

# Welcome to your CDP Water Security Questionnaire 2020

## W0. Introduction

### W0.1

**(W0.1) Give a general description of and introduction to your organization.**

Micron is comprised of a team of visionaries and trailblazers, designing and building advanced semiconductor technologies. From mobile devices to connected automobiles, to supercomputers and cloud servers—our innovative memory and storage solutions are used in things that we depend on and use every day. They are foundational to the technological advancements that are changing how the world uses information. Today, we are a global leader in the semiconductor industry with a track record of innovation and industry advancement that includes over 26,000 patents. Our multinational diversity, manufacturing scale, and broad product portfolio enable us to advance new ideas and develop technologies that can transform what’s possible. Our broad portfolio of silicon-to-semiconductor solutions starts with foundational dynamic random-access memory (DRAM), NAND, and NOR Flash memory and extends to solid state drives, modules, multichip packages, and other semiconductor systems. We work with today’s leading brands and original equipment manufacturers (OEMs) to enable the world’s most innovative computing, consumer, enterprise storage, data center, mobile, embedded and automotive applications. Micron strives to build and operate sustainable world-class facilities around the world that enable excellence in safety, reliability, and cost. Through pollution prevention, reclamation, and recycling efforts, Micron strives to reduce the burden on air, water and land resources. Continuous improvement of our environmental performance is a long-term commitment. Visit [micron.com/environment](http://micron.com/environment) for more information. We take a proactive approach to environmental stewardship, occupational health and safety, and high-quality product standards. An integral part of this mission is a proactive approach to environmental compliance and protection that serves our team members, customers and communities in which we operate. Compliance with applicable environmental regulations is considered a minimum standard. Micron implements additional programs where appropriate to provide greater environmental performance and protection, demonstrating the responsibility it feels towards its local and global communities. Continuous improvement of our environmental performance is a long-term commitment of Micron’s business mission.

### W0.2

**(W0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date
Reporting year	January 1, 2019	December 31, 2019

### W0.3

**(W0.3) Select the countries/areas for which you will be supplying data.**

- China
- Japan
- Malaysia
- Singapore
- Taiwan, Greater China
- United States of America

### W0.4

**(W0.4) Select the currency used for all financial information disclosed throughout your response.**

- USD

### W0.5

**(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.**

- Companies, entities or groups over which operational control is exercised

### W0.6

**(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?**

- Yes

### W0.6a

**(W0.6a) Please report the exclusions.**

Exclusion	Please explain
Excluded non-manufacturing locations, including office-based activities (design, marketing, sales)	Water use is negligible (<<1%) compared to water use of our manufacturing sites.

## W1. Current state

### W1.1

**(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.**

	Direct use importance rating	Indirect use importance rating	Please explain

Sufficient amounts of good quality freshwater available for use	Vital	Important	Semiconductor manufacturing is water-intensive process where each wafer used to make our products goes through a series of cleaning steps, which are dependent on ultra-pure water.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	As semiconductor technologies have become more complex, demand for water has grown. Micron proactively manages water consumption by identifying opportunities to increase water efficiency and reduce raw water demand. Our manufacturing sites generate ultra-pure water from a combination of recycled water from our operations and local raw water resources.

## W1.2

**(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?**

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	76-99	Water withdrawals (total volume) are tracked across all manufacturing locations (>99% of total), except for the non-manufacturing offices.
Water withdrawals – volumes by source	76-99	Water withdrawals (total volume) are tracked across all manufacturing locations (>99% of total), except for the non-manufacturing offices.
Water withdrawals quality	76-99	Water withdrawals by source (Municipal water, Surface Water, Ground water, Rainwater) are tracked across all manufacturing locations (>99% of total), except for the non-manufacturing offices.
Water discharges – total volumes	76-99	Water discharge volumes are tracked across all manufacturing locations (>99% of total), except for the non-manufacturing offices.
Water discharges – volumes by destination	76-99	Water discharge by destination (Public sewer with POTW, Public sewer w/o POTW, Water body like river, sea, etc.) is tracked across all manufacturing locations (>99% of total), except for the non-manufacturing offices.

