

Module: Introduction

Page: W0. Introduction

W0.1

Introduction

Please give a general description and introduction to your organization

Bridgestone is a global leader in the tire industry, whose business consists of the "Tire sector"; manufacturing/sales of tires/tubes, sales of tire related products and car maintenance /repairs, and "Diversified products sector"; chemical & industrial products, sports products, bicycle manufacturing and sales, and other various businesses.

W0.2

Reporting year

Please state the start and end date of the year for which you are reporting data

Period for which data is reported
Fri 01 Jan 2016 - Sat 31 Dec 2016

W0.3

Reporting boundary

Please indicate the category that describes the reporting boundary for companies, entities, or groups for which water-related impacts are reported

Companies, entities or groups over which operational control is exercised

W0.4

Exclusions

Are there any geographies, facilities or types of water inputs/outputs within this boundary which are not included in your disclosure?

Yes

W0.4a

Exclusions

Please report the exclusions in the following table

Exclusion	Please explain why you have made the exclusion
Non-production sites and production sites at which number of employees does not consistently exceed 50.	Impact from the excluded sites is estimated to be negligible compared to the total impact.

Further Information

Module: Current State

Page: W1. Context

W1.1

Please rate the importance (current and future) of water quality and water quantity to the success of your organization

Water quality and quantity	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital for operations	Important	In our production process, we use water resources as cooling water and steam. Employees also need sufficient water of proper quality for drinking and washing. In addition, sufficient quantity and quality of water also is indispensable throughout the value chain for the production of various raw material and components, such as natural rubber, synthetic rubber, carbon, cord, and steel belt, among others. Therefore continuous use of sufficient amounts of freshwater of adequate quality is vital for continuing operation of our business.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital for operations	Important	In our production process, we use recycled water as cooling water. For example, sewage-treated water is used as cooling water or steam. Also in our value chain (raw material facilities), recycled water is being utilized as cooling water. Therefore continuous use of sufficient amounts of recycled water is vital for continuing operation of our business.

W1.2

For your total operations, please detail which of the following water aspects are regularly measured and monitored and provide an explanation as to why or why not

Water aspect	% of sites/facilities/operations	Please explain
Water withdrawals- total volumes	76-100	We periodically monitor water withdrawal volume by water source at all of our production facilities.
Water withdrawals- volume by sources	76-100	We periodically monitor water withdrawal volume by water source at all of our production facilities.
Water discharges- total volumes	76-100	We monitor water discharges (total volumes) for almost all facilities whose proportion of total water intake is more than 0.5%. Because our finished products (tires, etc.) contain almost no water, we

Water aspect	% of sites/facilities/operations	Please explain
		discharge almost all of the water we withdraw. Therefore, we place a high priority on the quality rather than the volume of discharged water. Based on the above data, we estimate the total volume of water discharges at all our production facilities and are working to understand that impact.
Water discharges- volume by destination	76-100	We monitor water discharges (volume by destination) for almost all facilities whose proportion of total water intake is more than 0.5%. Because our finished products (tires, etc.) contain almost no water, we discharge almost all of the water we withdraw. Therefore, we place a high priority on the quality rather than the volume of discharged water. Based on the above data, we estimate the total volume of water discharges by destination at all our production facilities and are working to understand that impact.
Water discharges- volume by treatment method	76-100	We monitor water discharges (volume by treatment method) for almost all facilities whose proportion of total water intake is more than 0.5%, as the volume treated by the third party organization by sewerage and the volume purified to a certain level prescribed in each site.
Water discharge quality data- quality by standard effluent parameters	76-100	We periodically monitor water discharge quality at all of our facilities. Our production facilities have implemented water effluent standards of their own that meet or surpass applicable government standards, and endeavor not to exceed government-established limits.
Water consumption- total volume	76-100	Because our finished products contain almost no water, we discharge almost all of the water we withdraw. Therefore, We place relatively a low priority on the volume of water we consume, and consequently do not yet have a comprehensive grasp of the total volume of water consumption by all of our facilities. Accordingly, we regard the difference between the volume of water withdrawals and the volume of water discharges as our water consumption at present. Based on the above data, we estimate the water consumption at all our production facilities and are working to grasp the impact.
Facilities providing fully-functioning WASH services for all workers	76-100	During the design phase for new production facilities, we specify that attention be given to adequate employee dining and sanitary facilities that reflect the local jurisdiction's standards. Accordingly, we provide WASH services to employees at all our production facilities worldwide.

