into investment decisions and taking tangible shareholder actions, such as engagement and proxy voting.

These movements are spreading globally via collaborative engagement.

For corporate entities, on the other hand, responding to the CDP water survey will help them recognize global water issues and quantify risks and opportunities in their own business.

Disclosure will also demonstrate companies' sustainable corporate values to stakeholders including investors.

Of note, both corporate entities and investors accurately and precisely recognize and understand the issues and continue engaging on water issues. These actions will help address global water risk and create a sustainable world and society, which is the true significance of the CDP.

As a gold data partner of CDP, QUICK ESG Research Center has provided investors and companies with a wide range of information on qualitative and quantitative water risks. From now on, we would like to convey the essence of risk to you by utilizing our knowledge as a scoring partner and support the process of strategy building and implementation, verification, evaluation, and information disclosure.

Etsuya Hirose

Managing Director
Head of ESG Research Center
QUICK Corp.



The process of responding to CDP's water questionnaire should be instrumental for companies themselves in understanding their own water-related risks and opportunities.

In June 2017, the Government Pension Investment Fund (GPIF) of Japan, the world's largest pension fund, started managing assets based on selected ESG indices for Japanese stocks. Amid this global growth and rapid expansion in Japan of ESG investment, there has been a rising interest among institutional investors and ESG rating agencies concerning corporate water risk management, policies, goal setting, and performance. This is due to the understanding that there is a need to analyze the impact of water risk on companies as water-related natural disasters such as droughts and floods grow more frequent each year.

Before the launch of the CDP Water Program, the means for investors and other company stakeholders to understand individual companies' water risks were limited. CDP's water program has now become a valuable source of information for institutional investors to obtain an understanding of companies' water-related risks and opportunities. CDP's global water program is in its eighth year, and the CDP Japan water program, targeting Japanese companies, is in its fourth year. We at KPMG Japan are honored to be able to contribute to the realization of CDP Japan's water program for the fourth consecutive year.

This year, responses were obtained from 176 companies (51%) out of the 342 companies invited to respond to the questionnaire. The response rate fell by 13 points from the previous year, as the number of companies invited to respond increased from 150 companies to 342 companies. On the other hand, voluntary responses were obtained from 12 companies. As a result, despite this year's decrease in the response rate, the total number of respondent companies has increased from 123 companies to 188 companies. This additional information on Japanese companies' water risk management is now available for investors and stakeholders to factor into decision making.

Due to the progress of water-related efforts and information disclosure of Japanese companies, the number of Japanese companies selected for the A List increased from 6 to 12 companies and 64% of Japanese companies scored were rated as being at the Leadership or Management level.

Going forward, I believe Japanese companies will adopt a more systematic and comprehensive approach to water risk assessments and countermeasures, which will not only help provide more useful information to investors but will also bolster water risk management practices at companies. The process of responding to CDP's water questionnaire should be instrumental for companies themselves in understanding their own water-related risks and opportunities.

KPMG leverages its professionals' expertise and experience to assist companies in responding to sustainability challenges, such as water and climate change, through its Sustainability Services network. As the Sustainability Services practice in Japan, we will provide Japanese companies with assistance in identifying and evaluating water risks, establishing and implementing water policy and strategy, and reporting on performance, while providing continued support to CDP's water program.

Kazuhiko Saito
Managing Partner
KPMG AZSA Sustainability Co., Ltd.

Global summary

This year we asked 4,653 of the largest global companies to provide data about their efforts to manage and govern freshwater resources. In total 2,025 companies responded, up from 1,432 last year.

This data is used by 639 institutional investors, representing US\$69 trillion in assets, to engage with portfolio companies, inform investment decisions and catalyze change. In addition, 34 purchasing organizations with a combined spend of US\$1 trillion use CDP water data to drive greater insight, accountability and action throughout their global supply chains.

This report is aimed at companies and investors seeking to understand how they can play their part in delivering a water-secure world. It presents analysis of the 2017 CDP water response data from a sample of 742 of the world's largest publicly-listed companies. It sets out what a water-secure world looks like, the private sector actions that will contribute to its achievement, and how companies are overcoming the barriers to water security – most importantly, the failure to properly value our fresh water resources in today's economy.

Key findings

▀ **There is more data than ever before**

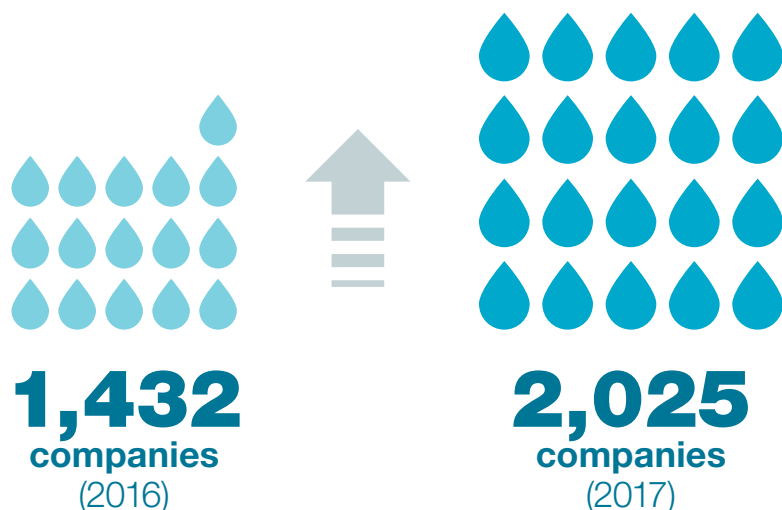
More than 2,000 companies reported water data via CDP in 2017

▀ **Company boards have woken up to water security**

Water security now has a firm seat at the table of more than 70% of the most significant corporate boards

▀ **Money is now flowing into solutions**

Companies are committing US\$23.4 billion across more than 1,000 water projects



Today, CDP's work drives water action at scale:

2,025
companies

Companies representing nearly US\$20 trillion in market capitalization and 59% of heavily water-dependent companies on the MSCI ACWI publicly disclose their progress in managing water-related risks and impacts through CDP. This represents a near twelve-fold increase on the 175 companies that disclosed in 2010.

US\$1
trillion

34 purchasing organizations with a combined annual spend of US\$1 trillion motivate their suppliers to disclose water information, enabling the management of water impacts through global supply chains.

5.6
billion ML

Around 5.6 billion megaliters worth of water withdrawals are reported through CDP – more than the total volume of Lake Michigan. These disclosures enable essential tracking of the progress of the global economy towards a water-secure world.

639
investors

From the original 137 investors, today more than 639 investors, with combined assets under management of US\$69 trillion, drive companies to both disclose their impacts on water security and take action to reduce them.

360
cities

360 cities with a combined population of 634 million people now disclose to CDP to build resilience and protect themselves from water risks.

91
countries

CDP is motivating companies to take ambitious water action in 91 countries, from Afghanistan to Zimbabwe and from Argentina to Zambia.

Companies are taking ambitious action

A growing number of companies are beginning to invest significant money, time and effort into addressing the risks they face.

In 2017, companies have committed **US\$23.4 billion** across more than **1,000 projects** to tackle water risks in **91 countries** around the world.

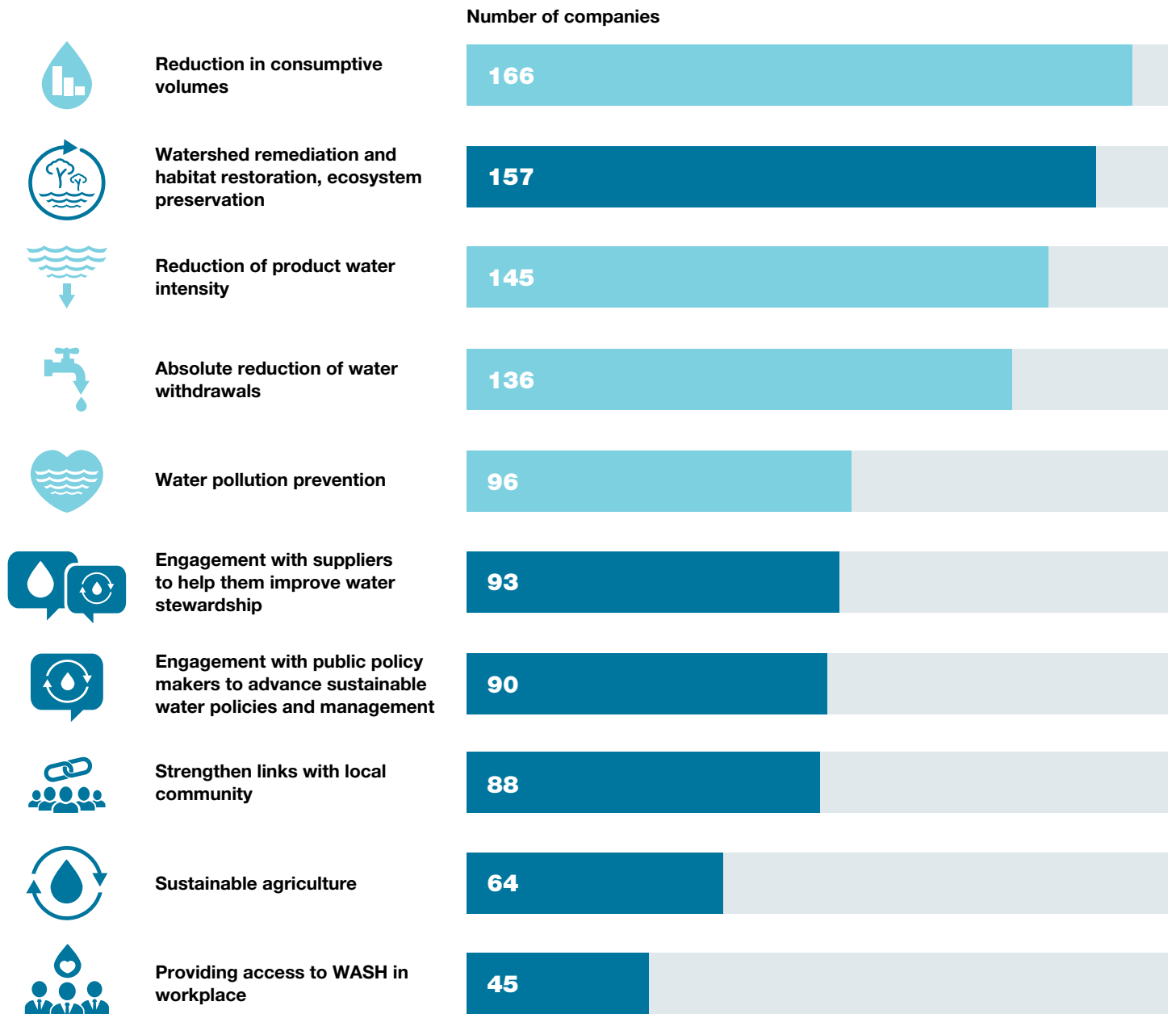


Companies are also setting ambitious targets and goals to reduce their impact on water resources.

CDP generally defines a target as a specific measurable output within a clear timeline, while a goal aims to achieve a longer-term qualitative outcome or a specific change in behavior or circumstances.

Most common targets and goals

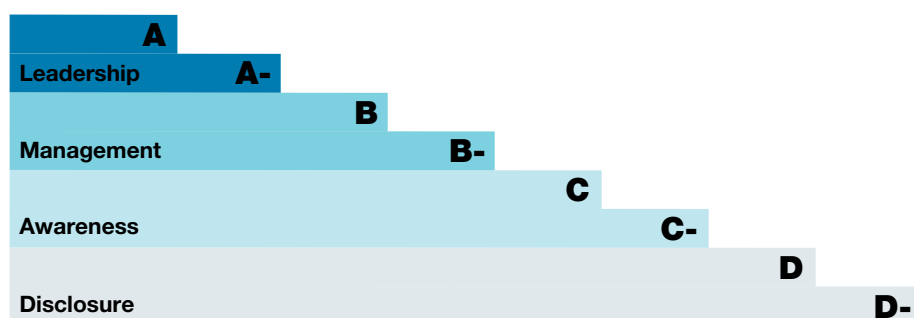
Target Goal



Scoring: a measure of a company's environmental performance

Scoring at CDP is mission-driven, focusing on CDP's principles and values for a sustainable economy and as such scores are a tool to communicate the progress companies have made in addressing environmental issues, and highlighting where risks may be unmanaged. CDP has developed an intuitive approach to presenting scores that highlight a company's progress towards leadership using a 4 step approach: **Disclosure** which measures the completeness of the company's response;

Awareness which intends to measure the extent to which the company has assessed environmental issues, risks and impacts in relation to its business; **Management** which is a measure of the extent to which the company has implemented actions, policies and strategies to address environmental issues; and **Leadership** which looks for particular steps a company has taken which represent best practice in the field of environmental management.