Water discharges – volumes by treatment method	100%	Water discharge volume by treatment method is regularly monitored by site-level facilities team to verify capacity and efficiency of each treatment line. Treatment only applies to manufacturing locations then monitored 100%
Water discharge quality – by standard effluent parameters	100%	Water discharge quality by standard effluent parameters is regularly monitored, reported, and documented by site-level environmental engineering team to ensure that we continuously comply with applicable standards/regulations. Discharge monitoring only applies to manufacturing locations then monitored 100%
Water discharge quality – temperature	100%	Temperature of water discharged is regularly monitored at all manufacturing locations. Discharge monitoring only applies to manufacturing locations then monitored 100%
Water consumption – total volume	76-99	Water consumption (total volume) is calculated across Micron manufacturing locations (>99% of total water usage) based on water withdrawals (total in) minus water discharges (total out).
Water recycled/reused	100%	Water recycled and reused is regularly monitored and reported across Micron manufacturing locations. Recycled/reused water only applies to manufacturing locations then monitored 100%
The provision of fully-functioning, safely managed WASH services to all workers	100%	All facilities (manufacturing and non-manufacturing) have water supply, adequate sanitation and hygiene service for all workers

## W1.2b

**(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?**

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	50,042	Higher	Increase due to the increased capacity. Increase <5% compared to CY2018
Total discharges	38,857	Higher	Increase due to the increased capacity. Increase <5% compared to CY2018
Total consumption	11,185	Much higher	Increase due to the increased capacity, proportionally to the withdrawal increase

## W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	Less than 1%	Lower	WRI Aqueduct	Updated the water stress assessment by applying the new WRI Aqueduct 3.0 water risk atlas. Results have significantly changed : 1 location in China is classified as extremely high stress area. For this location risk has not changed compared to previous tool 2.1, but for other locations in Singapore and Taiwan the overall risk and stress has been lowered to low/low-medium stress.

## W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
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Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	252	Much lower	Reduced withdrawal from fresh water and increased supply from municipal sources
Brackish surface water/Seawater	Not relevant			source not used
Groundwater – renewable	Relevant	8,229	Higher	Increased capacity at relevant locations. Increase compared to CY2018 < 5%
Groundwater – non-renewable	Not relevant			source not used
Produced/Entrained water	Not relevant			source not used
Third party sources	Relevant	41,561	Higher	Increased capacity at relevant locations. Increase compared to CY2018 < 5%

## W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	6,012	Higher	Increased capacity at relevant locations compared to CY2018
Brackish surface water/seawater	Relevant			not applicable
Groundwater	Not relevant			not applicable
Third-party destinations	Relevant	32,844	Higher	Total discharge to public sewer sent to further treatment at a publicly-owned wastewater treatment plant. Higher discharge as per increased capacity in 2019

## W1.4

### **(W1.4) Do you engage with your value chain on water-related issues?**

Yes, our customers or other value chain partners

## W1.4c

### **(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?**

We recognize that our manufacturing process is water-intensive and contributes to the global environmental impact of technology. We routinely meet with our customers to understand how we are performing from their perspective. Cross-functional teams review the outcomes of those conversations, as well as written customer requirement documents, and assess opportunities for improvement. A monthly meeting of executives and senior leaders drives accountability for the improvements we undertake in response to key customer expectations and requirements. We engage in several industry organizations alongside our customers, building industry consensus across a range of social and environmental issues specific to our industry – such as conflict minerals, supply chain labor standards and climate-related matters. This is why we partner with our customers to improve our water management program by implementing risk control measures and investing on water reduction-saving opportunities identified at all manufacturing locations.

## W2. Business impacts

### W2.1

#### **(W2.1) Has your organization experienced any detrimental water-related impacts?**

No

### W2.2

#### **(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**

No

## W3. Procedures

### W3.3

#### **(W3.3) Does your organization undertake a water-related risk assessment?**

Yes, water-related risks are assessed

## W3.3a

**(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.**

### Direct operations

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#### Coverage

Full

#### Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

#### Frequency of assessment

Annually

#### How far into the future are risks considered?

1 to 3 years

#### Type of tools and methods used

Tools on the market  
Enterprise Risk Management  
International methodologies

#### Tools and methods used

WRI Aqueduct  
COSO Enterprise Risk Management Framework  
Environmental Impact Assessment  
Alliance for Water Stewardship Standard

#### Comment

Enterprise Risk Management (ERM) at Micron is a comprehensive program that uses risk information to formulate strategies, processes and decisions that enable the company to achieve its objectives. ERM establishes a unified approach to risk management that helps Micron achieve a shared understanding of risks and make informed business decisions. Water risks and overall Sustainability Risks are reported and managed as part of this process.

