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 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.

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>January 1, 2019</td>
<td>December 31, 2019</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Exclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excluded non-manufacturing locations, including office-based activities</td>
<td>Water use is negligible (&lt;&lt;1%) compared to water use of our manufacturing sites.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Direct use importance rating</th>
<th>Indirect use importance rating</th>
<th>Please explain</th>
</tr>
</thead>
</table>
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?

<table>
<thead>
<tr>
<th>% of sites/facilities/operations</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water withdrawals – total volumes</td>
<td>76-99</td>
</tr>
<tr>
<td>Water withdrawals – volumes by source</td>
<td>76-99</td>
</tr>
<tr>
<td>Water withdrawals quality</td>
<td>76-99</td>
</tr>
<tr>
<td>Water discharges – total volumes</td>
<td>76-99</td>
</tr>
<tr>
<td>Water discharges – volumes by destination</td>
<td>76-99</td>
</tr>
<tr>
<td>Water discharges – volumes by treatment method</td>
<td>100%</td>
</tr>
<tr>
<td>Water discharge quality – by standard effluent parameters</td>
<td>100%</td>
</tr>
<tr>
<td>Water discharge quality – temperature</td>
<td>100%</td>
</tr>
<tr>
<td>Water consumption – total volume</td>
<td>76-99</td>
</tr>
<tr>
<td>Water recycled/reused</td>
<td>100%</td>
</tr>
<tr>
<td>The provision of fully-functioning, safely managed WASH services to all workers</td>
<td>100%</td>
</tr>
</tbody>
</table>

**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?*
<table>
<thead>
<tr>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total withdrawals</td>
<td>50,042</td>
<td>Increase due to the increased capacity. Increase &lt;5% compared to CY2018</td>
</tr>
<tr>
<td>Total discharges</td>
<td>38,857</td>
<td>Increase due to the increased capacity. Increase &lt;5% compared to CY2018</td>
</tr>
<tr>
<td>Total consumption</td>
<td>11,185</td>
<td>Increase due to the increased capacity, proportionally to the withdrawal increase</td>
</tr>
</tbody>
</table>

**W1.2d**

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

<table>
<thead>
<tr>
<th>Withdrawals are from areas with water stress</th>
<th>% withdrawn from areas with water stress</th>
<th>Comparison with previous reporting year</th>
<th>Identification tool</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1</td>
<td>Yes</td>
<td>Less than 1%</td>
<td>Lower</td>
<td>WRI Aqueduct</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Relevance</th>
<th>Volume (megaliters/year)</th>
<th>Comparison with previous reporting year</th>
<th>Please explain</th>
</tr>
</thead>
</table>
### Fresh surface water, including rainwater, water from wetlands, rivers, and lakes
- **Relevance:** Relevant
- **Volume (megaliters/year):** 252
- **Comparison with previous reporting year:** Much lower
- **Please explain:** Reduced withdrawal from fresh water and increased supply from municipal sources

### Brackish surface water/Seawater
- **Relevance:** Not relevant
- **Volume (megaliters/year):**
- **Comparison with previous reporting year:**
- **Please explain:** Source not used

### Groundwater – renewable
- **Relevance:** Relevant
- **Volume (megaliters/year):** 8,229
- **Comparison with previous reporting year:** Higher
- **Please explain:** Increased capacity at relevant locations. Increase compared to CY2018 < 5%

### Groundwater – non-renewable
- **Relevance:** Not relevant
- **Volume (megaliters/year):**
- **Comparison with previous reporting year:**
- **Please explain:** Source not used

### Produced/Entrained water
- **Relevance:** Not relevant
- **Volume (megaliters/year):**
- **Comparison with previous reporting year:**
- **Please explain:** Source not used

### Third party sources
- **Relevance:** Relevant
- **Volume (megaliters/year):** 41,561
- **Comparison with previous reporting year:** Higher
- **Please explain:** Increased capacity at relevant locations. Increase compared to CY2018 < 5%

### W1.2i

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

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

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk assessment procedure</td>
<td>Water risks are assessed as part of an enterprise risk management framework</td>
</tr>
<tr>
<td>Frequency of assessment</td>
<td>Annually</td>
</tr>
<tr>
<td>How far into the future are risks considered?</td>
<td>1 to 3 years</td>
</tr>
<tr>
<td>Type of tools and methods used</td>
<td>Tools on the market</td>
</tr>
<tr>
<td></td>
<td>Enterprise Risk Management</td>
</tr>
<tr>
<td></td>
<td>International methodologies</td>
</tr>
<tr>
<td>Tools and methods used</td>
<td>WRI Aqueduct</td>
</tr>
<tr>
<td></td>
<td>COSO Enterprise Risk Management Framework</td>
</tr>
<tr>
<td></td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td></td>
<td>Alliance for Water Stewardship Standard</td>
</tr>
<tr>
<td>Comment</td>
<td>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.</td>
</tr>
</tbody>
</table>