Leadership	80-100%	A
	0-79%	A-
Management	45-79%	B
	0-44%	B-
Awareness	45-79%	C
	0-44%	C-
Disclosure	45-79%	D
	0-44%	D-

F = Failure to provide sufficient information to CDP to be evaluated for this purpose¹

¹ Not all companies requested to respond to CDP do so. Companies who are requested to disclose their data and fail to do so, or fail to provide sufficient information to CDP to be evaluated will receive an F. An F does not indicate a failure in environmental stewardship.

² CDP's methodology aims to incentivize continuous improvements as reflected by the state of the market and the improvement of scientific knowledge around the environmental issues it evaluates. The methodology thus evolves over time and the weight of some questions might change or some previously unscored questions might start being scored. As part of these improvements for 2017 scoring, CDP has modified the thresholds from last year.

The scoring methodology clearly outlines how many points are allocated for each question and at the end of scoring, the number of points a company has been awarded per level is divided by the maximum number that could have been awarded. The fraction is then converted to a percentage by multiplying by 100. A minimum score of 80%², and/or the presence of a minimum number of indicators on one level will be required in order to be assessed on the next level. If the minimum score threshold is not achieved, the company will not be scored on the next level.

The final letter grade is awarded based on the score obtained in the highest achieved level. For example, Company XYZ achieved 88% in Disclosure level, 82% in Awareness and 65% in Management will receive a B. If a company obtains less than 44% in its highest achieved level (with the exception of Leadership), its letter score will have a minus. For example, Company 123 achieved 81% in Disclosure level and 42% in Awareness level resulting in a C-. However, a company must achieve over 80% in Leadership to be eligible for an A and thus be part of the A List.

Public scores are available in CDP reports, through Bloomberg terminals, Google Finance and Deutsche Boerse's website. CDP operates a strict conflict of interest policy with regards to scoring and this can be viewed at <https://www.cdp.net/scoring-conflict-of-interest>

Future of Scoring

As part of its 'Reimagining Disclosure' initiative, CDP developed a series of sector-specific questionnaires integrating the recommendations by the Financial Stability Board's Task Force on Climate-related Financial Disclosure (TCFD) and stakeholder feedback collected via two rounds of consultations. Each sector questionnaire will have a corresponding sector-specific scoring methodology which will be released in the first quarter of 2018.

The Water A List 2017

Company	Country
Consumer Discretionary	
Bridgestone Corporation	Japan
Nissan Motor Co., Ltd.	Japan
Sony Corporation	Japan
Toyota Motor Corporation	Japan
ARÇELİK A.Ş.	Turkey
BMW	Germany
Burberry Group	United Kingdom
Caesars Entertainment	USA
Fiat Chrysler Automobiles NV	Italy
Ford Motor Company	USA
General Motors Company	USA
Volkswagen AG	Germany
Woolworths Holdings Ltd	South Africa
Consumer Staples	
Kirin Holdings Co Ltd	Japan
Suntory Beverage & Food	Japan
Altria Group, Inc.	USA
Anheuser Busch InBev	Belgium
Associated British Foods	United Kingdom
Coca-Cola European Partners	United Kingdom
Coca-Cola HBC AG	Switzerland
Colgate Palmolive Company	USA
Conagra Brands Inc	USA
Danone	France
Diageo Plc	United Kingdom
Kellogg Company	USA
L'Oréal	France
Philip Morris International	USA
SCA	Sweden
Tongaat Hulett Ltd	South Africa
Unilever plc	United Kingdom
Energy	
Galp Energia SA	Portugal
PTT Exploration & Production Public Company Limited	Thailand
Financials	
T.GARANTİ BANKASI A.Ş.	Turkey
Health Care	
AstraZeneca	United Kingdom
Bayer AG	Germany
Biogen Inc.	USA

Company	Country
Essilor International	France
GlaxoSmithKline	United Kingdom
Mediclinic International	South Africa
Novartis	Switzerland
Roche Holding AG	Switzerland
SANOFI	France
Industrials	
Komatsu Ltd.	Japan
Kubota Corporation	Japan
Mitsubishi Electric Corporation	Japan
CNH Industrial NV	United Kingdom
Obrascon Huarte Lain (OHL)	Spain
Owens Corning	USA
Information Technology	
FujiFilm Holdings Corporation	Japan
Fujitsu Ltd.	Japan
HP Inc	USA
Intel Corporation	USA
LG Innotek	South Korea
Samsung Electronics	South Korea
STMicroelectronics International NV	Switzerland
Materials	
Mitsubishi Chemical Holdings Corporation	Japan
African Rainbow Minerals	South Africa
BASF SE	Germany
Braskem S/A	Brazil
Ecolab Inc.	USA
FIRMENICH SA	Switzerland
Harmony Gold Mining Co Ltd	South Africa
Koninklijke DSM	Netherlands
Kumba Iron Ore	South Africa
Metsä Board	Finland
Mondi PLC	United Kingdom
OMNIA HOLDINGS LTD	South Africa
Royal Bafokeng Platinum Ltd	South Africa
Symrise AG	Germany
UPM-Kymmene Corporation	Finland
Utilities	
ACCIONA S.A.	Spain
Centrica	United Kingdom
Endesa	Spain
NRG Energy Inc	USA

Executive Summary

It is important for Japanese companies to properly recognize, assess and respond to possible water risks throughout the value chain.

This year marks the fourth year of CDP's water program for Japanese companies. In 2017, CDP's water information request was sent to 342 Japanese companies, selected based on market capitalization, 176 (51%) of which responded¹. An additional 12 companies voluntarily provided responses to CDP's water questionnaire. This report outlines the analysis of 180 company responses that were submitted by the time of writing this report excluding the responses of eight companies whose responses were submitted by their parent company.

Key findings

Response rate of Japanese companies

Of the 342 companies invited to respond, 176 (51%) did so. There has been a 13 point decrease in the response rate compared to the previous year, due to the increased number of companies invited to respond, from 150 companies in 2016 to 342 companies in 2017. On the other hand, voluntary responses were received from 12 companies. As a result, despite this year's decrease in the response rate, the total number of responding companies has increased from 123 to 188 companies. This indicates an increase in information, contributing to the decision making of investors and other company stakeholders concerning the water risk of Japanese companies.

There is a stark difference in attitudes towards water disclosure among the GICS sectors. For example, response rates were high in the Information Technology (82%) and Materials (60%) sectors, but low in the Financials (Real Estate) (0%) and Utilities (15%) sectors.

Requests for water-related supplier reporting

Assessing water risks in the supply chain is a challenge for many companies. One assessment method is to request suppliers to report on water use, risks and management, but only 35% of responding companies request such reporting. GICS sectors with companies proactively requesting water-related supplier reporting were the Consumer Staples (54%), Consumer Discretionary (48%), and Health Care (46%) sectors. Some of these companies provide suppliers with useful feedback to provide incentives for reporting.

Stakeholders factored into water risk assessments

90% of responding companies factor their employees, local communities, and regulators into water risk assessments, while only 71% of responding companies factor in suppliers. This may indicate the difficulty of assessing water risks in the supply chain.

Quantitative targets and qualitative goals

Around half of responding companies set both quantitative targets and qualitative goals. Most companies have set goals concerning local communities. For example, ecosystem preservation and strengthening links with local communities.

Integrating water management into business strategies

Encouragingly, 74% of Japanese companies have integrated water management into business strategies. Most companies cited 'increased capital expenditure' as a response strategy for water risks in direct operations and 'supplier diversification' as a response strategy for water risks in the supply chain.

Conclusion

According to OECD forecasts, global freshwater demand is projected to increase by more than 50% from 2000 to 2050. This increase is predicted to occur mainly in emerging and developing countries. Currently, in Japan, access to good quality freshwater is relatively stable, indicating low water risks for Japan-based companies. However, taking into consideration that on average an estimated three-quarters of a company's total water usage is in its supply chain², it is important for Japanese companies to properly recognize, assess and respond to possible water risks throughout the value chain.

It has increasingly become common practice among Japanese companies to undertake a water risk assessment in direct operations, however the inclusion of the supply chain remains an issue. Also, as water is a local resource and the impact of water usage largely depends on the various conditions of the river basin, it is likely that Context-Based Water Targets (CBWTs) will be necessary in the future. It is also expected that Japanese companies will implement more effective water risk assessments, including assessing of water risks in the supply chain, setting appropriate targets based on clear policies and strategies, conducting appropriate responses to identified water risks, and reporting periodically on their progress.

¹ The response rate and the number of responding companies are as of 2 August 2017

² <https://home.kpmg.com/jp/ja/home/media/press-releases/2013/10/20120403.html>



51%

Response rate of Japanese companies (176/342)¹



35%

Percentage of companies requesting water-related reporting to suppliers



71%

Percentage of companies factoring suppliers in their water risk assessment



49%

Percentage of companies setting both quantitative targets and qualitative goals



74%

Percentage of companies integrating water management into their business strategies

Overview of responses

The response rate of Japanese companies is 51%.

Of the 342 invited companies, 176 (51%) responded to the information request. This year, there has been a 13 point decrease in the response rate, due to the increase in the number of companies invited to respond, from 150 to 342 companies. However, the total number of responding companies, including voluntary responses, has increased from 123 companies to 188 companies.

Voluntary responses and institutional investors' growing interest in water.

Voluntary responses were received from 12 companies. This could be an indication of Japanese companies' increasing willingness to disclose water-related information via CDP's platform in order to respond to investors' growing interest and information needs related to water.

In recent years, water-related events such as droughts and floods have increased. It is predicted that the total annual cost of flood damage world-wide will increase from \$6 billion in 2005 to \$52 billion in 2050.³ In the future, there is a possibility that the financial performance of a company may be greatly affected by the actualization of water risks. Against this backdrop, institutional investors' interest in the impact of water on a company's bottom line is rising, evidenced by the increasing number of signatory investors to CDP's water program, from 530 in 2013 to 639 in 2017. In fact, there are already cases where investors have directly asked companies to respond to water risks. For example, in November 2016, 45 major institutional investors sent documents asking four U.S. meat product manufacturers to deal with serious water pollution risks related to their production process.⁴

Difference in attitudes towards water disclosure

There is a stark difference in attitudes towards water disclosure across GICS sectors. For example, response rates were high in the Information Technology (82%) and Materials (60%) sectors, but low in the Financials (0%) and Utilities (15%) sectors (see Table 1).

Risks and opportunities

57% of respondents report exposure to water risks.

57% of respondents report that they are exposed to water risks in their direct operations, in their supply chains, or in both and 31% report that they are not exposed to water risks.

In recent years, it has become increasingly common practice among Japanese companies to undertake water risk assessments in direct operations. However, the comprehensiveness of the assessment method, in both the supply chain and in direct operations, differs significantly among companies. In the future, as the water risk assessment method of Japanese companies matures, more companies will likely review their awareness of water risks as well.

Impact to direct operations

The most commonly reported potential impacts to direct operations include 'plant/production disruption leading to reduced output' (39 companies) and 'higher operating costs' (37 companies) (Figure 1).

Countries where exposure to substantive water risk is reported for direct operations include Japan (53 companies), China (31 companies), Thailand (24 companies), India (16 companies), and Indonesia (11 companies) (Figure 2).