### Supply chain

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#### Coverage

None

#### Comment

Micron has identified water risks for our manufacturing sites under its operational control.

### Other stages of the value chain

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#### Coverage



None

**Comment**

**W3.3b**

**(W3.3b) Which of the following contextual issues are considered in your organization’s water-related risk assessments?**

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	Semiconductor manufacturing is a water-intensive process where each wafer used to make our products goes through a series of cleaning steps, which are dependent on ultra-pure water.
Water quality at a basin/catchment level	Relevant, always included	Incoming water quality is an important control spec to generate ultra-pure water and to support mechanical systems correct operation.
Stakeholder conflicts concerning water resources at a basin/catchment level	Not relevant, explanation provided	As of now, there are no significant conflicts with other stakeholders concerning water source at each relevant manufacturing location.
Implications of water on your key commodities/raw materials	Not considered	As mentioned earlier, we have not considered water risks in our supply chain
Water-related regulatory frameworks	Relevant, always included	Applicable regulations are always considered while assessing risks
Status of ecosystems and habitats	Not relevant, explanation provided	Status of ecosystems and habitats is not considered relevant at this point in time. Our manufacturing sites are not located in sensitive or protected areas.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Access to fully-functioning, safely managed WASH services for all employees is a minimum requirement for all Micron locations.
Other contextual issues, please specify	Not relevant, explanation provided	There are no additional contextual issues other than the above ones.

**W3.3c**

**(W3.3c) Which of the following stakeholders are considered in your organization’s water-related risk assessments?**

	Relevance & inclusion	Please explain
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Customers	Relevant, always included	Micron takes into account customers' expectations and determines related compliance obligations where applicable and feasible.
Employees	Relevant, always included	in Micron water availability and quality for employees use is a minimum requirement
Investors	Relevant, always included	Investors are key stakeholders and always considered as contextual issue
Local communities	Relevant, always included	Local communities needs ad expectations are one of our contextual issues
NGOs	Not relevant, included	NGOs' needs and expectations are a potential contextual issues. As of now, NGOs have generally not interacted or communicated with Micron on water risks.
Other water users at a basin/catchment level	Not relevant, explanation provided	As of now, there are no significant conflicts with other users of the water source at relevant manufacturing locations.
Regulators	Relevant, always included	Regulators' needs and expectations (beyond regulatory requirement) are always considered when formally communicated. Interactions with regulators relate to current regulations and to potential future regulations impacting water use.
River basin management authorities	Not relevant, explanation provided	River basin authorities' needs and expectations are always considered when formally communicated. As of now, they have generally not interacted or communicated with Micron on water risks beyond what is required by law.
Statutory special interest groups at a local level	Not relevant, explanation provided	Not applicable
Suppliers	Relevant, not included	Supply Chain risks are not currently included
Water utilities at a local level	Relevant, always included	Water supply systems are always considered
Other stakeholder, please specify	Not relevant, explanation provided	No additional stakeholders have been identified besides the ones mentioned above

### W3.3d

**(W3.3d) Describe your organization’s process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.**

Micron estimates water use projections at least once a year or as needed (e.g. major acquisitions, constructions,...). This estimate is compared against water availability, contract limits, physical limits (e.g., infrastructure) and political limitations (e.g., public commitments, goals, etc.) and actions are defined to ensure an appropriate support to our operations.

## W4. Risks and opportunities

### W4.1

**(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes, only within our direct operations

#### W4.1a

**(W4.1a) How does your organization define substantive financial or strategic impact on your business?**

Micron's business environment creates risk to our financial performance. Micron considers substantive financial impact as having the potential for severe and/or irreversible negative impact to Micron's assets, credit liquidity, and/or share price. For strategic impact, we pursue risk that have a proven greater reward vs risk score and turn away from risks that may have negative impact on quality of products, reputation, earnings or our ability to meet business objectives.