W1.2a

Water withdrawals: for the reporting year, please provide total water withdrawal data by source, across your operations

Source	Quantity (megaliters/year)	How does total water withdrawals for this source compare to the last reporting year?	Comment
Fresh surface water	4701.70	About the same	
Brackish surface water/seawater	35713.70	Lower	
Rainwater	107.63	About the same	
Groundwater - renewable	11622.76	About the same	We do not ascertain whether the water resources are renewable.
Groundwater - non-renewable	0	Not applicable	We do not ascertain whether the water resources are renewable.
Produced/process water	0	Not applicable	We categorised "industrial water" in "Produced/process water" till last reporting year, but it is calculated as "Municipal supply" from this reporting year.
Municipal supply	19543.26	About the same	We categorised "industrial water" in "Produced/process water" till last reporting year, but it is calculated as "Municipal supply" from this reporting year. When the same classification is applied to last reporting year's data, total withdrawal is "About the same".
Wastewater from another organization	330.26	Higher	We began utilizing grey water at a certain site. Sewage-treated water is used as cooling water or steam.
Total	72019.31	About the same	

W1.2b

Water discharges: for the reporting year, please provide total water discharge data by destination, across your operations

Destination	Quantity (megaliters/year)	How does total water discharged to this destination compare to the last reporting year?	Comment
Fresh surface water	12571.37	About the same	We include

Destination	Quantity (megaliters/year)	How does total water discharged to this destination compare to the last reporting year?	Comment
			estimates.
Brackish surface water/seawater	37679.18	Lower	We include estimates.
Groundwater	0	Not applicable	
Municipal/industrial wastewater treatment plant	5420.37	About the same	We include estimates.
Wastewater for another organization	0	Not applicable	
Total	55670.92	About the same	We include estimates.

W1.2c

Water consumption: for the reporting year, please provide total water consumption data, across your operations

Consumption (megaliters/year)	How does this consumption figure compare to the last reporting year?	Comment
15910.55	About the same	

W1.3

Do you request your suppliers to report on their water use, risks and/or management?

Yes

W1.3a

Please provide the proportion of suppliers you request to report on their water use, risks and/or management and the proportion of your procurement spend this represents

Proportion of suppliers %	Total procurement spend %	Rationale for this coverage
1-25	1-25	Our company has formulated its own CSR procurement guidelines and requests that suppliers identify their water shortage risks and strive to conserve water withdrawal volumes. We currently target Japanese suppliers where Bridgestone's headquarters is located and we are considering expanding globally. The types of data we seek relate primarily to levels of supplier effort in this area. To that end, we ask if suppliers are aware of their water shortage risk, have implemented measures to address that risk, and whether they have established targets for the reduction of water withdrawal volumes. We utilize the data they provide to measure the level of risk relative to water procurement volume. We hold training sessions for those suppliers that significantly fail to meet our requested levels and urge them to better identify their water-related risks and conserve water withdrawal volumes. Among the incentives we provide, we share best-practices with our suppliers through training sessions and briefings on our procurement policies.

W1.3b

Please choose the option that best explains why you do not request your suppliers to report on their water use, risks and/or management

Primary reason	Please explain
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W1.4

Has your organization experienced any detrimental impacts related to water in the reporting year?

Yes

W1.4a

Please describe the detrimental impacts experienced by your organization related to water in the reporting year

Country	River basin	Impact driver	Impact	Description of impact	Length of impact	Overall financial impact	Response strategy	Description of response strategy
Indonesia	Other: Sungai Keruh	Phys-Pollution of water source	Higher operating costs	In order to suppress the impact on our products due to deterioration of water quality, the frequency of water filter replacement was increased. Accordingly, the manufacturing costs were increased.	on going	-	Engagement with public policy makers	- Plant trees adjacent to lakes and rivers to avoid erosion - Security patrol to avoid illegal gold mining upstream of river
United States of America	Sabine River	Reg-Higher water prices	Higher operating costs	23.5% increase from 2016	on going	-	Promote best practice and awareness	Share the advanced cases in our group concerning water saving and promote water conservation.

W1.4b

Please choose the option below that best explains why you do not know if your organization experienced any detrimental impacts related to water in the reporting year and any plans you have to investigate this in the future

Primary reason	Future plans
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Further Information

Module: Risk Assessment

Page: W2. Procedures and Requirements

W2.1

Does your organization undertake a water-related risk assessment?

Water risks are assessed

W2.2

Please select the options that best describe your procedures with regard to assessing water risks

Risk assessment procedure	Coverage	Scale	Please explain
Comprehensive company-wide risk assessment	Direct operations and supply chain	All facilities and suppliers	Bridgestone's mission is "Serving Society with Superior Quality." In line with that mission, we have explored a company-wide business continuity plan that will enable us to earn the trust of all stakeholders including our customers and business partners, and ensure the safety of our employees. As part of that process, we have endeavored to assess our exposure to water risks and other risks in the interest of preventing a variety of crisis scenarios. We have assessed crisis scenarios that could materialize on a facility-by-facility basis and are currently engaged in a study of countermeasures. For example, we have carried out the analysis and stress testing using AQUEDUCT of WRI (World

Risk assessment procedure	Coverage	Scale	Please explain
			Resources Institute). We have analysed the change of water stress (2020, 2030, and 2040) in each of the three climate change scenarios.

W2.3

Please state how frequently you undertake water risk assessments, at what geographical scale and how far into the future you consider risks for each assessment

Frequency	Geographic scale	How far into the future are risks considered?	Comment
Annually	River basin	>6 years	We assess water risks for each business unit and production facility on each river basin, and study specific countermeasures to deal with the risks that are identified.

W2.4

Have you evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy?