'Increased water scarcity' and 'regulation of discharge quality/volumes' were raised as major water risk factors in Japan, while in Thailand, floods were raised as the most significant water risk factor due to past large-scale flooding. China and India based companies cited 'risk of water shortage' as a significant risk factor due to the rising supply-demand gap of water resources accompanying the high economic growth rate. In Indonesia, 'regulations on water quality and wastewater volume' were raised as major water risk factors due to the deteriorating water quality associated with the rise in the number of factories in the region.

67% of respondents recognize water opportunities

67% of Japanese companies report that water offers opportunities for their business. These opportunities include those related to increases in operational efficiency, such as 'cost savings' and 'improved water efficiency', as well as those related to new revenue, such as 'sales of new products/services' (Figure 3).

³ <https://www.nature.com/nclimate/journal/v3/n9/abs/nclimate1979.html>

⁴ <https://www.ceres.org/news-center/press-releases/leading-investors-press-meat-producers-tackle-water-pollution-risks>

Table 1. Response to CDP's 2017 water questionnaire (by sector)

GICS Sector	Number of targeted companies	Number of responding companies	Response rate
Consumer Discretionary	81	42	52%
Consumer Staples	48	14	29%
Energy	7	3	43%
Financials	4	0	0%
Health Care	30	15	50%
Industrials	73	40	55%
Information Technology	38	31	82%
Materials	48	29	60%
Utilities	13	2	15%

Figure 1. Potential impacts (risks) to direct operations

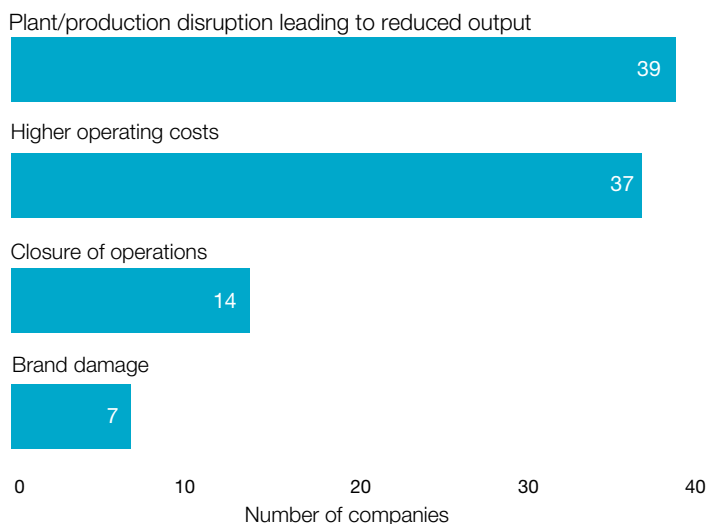


Figure 2. Top 5 Countries with exposure to substantive water risks

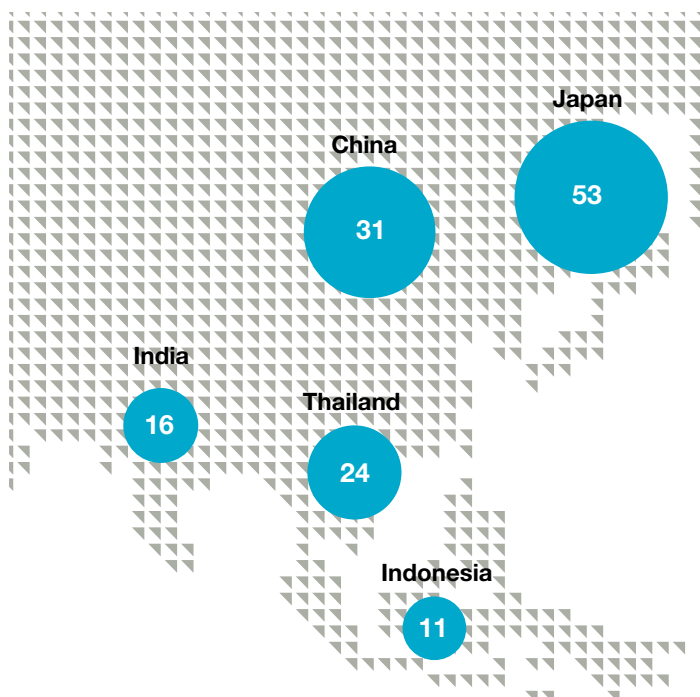
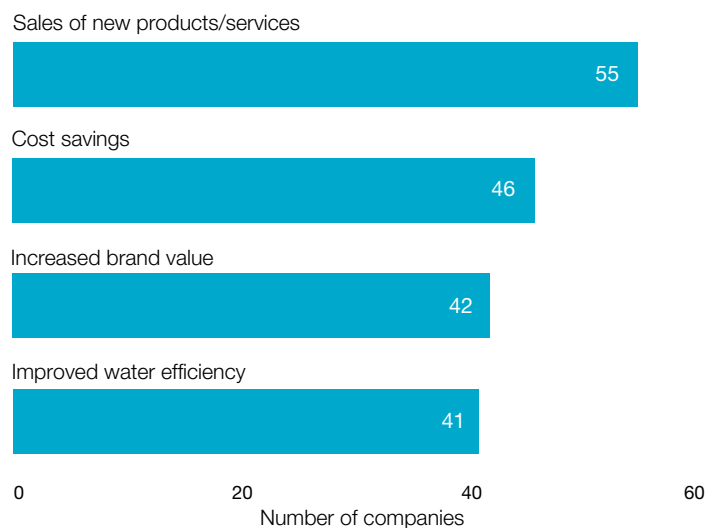


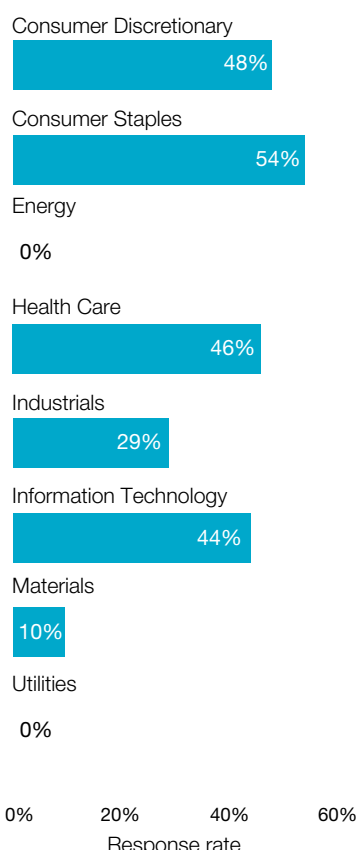
Figure 3. Water opportunities



35%

of respondents request water-related supplier reporting

Figure 4. Requests for water-related supplier reporting (by sector)



Accounting and monitoring

Comprehensive accounting of water-related data

At 76%, the majority of Japanese companies measure and monitor their water use at their business sites. (Figure 5). Also many Japanese companies have in place a main water-related data monitoring system in their direct operations.

35% of respondents request water-related supplier reporting

Assessing water risks in the supply chain is a challenge for many companies. One assessment method is to request suppliers to report on water risks and water usage, but only 35% of responding companies request such reporting. GICS sectors with the highest number of companies proactively requesting water-related supplier reporting are Consumer Staples (54%), Consumer Discretionary (48%), and Health Care (46%) sectors (Figure 4).

Some companies provide suppliers with useful feedback to provide incentives for reporting. Toyota Motor Corporation, for example, analyzes water-related supplier reports, and provides feedback to suppliers on how to improve water usage efficiency. Since 2015 **Toyota Motor** has collected water-related information from suppliers through the CDP supply chain program. In the future, it is expected that more Japanese companies will be analysing their supply chain water risks.

Risk assessment

Water risk assessment methods

For the majority of companies, water risk assessments are undertaken using internal company knowledge, regional government databases, and/or water risk assessment tools (Figure 6). Of the water risk assessment tools, WRI Aqueduct is the most commonly used, followed by the WBCSD Global Water Tool and the WWF - DEG Water Risk Filter. The method of assessing water risk varies from company to company, and many companies conduct water risk assessments by combining multiple evaluation methods to tailor to their specific needs.

Water risk assessment factors

91% of companies factor 'water availability and quality parameters' in their water risk assessments, but only about 70% of companies include 'the status of ecosystems and habitats', 'river basin management plans', or 'stakeholder conflicts concerning water resources' (Figure 7). **Suntory Beverage & Food**, of the Suntory Group, is one of the few companies factoring the status of ecosystems and habitats into its water risk assessment. The company conducts field studies on the natural habitat of particular wild birds which are sensitive to changes in watershed forests and uses the natural habitat status of these birds as an indicator to measure the health of forest ecosystems as part of its water risk assessments.

When conducting water risk assessments, it is important for companies to consider not only high-level factors such as water availability and quality, but also site-specific risks that reflect local contextual factors that could impact companies.

Stakeholders factored in water risk assessments

90% of responding companies consider their employees, local communities, and regulators as stakeholders in their water risk assessments, while only 71% of responding companies include their suppliers (Figure 8). This may indicate the difficulty of assessing water risks in the supply chain.

For industries in which the water risks in the supply chain are not so relevant, such as industries located upstream of the value chain, the necessity to undertake water risk assessments of suppliers may be low. However, for industries, such as food and beverages for example, a stable supply of good quality freshwater is vital for its suppliers, indicating the critical nature of assessing water risks in the supply chain.

Figure 5. Percentage of companies accounting and monitoring water-related data in over 76% of their business sites