One example of our risk/opportunity identification and management process includes the risk of enhanced reporting obligations. The likelihood of this occurring and how impactful it would be without treatment is evaluated to determine the inherent risk and then treatment details, including who, what, and when are determined and tracked to closure. The treatments for this example include monitoring water-related regulations and policy to understand and evaluate impacts to, and opportunities for, our business, customers, and the communities where we operate. When applicability is determined, an action plan is developed and monitored through execution.

#### W4.1b

**(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?**

Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment

Row 1	1	Less than 1%	1 out of 12 of our manufacturing sites has been identified at high water risk. and within a region of water stress. We updated the water risk assessment by using the updated WRI's Aqueduct 3.0 for this reporting. Results have significantly changed compared to last year's assessment based on WRI Aqueduct 2.0 : only 1 site in China is now identified as exposed to extremely high overall water risk and water stress. For this site the level of risk/stress has not changed compared to previous assessment based on Aqueduct tool 2.1. The other sites classified as high risk with WRI's Aqueduct 2.1 and reported last year (Singapore and Taiwan), are now classified as low/low-medium risk with WRI's Aqueduct 3.0 due to updated hydrological information on regional/local water indicators
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### W4.1c

**(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?**

### W4.2

**(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

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**Country/Area & River basin**

China  
Huang He (Yellow River)

**Type of risk & Primary risk driver**

Physical  
Rationing of municipal water supply

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

Water is a critical input to our manufacturing process, particularly wafer fabrication, and any reduction in quantity or quality levels would cause a disruption to our manufacturing process, by either reducing capacity or even suspending operation. The Chinese region where Micron's site is located is classified as high-risk area by the WRI's Aqueduct

Water Risk tool 3.0. The operation in China is less water-dependent, thus driving a low severity.

**Timeframe**

More than 6 years

**Magnitude of potential impact**

Medium-low

**Likelihood**

More likely than not

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure - minimum (currency)**

**Potential financial impact figure - maximum (currency)**

**Explanation of financial impact**

Micron realizes that there is potential for financial impact. Potential financial impact has not yet been determined

**Primary response to risk**

Adopt water efficiency, water reuse, recycling and conservation practices

**Description of response**

Access to clean water sources is a human right recognized by the United Nations and it is also one of the primary resources used in the manufacture of semiconductors. Micron looks proactively for opportunities to manage water consumption in manufacturing operations globally on an ongoing basis. Water is a key resource for our manufacturing process and Micron looks at water saving opportunities, starting from improving process efficiency to increasing the water recycle rate globally and particularly at locations with stressed water resources.

**Cost of response**

3,000,000

**Explanation of cost of response**

Micron China implemented additional improvements on water systems in CY2019. with the scope to improve reliability, efficiency and reduce water losses. The cost of response reported above reflects investment made to realize improvement projects.

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**Country/Area & River basin**

Taiwan, Greater China  
Not known

**Type of risk & Primary risk driver**

Physical  
Rationing of municipal water supply

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

Water is a critical input to our manufacturing process, particularly wafer fabrication, and any reduction in quantity or quality levels would cause a disruption to our manufacturing process, by either reducing capacity or even suspending operation. With the annual update of the risk assessment, compared to CY2018 assessment, our site in Taiwan is not identified as high-risk area anymore, but Micron continues to monitor water risks in this area considering the potential impact coming from a reduced quality and quantity of incoming water. We could not identify a specific water basin applicable to the specific location in Taiwan

**Timeframe**

More than 6 years

**Magnitude of potential impact**

Medium-high

**Likelihood**

About as likely as not

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure - minimum (currency)**

**Potential financial impact figure - maximum (currency)**

**Explanation of financial impact**

Micron realizes that there is potential for financial impact. Potential financial impact has not yet been determined.

**Primary response to risk**

Adopt water efficiency, water reuse, recycling and conservation practices

**Description of response**

Access to clean water sources is a human right recognized by the United Nations and it is also one of the primary resources used in the manufacture of semiconductors. Micron looks proactively for opportunities to manage water consumption in manufacturing operations globally on an ongoing basis. Our intent is to minimize the impact to this precious resource and maximize our business resilience as global water supply becomes increasingly constrained.