Yes, evaluated over the next 1 year

W2.4a

Please explain how your organization evaluated the effects of water risks on the success (viability, constraints) of your organization's growth strategy?

Examples of the effects of water risks on the success of our organization's growth strategy are as follows.

- Inability to secure continuous use of sufficient quantity of good quality freshwater
- Floods disrupt operation or production
- Floods disrupt value chain

As the executive office in charge of environmental action at Bridgestone, our CSR & Environmental Strategy Promotion Department gathered water risk-related data from each of our facilities and utilized WBCSD Water Tool, WRI Aqueduct, and WBCSD ESR, among other methods, to assess water impacts on and levels of dependence for our corporate operations over the next 10 to 20 years. We will share results with Global Environment Working Groups made up of members from each of Bridgestone's regional environmental functions and consider countermeasures.

At present, there is no effect on growth strategies based on analytical results, but it has become clear that water intake volumes and quality of wastewater have an important effect on business. Therefore, a mid-term management plan for the environment, including water, has been formulated, approved by management, and reflected in each business units' strategies. Information was deployed and awareness-building activities undertaken in the Bridgestone Group. Each operating site had already formulated BCP and prepared for the risk, but based on the analytical results, all sites are investigating the need for additional risk countermeasures.

W2.4b

What is the main reason for not having evaluated how water risks could affect the success (viability, constraints) of your organization's growth strategy, and are there any plans in place to do so in the future?

Main reason	Current plans	Timeframe until evaluation	Comment
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W2.5

Please state the methods used to assess water risks

Method	Please explain how these methods are used in your risk assessment
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Method	Please explain how these methods are used in your risk assessment
WBCSD Global Water Tool WRI Aqueduct Other: Water risk assessments for each production facility	We performed macro analyses with the WBCSD Global Water Tool and WRI Aqueduct. These are the tools most widely utilized worldwide to assess water risks and are considered to provide highly reliable results. In light of the frequency of tool updates and the frequency of our plant closures and our operations' relocating to new facilities, we perform water risk assessments annually. We also assess regulatory and regional-level demands on a facility-by-facility basis and assess measures aimed at meeting those demands.

W2.6

Which of the following contextual issues are always factored into your organization's water risk assessments?

Issues	Choose option	Please explain
Current water availability and quality parameters at a local level	Relevant, included	Because current water availability and quality could affect production, we evaluate the parameters of our production sites using the WBCSD Water Tool and WRI Aqueduct.
Current water regulatory frameworks and tariffs at a local level	Relevant, included	Because the regulation of water could affect our production including costs, we evaluate potential impacts using WRI Aqueduct's Regulatory & Reputational Risk. Regulatory and reputational risks identify areas of concern regarding uncertainty in regulatory change, as well as conflicts with the public regarding water issues.
Current stakeholder conflicts concerning water resources at a local level	Relevant, included	There are no current conflicts with stakeholders that are an issue at a local level, but in preparation for any future incidents, Bridgestone is working to gather information from each operating site. We strive to maintain good relationships with local stakeholders through forest conservation activities with municipalities, collaboration with river conservation groups and river clean-ups, for example. Regarding risk assessment, we have used the results of WRI Aqueduct's Regulatory & Reputational Risk (Media Coverage & Access to Water).
Current implications of water on your key commodities/raw materials	Relevant, included	We own facilities that produce our raw materials (natural and synthetic rubber products, etc.) and use WBCSD Water Tool and WRI Aqueduct to assess their water risks.
Current status of ecosystems and habitats at a local level	Relevant, included	We assess this parameter through an environmental impact assessment for new plant construction. We continue to make assessments even after facility construction and some facilities engage external