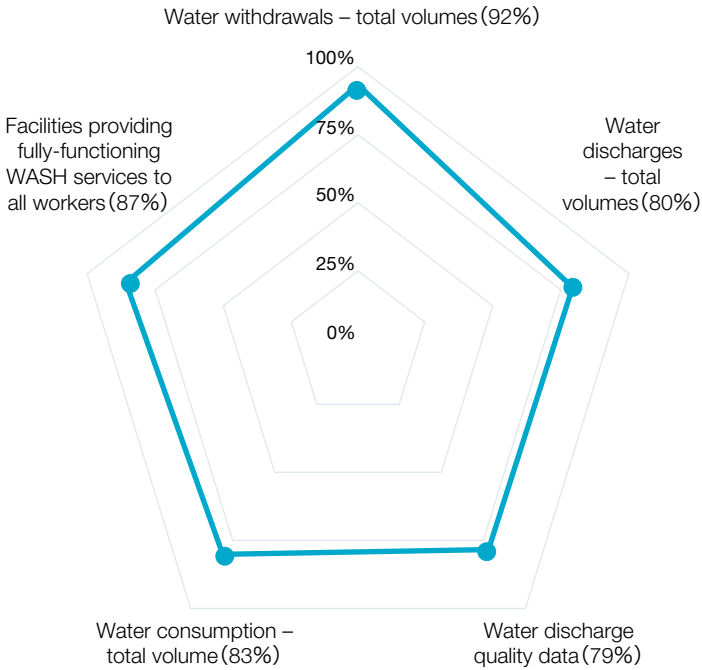


Figure 6. Water risk assessment methods

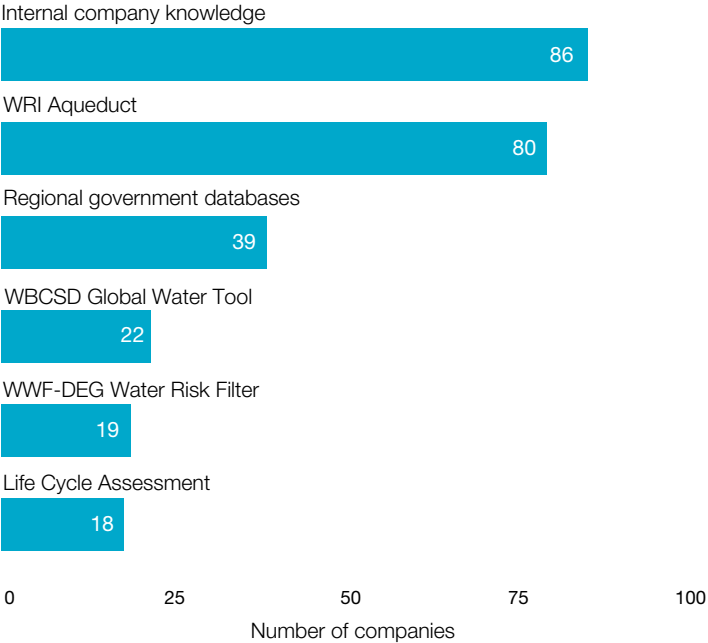


Figure 7. Water risk assessment factors

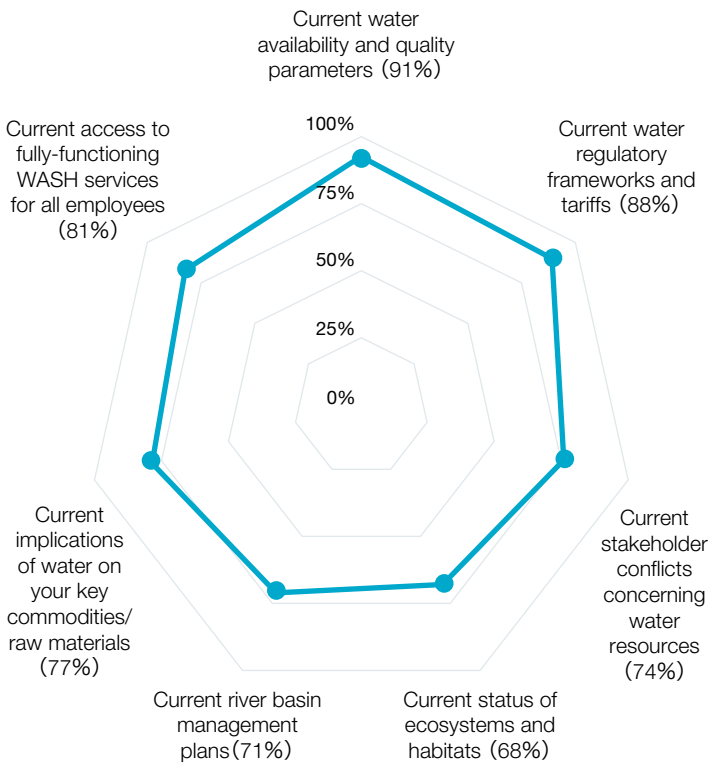


Figure 8. Stakeholders factored in water risk assessments

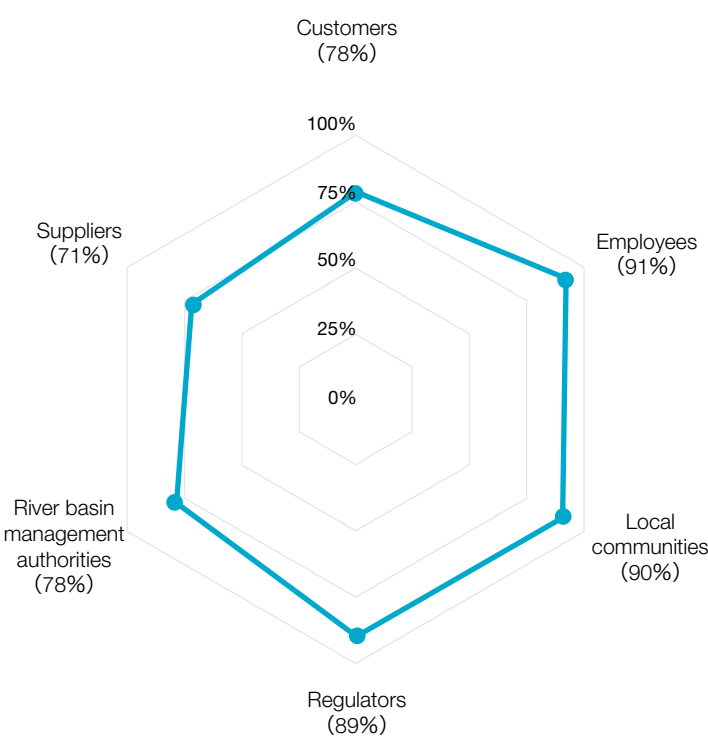
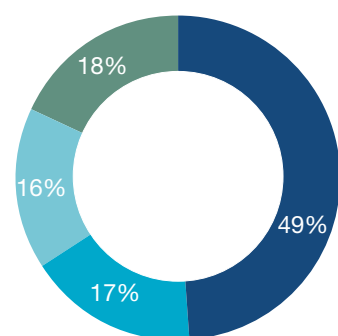


Figure 9. Water-related targets and goals

- Both targets and goals
- Targets only
- Goals only
- No targets



Quantitative targets and qualitative goals

49% of respondents set both quantitative targets and qualitative goals

Approximately half (49%) of the respondents set both quantitative targets and qualitative goals, with 17% of companies setting quantitative targets and 16% of companies setting qualitative goals (Figure 9). Most of the companies that reported not setting targets are also those companies that have yet to conduct a water risk assessment.

Quantitative targets

The most common targets set are 'reduction in consumptive volumes' (45%), 'water pollution prevention' (26%), followed by targets on the 'absolute reduction of water withdrawals' (25%) (Figure 10).

Ajinomoto, for example, has set an ambitious long-term target of reducing the amount of water used per unit of production in its factories by 80% compared with a 2005 baseline by 2030.

Qualitative goals

The top goal reported by Japanese companies is to address 'watershed remediation and habitat restoration' (30 companies). This is closely followed by 'strengthening links with local communities' (17 companies) and the provision of WASH to local communities' (12 companies) (Figure 11).

Konica Minolta, for example, stipulates 'restoration and preservation of biodiversity' in its long-term environmental vision "Eco Vision 2050". The company implements efforts based on its Biodiversity Preservation Guidelines and takes into consideration the impact of water on ecosystems.

Issues in setting targets and goals

Encouragingly, more companies are setting quantitative targets for water than previous years. However most companies are doing so without considering the river basin contexts in which they operate. As water is a local resource and the impact of water usage largely depends on the various conditions of the river basin, it is likely that Context-Based Water Targets (CBWTs) will be necessary in the future.

Governance and management

83% of respondents place the highest level of responsibility for water-related issues at the board level

83% of Japanese companies responded that the highest level of direct responsibility for water is placed on an individual or a sub-set of the Board or other committee appointed by the Board. By providing board members with the information and tools to plan for a transition to a water-secure world, water stewardship can become part of companies' everyday operations.

Integration of water management into their business strategies

74% of respondents have integrated water management into their business strategies.

Response strategies for water risks in direct operations

Most companies cited 'increased capital expenditure' (30 companies) as a response strategy for water risks in direct operations, followed by 'develop flood emergency plans' (22 companies), 'infrastructure investment' (21 companies), and 'infrastructure maintenance' (19 companies) (Figure 12).

Takeda Pharmaceutical, for example, has established an Energy and Emergency Control Center based on the lessons learned from the Great East Japan Earthquake in 2011. The company has also secured evacuation routes and located shelters as a response strategy to the risk of shutdown due to a tsunami at domestic factories. It has invested about 2.5 billion yen in capital investment for tsunami and earthquake-related disaster prevention measures.

Response strategies for water risks in the supply chain

Most companies cited 'supplier diversification' (26 companies), 'engagement with suppliers' (24 companies), and 'develop flood emergency plans' (16 companies) as a response strategy for water risks in the supply chain (Figure 13).

Kirin Holdings, for example, strives to maintain the stable procurement of raw materials by taking into consideration water risks in procurement areas and securing suppliers from multiple areas.

Scoring

In CDP's water program, companies are assessed based on their responses to CDP's water information request across four consecutive levels: 'Leadership', 'Management', 'Awareness' and 'Disclosure'. A letter grade is awarded based on the score obtained in the achieved level (see Page 10).

This year, 171 companies were assessed for scoring, excluding 9 companies that responded late and 8 companies whose responses were submitted by their parent company. Figure 14 shows a distribution of Japanese companies' final scores this year. The number of Japanese companies that are included in CDP's Water A List has increased from 6 companies to 12 companies this year, and 64% of scored companies are rated as being in the Leadership or the Management levels.

83%

of respondents place the highest level of responsibility for water-related issues at the board level