**Cost of response**

2,000,000

**Explanation of cost of response**

Micron implemented additional water saving measures in Taiwan by increasing the water reuse/recycle rate by 2% in CY2019 compared to CY2018. The cost of response reported above reflects cost of implementation of such improvement projects and additional investment to increase efficiency and reliability of water systems.

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**Country/Area & River basin**

Singapore  
Not known

**Type of risk & Primary risk driver**

Physical  
Rationing of municipal water supply

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

Water is a critical input to our manufacturing process, particularly wafer fabrication, and any reduction in quantity or quality levels would cause a disruption to our manufacturing process, by either reducing capacity or even suspend operation. With the annual update of the risk assessment, compared to CY2018 assessment, Singapore is not identified as high-risk area anymore, but Micron continues to monitor water risks in this area considering the potential impact coming from a reduced quality and quantity of incoming water. We could not identify a specific water basin applicable to Singapore

**Timeframe**

More than 6 years

**Magnitude of potential impact**

Medium-high

**Likelihood**

About as likely as not

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure - minimum (currency)**

**Potential financial impact figure - maximum (currency)**

**Explanation of financial impact**

Micron realizes that there is potential for financial impact. Potential financial impact is under review.

**Primary response to risk**

Adopt water efficiency, water reuse, recycling and conservation practices

**Description of response**

Access to clean water sources is a human right recognized by the United Nations and it is also one of the primary resources used in the manufacture of semiconductors. Micron looks proactively for opportunities to manage water consumption in manufacturing operations globally on an ongoing basis. Our intent is to minimize the impact to this precious resource and maximize our business resilience as global water supply becomes increasingly constrained. Particularly in Singapore, Micron has been incorporating water-saving measures at the design stage of the new buildings and industrial processes, and at the same time investing resources to improve the water use efficiency at the existing factories. In Singapore, we derive 96% of our water from rain capture, onsite recycling and NEWater supply. NEWater is a centralized treatment of used water that is repurposed for non-potable use, which helps reduce the demand on reservoirs for potable water

**Cost of response**

75,000

**Explanation of cost of response**

Micron implemented additional water saving measures in Singapore by increasing the water reuse/recycle rate by 1% in CY2019 compared to CY2018. The cost of response reported above reflects cost of implementation of such improvement projects and additional investment to increase efficiency and reliability of water systems.

**W4.2c**

**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Not yet evaluated	Impact of Water risks in the Supply Chain has not been evaluated yet



## W4.3

**(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes, we have identified opportunities, and some/all are being realized

## W4.3a

**(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.**

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**Type of opportunity**

Efficiency

**Primary water-related opportunity**

Improved water efficiency in operations

**Company-specific description & strategy to realize opportunity**

Over the past few years, Micron has implemented several projects to improve water use efficiency of the manufacturing process and of the facilities supporting systems (UPW plant, cooling tower, ...). For new constructions, Micron has been incorporating water-saving measures in the design stage for new buildings and industrial processes, at the same time Micron has made significant investments to improve the water use efficiency at the existing factories.

By improving water efficiency we also reduce operational costs, particularly in countries where water price is increasing.

**Estimated timeframe for realization**

1 to 3 years

**Magnitude of potential financial impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact**

Micron realizes that there is potential for financial impact. Potential financial impact is under review.

## W6. Governance

### W6.1

**(W6.1) Does your organization have a water policy?**

Yes, we have a documented water policy that is publicly available

### W6.1a

**(W6.1a) Select the options that best describe the scope and content of your water policy.**

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of water-related performance standards for direct operations Company water targets and goals Commitments beyond regulatory compliance Commitment to water-related innovation	Water Management program published in the Sustainability Report publicly available on the external website <a href="http://www.micron.com">www.micron.com</a> Company-wide EHS policy including the commitment to go beyond legal compliance, pollution reduction and prevention. EHS Policy is available on the external website <a href="https://www.micron.com/about/our-commitment/operating-thoughtfully/environment-health-and-safety-policy">https://www.micron.com/about/our-commitment/operating-thoughtfully/environment-health-and-safety-policy</a>

