

W0. Introduction

W0.1

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

Applied Materials, Inc. (Nasdaq: AMAT) provides manufacturing equipment, services and software to the semiconductor, display and related industries. Founded in 1967, Applied Materials is the leader in materials engineering solutions used to produce virtually every new chip and advanced display in the world. Our expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality. From our commitment to the well-being of our employees and their communities, to our sustainable and ethical business practices, we are focused on our goal to Make Possible a Better Future.

Applied Materials is committed to growing profitably and sustaining our business in an environmentally and socially responsible manner. We use our resources and technology leadership to enable the creation of products that improve the way people live. As of the end of fiscal year 2022, Applied Materials employed approximately 33,000 regular full-time employees and owned a total of approximately 8,152,000 square feet of space and leased another 4,267,000 square feet of space for offices, plants and warehouses, and research and development centers.

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	November 1 2021	October 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

- Canada
- China
- Finland
- France
- Germany
- Greece
- India
- Ireland
- Israel
- Italy
- Japan
- Malaysia
- Netherlands
- Philippines
- Republic of Korea
- Singapore
- Taiwan, China
- United Kingdom of Great Britain and Northern Ireland
- 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?

No

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, a Ticker symbol	AMAT

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	Important	Vital	<p>Direct use: good quality freshwater is essential to our operations and is used in our manufacturing processes (i.e., equipment production) as well as for general building services (utilities, domestic water, landscaping, etc.). High-quality water is used during our manufacturing processes to rinse equipment. A lack of good quality freshwater can have an appreciable impact on our direct operations; however, Applied's own operations are not water intensive, thus yielding a rating of "Important" for this category.</p> <p>Indirect use: Applied has an intricate value chain. Strategic suppliers are involved in producing specialized electronic parts, which rely on good quality freshwater. Water is vital for our customers due to their use of ultrapure water to make semiconductor chips and other products. Significant water shortages could force customers to purchase equipment that use less water or limit production, which is why we have selected a "Vital" rating and are working collaboratively with customers to reduce water use through improvements in product design and efficiency.</p> <p>Future water dependency in both direct and indirect operations will continue to increase due to continued strong demand for semiconductor products that power the technology sector; however, the industry is working to identify measures to decouple our growth from water demand through product and operational innovation.</p>
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Neutral	<p>Direct use: Applied currently uses a limited quantity of recycled, brackish, and produced water in our operations. Where possible, Applied Materials is implementing water recycling alternatives, especially around cooling tower operations and landscaping water usage. Presently, this does not represent a large percentage of our overall water use. Opportunities to increase use of recycled/brackish water and water recycling are continually under consideration in our operations; therefore, we have given this a rating of "Neutral" but anticipate that this could change going forward. We expect the use of recycled/ brackish/ produced water will increase in the future, primarily due to the expansion of our operations globally to meet increasing business demand and geopolitical priorities.</p> <p>Indirect use: Like us, our suppliers are using limited quantities of recycled, brackish and/or produced water in their operations. We have given them a ranking of "Neutral" in alignment with our own water usage understanding and based on the responses that they provide to the annual RBA environmental survey. Similarly, our key customers are actively looking for ways increase water recycling and reclamation at their fabs, however current product processes are still heavily dependent on freshwater, thus reinforcing the "Neutral" rating at this time. We anticipate use of recycled/ brackish/ produced water will increase over the next decade as suppliers and customers increasingly invest in solutions that reduce their reliance on freshwater.</p>

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Monthly	Utility billing or flow meter that is uploaded to our third-party environmental data management software; estimates are calculated when primary data is not available	Applied Materials tracks the total water withdrawals at all owned facilities and large leased facilities through invoices received from the city, municipality or utility provider. The volume of water withdrawal is then documented monthly, as data is available, using our third-party environmental data management software following the receipt of invoices. Data is consolidated and reviewed at a corporate level twice per year at minimum to check for data accuracy and consistency. Water withdrawals at small leased offices and facilities are estimated annually when invoices are not available, based on building type and size. Estimated sites represent 18% of our footprint by square footage and 8% of water usage.
Water withdrawals – volumes by source	100%	Monthly	Utility billing or flow meter that is uploaded to our third-party environmental data management software; estimates are calculated when primary data is not available	Applied Materials tracks water volumes by source at all owned and large leased facilities through invoices received from the utility provider, city or municipality providing the water services. We track groundwater, municipal, fire service, and irrigation water when the data is available. Data is entered into our third-party environmental data management software monthly, following the receipt of invoices. Data is consolidated and reviewed at a corporate level twice per year at minimum to check for data accuracy and consistency.