74%

of respondents have integrated water management into their business strategies

Figure 10. Most common quantitative targets

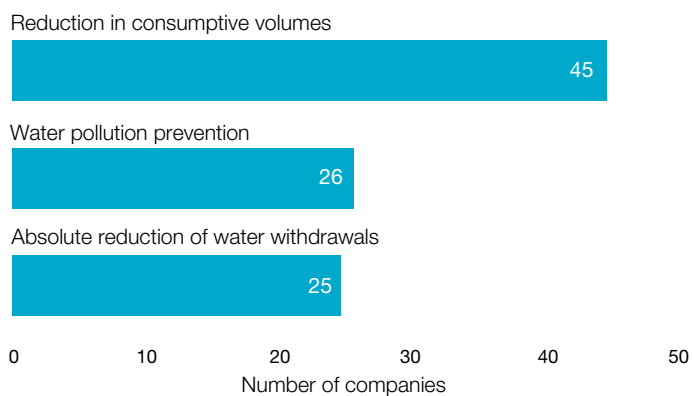


Figure 11. Most common qualitative goals

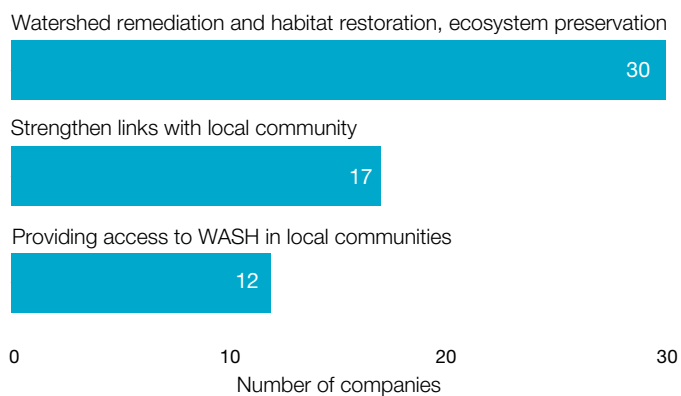


Figure 12. Response strategies for water risks in direct operations

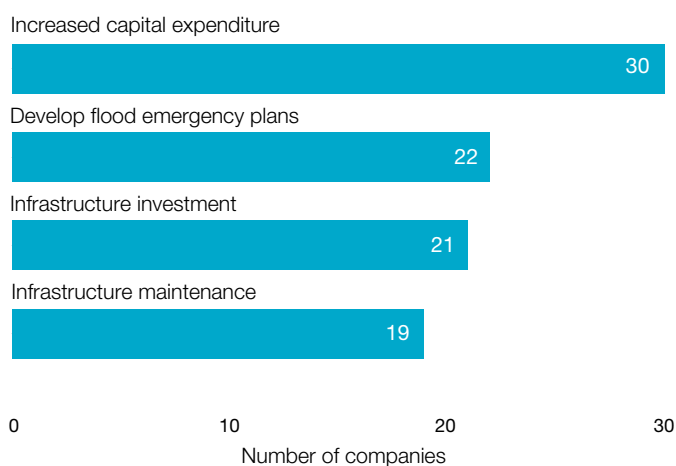


Figure 13. Response strategies for water risks in the supply chain

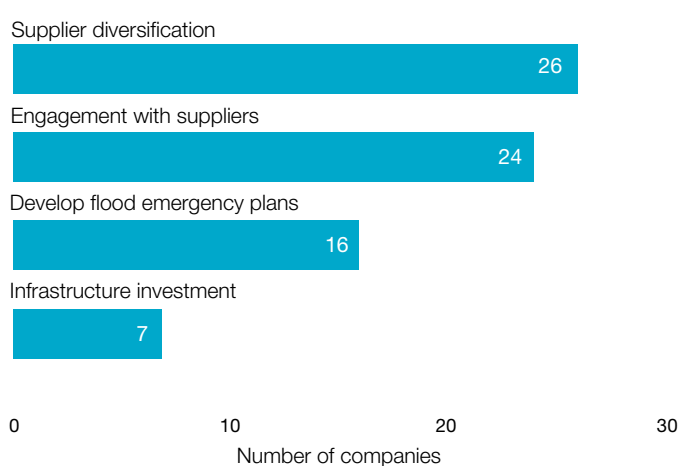
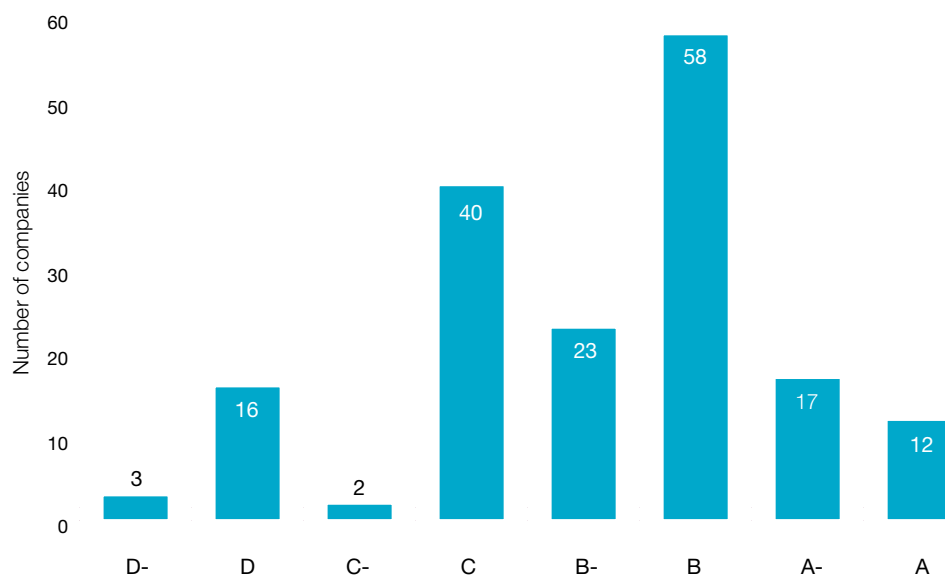


Figure 14. Distribution of Japanese companies' final score



Institutional Investors Focus on Corporate Water Risk and Related Business Opportunities

Water is a resource that is closely tied to our lives, as well as every aspect of our economic activities. Today, the world faces serious water issues. Water scarcity and pollution as well as changing precipitation patterns driven by a changing climate can have a significant impact on corporate activities. Institutional investors providing capital to these corporations recognize the risk that water poses and are starting to take action.

Global Overview on Limited Water Resources

70% of the Earth's surface is covered in water with a total water volume estimated to be roughly 1.386 billion km³. However, excluding sea water and other salt-water bodies, only 2.5% of this volume is fresh water. Excluding underground water and glaciers narrows this number further, making only 0.01% (~100,000km³) of Earth's fresh water supply accessible to humans⁵. (Figure 15)

Usable water is limited. Future population growth, economic development, and climate change point to a growing demand for fresh water, increased water pollution, and more frequent water-related disasters⁶.

A 2012 report published by the 2030 Water Resources Group stated that an estimated 894 million people globally do not have access to safe drinking water. The economic impact (measured in GDP loss) of droughts is US\$109 billion annually (roughly 12 trillion yen, US\$1=JPY110) and by 2030, fresh water demand is anticipated to rise in excess of supply by 40%⁷.

Water Issues and SDGs

In September 2015, the United Nations General Assembly voted for a resolution called "Transforming our World: the 2030 Agenda for Sustainable Development". The Agenda contains 17 Sustainable Development Goals (SDGs), with 169 associated targets. The SDGs address improvements in global social goals such as poverty, hunger, climate change, and education. The Agenda calls upon all nations, including developed countries, to take action to

achieve the SDGs. Water security is linked to many of the SDGs, specifically Goal 6, to ensure availability and sustainable management of water and sanitation for all. Goals 1 and 11, to end poverty and build sustainable cities and communities, also reference water as critical to meeting targets. (Table 2)

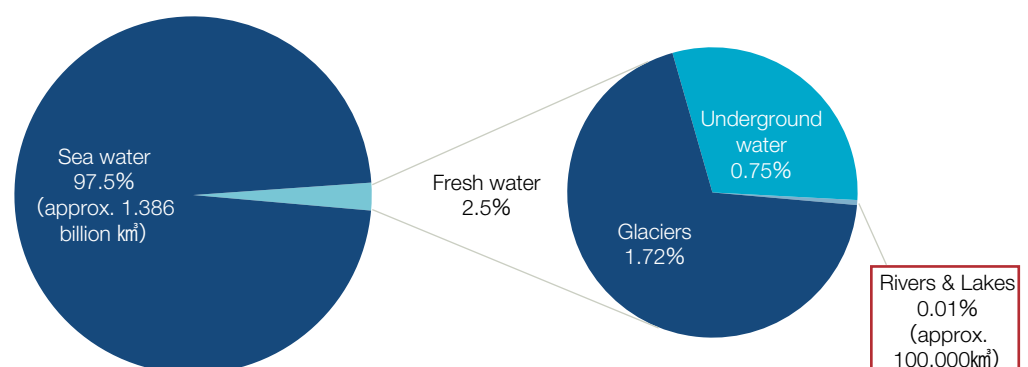
The Agenda calls on all businesses to apply their creativity and innovation to solve sustainable development challenges (Article 67)⁸. Ban Ki-Moon, Secretary General of the United Nations stated, "business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals and communicate transparently about the results."⁹

Water-Related Concerns of the Business Sector

Water is a critical business issue. The World Economic Forum's (WEF) Annual Meeting, commonly known as Davos 2017, announced the Global Risks Report 2017, which lists the water crises as being "one of the risks of highest concern over the next 10 years." The report defines a water crisis as a significant decline in the available quality and quantity of fresh water, resulting in harmful effects on human health and/or economic activity.

WEF performs annual surveys of business people, scholars, academics, politicians, NGO personnel, asking them to evaluate roughly 30 global risks¹⁰. For the past 6 years, water-related risks have ranked in the top 3 global risks on the survey. (Table 3)

Figure 15. Breakdown of Water on Earth



5 United Nations Educational, Scientific and Cultural Organization U.N.E.S.C.O., "World Water Resources at the Beginning of the 21st Century" 2003 (p. 4, <http://unesdoc.unesco.org/images/0011/001126/112671eo.pdf> as of October 13, 2017)

6 Global Compact Network Japan, Overview from "The CEO Water Mandate" (<http://ungcn.org/social/detail.php?id=87> as of October 13, 2017)

7 2030 Water Resources Group, "The Water Resources Group Background, Impact and the Way Forward", January 26, 2012 (p. 17, http://www3.weforum.org/docs/WEF/WRG_Background_Impact_and_Way_Foward.pdf, as of October 6, 2017)

8 Ministry of Foreign Affairs "Transforming our world: the 2030 Agenda for Sustainable Development" (Japanese translation draft), published September 25, 2015 (p. 29, <http://www.mofa.go.jp/mofaj/files/000101402.pdf>, as of October 13, 2017)

9 GRI, UN Global Compact, WBCSD SDGs Compass, "The Guide for Business Action on the SDGs" published September 25, 2015 (p. 4, https://sdgcompass.org/wp-content/uploads/2016/04/SDG_Compass_Japanese.pdf, as of October 13, 2017)

10 World Economic Forum, "WEF Global risk report 2017", January, 2017 (p. 61-62, http://www3.weforum.org/docs/GRR17_Report_web.pdf, as of October 13, 2017)

Table 2. SDGs Goal 6, Goal 1, and Goal 11

SDGs targets for Goal 6	
Goal 6	Ensure availability and sustainable management of water and sanitation for all
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
6.A	By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
6.B	Support and strengthen the participation of local communities in improving water and sanitation management

SDGs targets for water-related disasters (and disaster prevention)	
Goal 1	End poverty in all its forms everywhere
1.5	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

Source: Compiled from "Transforming our world: the 2030 Agenda for Sustainable Development"

Table 3. Trends in Top 5 in Terms of Negative Impacts

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1st	Asset price collapse	Asset price collapse	Asset price collapse	Asset price collapse	Fiscal crises	Major systemic financial failure	Major systemic financial failure	Fiscal crises	Water crises	Failure of climate change mitigation and adaptation	Weapons of mass destruction
2nd	Retrenchment from globalization	Retrenchment from globalization (developed)	Retrenchment from globalization (developed)	Retrenchment from globalization (developed)	Climate change	Water supply crises	Water supply crises	Climate change	Rapid and massive spread of infectious diseases	Weapons of mass destruction	Extreme weather events
3rd	Interstate and civil wars	Slowing Chinese economy (<6%)	Oil and gas price spike	Oil gas price spike	Geopolitical conflict	Food shortage crises	Chronic fiscal imbalances	Water crises	Weapons of mass destruction	Water crises	Water crises
4th	Pandemics	Oil and gas price spike	Chronic disease	Chronic disease	Asset price collapse	Chronic fiscal imbalances	Diffusion of weapons of mass destruction	Unemployment and underemployment	Interstate conflict with regional consequences	Large-scale involuntary migration	Major natural disasters
5th	Oil price shock	Pandemics	Fiscal crises	Fiscal crises	Extreme energy price volatility	Extreme volatility in energy and agriculture prices	Failure of climate change mitigation and adaptation	Critical information infrastructure breakdown	Failure of climate change mitigation and adaptation	Severe energy price shock	Failure of climate change mitigation and adaptation

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

Source: World Economic Forum, WEF Global risk report 2017, Figure2

Institutional Investors Focused on Water

While discussions are ongoing at the United Nations and businesses are taking action, institutional investors are also taking action on water issues.

The number of the signatories to CDP Water has grown since it started in 2010. Some institutional investors go beyond simply requesting disclosures from companies via CDP and practice active ownership through company engagements and by exercising their voting rights within their organizations/funds. Since 2011, there have been a total of 60 joint engagements related to water issues by member institutions of the Principles for Responsible Investment (PRI), which is endorsed by the United Nations. Of these 60 engagements, two involved Japanese companies¹¹.

The Norwegian sovereign pension fund, Norges Bank Investment Management (NBIM), and the Canada Pension Plan Investment Board (CPPIB) are among the largest institutions in the world to disclose their water investment policies and water-related engagements.

NBIM for example has listed water related actions by companies as one of its focus themes and has published its investment policy as well as a list of expectations for the companies in which it invests. Since 2010, NBIM has included evaluations on how companies deal with water-related issues.

In 2016, NBIM evaluated and published the results on 600 companies it views as having high water risks. These companies were from a range of sectors, including consumer product manufacturers, paper and pulp, chemical, oil and gas, mining, and electricity utilities. NBIM did not divest (i.e. sell shares) from any companies as a result of the 2016 evaluation, but has divested from a total of 44 companies following water-risk evaluations in 2015 and years prior¹².

CPPIB's sustainability report states that it supports engagements with the companies in which it invests and with companies it has water risk management concerns about. CPPIB has also, "continued to support shareholder proposals requesting improved management and disclosure of water related risks, including those stemming from water usage and quality."¹³

PGGM and ACTIAM in the Netherlands are also actively taking companies' water actions into account as they consider investments. Both institutions believe that water is not only a risk item, but also that companies with strong water management and water efficiency can provide new investment opportunities in the future. (Table 4)

In 2016, PGGM and ACTIAM, as lead investors in a joint engagement related to water, sent letters to 37 companies, including 3 Japanese companies. They called on mining and oil and gas companies as well as electric utilities to disclose their water usage and risk information by responding through CDP's Water Program¹⁴.