Issues	Choose option	Please explain
		institutions to conduct biodiversity potential surveys. Regarding risk assessment, we have used the results of WRI Aqueduct's Regulatory & Reputational Risk (Threatened Amphibians).
Current river basin management plans	Relevant, included	We use WRI Aqueduct as an evaluation tool for current plans to manage river basins, collect local information, communicate with authorities at each operating site, and maintain close liaison with corporate headquarters on measures.
Current access to fully-functioning WASH services for all employees	Relevant, included	We conduct surveys and studies on the access to WASH services for employees at all production facilities at the time they are placed into operation.
Estimates of future changes in water availability at a local level	Relevant, included	Because water availability is essential for our operations, we have carried out the analysis and stress testing using WRI Aqueduct. We have analysed the change of water stress (2020, 2030, and 2040) in each of the three climate change scenarios (Optimistic, BAU, Pessimistic case).
Estimates of future potential regulatory changes at a local level	Relevant, included	We have used WRI Aqueduct to identify the river basins where we are most exposed to water risks and create a high priority list. Regarding river basins which are deemed to be particularly high risk, each facility communicates with local authorities to gather information about future potential regulatory changes, and takes measures in close liaison with corporate headquarters. For example, if we have information that the regulation of water intake volume will become more stringent and additional charges will be levied, we implement water reduction activities and give precedence to capital investment to increase volumes of recycled water.
Estimates of future potential stakeholder conflicts at a local level	Relevant, included	We have used WRI Aqueduct to identify the facilities where we are most exposed to water risks and create a high priority list. Regarding facilities that are deemed to be particularly high risk, we set up regular dialogues with the local stakeholders. Through such activities, we are striving to reduce risks.
Estimates of future implications of water on your key commodities/raw materials	Relevant, included	Natural rubber is one of our key raw materials. We have carried out the analysis and stress testing using WRI Aqueduct for the natural rubber facilities. We have analysed the change of water stress (2020, 2030, and 2040) in each of the three climate change scenarios (Optimistic, BAU, Pessimistic case). As a result, we found that there is low water risk. In plantations in Thailand we anticipate some temporary effects on processing facilities from flooding, but the estimated financial risk is low. Plantations of natural rubber we procure from external suppliers are concentrated in South East Asia, and similarly, no significant effect from water is anticipated. (However, there is a risk from pests and disease from increased demand, global warming and extreme concentration of growing regions in South East Asia and countermeasures are being implemented.)
Estimates of future potential changes in the status of ecosystems and habitats at a local level	Relevant, included	Regarding the estimation of the impact on ecosystems and habitats at local level, necessary measures are considered and carried out in accordance with the standards of each region. Specifically, in regions where biodiversity is expected to decline, we are providing the local community with rubber tree seedlings and instruction in their cultivation, with the intention of regenerating the forest through agroforestry. This activity is being undertaken as an industry-academia collaboration project between Bridgestone and Waseda University, through which we have evaluated the importance of the biodiversity of the surviving forest in the region and we are engaging in this activity to enable us to

Issues	Choose option	Please explain
		make a significant contribution to biodiversity of the overall region through agroforestry. In other locations around the world we are cooperating with neighbouring regions and NGOs in activities for the protection of biodiversity and evaluating the results. The new information and expertise gained through these activities are being applied to future activities and to activities at sites within the Bridgestone Group.
Scenario analysis of availability of sufficient quantity and quality of water relevant for your operations at a local level	Relevant, included	We have carried out the analysis and stress testing using WRI Aqueduct. We have analysed the change of water stress (2020, 2030, and 2040) in each of the three climate change scenarios (Optimistic, BAU, Pessimistic case).
Scenario analysis of regulatory and/or tariff changes at a local level	Relevant, included	In facilities where production relies on water use such as tire production facilities and internal raw material production facilities, injunctions resulting from enforcement of water regulations and soaring charges can become a significant risk. We stay informed about any possible changes in water regulations and charges in advance through communication with relevant authorities, and maintain close liaison with corporate headquarters on measures. Scenario analysis is undertaken using the information obtained, and where there is a possibility of changes in water regulations or charges we plan and implement water reduction projects in advance.
Scenario analysis of stakeholder conflicts concerning water resources at a local level	Relevant, included	There are currently no conflicts with stakeholders at a local level. However, for problems arising in the future, operating sites build relationships through implementation of environmental activities with authorities and relevant NGOs and work to anticipate potential risks. Should any potential risk be anticipated, we will undertake scenario analysis and plan and implement measures in advance.
Scenario analysis of implications of water on your key commodities/raw materials	Relevant, included	Natural rubber is one of our key raw materials, and WRI Aqueduct is being used to evaluate the risk associated with the location of facilities for internal production of natural rubber and therefore do not anticipate a significant impact from water. In plantations in Thailand we anticipate some temporary effects on processing facilities from flooding, but the estimated financial damage is low. Plantations of natural rubber we procure from external suppliers are concentrated in South East Asia, and similarly, no significant effect from water is anticipated. (However, there is a risk from pests and disease from increased demand, global warming and extreme concentration of growing regions in South East Asia and countermeasures are being implemented.)
Scenario analysis of potential changes in the status of ecosystems and habitats at a local level	Relevant, not yet included	Scenario analysis of potential changes in the status of ecosystems and habitats at a local level is not carried out. But, some facilities engage third parties to conduct biodiversity potential surveys. When a method recognized as a global standard is identified, we will use that method to conduct scenario analysis.
Other		

Which of the following stakeholders are always factored into your organization's water risk assessments?