**Supply chain**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment</td>
<td>Micron has identified water risks for our manufacturing sites under its operational control.</td>
</tr>
</tbody>
</table>

**Other stages of the value chain**

<table>
<thead>
<tr>
<th>Coverage</th>
</tr>
</thead>
</table>
None

Comment

**W3.3b**

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

<table>
<thead>
<tr>
<th>Issue</th>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water availability at a basin/catchment level</td>
<td>Relevant, always included</td>
<td>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.</td>
</tr>
<tr>
<td>Water quality at a basin/catchment level</td>
<td>Relevant, always included</td>
<td>Incoming water quality is an important control spec to generate ultra-pure water and to support mechanical systems correct operation.</td>
</tr>
<tr>
<td>Stakeholder conflicts concerning water resources at a basin/catchment level</td>
<td>Not relevant, explanation provided</td>
<td>As of now, there are no significant conflicts with other stakeholders concerning water source at each relevant manufacturing location.</td>
</tr>
<tr>
<td>Implications of water on your key commodities/raw materials</td>
<td>Not considered</td>
<td>As mentioned earlier, we have not considered water risks in our supply chain</td>
</tr>
<tr>
<td>Water-related regulatory frameworks</td>
<td>Relevant, always included</td>
<td>Applicable regulations are always considered while assessing risks</td>
</tr>
<tr>
<td>Status of ecosystems and habitats</td>
<td>Not relevant, explanation provided</td>
<td>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.</td>
</tr>
<tr>
<td>Access to fully-functioning, safely managed WASH services for all employees</td>
<td>Relevant, always included</td>
<td>Access to fully-functioning, safely managed WASH services for all employees is a minimum requirement for all Micron locations.</td>
</tr>
<tr>
<td>Other contextual issues, please specify</td>
<td>Not relevant, explanation provided</td>
<td>There are no additional contextual issues other than the above ones.</td>
</tr>
</tbody>
</table>

**W3.3c**

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

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Relevance &amp; inclusion</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customers</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>Micron takes into account customers’ expectations and determines related compliance obligations where applicable and feasible.</strong></td>
</tr>
<tr>
<td><strong>Employees</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>In Micron water availability and quality for employees use is a minimum requirement</strong></td>
</tr>
<tr>
<td><strong>Investors</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>Investors are key stakeholders and always considered as contextual issue</strong></td>
</tr>
<tr>
<td><strong>Local communities</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>Local communities needs ad expectations are one of our contextual issues</strong></td>
</tr>
<tr>
<td><strong>NGOs</strong></td>
<td><strong>Not relevant, included</strong></td>
<td><strong>NGOs’ needs and expectations are a potential contextual issues. As of now, NGOs have generally not interacted or communicated with Micron on water risks.</strong></td>
</tr>
<tr>
<td><strong>Other water users at a basin/catchment level</strong></td>
<td><strong>Not relevant, explanation provided</strong></td>
<td><strong>As of now, there are no significant conflicts with other users of the water source at relevant manufacturing locations.</strong></td>
</tr>
<tr>
<td><strong>Regulators</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>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.</strong></td>
</tr>
<tr>
<td><strong>River basin management authorities</strong></td>
<td><strong>Not relevant, explanation provided</strong></td>
<td><strong>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.</strong></td>
</tr>
<tr>
<td><strong>Statutory special interest groups at a local level</strong></td>
<td><strong>Not relevant, explanation provided</strong></td>
<td><strong>Not applicable</strong></td>
</tr>
<tr>
<td><strong>Suppliers</strong></td>
<td><strong>Relevant, not included</strong></td>
<td><strong>Supply Chain risks are not currently included</strong></td>
</tr>
<tr>
<td><strong>Water utilities at a local level</strong></td>
<td><strong>Relevant, always included</strong></td>
<td><strong>Water supply systems are always considered</strong></td>
</tr>
<tr>
<td><strong>Other stakeholder, please specify</strong></td>
<td><strong>Not relevant, explanation provided</strong></td>
<td><strong>No additional stakeholders have been identified besides the ones mentioned above</strong></td>
</tr>
</tbody>
</table>

**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?

<table>
<thead>
<tr>
<th>Total number of facilities exposed to water risk</th>
<th>% company-wide facilities this represents</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

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.

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.

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
Micron Technology, Inc. CDP Water Security Questionnaire 2020 Monday, August 24, 2020

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?