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	76-99	Continuously	Water withdrawals quality is monitored at the site level using automatic water samplers and lab testing.	Applied Materials obtains its water from local, municipal-supplied facilities within the cities, counties, states, or countries where we operate. In the US, municipal water meets all standards under National Primary Drinking Water Regulations. In other locations, we comply with local drinking water standards and regulations to ensure water is safe and perform periodic testing per local regulatory requirements. In addition, for application-specific water uses, we ensure the quality of water through monitoring of the water quality using instrumentation and our building automation systems and periodic testing and lab analysis to meet our process needs, such as creating de-ionized (DI), process cooling water, filtered industrial water. This only occurs in relevant facilities, such as lab and manufacturing sites.
Water discharges – total volumes	100%	Monthly	Utility billing or flow meter that is uploaded to our third-party environmental data management software; estimates are calculated when primary data is not available	Applied Materials uses water supplied by municipalities. Following its use, water that cannot be recycled / reused for other purposes (used in chillers, landscaping, etc.) is discharged to the publicly owned treatment facilities for appropriate wastewater processing. For locations with available data (primarily major manufacturing, lab and large office sites), it is entered into our third-party environmental data management software monthly, following the receipt of invoices. Data is consolidated and reviewed at a corporate level twice per year at minimum to check for data accuracy and consistency. For all other locations, including smaller sites and office leased buildings, we estimate water discharge volumes for all locations that use water based on building type and size. We are actively working on improving the quality and quantity of water discharge data.
Water discharges – volumes by destination	76-99	Quarterly	POTW (Publicly owned treatment works) Invoices or flow meter and NPDES report depending on site and permit requirements.	Applied Materials discharges to publicly owned treatment works for appropriate wastewater processing. For locations with available data (primarily major manufacturing, lab and large office sites), it is entered into our third-party environmental data management software monthly, following the receipt of invoices. Data is consolidated and reviewed at a corporate level twice per year at minimum to check for data accuracy and consistency. We are actively working on improving the quality and quantity of water discharge data. For US sites, our NPDES permit requires quarterly monitoring.
Water discharges – volumes by treatment method	100%	Daily	POTW (Publicly owned treatment works) invoices or flow meter if required in water discharge permit requirements.	For sites that require wastewater pre-treatment, 100% of wastewater is measured and monitored daily by a Digital Chart Recorder and FMS system. We are working on incorporating this data into our third-party environmental data management software, which will require quarterly input of monthly wastewater invoices. For all other wastewater, Applied Materials discharges to publicly owned treatment works for appropriate wastewater processing.
Water discharge quality – by standard effluent parameters	100%	Daily	Instrumentation, data logging and monitoring systems, periodic sampling and lab analysis, visual inspection of monitoring equipment and calibration during PMs.	Applied Materials discharges to the publicly owned treatment works for appropriate wastewater processing. 100% of process wastewater complies with the local discharge permits. Where applicable, facilities monitor the quality of all wastewater continuously (daily) through a digital chart recorder and FMS systems to ensure that permitted parameters are effectively met. Every 6 months the discharge pH trend data and effluent sensor calibration records are audited by the regulatory agency. Any out-of-spec effluent parameters result in the diversion of wastewater to a holding tank by the FMS system for further treatment resulting in no discharge of out-of-spec wastewater to the sanitary drain. Local agencies sample our wastewater quarterly to validate our compliance to the discharge permits.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	Not relevant	<Not Applicable>	<Not Applicable>	Emissions to water is not considered material to the company at this time, and therefore it is not measured or monitored on a regular basis. We do not anticipate it becoming relevant in the future but will review periodically to ensure this is the case.
Water discharge quality – temperature	Not relevant	<Not Applicable>	<Not Applicable>	The temperature of discharged wastewater is not considered material to the company at this time, and therefore it is not measured or monitored on a regular basis. We do not anticipate it becoming relevant in the future but will review periodically to ensure this is the case.
Water consumption – total volume	100%	Monthly	Using water withdrawal (excluding irrigation water) and water discharge, we subtract the two data points for each facility to calculate total water consumption.	Applied Materials tracks total water consumption at all facilities that have access to both water discharge and withdrawal data through invoices received by the utility provider. Smaller sites have very low consumptions because discharges are equal to withdrawals. Water consumption is estimated in all other sites that lack this data, including leased offices and facilities, based on building type and size. We are actively working on improving the quality and quantity of water consumption data via improved data management of wastewater discharge data. Data is consolidated and reviewed at a corporate level twice per year at minimum to check for data accuracy and consistency.
Water recycled/reused	76-99	Monthly	Utility billing or flow meter that is uploaded to our third-party environmental data management software; estimates are calculated when primary data is not available	Applied Materials implements or considers water reuse, as feasible. Water is reused or recycled in our largest manufacturing facility for use in the chiller systems for building temperature management. Several facilities collect and use rainwater for use in landscaping or non-production needs. Alternative uses for water are considered at our operations, wherever feasible. When water is recycled and/or reused, data is entered into our third-party environmental data management software monthly, following the receipt of invoices.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Quarterly	Water quality sampling and testing where required by local regulatory requirements or health departments.	The accessibility of clean water for all employees is viewed as a fundamental right by Applied Materials. All owned and leased facilities do and are required to have suitable wash services (i.e., bathrooms, sinks) available for use by employees. Our facilities teams are responsible for ensuring consistent access to WASH services to all workers. As water discharge is tracked at each location, there is not a standardized frequency of measurement across the company. We install water filters in common areas and kitchens to improve quality of potable water.