Stakeholder	Choose option	Please explain
Customers	Not relevant, explanation provided	Since our final products do not contain water and they do not use water even when used by customers, we do not factor "Customers" into our water risk assessments.
Employees	Relevant, included	We recognize that the risk that low water quality can affect the livelihoods and health of our employees and that limits on tap water intake due to water shortages affects employees' productivity. Thus, we strive to measure that risk on a facility-by-facility basis. For example, in Japan, we continually raise our employees' awareness about environmental information, including water conservation, through our intranet.
Investors	Relevant, included	Every year, we assess the demands of our investors and study and implement solutions aimed at addressing those demands. We also exchange views on various environmental themes / risks, including water, at individual interviews with investors. Finally, we regard the response to CDP Water as one of the important information disclosure methods to investors.
Local communities	Relevant, included	When water impacts occur, we strive to avoid impacts to local communities by gathering local data for each facility and explore countermeasures. We also exchange views on various environmental themes including water at regional roundtable meetings held periodically at each facility as needed.
NGOs	Relevant, included	We constantly gather information on NGO trends and have a framework in place to integrate NGO demands into our environmental action programs. For example, we are providing NGOs with access to ponds on facility property for the purpose of breeding research of an endangered species.
Other water users at a local level	Relevant, included	Where there are fishing areas in the drainage area of the facility or downstream of the facility, sometimes we have entered into agreements with local groups regarding the temperature of the waste water and the amount of floating matter. Therefore, we collect and evaluate information on fishers and other water users as part of our CSR focus.
Regulators	Relevant, included	We collect information from regulatory authorities on a facility-by-facility and region-by-region basis at regular intervals and explore measures that will ensure operations at our facilities are not impacted. Regarding global trends of water regulations, the corporate headquarters provides updates, which are used to anticipate risks on a regional level.
River basin management authorities	Relevant, included	We regularly collect information on a facility-by-facility and region-by-region basis and explore measures that will mitigate impact to operations.
Statutory special interest groups at a local level	Not relevant, included	At this time there are no important issues to be tackled in cooperation with statutory special interest groups at local level. When local issues arise, the potentially impacted facility engages local groups to gather information, implement and evaluate measures in close liaison with corporate headquarters.
Suppliers	Relevant, included	We recognize that measures of our suppliers for water risks are important for sustainable procurement, therefore we request that suppliers perform water risk assessments and reduce water withdrawal volumes. For example, we are requesting suppliers to make efforts as a supplier by communicating the importance of reducing water consumption

Stakeholder	Choose option	Please explain
		through the opportunities such as "Explanatory meeting of procurement policy" held annually for suppliers.
Water utilities at a local level	Relevant, included	Since water is important to operations, as early as the facility siting stage, we are conducting risk assessments to determine whether stable water quality and quantity are available for long term and whether sustainable measures can be implemented.
Other		

W2.8

Please choose the option that best explains why your organisation does not undertake a water-related risk assessment

Primary reason	Please explain
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Further Information

Module: Implications

Page: W3. Water Risks

W3.1

Is your organization exposed to water risks, either current and/or future, that could generate a substantive change in your business, operations, revenue or expenditure?

Yes, supply chain only

W3.2

Please provide details as to how your organization defines substantive change in your business, operations, revenue or expenditure from water risk

We consider substantive change in our business, operations, revenue or expenditure from water risk as the status of the highest level of comprehensive water risk (level 5 : Extremely high risk) based on WRI Aqueduct analysis . We perform analysis on all production facilities using WRI Aqueduct once every year. According to the latest Aqueduct analysis, there were no sites corresponding to Level 5. Therefore, currently we recognize no substantive changes in direct operations.
However, we recognize the potential for substantive change because operations will be impacted by water risk at all of the production facilities under our direct management.

W3.2a

Please provide the number of facilities* per river basin exposed to water risks that could generate a substantive change in your business, operations, revenue or expenditure; and the proportion of company-wide facilities this represents

Country	River basin	Number of facilities exposed to water risk	Proportion of company-wide facilities that this represents (%)	Comment
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W3.2b

For each river basin mentioned in W3.2a, please provide the proportion of the company's total financial value that could be affected by water risks

Country	River basin	Financial reporting metric	Proportion of chosen metric that could be affected	Comment
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W3.2c

Please list the inherent water risks that could generate a substantive change in your business, operations, revenue or expenditure, the potential impact to your direct operations and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
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W3.2d

Please list the inherent water risks that could generate a substantive change in your business operations, revenue or expenditure, the potential impact to your supply chain and the strategies to mitigate them

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
Thailand	Chao	Physical-	Plant/production	The 2011 flood that	Unknown	Unknown	Low	Develop	No extra	We have

Country	River basin	Risk driver	Potential impact	Description of potential impact	Timeframe	Likelihood	Magnitude of potential financial impact	Response strategy	Costs of response strategy	Details of strategy and costs
	Phraya	Flooding	disruption leading to reduced output	occurred in Thailand caused extensive damage over several months in the Chao Phraya River basin. Since several industrial parks were submerged, various production activities were stopped and transportation networks were also stopped functioning. If similar flood damage occurs in future, there is a possibility that the production volume may decrease due to the supply chain disruption.				flood emergency plans	cost incurred	already formulated Flood Emergency Plan.

W3.2e

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your direct operations that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain
Risks exist, but no substantive impact	We consider substantive change in our business, operations, revenue or expenditure from water risk as the status of the highest level of comprehensive water risk (level 5 : Extremely high risk) based on WRI Aqueduct analysis . We perform analysis on all production

Primary reason	Please explain
anticipated	facilities using WRI Aqueduct once every year. According to the latest Aqueduct analysis, there were no sites corresponding to Level 5. Therefore, currently we recognize no substantive changes in direct operations. However, we recognize the potential for substantive change because operations will be impacted by water risk at all of the production facilities under our direct management.

