Marvell Technology Group, Ltd. - Water Security 2019



W0. Introduction

W0.1

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

Marvell is a fabless semiconductor provider of high-performance application-specific standard products. Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, processing, networking, security and connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial and consumer markets. The majority of our product portfolio leverages embedded central processing unit technology. We also develop platforms that we define as integrated hardware along with software that incorporates digital computing technologies designed and configured to provide an optimized computing solution. Our broad product portfolio includes devices for data storage, enterprise-class Ethernet data switching, Ethernet physical-laver transceivers ("PHY"), wireless connectivity. Internet-of-Things ("IoT") devices and multimedia solutions. We were incorporated in Bermuda in January 1995. Our fiscal year ends on the Saturday nearest January 31. For example, the fiscal year ended January 30, 2018 is referred to as fiscal 2018. As of January 30, 2018, we had approximately 5000 employees. Our revenue for FY2019 was \$2.3B USD. Note: This CDP Report contains forward-looking statements regarding Marvell's environmental policies, procedures and future actions related thereto within the meaning of the federal securities laws that involve risks and uncertainties. Words such as "anticipates," "expects," "intends," "plans," "projects," "believes," "seeks," "estimates," "can," "may," "will," "would" and similar expressions identify such forward-looking statements. These statements are not guarantees of results and should not be considered as an indication of future activity or future performance. Actual events or results may differ materially from those described in this CDP Report due to a number of risks and uncertainties, including, but not limited to: the ability of Marvell to implement its plans with respect to environmental matters in the time frame anticipated or at all; Marvell's reliance on independent foundries and subcontractors for the manufacture, assembly and testing of its products; the impacts and costs associated with changes in environmental regulations; and other risks detailed in Marvell's SEC filings from time to time. For other factors that could cause Marvell's results to vary from expectations, please see the risk factors identified in Marvell's Quarterly Report on Form 10-K for the fiscal year ended February 2, 2019 as filed with the SEC on March 28, 2019, and other factors detailed from time to time in Marvell's filings with the SEC. Marvell undertakes no obligation to revise or publicly update any forward-looking statements.

We are subject to laws and regulations worldwide, which may differ among jurisdictions, affecting our operations in areas including, but not limited to: intellectual property ownership and infringement; tax; import and export requirements; anti-corruption; foreign exchange controls and cash repatriation restrictions; data private requirements; competition; advertising; employment; product regulations; environment, health and safety requirements; and consumer laws. For example, government export regulations apply to the encryption or other features contained in some of our products. If we fail to continue to receive licenses or otherwise comply with these regulations, we may be unable to manufacture the affected products at foreign foundries or ship these products to certain customers, or we may incur penalties or fines. In addition, we are subject to various industry requirements restricting the presence of certain substances in electronic products. Although our management systems are designed to maintain compliance, we cannot assure you that we have been or will be at all times in compliance with such laws and regulations. If we violate or fail to comply with any of them, a range of consequences could result, including fines, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. The costs of complying with these laws (including the costs of any investigations, auditing and monitoring) could adversely affect our current or future business.

Our product or manufacturing standards could also be impacted by new or revised environmental rules and regulations or other social initiatives. For instance, the SEC requires disclosures relating to the sourcing of certain minerals from the Democratic Republic of Congo and adjoining countries. Those rules, or similar rules that may be adopted in other jurisdictions, could adversely affect our costs, the availability of minerals used in our products and our relationships with customers and suppliers.

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 2018	December 31 2018

W0.3

(W0.3) Select the countries/regions for which you will be supplying data. China India Israel Singapore

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
	Marvell has small satellite sales offices in various locations globally. These offices are typically rented cubes/desks in a small office space. They are infrequently used and collectively make up less than 5% of total square footage and employee headcount.

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.

		Please explain
Sufficient amounts of good quality freshwater available for use	Important	Good quality freshwater is important to Marvell's direct operations as it is mainly used for drinking water, food preparation in company cafeterias, and general restroom usage. We also use limited quantities of freshwater for closed-system chiller and process water applications. Indirect use of water for Marvell's fabrication process is vital as clean, purified water is required in our products to ensure that they are up to the highest specifications, as any contamination will damage circuits. Though the manufacturing process is low in terms of its use, fresh water is vital in the fabrication portion of manufacturing our products.
Sufficient amounts of recycled, brackish and/or produced water available for use		In direct operations, Marvell uses recycled water for landscaping purposes. We also use limited quantities of recycled water for closed-system chiller and process water applications. Indirect use of water through contract manufacturers is neutral as they may use recycled water for cooling purposes, but not in their manufacturing operations. Recycled water in indirect operations such as these is limited to cooling and landscaping purposes, as our products require clean water during the manufacturing process. In addition, the local water utility, Santa Clara Valley Water District, is investing in water recycling and purification technologies. Water from these sources are filtered to consumable standards at our Santa Clara campus.