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

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	2359	Higher	Increase/decrease in business activity	Higher	Increase/decrease in business activity	The increase is a result of increased business activity and expansion of our operational footprint. Although our overall water withdrawals increased, our water intensity by revenue and by headcount has steadily decreased year over year.
Total discharges	1916	Higher	Increase/decrease in business activity	Higher	Increase/decrease in business activity	The increase is a result of increased business activity and expansion of our operational footprint. Although our overall water withdrawals increased, our water intensity by revenue and by headcount has steadily decreased year over year.
Total consumption	443	Higher	Increase/decrease in business activity	Higher	Increase/decrease in business activity	The increase is a result of increased business activity and expansion of our operational footprint. Although our overall water withdrawals increased, our water intensity by revenue and by headcount has steadily decreased year over year.

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	11-25	About the same	Increase/decrease in business activity	Higher	Increase/decrease in business activity	WRI Aqueduct	Our withdrawal from water stressed areas slightly increased from 12.0% in FY2021 to 12.83% in FY2022. Sites that are located in water stressed areas implemented a number of water efficiency projects that are further detailed in Section 4 but an increase in business activity, particularly China, caused an increase in water withdrawal. Overall, Applied Materials operations are not water-intensive. We require water for routine use in office buildings, cooling equipment, labs, etc. However, most operations are not water demanding. Applied Materials takes measures to reduce, reuse and recycle water whenever possible, in all facets of the business. The WRI Aqueduct tool is used on an annual basis to assess and determine water-stressed regions and the potential impact on our operations based on water stress severity. Water-stressed regions are documented and opportunities for water management are discussed at the site level.