W3.2f

Please choose the option that best explains why you do not consider your organization to be exposed to water risks in your supply chain that could generate a substantive change in your business, operations, revenue or expenditure

Primary reason	Please explain

W3.2g

Please choose the option that best explains why you do not know if your organization is exposed to water risks that could generate a substantive change in your business operations, revenue or expenditure and discuss any future plans you have to assess this

Primary reason	Future plans

Further Information

W4.1

Does water present strategic, operational or market opportunities that substantively benefit/have the potential to benefit your organization?

Yes

W4.1a

Please describe the opportunities water presents to your organization and your strategies to realize them

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Comment
United States of America	Increased brand value	Engagement in community river/water body clean-ups, communication of water reduction initiatives. Implement rainwater harvesting at a manufacturing facility and communicate success.	Current-up to 1 year	Corporate water strategy is multi-faceted, including both reduction of water usage in our operations as well as improvement of the watersheds in regions where we operate. We believe the public has a significant interest in improving water quality in our rivers and streams, and Bridgestone has a great opportunity to continue to act as a corporate steward in this regard.
Japan	Increased brand value	Lake Biwa - Sustainable Environment for Local Communities Project established in 2004. We have been conducting waterside nature observation events where local communities near the facility can participate from 2005. Through this activity, many people aim to reaffirm the rich nature of Lake Biwa and increase the interest in the environment. In 2011, we also developed a biotope pond in the facility to cooperate with the university's research activities on breeding of threatened species.	Current-up to 1 year	Improved brand image with activities aimed at making community contributions.
Thailand	Increased brand value	In collaboration with the local community, we built a check dam in 2015. The dam is effective in preventing floods, creating habitats and improving biodiversity. So, by publicizing this activity and applying for the	1-3 years	More than 100 employees participated in the check dam construction. The dam enhances the water holding capacity of the forest and reduces the erosion of the topsoil caused by the violent and

Country or region	Opportunity	Strategy to realize opportunity	Estimated timeframe	Comment
		regional/national awards, it will be an opportunity to improve brand values.		rapid flow. And the pond also serves as a space for improving biodiversity.
South Africa	Improved water efficiency	The Bridgestone Group has established 2020 reduction targets in units of intake water volume. One of those, a tire facility in South African Republic, has created awareness of usage/efficiency through visualisation and reporting to achieve those targets.	1-3 years	Such activities are taking place in facilities around the world, and we are aiming to achieve 2020 reduction target by accumulating employees' steadfastness activities to improve the efficiency of water consumptions.
United States of America	Sales of new products/services	Firestone Building Products sells pond liners and EPIC water distribution systems that are widely used worldwide. It aims to expand its sales of these water management-related products and systems.	Current-up to 1 year	The EPIC water distribution system is installed underground and allows for the efficient use of groundwater supplies as well as reductions in the volume of water utilized for land management purposes. We aim to expand our lineup of water management products of this kind.
Japan	Sales of new products/services	We promoted sale of the siphon drainage system, which is a waste water system that contributes to flexibility in the design and placement of water supply equipment in buildings.	Current-up to 1 year	The siphon drainage system, which is a drainage system that contributes to greater freedom in installing wet area equipment for buildings, was awarded the first prize in the Construction Materials and Equipment Award (sponsored by Japanese professional journals named "Nikkei Architecture" & "Nikkei Home Builder").
Indonesia	Staff retention	To improve the daily life water quality, 1. Increasing planting of trees with high absorption around water sources, 2. Conducting cleaning water sources and surrounding periodically.	1-3 years	There is inadequate sanitation in the region.

W4.1b

Please choose the option that best explains why water does not present your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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W4.1c

Please choose the option that best explains why you do not know if water presents your organization with any opportunities that have the potential to provide substantive benefit

Primary reason	Please explain
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Further Information

Module: Accounting

Page: W5. Facility Level Water Accounting (I)

W5.1

Water withdrawals: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Country	River basin	Facility name	Total water withdrawals (megaliters/year) at this facility	How does the total water withdrawals at this facility compare to the last reporting year?	Please explain

Further Information**Page: W5. Facility Level Water Accounting (II)**

W5.1a

Water withdrawals: for the reporting year, please provide withdrawal data, in megaliters per year, for the water sources used for all facilities reported in W5.1

Facility reference number	Fresh surface water	Brackish surface water/seawater	Rainwater	Groundwater (renewable)	Groundwater (non-renewable)	Produced/process water	Municipal water	Wastewater from another organization	Comment
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W5.2

Water discharge: for the reporting year, please complete the table below with water accounting data for all facilities included in your answer to W3.2a

Facility reference number	Total water discharged (megaliters/year) at this facility	How does the total water discharged at this facility compare to the last reporting year?	Please explain
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W5.2a

Water discharge: for the reporting year, please provide water discharge data, in megaliters per year, by destination for all facilities reported in W5.2

Facility reference number	Fresh surface water	Municipal/industrial wastewater treatment plant	Seawater	Groundwater	Wastewater for another organization	Comment
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W5.3

Water consumption: for the reporting year, please provide water consumption data for all facilities reported in W3.2a

Facility reference number	Consumption (megaliters/year)	How does this compare to the last reporting year?	Please explain
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W5.4

For all facilities reported in W3.2a what proportion of their water accounting data has been externally verified?