### W6.2

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

### W6.2a

**(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.**

Position of individual	Please explain
Board-level committee	Governance & Sustainability Committee

### W6.2b

**(W6.2b) Provide further details on the board’s oversight of water-related issues.**

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Setting performance objectives	At the direction of Micron’s Chief Executive Officer and President, our Sustainability Council, a team of senior leaders including the Vice President of Compliance and Sustainability, have responsibility for developing all aspects of the company’s sustainability strategy, with oversight and approval from an executive leadership team. Additionally, Micron’s Risk Committee, a team of senior leaders including the CFO, review and guide risk management objectives including water-related risks for operation. Our strategy is focused on how to improve the efficiency of water use by our operations. At the most senior level of the company, our board of directors Governance and Sustainability Committee is charged with oversight responsibility for all sustainability related matters, including water related issues.

### W6.3

**(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).**

**Name of the position(s) and/or committee(s)**

Sustainability committee

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

Annually

**Please explain**

Micron’s Executive VP Operations has oversight responsibility of our facilities and their operations, including water use and related risks. One of the Board’s representatives sits on Micron’s Sustainability Council. The Sustainability Council is comprised of senior leaders representing the various aspects of sustainability, including supply chain, procurement, sales, and global manufacturing. The Sustainability Council monitors,

among other things, water-related risks, and tracks progress towards goals. Micron’s Risk Committee monitors, among other things, water-related risks/opportunities identification and actions. The Sustainability Council and the Risk Committee drive our strategy and improve the impact of our operations on water sources and community.

## W6.4

**(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	

## W6.4a

**(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?**

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Other, please specify all employees	Reduction of water withdrawals Reduction in consumption volumes Improvements in efficiency - direct operations Improvements in waste water quality - direct operations Implementation of water-related community project	Every Team Member is eligible for monetary and non-monetary recognition for their contribution towards sustainability and water-related activities.
Non-monetary reward	Other, please specify all employees	Reduction of water withdrawals Reduction in consumption volumes Improvements in efficiency - direct operations Improvements in waste water quality - direct operations	Every Team Member is eligible for monetary and non-monetary recognition for their contribution towards sustainability and water-related activities.

		Implementation of water-related community project	
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## W6.5

**(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?**

Yes, trade associations

## W6.5a

**(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?**

Micron has established an Environmental Policy Committee to review upcoming potential environmental issues and obligations (regulatory and from interested parties) and evaluate the company response within the relevant regional industry association to align with the company strategy.

This committee includes senior members of the key functions: the VP Compliance, Employment, Sustainability & Trade, Legal Department ; Government Affairs; Global EHS; Supply Chain and Product Compliance.

Members have periodical meetings to review upcoming issues, assess the potential impact and define strategy to prevent and reduce any associated environmental risks, including water.

## W6.6

**(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?**

## W7. Business strategy

### W7.1

**(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?**

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	5-10	Longest time horizons used for enterprise risk assessment when

			evaluating likelihood is up to 10 years
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	
Financial planning	No, water-related issues not yet reviewed, but there are plans to do so in the next two years		

## W7.2

**(W7.2) What is the trend in your organization’s water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

Row 1

**Water-related CAPEX (+/- % change)**

85

**Anticipated forward trend for CAPEX (+/- % change)**

105

**Water-related OPEX (+/- % change)**

8

**Anticipated forward trend for OPEX (+/- % change)**

12

**Please explain**

CAPEX has increased in CY19 vs CY18 as anticipated last year, but less than expected because of a shift of major constructions/expansions to CY20. Anticipated trend for CY20 significantly increased, as we continued to make huge investments in water systems to improve efficiency and reliability. Main reasons for CAPEX increase over time is to support: capacity increase, new manufacturing sites under construction, enhancement/upgrades of existing water systems to increase efficiency and reliability as ongoing effort. OPEX expense globally has increased in CY19 as per capacity expansions.