¹¹ PRI, Collaboration platform (https://www.unpri.org/page/pri_website_base.collaboration-platform as of October 13, 2017)

¹² Norges Bank Investment Management, "Responsible Investment Government Pension Fund Global 2016", published March 7, 2017 (p. 81, <https://www.nbim.no/contentassets/2c3377d07c5a4c4fbd442b345e7cfd67/government-pension-fund-global---responsible-investment-2016.pdf> as of October 13, 2017)

¹³ CPPIB, "2016 REPORT ON SUSTAINABLE INVESTING" (p14, http://www.cppib.com/documents/9/Sustainable_Investing_2016_1.pdf, as of October 13, 2017)

¹⁴ PRI, "Collaboration platform" (<https://www.unpri.org/group/investors-request-companies-disclose-water-risk-2419>, as of October 14, 2017)

Table 4. Water Policies and Activities of Large Institutions - NBIM, CPPIB, PGGM, ACTIAM

	Norwegian central bank Norges Bank Investment Management (NBIM)	Canada Pension Plan Investment Board (CPPIB)	PGGM	ACTIAM
Organization Overview	<p>The investment management department of the Norwegian central bank, and manager of the Government Pension Fund Global, GPFG, which is one of the largest public pension "Oil Funds" in the world.</p> <p>Total assets under management US\$881 billion (as of the end of December 2015, approximately 97 trillion yen, US\$1=JPY110)</p>	<p>"The national pension plan investment board for Canada Pension Plan: CPP.</p> <p>Total assets under management US\$198 billion (as of the end of June 2015, approximately 22 trillion yen, US\$1=JPY110)"</p>	<p>The investment management department of the second largest pension fund PFZW. Total assets under management US\$199 billion (as of end of December 2015, approximately 22 trillion yen, US\$1=JPY110)</p>	<p>Dutch asset management company. Total assets under management US\$57 billion (as of end of December 2015, approximately 6.3 trillion yen, US\$1=JPY110)</p>
Approach	<p>Corporate practices on climate change, children's rights and water management are the areas of focus when engaging with companies that are of concern in their investments</p> <p>Their expectations are that companies consider potential water risks when setting business strategies, perform risk management, and disclose information. NBIM publishes this policy.</p>	<p>Water is one of the world's most critical resources. Water can pose significant operational risks to companies across geographies and sectors.</p> <p>CPPIB engages with companies to improve corporate reporting of water-related strategies and performance, provide disclosure in a format that is comparable, and seek better management of long-term water risks.</p>	<p>PGGM lists water as one of their focuses areas in responsible investments. Water shortage and water pollution can have negative impacts on businesses and the supply chain, and therefore is a risk for investors in these companies. Reasonable water management and solutions for water shortage can lead to investment opportunities.</p>	<p>Water resources is one of the risks that the world faces. ACTIAM lists water as one of their key focus topics, so that they may avoid investment risks related to water. ACTIAM sees water can lead to new business opportunities for companies and investment opportunities for ACTIAM.</p>
Actions	<p>NBIM has evaluated water risk since 2010. In 2016, NBIM evaluated and published the results on 600 companies that they viewed as having high water risks. These companies included consumer product manufacturers, paper and pulp companies, chemical, oil and gas, mining, and electricity utilities. NBIM did not divest from any companies as a result of the 2016 water risk evaluation, but have done so for 9 companies in 2015 and a total of 35 companies in years before. NBIM is also actively participating in efforts to improve the CDP Water Program.</p>	<p>CPPIB engages directly or through Hermes EOS to engage with companies for which they have water risk concerns. CPPIB supports shareholder proposals requesting improved management and disclosure of water related risks, including those stemming from water availability and quality.</p> <p>In 2016, CPPIB supported requests for increased disclosure of water risk management practices at Chevron Corporation and ExxonMobil Corporation.</p>	<p>PGGM has dialogue with companies in their investment portfolio to lower their water risks. Some of this discussion takes the form of joint engagements with other institutions. In 2016, 4% of PGGM's engagements were related to water.</p> <p>PGGM and other institutional investors jointly submitted shareholder proposals for improvements in their supply chain water pollution issues to large US food and meat processing companies, Tyson Foods and Hormel Foods Corporation. Hormel Foods Corporation has since made improvements to water risk management at their meat processing company.</p> <p>PGGM has submitted their views to CDP in order to increase the number of companies responding to CDP's water questionnaire and to improve the content of the questionnaire.</p>	<p>ACTIAM requests through engagements with mining, oil and gas, electricity, and agricultural supply chains to disclose information related to water and to consider water risks and opportunities when building business strategies. ACTIAM view water issues to be part of human rights engagements.</p> <p>ACTIAM assigns an ESG rating (which includes water initiatives) to companies that they evaluate as potential investments. They awards a bonus on the ESG rating to companies when the companies are on CDP's A List.</p> <p>ACTIAM engages in active ownership through direct/collaborative engagements and by exercising proxy voting rights to improve companies' approaches toward water management. Divestment is a last resort.</p>

Source: Compiled organization website and other publicly available information

Investor Q&A

We interviewed Kristel Verhoef, an active ownership specialist with ACTIAM, a Dutch fund and asset manager with US\$57 billion in assets under management*. ACTIAM practices active ownership related to water issues and Verhoef's comments are summarized below.

* As of December 2015, approximately 6.3 trillion yen.

Q: What proportion of ACTIAM's investments are in Japanese equities? What are the primary reasons for listing water as an important theme?

Our allocation to Japanese equities is roughly 5% of the portfolio. According to the 2030 Water Resources Group report, the world is expected to have 40% more demand than supply for fresh water. This means that many people globally will not be able to access clean water and food, resources that are absolutely necessary for us to live on. Companies with high water usage are subject to wide-ranging risks such as reputational risk, operational risk, and regulatory risks.

ACTIAM pursues investment returns and global sustainability, and as such, the issues around water are urgent. This is why we have listed water as one of the 3 major themes for ACTIAM, and are weaving this into our ESG integration and active ownership activities. The other two major themes are land and climate change.

Q: Which of the questions and/or responses in the CDP water program questionnaire does ACTIAM focus on most?

We first narrow down the universe of companies by water usage and drainage, and whether they have operations in high risk regions. Once we determine a company has high water risk, we perform a detailed analysis on its responses to questions related to water management and water stewardship.

Q: In 2016, ACTIAM and PGGM jointly engaged with a Japanese firm. Can you elaborate on the background of this engagement as well as progress made on this?

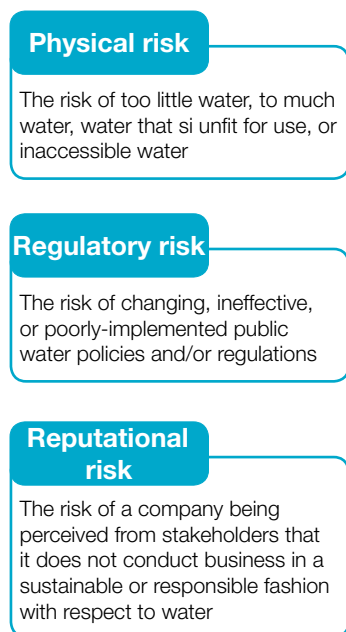
ACTIAM and PGGM jointly sent letters to companies that we view to be high risk in certain focal industries (mining and public electricity utilities). The Japanese companies to whom we addressed this letter have never responded to CDP's Water Program questionnaire, and unfortunately, have yet to respond to our letter.

Q: Do you have any expectations of, or comments for, Japanese companies as it pertains to water issues?

First and foremost, we hope that Japanese companies will actively engage in protecting water resources. This includes managing water usage by these companies, as well as reducing waste and pollution to an acceptable level to maintain human health levels and the ecosystem.

It is also desirable from an investor's perspective to adopt a standard and appropriate form of information disclosure such as those created by CDP and GRI. Finally, it is important for investors and companies to build a mutual understanding of their business strategies and outlook through dialogue. We would like to see more willingness on the part of Japanese companies to accept investor requests for engagements.

Figure 16. Water Risks for Businesses



15 The CEO Water Mandate is an initiative that was formed in 2007 at the Leaders' Summit at the United Nations Global Compact. Its goal is to advance sustainable water resource management by companies.

Water Risks and Business Opportunities for Japanese Companies

Based on their responses to CDP's 2017 water questionnaire, 57% of companies responded "Yes" to the question regarding their business' water risk. In relation to the question of the water risks in direct operations disclosed 87 companies cited physical risk drivers such as "higher operating costs" (39 companies) and "Plant/production disruption leading to reduced output" (37 companies). In response to the question of water risks in supply chain, companies cited "physical risks" highest, with 59 selecting this response. The most selected potential impact in supply chain is "supply chain disruption". (27 companies)

In its questionnaire guidance section, "Water risk for businesses" refers to the ways in which water-related challenges potentially undermine business viability. This risk definition references the Corporate Water Disclosure Guidelines formulated by the "CEO Water Mandate"¹⁵. As can be seen in Figure 16, water risks for businesses can be categorized into physical risks, regulatory risks, and reputational risks.

Water usage and the location of operations dictates the severity of the water risks individual companies face. In total, 97 responding companies listed over 657 direct facilities operating in 170 at-risk river basins across 32 countries.

67% of companies believe there are business opportunities related to water. "Sales of new products/services" was the most frequently cited opportunity, with 59 out of 127 companies selecting it. The second highest was "cost savings," with 46

companies, followed by "increased brand value" with 44 companies.

The companies listed in Table 5 are those who have particularly concrete examples of how they are seizing water-related business opportunities to grow revenue overseas or enhance their brands by engaging with key stakeholders. Komatsu, for instance, reported that "for factories located in areas where water scarcity is an issue, we are working towards installing a high-quality water purification system, and using this water recycling effort to enhance our brand value."

Conclusion

Institutional investors globally have set water as key theme to focus on as they make investments. Through engagements and exercising investment voting rights, institutional investors aim to encourage companies to take action on water issues. Japanese companies should recognize that investors are hoping that they will actively respond to investor engagement.

CDP's 2017 Water Questionnaire not only inquiries about potential water risks companies face, but also about business strategies and concrete actions companies have already taken. Progressive companies have embraced the theme of water as an opportunity to develop new products and to enhance brand value by engaging local residents and stakeholders. Companies have woven water issues into their business strategies and have disclosed tangible actions. Companies should understand the mission of the program and that responding to the CDP water questionnaire is the first step towards engaging investors' call for global action on water stewardship.

Table 5. Case studies on how companies are deploying water

Company	Country/Region	Opportunity	Strategy
Mitsubishi Chemical Holdings Corporation	Entire company footprint	Sales of new products / services	Through development and sales of water purification products, the company contributes to conservation of water resources. These water purification products enables and make it possible to reuse water that was previously released to sewage after a single use. The target for 2016 through 2020 is to provide cumulative 1.7 billion tons of available water. The company is selling hollow fiber membranes that can be used in wastewater treatment facilities, mainly overseas.
Mitsubishi Electric Corporation	Global	Other: Increase sales of existing products	Protection of water resources is a major environmental issue and the company is focused on developing water related business. Mitsubishi Electric anticipates sales expansion of its ozone generators high in sterilization, deodorization, and bleaching compared to those using chlorine and filtration-based technologies. In the past, the ozone generators was used exclusively for treating water and wastewater. The company sees potential for water treatment in factories and aquariums in the future. The company also sees potential to expand overseas sales.
Komatsu	China	Increase brand value	Komatsu has established a zero water discharge plant (KSC) in a water shortage area in Chinar by installing an advanced water purification system and water recycling flow with a 60 million yen currency. Komatsu is trying to establish a strong reputation in region as well as the local community by becoming the region's leading resource-efficient company. The company started this activity in 2011.
Kirin Holdings	Global	Increase brand value	Kirin incorporates conservation of water resources as a material issues in its Long-Term Environmental Vision. In the company's 11 domestic plants, employees and local residents are developing forest conservation activities to acquire water resources from nearby areas covering a total area surface of roughly 800 ha. This has led to business benefits such as dialogues with stakeholders and sharing the brand value with others.