Water aspect	% verification	What standard and methodology was used?
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Further Information

Module: Response

Page: W6. Governance and Strategy

W6.1

Who has the highest level of direct responsibility for water within your organization and how frequently are they briefed?

Highest level of direct responsibility for water issues	Frequency of briefings on water issues	Comment
Board of individuals/Sub-set of the Board or other committee appointed by the Board	Scheduled- quarterly	The global decision-making regarding environmental programs, including water quality and consumption, is carried out by the Global CSR Enhancement Committee (GCEC). Members of GCEC are composed of executive officer in charge of CSR and representatives of regions and functions. Important decisions made by GCEC are reported to Global Executive Committee (G-EXCO), Bridgestone's body of global business execution. Based on the strategy and basic policy transmitted from G-EXCO, the Global Management Platform (GMP) indicates the direction of activities and provides support and assistance to Strategic Business Units (SBUs). At the SBU level, management reviews and implements environmental activities such as activities related to biodiversity, resource efficiency, and climate change. In order to deepen cooperation between GMP and SBUs, the Global Environment Working Group structured with members of the regional environment function has been formed to promote global environmental activities.

W6.2

Is water management integrated into your business strategy?

Yes

W6.2a

Please choose the option(s) below that best explains how water has positively influenced your business strategy

Influence of water on business strategy	Please explain
Establishment of sustainability goals	Our products do not contain any water, but we use water to manufacture them. To mitigate operational impact on the environment, we have been working to enhance the efficiency of water use through the cyclic use of cooling water, etc. In order to accelerate these activities, we set a 2020 target value for the reduction of water intake at production sites in 2014. Individual targets for each business were set taking into account the local situations and characteristics of the business. The target is reducing 35% (per production volume and sales) compared with 2005 by 2020 throughout the Group. As an outcome of efforts to reduce water withdrawal volume, we reduced our water withdrawal volume by 6 million cubic meters compared to the previous year. Reductions in water withdrawal volume promise not only to help lower our withdrawal-related costs but also lower our water discharge-related risks thanks to corresponding reductions in water discharge volume.
Greater supplier engagement	We request from our suppliers a water management and water risk assessment through our CSR Procurement Guideline.

W6.2b

Please choose the option(s) below that best explains how water has negatively influenced your business strategy

Influence of water on business strategy	Please explain
Increased capital expenditure	Because of changes in regulations, investment for corresponding equipment increased. For example, in order to prevent troubles caused by leakage of dirty water and oils, we updated or newly established water gates, oil-proofing banks, and sewage treatment equipment etc. Furthermore, in anticipating the possibility that groundwater pouring will be regulated or the possible amount of pumping will be reduced in the future, we started to use recycling water instead of deep well water for production process in Brazil, which was completed in May 2016. In June 2016, we achieved 57% of reduction in deep well water consumption. Over 220,000 m ³ of groundwater was replaced by recycling water in 2016. In addition to ordinances, we have undertaken a lot of investment in water discharge by enhancing monitoring to ensure there is no waste water or chemical substance discharge from rain and waste water drains.

W6.2c

Please choose the option that best explains why your organization does not integrate water management into its business strategy and discuss any future plans to do so

Primary reason	Please explain

W6.3

Does your organization have a water policy that sets out clear goals and guidelines for action?

Yes

W6.3a

Please select the content that best describes your water policy (tick all that apply)

Content	Please explain why this content is included
Publicly available Company-wide Performance standards for direct operations Performance standards for supplier, procurement and contracting best practice Commitment to customer	Our Group has set the target of reducing water intake at 35% (per unit) by 2020 throughout the Group, based on 2005 levels. This target is published through our websites and sustainability reports. The Bridgestone Group's Environmental Mission Statement, which includes addressing water usage, applies to all Bridgestone Group's operations. Our mid-term 2020 target for water intake volumes is applicable to the entire Group and is a performance standard target for direct operations. Suppliers are required in the procurement guidelines to meet requirements for reductions in water intake volumes. To support our suppliers' improvement activities, Bridgestone visits their production sites to provide proposals on improvements based on their completed Self-Check Sheet and to offer advice as part of their on-site environmental assistance. An example of a client education initiative is the ECOPIA's forest activities. A portion of sales of our fuel efficient ECOPIA tires is used in forest

Content	Please explain why this content is included
education Incorporated within group environmental, sustainability or EHS policy Acknowledges the human right to water, sanitation and hygiene	management (9 forests, 112ha) which contributes to cultivation of water resources. The Environmental Mission Statement is displayed together with the corporate philosophy at each site as the uppermost guideline for the environment and sustainability. Security of access to water and public sanitation is incorporated in our facility design manual. To ensure no loss of right of access to water areas and public sanitation, each site has created and is active in mechanisms to prevent contamination.

W6.4

How does your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) during the most recent reporting year compare to the previous reporting year?