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	100%	Water withdrawal total volumes are calculated based on Marvell facilities' water metering data and from our monthly water billing statements. These are estimated based on headcount where data is unavailable on an annual basis.
Water withdrawals – volumes from water stressed areas	100%	Water withdrawal total volumes from water stressed areas are calculated based on Marvell facilities' water metering data and from our monthly water billing statements. These are estimated based on headcount where data is unavailable on an annual basis.
Water withdrawals – volumes by source	26-50	Water withdrawal total volumes by source are calculated based on Marvell facilities' water metering data and from our monthly water billing statements. These are estimated based on headcount where data is unavailable on an annual basis. Marvell does not directly extract underground water in its operations. Instead, it relies on third-party suppliers for our water use. An example is the Santa Clara Valley Water District that supplies water to Marvell's Santa Clara campus.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sectors]	<not applicable=""></not>	<not applicable=""></not>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<not applicable=""></not>	<not applicable=""></not>
Water withdrawals quality	100%	Water withdrawal quality is calculated based on Marvell facilities' water metering data and from our monthly water billing statements. This is estimated based on headcount where data is unavailable on an annual basis.
Water discharges – total volumes	100%	Water discharges are assumed to be sent to third parties, and is calculated from monthly billing statements, and through annual estimates based on headcount.
Water discharges – volumes by destination	100%	Water discharge volumes by destination are assumed to be sent to third parties, and is calculated from monthly billing statements, and through annual estimates based on headcount.
Water discharges – volumes by treatment method	100%	Water discharge is handled and treated by third party suppliers. Marvell does not directly treat its own water. Water discharge volumes by treatment method are assumed to be sent to third parties, and is calculated from monthly billing statements, and through annual estimates based on headcount.
Water discharge quality – by standard effluent parameters	100%	Water discharge is handled and treated by third party suppliers. Marvell does not directly treat its own water. Water discharge quality by standard effluent parameters are assumed to be sent to third parties, and is calculated from monthly billing statements, and through annual estimates based on headcount.
Water discharge quality – temperature	100%	Marvell, as a fabless semiconductor company, does not produce its own products directly. Because of this, our facilities discharge water at the appropriate temperatures set by third-party suppliers.
Water consumption – total volume	100%	Water usage in our facilities is monitored with the use of water meters, monthly billing statements and through annual estimates based on headcount. Water consumption, however, has been very low is usually consumed mostly through evaporation or through landscaping. Water consumption is estimated on an annual basis based on total water withdrawal data provided through monthly billing statements.
Water recycled/reused	100%	Marvell facilities that use recycled water have their own attached meters, which are tracked and monitored on a monthly basis.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Marvell offices provide fully-functioning WASH services for workers, and is tracked internally through annual personnel and site reviews.

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?

		Comparison with previous reporting year	Please explain
Total withdrawals	163.32	About the same	Water withdrawal is about the same even with the acquisition of Cavium, as our facilities are still used as offices and the incremental headcount does not substantially increase our water use.
Total discharges	127.39	About the same	Water discharge is about the same even with the acquisition of Cavium, as our facilities are still used as offices and the incremental headcount does not substantially increase our water use.
Total consumption	35.93	About the same	Consumed water is about the same even with the acquisition of Cavium, as our facilities are still used as offices and the incremental headcount does not substantially increase our water use.

W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1			1 1 1 1	Marvell is planning to introduce a water-related risk assessment next year by utilizing the World Resources Institute's Water Risk Atlas and the World Wildlife Fund's Water Risk Filer tool that will apply to our direct operations.

W1.2h

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

	Relevance		Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not withdraw water from freshwater sources, as we source our water through third-party suppliers.
Brackish surface water/Seawater	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not withdraw water from brackish surface water or seawater sources, as we source our water through third-party suppliers.
Groundwater – renewable	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not withdraw water from renewable groundwater sources, as we source our water through third- party suppliers.
Groundwater – non-renewable	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not withdraw water from non-renewable groundwater sources, as we source our water through third-party suppliers.
Produced/Entrained water	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not use produced or entrained water that is generated in its facilities, as we source our water through third-party suppliers.
Third party sources	Relevant	163.32	About the same	Our water is supplied by third-party sources. For example, the Santa Clara Valley Water District, which is the municipal supplier of water for Santa Clara, provides water to Marvell's Santa Clara campus.