Appendix: CDP 2017 Water Japan 500

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Consumer Discretionary							
ABC-Mart, Inc.	F	NR					
Adastria Co., Ltd.	F						
Aisin Seiki Co., Ltd.	C	DP	Not public				
Aoyama Trading Co., Ltd.	F						
Asics Corporation	F						
Autobacs Seven Co., Ltd.	F						
BANDAI NAMCO Holdings Inc.	D	AQ	No	No	No	No	
Bic Camera Inc	D		No	Yes	No	No	
BorgWarner Morse Systems Japan K.K. *	C	AQ	Not public				
Bridgestone Corporation	A	AQ	Supply Chain	Yes	Yes	Target/Goal	Yes
Calsonic Kansei Corporation	B		Direct Operation/Supply Chain	Yes	Yes	Target	No
Canon Marketing Japan Inc.	SA						
Casio Computer Co., Ltd.	D	AQ	Not public				
Daihatsu Motor Co., Ltd. *	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Denso Corporation	B	AQ	Not public				
Don Quijote Holdings Co., Ltd.	F	NR					
EXEDY Corporation	C		Not public				
Fast Retailing Co., Ltd.	C	AQ	Supply Chain	Yes	Yes	Goal	Yes
Fujitsu General	F						
H.I.S.Co.,Ltd.	F						
H2O Retailing Corporation	F						
Haseko Corporation	F						
Heiwa Corporation	F						
Hikari Tsushin, Inc.	F						
Honda Motor Company	B	AQ	Not public				
Iida Group Holdings	F	NR					
Isetan Mitsukoshi Holdings Ltd.	F	NR					
Isuzu Motors Limited	B	AQ	No	Yes	No	No	No
Izumi Co., Ltd.	F						
J. Front Retailing Co., Ltd.	F						
Koito Manufacturing Co., Ltd.	B-	AQ	Not public				
Komeri Co., Ltd.	F						
K's Holdings Corporation	F						
Marui Group Co., Ltd.	F	NR					
Mazda Motor Corporation	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
McDonald's Holdings Company (Japan), Ltd.	SA						
Mitsubishi Motors Corporation	F	NR					
NGK Spark Plug Co., Ltd.	B-	AQ	Unknown	No	Yes	Target/Goal	No
NHK Spring Co., Ltd.	Not scored		Not public				
Nikon Corporation	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Nissan Motor Co., Ltd.	A	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Nissan Shatai Co., Ltd.	F						
Nitori Holdings Co., Ltd.	F	NR					
NOK Corporation	B-	AQ	Not public				
Oriental Land Co Ltd.	F	NR					

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
PanaHome Corporation	SA						
Panasonic Corporation	B-	AQ	Not public				
Resorttrust Inc	F						
Rinnai Corporation	F	NR					
Ryohin Keikaku Co., Ltd.	F	NR					
Sankyo Co., Ltd.	F						
Sanrio Company, Ltd.	F						
Sega Sammy Holdings Inc.	C		No	No	Yes	No	
Sekisui Chemical Co., Ltd.	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No
Sekisui House, Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No
Seria Co Ltd	F						
Sharp Corporation	B		Direct Operation	Yes	Yes	Target/Goal	No
Shimachu Co., Ltd.	F						
Shimamura Co., Ltd.	F	NR					
Shimano, Inc.	F	NR					
Skylark Co., Ltd.	F						
Sony Corporation	A	AQ	No	Yes	Yes	Target/Goal	Yes
Stanley Electric Co., Ltd.	D	AQ	Not public				
SUBARU CORPORATION	D-	AQ					
Sumitomo Electric Industries, Ltd.	D	AQ	Not public				
Sumitomo Forestry Co., Ltd.	C		No	No	No	Target	
Sumitomo Rubber Industries, Ltd.	B	AQ	Direct Operation	Yes	Yes	Target/Goal	No
Suzuki Motor Corporation	C	AQ	Not public				
Takashimaya Company, Limited	F						
TBM,. LTD *	B-		No	Yes	Yes	Goal	
Tokai Rika Co., Ltd.	Not scored		Not public				
Toyo Tire & Rubber Co Ltd	C		No	No	No	No	
Toyoda Gosei	B		No	Unknown	Yes	Target	Yes
Toyota Boshoku Corporation	A-	AQ	Not public				
Toyota Industries Corporation	B	AQ	No	Yes	Yes	Target/Goal	Yes
Toyota Motor Corporation	A	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
TS Tech Co.,Ltd.	B-		Not public				
USS Co., Ltd.	F						
Wacoal Holdings Corp.	F						
Yamada Denki Co., Ltd.	F						
Yamaha Corporation	B	AQ	Not public				
Yamaha Motor Co., Ltd.	B-	NR	Direct Operation/Supply Chain	Yes	Yes	Goal	No
Yokohama Rubber Company, Limited	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Zensho Holdings Co., Ltd.	F						
Consumer Staples							
Aeon Co., Ltd.	F	DP					
Ain Holdings Inc	F						
Ajinomoto Co.Inc.	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Ariake Japan	F						
Asahi Group Holdings, Ltd.	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Calbee, Inc.	F	NR					

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Coca-Cola Bottlers Japan Inc.	F						
Coca-Cola East Japan Co., Ltd.	SA						
COSMOS Pharmaceutical Corporation	F						
Ezaki Glico Co., Ltd.	F						
FamilyMart UNY Holdings Co., Ltd.	F	NR					
HOUSE FOODS GROUP INC.	F						
Ito En, Ltd.	F						
Itoham Yonekyu Holdings	F						
Japan Tobacco Inc.	A-	AQ	Not public				
Kagome Co., Ltd.	F						
KAO Corporation	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target	Yes
Kewpie Corporation	F						
Kikkoman Corporation	C	NR	Supply Chain	No	Yes	Target/Goal	No
Kirin Holdings Co Ltd	A	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Kobayashi Pharmaceutical Co., Ltd.	F						
KOSE Corporation	F	NR					
Kusuri No Aoki Holdings	F						
Lawson, Inc.	F	NR					
Lion Corporation	F						
Matsumotokiyoshi Holdings Co., Ltd.	F						
MEGMILK SNOW BRAND Co.,Ltd.	F						
Meiji Holdings Co Ltd	F	NR					
Mitsubishi Shokuhin Co., Ltd.	SA						
NH Foods Ltd.	C	AQ	Not public				
Nichirei Corporation	B-		Direct Operation/Supply Chain	Yes	Yes	Goal	No
Nisshin Seifun Group Inc.	F	NR					
Nissin Foods Holdings Co., Ltd.	F	NR					
Pigeon Corp	F						
Pola Orbis Holdings Inc.	D		No	No	No	No	No
Sapporo Holdings Limited	F						
Seven & I Holdings Co., Ltd.	F	NR					
Shiseido Co., Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Sugi Holdings Co., Ltd.	F						
Sundrug Co., Ltd.	F						
Suntory Beverage & Food	A	AQ	Direct Operation	Yes	Yes	Target/Goal	Yes
Takara Holdings Inc.	F						
Toyo Suisan Kaisha, Ltd.	F						
Tsuruha Holdings Inc.	F	NR					
Uni-Charm Corporation	B-	AQ	Direct Operation/Supply Chain	No	No	No	No
Welcia Holdings Co Ltd	F						
Yakult Honsha Co Ltd.	F	NR					
YAMATO-ESULON CO., LTD. *	D	AQ	No	No	No	No	No
Yamazaki Baking Co., Ltd.	F	NR					
Energy							
Cosmo Energy Holdings Co., Ltd.	C		No	No	Yes	Target/Goal	
Idemitsu Kosan Co., Ltd.	F						

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Inpex Corporation	F	NR					
Japan Petroleum Exploration Co., Ltd.	F						
JX Holdings, Inc	Not scored	AQ					
Showa Shell Sekiyu K. K.	B-	AQ	Not public				
Tonen General Sekiyu K.K.	F						
Financials							
Aeon Mall Co., Ltd.	F						
Daikyo Incorporated	F						
Daiwa House Industry Co., Ltd. *	A-		Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No
Ichigo Group Holdings Co Ltd	F						
NTT Urban Development Corporation	F						
Health Care							
Asahi Intecc Co Ltd	F						
Astellas Pharma Inc.	B	AQ	No	Yes	Yes	Target/Goal	Yes
Chugai Pharmaceutical Co., Ltd.	C	AQ	Direct Operation/Supply Chain	No	No	Target/Goal	No
Daiichi Sankyo Co., Ltd.	B	AQ	Direct Operation	Yes	Yes	Target/Goal	Yes
Eisai Co., Ltd.	F	NR					
Hisamitsu Pharmaceutical Co., Inc.	F						
Kaken Pharmaceutical Co., Ltd.	F						
Kissei Pharmaceutical Co., Ltd.	F						
KYORIN Holdings, Inc.	F						
Kyowa Hakko Kirin Co., Ltd.	SA	SA					
Miraca Holdings Inc.	F						
Mitsubishi Tanabe Pharma Corporation	SA	SA					
Mochida Pharmaceutical Co., Ltd.	F						
Nihon Kohden Corporation	B		Direct Operation	Yes	Yes	No	No
Nippon Shinyaku Co., Ltd.	F						
Nipro Corporation	F						
Olympus Corporation	B	AQ	No	No	Yes	Target/Goal	Yes
Ono Pharmaceutical Co., Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Goal	No
Otsuka Holdings Co., Ltd.	F	NR					
PeptiDream Inc	F						
Rohto Pharmaceutical Co., Ltd.	F						
Santen Pharmaceutical Co., Ltd.	B-	AQ	No	Yes	Yes	Target/Goal	Yes
Sawai Pharmaceutical Co., Ltd.	C		No	No	No	No	Yes
Shionogi & Co., Ltd.	F	NR					
Sumitomo Dainippon Pharma Co., Ltd.	B-	AQ	Not public				
Sysmex Corporation	B	AQ	Direct Operation	Yes	Yes	Target/Goal	No
Taisho Pharmaceutical Co., Ltd.	F	NR					
Takeda Pharmaceutical Company Limited	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Terumo Corporation	C	AQ	No	No	Yes	Target	No
Tsumura & Co.	B		Direct Operation	Yes	Yes	Target	No
Industrials							
Aica Kogyo Co Ltd	D-		Not public				
Amada Co., Ltd.	F						
Asahi Glass Co., Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Chiyoda Corporation	F						
Comsys Holdings Corporation	F						
Dai Nippon Printing Co., Ltd. *	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No
Daifuku Co., Ltd.	F						
Daikin Industries, Ltd.	B	AQ	Direct Operation/Supply Chain	No	Yes	Target/Goal	Yes
DMG Mori Seiki Co., Ltd.	F						
Ebara Corporation	C		Not public				
Fanuc Corporation	D	AQ	Not public				
Fuji Electric Co., Ltd.	B		Direct Operation	Yes	Yes	Target/Goal	No
Fujikura Ltd.	C		Unknown	No	Yes	Target	No
Furukawa Electric Co., Ltd.	B	AQ	Not public				
Glory Ltd.	C		No	No	No	No	
GS Yuasa Corporation	C		Unknown	Unknown	Yes	Target	No
Hino Motors, Ltd.	B	AQ	Direct Operation	Yes	Yes	Target	Yes
Hitachi Construction Machinery Co., Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Hoshizaki Electric Co., Ltd.	F	NR					
IHI Corporation	F	DP					
ITOCHU Corporation	C	AQ	Not public				
JGC Corporation	F						
JTEKT Corporation	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target	Yes
Kajima Corporation	B	AQ	Direct Operation/Supply Chain	Yes	No	Goal	No
Kanden Co., Ltd	F						
Kawasaki Heavy Industries, Ltd.	B	AQ	Not public				
Keihan Electric Railway Co., Ltd.	F						
Kinden Corporation	F						
Komatsu Ltd.	A	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	
Kubota Corporation	A	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Kurita Water Industries Ltd.	C		Unknown	Yes	No	No	No
KYUDENKO	F						
LIXIL Group Corporation	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target	Yes
Mabuchi Motor Co., Ltd.	F						
Maeda Road Construction Co.,Ltd	F						
Makita Corporation	F	NR					
Marubeni Corporation	B-	AQ	Not public				
Minebea Co., Ltd.	F						
Misumi Group Inc.	F						
Mitsubishi Corporation	B	AQ	Not public				
Mitsubishi Electric Corporation	A	AQ	Direct Operation/Supply Chain	Yes	Yes	No	Yes
Mitsubishi Heavy Industries, Ltd.	Not scored	AQ	Not public				
Mitsui & Co., Ltd.	B	AQ	Not public				
Mitsui Engineering & Shipbuilding Co Ltd	F						
Miura Co., Ltd.	F						
Monotaro Co Ltd	F						
Nabtesco Corporation	A-	AQ	No	Yes	Yes	Target/Goal	
Nagase & Co., Ltd.	C		Not public				
Nankai Electric Railway Co., Ltd. *	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
NGK Insulators, Ltd.	B	AQ	Not public				
Nidec Corporation	Not scored	AQ	Direct Operation/Supply Chain	Unknown	Yes	Target	No
Nippo Corporation	F						
Nippon Sheet Glass Company, Ltd *	B-	AQ	Not public				
Nisshinbo Holdings Inc.	Not scored						
NSK Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target	Yes
NTN Corporation	B	AQ	No	No	Yes	Target/Goal	
Obayashi Corporation	F	NR					
Okuma Corporation	F						
OSG Corporation	F						
PARK24 Co., Ltd.	D-		Not public				
Sanwa Holdings Corporation	F						
Secom Co., Ltd. *	B	AQ	No	Yes	Yes	No	
Seibu Holdings Inc.	F	NR					
Shimizu Corporation	F	NR					
SMC Corporation	F	NR					
Sojitz Corporation	F						
Sumitomo Corporation	Not scored	DP	Not public				
Sumitomo Heavy Industries. Ltd.	B-		Direct Operation/Supply Chain	Yes	Yes	Target	No
Tadano Ltd	F						
Taisei Corporation	C	AQ	Direct Operation/Supply Chain	Yes	No	Target/Goal	Yes
The Japan Steel Works, Ltd.	F						
THK Co., Ltd.	C-		Unknown	Unknown	No	No	No
Toda Corporation	F						
Toppan Printing Co., Ltd. *	B	AQ	No	Yes	Yes	Target	Yes
Toshiba Corporation	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	No
Toto Ltd.	B	AQ	Direct Operation	Yes	Yes	Target/Goal	No
Toyota Tsusho Corporation	B-	DP	Not public				
Ushio Inc.	F						
Information Technology							
Advantest Corporation	D		No	No	No	No	
Alps Electric Co., Ltd.	C	AQ	Not public				
Azbil Corporation	B		Direct Operation	No	Yes	Target/Goal	No
Brother Industries, Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target	Yes
Canon Inc.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Citizen Watch Co., Ltd.	B		Not public				
DISCO Corporation	C		Direct Operation/Supply Chain	Yes	No	No	No
FUJIFILM Holdings Corporation	A	AQ	Direct Operation	Yes	Yes	Target/Goal	Yes
Fujitsu Ltd. *	A	AQ	No	Yes	Yes	Target/Goal	Yes
Hamamatsu Photonics K.K.	B-	AQ	Direct Operation	Yes	Yes	Target/Goal	Yes
Hirose Electric Co., Ltd.	C	AQ	No	Unknown	Yes	Target/Goal	Yes
Hitachi High-Technologies Corporation	F						
Hitachi Kokusai Electric Inc	C		Unknown	Unknown		Target	No
Hitachi, Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
HORIBA, Ltd.	C		Not public				
Hoya Corporation	D	AQ	Not public				