## W7.3

**(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?**

Use of climate-related	Comment
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	scenario analysis	
Row 1	Yes	Micron has conducted an analysis of value at risk to the organization under a “business as usual” and a “2 degree C” scenario, using econometric modeling, facility valuations, and potential climate-related impacts to model potential financial impacts of climate change in 2020, 2030, and 2040.

### W7.3a

**(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?**

Yes

### W7.3b

**(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization’s response?**

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	2DS	Results of the 2DS climate risk assessment show temperature extreme as one of the significant risks. Water related outcomes derive from a consequent decreased precipitation and increased temperatures, leading to potential increased water costs caused by water shortages.	Rationing of water has been identified as risk driver and related impact on production capacity. Company response to the potential shortage is the same described in section W4 Adopt water efficiency, water re-use, recycling and conservation practices

### W7.4

**(W7.4) Does your company use an internal price on water?**

Row 1

**Does your company use an internal price on water?**

No, and we do not anticipate doing so within the next two years

**Please explain**

## W8. Targets

### W8.1

**(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.**

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals	Targets are monitored at the corporate level	Micron conducts a full materiality assessment on a three-year cycle (most recently in 2018) and evaluates priorities annually to ensure that the issues customers, investors, employees, policymakers, community members and other stakeholders care about are reflected in sustainability initiatives, goals and reporting. Water is one of the significant environmental issues identified by the materiality assessment and Micron defined a corporate goal to achieve a 10% increase of water reuse/recycle rate by 2022 compared to 2016 baseline as first step. In 2019 Micron determined that the company should take additional actions and set long-term (10 years+) aspirational environmental goals and, specifically to water, set a goal for a 100% water reuse, recycling and restoration. Micron started to explore opportunities for investments in water stewardship projects including habitat conservation and remediation and decided to consolidate internal and external water conservation efforts into one indicator. We have also set time-bound goals of a 63% water reuse, recycling and restoration by end of CY22 (vs CY18 baseline) and a 75% water reuse, recycling and restoration by end of CY30 (vs CY18 baseline). These goals replace the water goal reported in CDP previous years.

### W8.1a

**(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.**

**Target reference number**

Target 1

**Category of target**

Other, please specify

Water reuse, recycle and restoration



**Level**

Company-wide

**Primary motivation**

Reduced environmental impact

**Description of target**

In the 2020 sustainability report we announced the aspirational goal of 100% water reused, recycled and restored.

Specific 2022 target: achieve 63% of water reuse, recycling and restoration. n compared to total water used in our operation (withdrawal + reused/recycled water).

**Quantitative metric**

Other, please specify

% volume of water reused, recycled and restored vs total water use

**Baseline year**

2018

**Start year**

2020

**Target year**

2022

**% of target achieved**

0

**Please explain**

This target is new and replaces the reuse/recycling target reported in previous CDP responses.

Water Reuse and recycle % remained flat in 2019 vs 2018 (49.7%) and we did not realize any restoration project in 2019 yet, hence % of target achieved is zero.

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**Target reference number**

Target 2

**Category of target**

Other, please specify

Water reuse, recycle and restoration

**Level**

Company-wide

**Primary motivation**

Water stewardship

**Description of target**

In the 2020 sustainability report we announced the aspirational goal of 100% water reused, recycled and restored.

Specific 2030 target: achieve 75% of water reuse, recycling and restoration. n compared to total water used in our operation (withdrawal + reused/recycled water).

**Quantitative metric**

Other, please specify

% volume of water reused, recycled and restored vs total water use

**Baseline year**

2018

**Start year**

2020

**Target year**

2030

**% of target achieved**

0

**Please explain**

This target is new and replaces the reuse/recycling target reported in previous CDP responses.

Water reuse and recycle % remained flat in 2019 vs 2018 (49.7%) and we did not realize any restoration project in 2019 , hence % of target achieved is zero.

## W9. Verification

### W9.1

**(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?**

No, we are waiting for more mature verification standards and/or processes

## W10. Sign off

### W-FI

**(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

## W10.1

**(W10.1) Provide details for the person that has signed off (approved) your CDP water response.**

	<b>Job title</b>	<b>Corresponding job category</b>
Row 1	Vice President, Compliance, Employment, Sustainability and Trade	Chief Sustainability Officer (CSO)