W1.2i

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

	Relevance		Comparison with previous reporting year	Please explain
Fresh surface water	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not discharge directly to fresh surface water areas, as our water discharges are sent to third-party suppliers.
Brackish surface water/seawater	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not discharge directly to brackish water or seawater areas, as our water discharges are sent to third-party suppliers.
Groundwater	Not relevant	<not applicable=""></not>	<not applicable=""></not>	Marvell does not discharge directly to groundwater areas, as our water discharges are sent to third-party suppliers.
Third-party destinations	Relevant	127.39	About the same	Our water is discharged to third-party destinations. For instance, the Santa Clara Valley Water District is the third-party destination for Marvell's Santa Clara campus.

W1.2j

(W1.2j) What proportion of your total water use do you recycle or reuse?

		Comparison with previous reporting year	Please explain
Row 1	26-50	About the same	Use of recycled water remains about the same as applicable facilities use recycled water for landscaping and other limited uses. The use of recycled water impacts Marvell directly as this allows the company to rely less on freshwater withdrawals.

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?

As water use is tightly controlled in the Santa Clara Valley area, we make sure that we play our part. One key partner in our efforts to control water use is the Santa Clara Valley Water Department. We contacted them to help us find solutions to our water use problem and they provided us with free low-flow water attachments for our facility in the area. As the Santa Clara Valley Water department has a vital role in the water policy and engagements with the communities, there is always a need to collaborate with them to mitigate excess water use. Marvell also worked with the Santa Clara Valley water department to install a recycled water irrigation system for our campus grounds irrigation, thereby relying less on fresh water for irrigation purposes.

We also engage with our employees, the primary users of water in our facilities, in ensuring proper water use. Water use in toilets and faucets are monitored using meters.

W2. Business impacts

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? No, water risks-related are not assessed

W3.3e

(W3.3e) Why does your organization not undertake a water-related risk assessment?

	Primary reason	Please explain
Ro	w We are planning to introduce a risk assessment	Marvell is planning to introduce a water-related risk assessment next year by utilizing the World Resources Institute's Water Risk Atlas and the World
1	process within the next two years	Wildlife Fund's Water Risk Filer tool that will apply to our direct 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? No

W4.1a

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

Marvell is not disclosing this information at this point in time.

W4.2b

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

	Primary reason	Please explain
Row	Risks exist, but no	Marvell's business continuity strategy minimizes supply chain business interruption in case of a disaster. The BCP is one of the key processes we use to assess the effects of potential
1	substantive impact	risks on the delivery of finished products from contract manufacturers to Marvell and our customers. The BCP supports the Operations area to address unforeseen natural and manmade
	anticipated	disasters including those caused by climate change.

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
1	substantive impact	Marvell's business continuity strategy minimizes supply chain business interruption in case of a disaster. The BCP is one of the key processes we use to assess the effects of potential risks on the delivery of finished products from contract manufacturers to Marvell and our customers. The BCP supports the Operations area to address unforeseen natural and manmade disasters including those caused by climate change.

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? No

W4.3b

(W4.3b) Why does your organization not consider itself to have water-related opportunities?

Primary Please explain		Please explain
	reason	
Row	Evaluation in	Marvell is evaluating substantive water-related opportunities. It is important to Marvell to have an adequate supply of clean water for employee use (drinking, washing, etc.). The water-related
1	progress	risks affect our supply chain partners who use water for manufacturing.

W6. Governance

W6.1

(W6.1) Does your organization have a water policy? No

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization? No

W6.2c

(W6.2c) Why is there no board-level oversight of water-related issues and what are your plans to change this in the future?

	Primary reason	Board level oversight of water-related issues will be introduced in the next two years	
1	Marvell does not rely on water use as a major component of our direct business operations.		Marvell, as a fabless semiconductor company, does not produce its own products directly. Water-risks affect our supply chain partners who use water for manufacturing. The Vice President of Operations Engineering & Quality oversees the execution of the Business Continuity Process, including analysis of current and potential disasters. If a disaster were to occur, as necessary, he would report the key water-related incidents, mitigation, and actions taken, to the COO, CEO and/or the Board of Directors.