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Ibiden Co., Ltd.	B-	AQ	Direct Operation/Supply Chain	Yes	No	Target/Goal	No
Japan Aviation Electronics Industry, Limited	F						
Japan Display Inc.	D		No	Yes	Yes	Target	
Keyence Corporation	F						
Konica Minolta, Inc.	A-	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Kyocera Corporation	B	AQ	Not public				
Murata Mfg. Co.	B	AQ	Direct Operation	Yes	Yes	Target/Goal	Yes
NEC Corporation	B	AQ	No	Yes	Yes	Goal	No
Nippon Electric Glass Co., Ltd.	F						
OMRON Corporation	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Renesas Electronics Corporation	Not scored	AQ	No	No	No	No	No
Ricoh Co., Ltd.	B	AQ	Direct Operation/Supply Chain	No	Yes	Target	Yes
Rohm Co., Ltd.	A-	AQ	Direct Operation/Supply Chain	No	Yes	Target/Goal	No
SCREEN Holdings CO., Ltd.	B		Direct Operation	Yes	Yes	Goal	No
Seiko Epson Corporation	B	NR	Not public				
Shimadzu Corporation	C		Not public				
Sumco Corporation	F						
Taiyo Yuden Co., Ltd.	D		No	Yes	Yes	Target/Goal	
TDK Corporation	C	AQ	Direct Operation/Supply Chain	No	Yes	Target/Goal	No
Tokyo Electron Ltd.	B		Direct Operation/Supply Chain	Yes	Yes	Target/Goal	Yes
Topcon Corp	F						
Yaskawa Electric Corporation	F						
Yokogawa Electric Corporation	A-		Direct Operation/Supply Chain	Yes	Yes	No	Yes
Materials							
Air Water Inc.	D		Not public				
Asahi Kasei Corporation	A-	AQ	No	Yes	Yes	Target/Goal	
Daiicel Corporation	B-	AQ	Not public				
Daido Steel Co., Ltd.	F						
Denka Company Limited	F						
DIC Corporation	C		Not public				
Dowa Holdings Co., Ltd.	F						
FP Corporation	F						
Hitachi Chemical Company, Ltd.	C	AQ	No	Yes	Yes	Target/Goal	No
Hitachi Metals, Ltd.	C	AQ	Not public				
JFE Holdings, Inc.	F	NR					
JSR Corporation	B-	AQ	Direct Operation	Yes	No	Goal	No
Kaneka Corporation	F						
Kansai Paint Co., Ltd.	F						
Kobe Steel., Ltd.	C	AQ	Not public				
Kuraray Co., Ltd.	F	NR					
Lintec Corporation	B-		Direct Operation/Supply Chain	Yes	Yes	Target	No
Maruichi Steel Tube Ltd.	F						
Mitsubishi Chemical Holdings Corporation	A	AQ	Direct Operation	Yes	Yes	Target/Goal	No
Mitsubishi Gas Chemical Company, Inc.	Not scored						
Mitsubishi Materials Corporation	B	AQ	Direct Operation	Yes	Yes	Goal	No
Mitsui Chemicals, Inc.	C	AQ	Unknown	Yes	Yes	No	

Company ^a	2017 Score	2016 Response Status ^b	Water risks	Water opportunities	Water policy	Water target/goal	Request water-related reporting to suppliers
Nifco Inc.	F						
Nippon Kayaku Co., Ltd.	C		No	No	No	Target	No
Nippon Paint Co., Ltd.	F	NR					
Nippon Paper Industries Co Ltd	D	AQ	Not public				
Nippon Shokubai Co., Ltd.	Not scored						
Nippon Steel & Sumitomo Metal Corporation	B	AQ	Not public				
Nissan Chemical Industries, Ltd.	B		Direct Operation	Yes	Yes	Goal	No
Nisshin Steel Co., Ltd.	F						
Nitto Denko Corporation	B-	AQ	Direct Operation/Supply Chain	Yes	No	Goal	No
Oji Holdings Corporation	B	AQ	Not public				
Rengo Co., Ltd.	C		No	Yes	Yes	No	No
Shin-Etsu Chemical Co., Ltd.	D	AQ	Not public				
Showa Denko K.K.	F						
Sumitomo Chemical Co., Ltd.	C	AQ	Not public				
Sumitomo Metal Mining Co., Ltd.	B	AQ	Direct Operation/Supply Chain	Yes	Yes	Goal	Yes
Sumitomo Osaka Cement Co., Ltd.	F						
Taiheiyo Cement Corporation	C	AQ	Not public				
Taiyo Nippon Sanso Corporation	SA						
TANAX, INC. *	D	AQ	Direct Operation/Supply Chain	No	Yes	Target/Goal	No
Teijin Ltd.	C		No	Yes	No	No	No
Toray Industries, Inc.	Not scored	DP	Not public				
Tosoh Corporation	F						
Toyo Seikan Group Holdings, Ltd.	C-		Unknown	Unknown	No	Goal	No
Toyobo Co., Ltd.	F						
Ube Industries, Ltd.	Not scored		Not public				
Yamato Kogyo Co., Ltd.	F						
Zeon Corporation	C		No	Yes	No	No	
Utilities							
Chubu Electric Power Co., Inc.	F	DP					
Electric Power Development Co.,Ltd (J-POWER)	F	DP					
Hokkaido Electric Power Co., Inc.	F						
Hokuriku Electric Power Company	F						
Kyushu Electric Power Co Inc	F	DP					
Osaka Gas Co., Ltd.	B-	AQ	No	Yes	Yes	Target/Goal	No
Shikoku Electric Power Co., Inc.	F						
The Chugoku Electric Power Company	F	NR					
The Kansai Electric Power Co., Inc.	F	NR					
The Tokyo Electric Power Company Holdings, Inc.	A-	AQ	Direct Operation	Yes	Yes	Target/Goal	No
Toho Gas Co., Ltd.	F						
Tohoku Electric Power Co., Inc.	F	NR					
Tokyo Gas Co., Ltd.	F	NR					

^a Companies with * are not in the Japan 500 sample.

^b AQ: Answered Questionnaire
DP: Declined to Participate
NR: Not Responded
SA: See Another

Report writers and scoring partners



Scoring partner



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CDP Japan Contacts

Takejiro Sueyoshi
Chair, CDP Japan

Michiyo Morisawa
Director Japan

Miyako Enokibori

Mari Mugurajima

Kae Takase

Noriko Ueha

Ken Yamaguchi

Misato Yamaura

Kanako Inoue

Aika Okusa

Marie Tanao

CDP Worldwide-Japan
GINZA ISHII BLDG. 5F
6-14-8 Ginza Chuo-ku, Tokyo
104-0061, Japan
Tel: +81 (0) 3 6869 3928
japan@cdp.net

CDP Contacts

Paul Dickinson
Executive Chairman

Paul Simpson
Chief Executive Officer

Frances Way
Co-Chief Operating Officer

Sue Howells
Co-Chief Operating Officer

Cate Lamb
Head of Water

Orlaith Delargy
Program Manager, Water

James Lott
Senior Program Officer, Water

CDP Worldwide
Level 3
71 Queen Victoria Street
London EC4V 4AY
United Kingdom

Tel: +44 (0)20 3818 3900
www.cdp.net
info@cdp.net

Report Writer Contacts

Emi Matsukawa
Principal
emi.matsukawa.s@quick.jp

Kazunori Nakatsuka
Head of Research
kazunori.nakatsuka@quick.jp

Naomi Komatsu
Analyst
naomi.komatsu@quick.jp

Atsushi Suzuki
Analyst
atsushi.suzuki58@quick.jp

QUICK Corp
ESG Research Center
Nihonbashi Mitsui Tower
2-1-1, Nihonbashi Muromachi,
Chuo-ku, Tokyo 103-8317
<https://www.esg.quick.co.jp/>

Kazuhiko Saito
Managing Partner
kazuhiko.saito@jp.kpmg.com

Yoshitake Funakoshi
Managing Partner
yoshitake.funakoshi@jp.kpmg.com

Yukinobu Matsuo
Director
yukinobu.matsuo@jp.kpmg.com

KPMG AZSA Sustainability Co., Ltd.
1-9-7 Otemachi,
Chiyoda-ku, Tokyo 100-8172
home.kpmg.com/jp/en/home/about/sus.html

CDP Board of Trustees

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Relationship Capital Partners

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Ramakrishnan Mukundan
Tata Chemicals

Sonia Medina
Childrens Investment Fund
Foundation

Stephen T. Chow

Takejiro Sueyoshi

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Advisors:
Keisuke Nansai, Masao Seki,
Masaru Arai, Takeshi Mizuguchi,
Toru Nakashizuka