<table>
<thead>
<tr>
<th>Primary reason</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1</td>
<td>Not yet evaluated</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Type of opportunity</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary water-related opportunity</td>
<td>Improved water efficiency in operations</td>
</tr>
<tr>
<td>Company-specific description &amp; strategy to realize opportunity</td>
<td>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.</td>
</tr>
<tr>
<td>Estimated timeframe for realization</td>
<td>1 to 3 years</td>
</tr>
<tr>
<td>Magnitude of potential financial impact</td>
<td>Medium</td>
</tr>
<tr>
<td>Are you able to provide a potential financial impact figure?</td>
<td>No, we do not have this figure</td>
</tr>
<tr>
<td>Potential financial impact figure (currency)</td>
<td></td>
</tr>
<tr>
<td>Potential financial impact figure – minimum (currency)</td>
<td></td>
</tr>
<tr>
<td>Potential financial impact figure – maximum (currency)</td>
<td></td>
</tr>
<tr>
<td>Explanation of financial impact</td>
<td></td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Content</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company-wide</td>
<td>Description of business dependency on water</td>
<td>Water Management program published in the Sustainability Report publicly available on the external website <a href="http://www.micron.com">www.micron.com</a></td>
</tr>
<tr>
<td></td>
<td>Description of water-related performance standards for direct operations</td>
<td>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></td>
</tr>
<tr>
<td></td>
<td>Company water targets and goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commitments beyond regulatory compliance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commitment to water-related innovation</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Position of individual</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board-level committee</td>
<td>Governance &amp; Sustainability Committee</td>
</tr>
</tbody>
</table>

W6.2b

(W6.2b) Provide further details on the board’s oversight of 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).

<table>
<thead>
<tr>
<th>Name of the position(s) and/or committee(s)</th>
<th>Responsibility</th>
<th>Frequency of reporting to the board on water-related issues</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability committee</td>
<td>Both assessing and managing water-related risks and opportunities</td>
<td>Annually</td>
<td>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,</td>
</tr>
</tbody>
</table>

#### Table 1: Frequency that Water-Related Issues are a Scheduled Agenda Item and Governance Mechanisms into Which Water-Related Issues are Integrated

<table>
<thead>
<tr>
<th>Row</th>
<th>Frequency</th>
<th>Governance Mechanisms</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scheduled - some meetings</td>
<td>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</td>
<td>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.</td>
</tr>
</tbody>
</table>
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?

<table>
<thead>
<tr>
<th>Provide incentives for management of water-related issues</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

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)?

<table>
<thead>
<tr>
<th>Role(s) entitled to incentive</th>
<th>Performance indicator</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary reward</td>
<td>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</td>
<td>Every Team Member is eligible for monetary and non-monetary recognition for their contribution towards sustainability and water-related activities.</td>
</tr>
<tr>
<td>Non-monetary reward</td>
<td>Reduction of water withdrawals Reduction in consumption volumes Improvements in efficiency - direct operations Improvements in waste water quality - direct operations</td>
<td>Every Team Member is eligible for monetary and non-monetary recognition for their contribution towards sustainability and water-related activities.</td>
</tr>
</tbody>
</table>
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?

<table>
<thead>
<tr>
<th>Long-term business objectives</th>
<th>Are water-related issues integrated?</th>
<th>Long-term time horizon (years)</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, water-related issues are integrated</td>
<td>5-10</td>
<td>Longest time horizons used for enterprise risk assessment when</td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Water-related CAPEX (+/- % change)</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipated forward trend for CAPEX (+/- % change)</td>
<td>105</td>
</tr>
<tr>
<td>Water-related OPEX (+/- % change)</td>
<td>8</td>
</tr>
<tr>
<td>Anticipated forward trend for OPEX (+/- % change)</td>
<td>12</td>
</tr>
</tbody>
</table>

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?

<table>
<thead>
<tr>
<th>Use of climate-related</th>
<th>Comment</th>
</tr>
</thead>
</table>
Micron Technology, Inc.

CDP Water Security Questionnaire 2020

Monday, August 24, 2020

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**Scenario Analysis**

<table>
<thead>
<tr>
<th>Row</th>
<th>Has your organization identified any water-related outcomes from your climate-related scenario analysis?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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?

<table>
<thead>
<tr>
<th>Climate-related scenarios and models applied</th>
<th>Description of possible water-related outcomes</th>
<th>Company response to possible water-related outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2DS</td>
<td>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.</td>
<td>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</td>
</tr>
</tbody>
</table>

**W7.4**

(W7.4) 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.

<table>
<thead>
<tr>
<th>Levels for targets and/or goals</th>
<th>Monitoring at corporate level</th>
<th>Approach to setting and monitoring targets and/or goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1 Company-wide targets and goals</td>
<td>Targets are monitored at the corporate level</td>
<td>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.</td>
</tr>
</tbody>
</table>

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. 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.

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.

<table>
<thead>
<tr>
<th>Job title</th>
<th>Corresponding job category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Row 1: Vice President, Compliance, Employment, Sustainability and Trade</td>
<td>Chief Sustainability Officer (CSO)</td>
</tr>
</tbody>
</table>