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)

Other, please specify (Vice President of Operations Engineering & Quality)

Responsibility

Other, please specify (Analysis of current and potential disasters)

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The Vice President of Operations Engineering & Quality oversees the execution of the Business Continuity Process, including analysis of current and potential disasters. If a disaster was to occur, as necessary, he would report the key water-related incidents, mitigation, and actions taken, to the COO, CEO and/ or the Board of Directors.

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, other

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?

By joining the Responsible Business Alliance (RBA), a dynamic industry association consisting of over 140 leading companies, Marvell commits to work with its suppliers to improve the front lines of the manufacturing process – the lives, rights and working environment of the people building electronic products we can't imagine our lives without.

Through our membership with the RBA, we believe we can promote higher environmental, social and governance standards across the industry in partnership with our customers and peers and align our approach with industry-wide best practices.

RBA members support the RBA Code of Conduct (RBA Code) that establishes standards for labor, health & safety, environmental practices, and ethics and management systems. Marvell is committed to adopting and implementing the RBA Code, internally at Marvell and externally with our supply chain partners. With a goal to create a responsible supply chain, Marvell aims to work alongside our supply chain to ensure our partners are aligned and in compliance with the RBA Code.

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report? No, and we have no plans to do so

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	No, water-related issues were not reviewed and there are no plans to do so $% \left({{{\rm{D}}_{\rm{s}}}} \right)$	<not applicable=""></not>	No, water-related issues were not reviewed and there are no plans to do so.
Strategy for achieving long-term objectives	No, water-related issues were not reviewed and there are no plans to do so $% \left({{{\mathbf{N}}_{0}}} \right)$	<not applicable=""></not>	No, water-related issues were not reviewed and there are no plans to do so.
Financial planning	No, water-related issues were not reviewed and there are no plans to do so	<not applicable=""></not>	No, water-related issues were not reviewed and there are no plans to do so.

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)

0

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

0

Water-related OPEX (+/- % change)

0

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

0

Please explain

Due to reasons of propriety and confidential nature, 0 has been reported for all categories for disclosure.

W7.3

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

	Use of climate-related scenario analysis	Comment
Row 1	No plans for the next two years	No plans for the next two years

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

Marvell, as a fabless semiconductor company, does not produce its own products directly, and does not anticipate setting an internal price on water. Our office water use has remained relatively the same due to local, state, and federal regulations currently enforced.

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	Site/facility specific targets and/or goals		Most of our water use comes from our faucets, flushing toilets, and landscaping. Water monitoring and limiting devices have been installed in these areas to limit water use.

W9. Linkages and trade-offs

W9.1

(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?

Yes

W9.1a

(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.

Linkage or tradeoff Linkage

Type of linkage/tradeoff

Decreased wastewater treatment

Description of linkage/tradeoff

The installation of meters and low-flow water attachments in our Santa Clara campus, as well as our campaign to employees to minimize the use of water in the workplace, allows Marvell to decrease water consumption. With the decrease of consumption, less wastewater is then sent to the Santa Clara Valley Water District for processing. We quantify the effects of decreased consumption through our water bills, which gives the monthly water consumption of our company. Any monthly decrease in our water bills translate to lower consumption by our facilities, leading to a decrease of wastewater being produced and a positive impact for the company and the environment.

Policy or action

We continue to increase positive impact by looking for ways to decrease water consumption in our facilities. We have previously identified facilities that would not be needed for full operations, and isolated their water links so that there would not be unnecessary water consumption and needed treatment coming from these facilities.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)? No, but we are actively considering verifying within the next two years

W11. 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.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Senior VP of Quality and Engineering	Other, please specify (Senior VP of Quality and Engineering)

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)]. No

SW. Supply chain module

SW0.1

(SW0.1) What is your organization's annual revenue for the reporting period?

	Annual revenue
Row 1	

SW0.2

(SW0.2) Do you have an ISIN for your organization that you are willing to share with CDP? Please select

SW1.1

(SW1.1) Have you identified if any of your facilities reported in W5.1 could have an impact on a requesting CDP supply chain member? Please select

SW1.2

(SW1.2) Are you able to provide geolocation data for your site facilities? Please select

SW2.1

(SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

SW2.2

(SW2.2) Have any water projects been implemented due to CDP supply chain member engagement? Please select

SW3.1

(SW3.1) Provide any available water intensity values for your organization's products or services across its operations.

Submit your response

In which language are you submitting your response? English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Investors	Yes, submit Supply Chain Questions now
		Customers	

Please confirm below

I have read and accept the applicable Terms