Water CAPEX (+/- % change)	Water OPEX (+/- % change)	Motivation for these changes
+40.6	+3.5	Our estimates apply only to business units and facilities in Japan, measuring the costs associated with measures to prevent water pollution and reduce water withdrawal volumes. Due to update/establishment in drainage gates, water quality monitors, sewage treatment units, etc., our water CAPEX increased by 40.6 % in 2016 comparing with 2015. Regarding our water OPEX, there was no major change, and it increased by 3.5 % in 2016 comparing with 2015.

Further Information

Page: **W7. Compliance**

W7.1

Was your organization subject to any penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting year?

No

W7.1a

Please describe the penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations and your plans for resolving them

Facility name	Incident	Incident description	Frequency of occurrence in reporting year	Financial impact	Currency	Incident resolution
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W7.1b

What proportion of your total facilities/operations are associated with the incidents listed in W7.1a?

W7.1c

Please indicate the total financial impacts of all incidents reported in W7.1a as a proportion of total operating expenditure (OPEX) for the reporting year. Please also provide a comparison of this proportion compared to the previous reporting year

Impact as % of OPEX	Comparison to last year
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Further Information

Page: W8. Targets and Initiatives

W8.1

Do you have any company wide targets (quantitative) or goals (qualitative) related to water?

Yes, targets and goals

W8.1a

Please complete the following table with information on company wide quantitative targets (ongoing or reached completion during the reporting period) and an indication of progress made

Category of target	Motivation	Description of target	Quantitative unit of measurement	Base-line year	Target year	Proportion of target achieved, % value
Other: Reduction of water intensity	Water stewardship	We have a target for water intake per unit to reduce 35% by 2020 compared to 2005. Production sites in each region have been installing measures for water intake reduction, with plans to promote further. To reduce the volume of water withdrawals, we have taken steps to install more efficient cooling towers and optimize water use on facility premises. We are currently assessing the budgetary requirements for	% reduction per business unit	2005	2020	81.4%

Category of target	Motivation	Description of target	Quantitative unit of measurement	Base-line year	Target year	Proportion of target achieved, % value
		implementation of these initiatives.				

W8.1b

Please describe any company wide qualitative goals (ongoing or reached completion during the reporting period) and your progress in achieving these

Goal	Motivation	Description of goal	Progress
Watershed remediation and habitat restoration, ecosystem preservation	Water stewardship	In striving to organize our knowledge about the relationships that our business operations have with biodiversity, we have identified strong correlations. Accordingly, our company has laid out a long-term environmental vision for the year 2050 and has set a target to be in balance with nature for 2050 and beyond. The implication of this target is that the quantitative indicators of our contribution to biodiversity should outweigh the quantitative indicators of our impact on biodiversity. Activities in water resource conservation and ecosystem protection will be important to the achievement of this target.	Bridgestone has implemented actions worldwide to protect water resources and ecosystems. We have been conducting waterside nature observation events where local communities near the facility can participate from 2005. Through this activity, many people aim to reaffirm the rich nature of Lake Biwa and increase the interest in the environment. We have held nature observation events (77 times) where local communities and our employees participate. Also, in 2010, we launched a project to develop water-resource forests in Japan. Currently, we have conducted forest preservation activities in 9 districts (Total 112 ha) and held forest preservation events (86 times) where local communities and our employees participate. Through efforts of this kind, we are working to expand our quantitative contributions to the achievement of our long-term vision "in harmony with nature" for 2050 and beyond.

W8.1c

Please explain why you do not have any water-related targets or goals and discuss any plans to develop these in the future

Further Information

Module: Linkages/Tradeoff

Page: W9. Managing trade-offs between water and other environmental issues

W9.1

Has your organization identified any linkages or trade-offs between water and other environmental issues in its value chain?

Yes

W9.1a

Please describe the linkages or trade-offs and the related management policy or action

Environmental issues	Linkage or trade-off	Policy or action
energy management	Trade-off	We recognize the trade-offs by using advanced water-related facilities such as high efficient cooling tower, recycling water system, water closed system and water treatment system. The reason is that despite being highly efficient in water usage with these facilities, they impose a higher energy burden compared to their conventional counterparts. We strike a balance between water and carbon emissions when we promote water management.

Further Information

Module: Sign Off

Page: Sign Off

W10.1

Please provide the following information for the person that has signed off (approved) your CDP water response

Name	Job title	Corresponding job category
Shinichi HANASHI	Vice President and Officer Management Planning	CSR, Environment and Quality Environment/Sustainability manager

W10.2

Please indicate that your organization agrees for CDP to transfer your publicly disclosed data regarding your response strategies to the CEO Water Mandate Water Action Hub.

Note: Only your responses to W1.4a (response to impacts) and W3.2c&d (response to risks) will be shared and then reviewed as a potential collective action project for inclusion on the WAH website.

By selecting Yes, you agree that CDP may also share the email address of your registered CDP user with the CEO Water Mandate. This will allow the Hub administrator to alert your company if its response data includes a project of potential interest to other parties using water resources in the geographies in which you operate. The Hub will publish the project with the associated contact details. Your company will be provided with a secure log-in allowing it to amend the project profile and contact details.

No

Further Information

CDP 2017 Water 2017 Information Request