W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Our operations require high purity water and the source is important for its use. Almost all Applied facilities rely on third-party municipal sources of water, and we do not withdraw fresh surface water directly from source.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Our operations require high purity water and the source is important for its use. Almost all Applied facilities rely on third-party municipal sources of water and we do not withdraw brackish surface water directly from source.
Groundwater – renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	The extraction of groundwater for use is very limited. Currently, we only rely on non-renewable groundwater (see below).
Groundwater – non-renewable	Relevant	138	Higher	Increase/decrease in business activity	The increase is a result of increased business activity and expansion of our operational footprint. Although our overall water withdrawals increased, our water intensity by revenue and by headcount has steadily decreased year over year.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Source not used.
Third party sources	Relevant	2221	Higher	Increase/decrease in business activity	Water is obtained from the applicable local municipality-supplied water resources. The increase is a result of increased business activity and expansion of our operational footprint. Although our overall water withdrawals increased, our water intensity by revenue and by headcount has steadily decreased year over year.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	80	Higher	Increase/decrease in business activity	Our use of irrigation water increased which increased our discharge to surface water.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Source not used.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	Source not used.
Third-party destinations	Relevant	1916	Higher	Increase/decrease in business activity	All of the water used at Applied Materials locations is discharged to the local municipality managed wastewater treatment system. For sites that do not have access to discharge data or invoices, we estimate discharges based on the building type and size. The increase is a result of increased business activity and expansion of our operational footprint.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant	1264	Higher	Increase/decrease in business activity	1-10	We have 6 locations that have on-site wastewater treatment to remove solids, neutralize and/or support quality adjustments. The volume of water stated assumes 100% of water discharge at these 6 locations goes through tertiary treatment. We comply with all applicable regulatory standards, including national, state, and local requirements.
Secondary treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not discharge water by this method.
Primary treatment only	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not discharge water by this method.
Discharge to the natural environment without treatment	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not discharge water by this method.
Discharge to a third party without treatment	Relevant	651	Higher	Increase/decrease in business activity	91-99	A vast majority of our sites discharge water without treatment to the local municipality managed wastewater treatment system. All water discharge is compliant to the POTW standards and we comply with all applicable regulatory standards, including national, state, and local requirements.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not discharge water by this method.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	25785000	2359	10930479.0165324	Decrease – Applied is in the process of setting a water efficiency goal and engaging with its Facilities teams on identifying and implementing water efficiency measures.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	Yes	<Not Applicable>

W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Candidate List of Substances of Very High Concern for Authorisation above 0.1% by weight (EU Regulation)	Don't know	Concerns of hazardous substances in products relate chiefly to environmental impacts at end of life (and in EU are regulated by the WEEE and RoHS directives). The manufacturing equipment we sell, including related spare parts, are exempt from these directives pursuant to the large-scale stationary industrial tools exemption. Hazardous substances embedded in our products (i.e., that are in our products) do not present human health risks when the products are used as intended. We are currently assessing our product portfolio in context of hazardous substances defined by international regulatory bodies. Due to the complex nature of our products and the number of parts, this is an ongoing project. We are participating in several technical working groups to address this.

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes	<Not Applicable>	<Not Applicable>
Other value chain partners (e.g., customers)	Yes	<Not Applicable>	<Not Applicable>

W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact

Yes, we assess the impact of our suppliers

Considered in assessment

Basin status (e.g., water stress or access to WASH services)
Procurement spend

Number of suppliers identified as having a substantive impact

94

% of total suppliers identified as having a substantive impact

1-25

Please explain

Applied Materials uses the RBA's RMI Global Risk Map to assess suppliers who in total represent approximately 80% of Applied Materials' procurement spend. The assessment results in a risk score that considers a variety of categories, including water-related risk. When looking at the four water- and wastewater-related risk scores in isolation, 94 suppliers are identified as having a substantive impact, which is less than 2% of total suppliers. The threshold used to identify substantive impact is any score less than 2.5, which is the highest risk band used by RMI Global Risk Map.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization's purchasing process?

	Suppliers have to meet specific water-related requirements	Comment
Row 1	No, but we plan to introduce water-related requirements within the next two years	

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement

Information collection

Details of engagement

Collect water management information at least annually from suppliers

Collect information on water-related risks at least annually from suppliers

Collect water quantity information at least annually from suppliers (e.g., withdrawal and discharge volumes)

Collect water quality information at least annually from suppliers (e.g., discharge quality, pollution incidents, hazardous substances)

Collect WASH information at least annually from suppliers

% of suppliers by number

1-25

% of suppliers with a substantive impact

None

Rationale for your engagement

Suppliers are engaged through the RBA environmental survey and the RBA Facility Self-Assessment Questionnaire (SAQ). 350 of our suppliers have accounts in RBA online, which makes up approximately 80% of procurement spend. RBA is an ideal platform for this engagement because, although we do not directly require suppliers to complete the water-related questions, suppliers are required to complete an SAQ before we audit their site. Therefore, the number of suppliers that answer these questions continues to grow as we grow our audit scope.

Impact of the engagement and measures of success

Of the 350 suppliers in RBA online, 43% responded to water-related questions in 2022. This data is most impactful in preparation for the supplier audit – the auditor on site can use the survey to address any water management concerns. If there is a finding of non-conformance related to water-management, this is included in the corrective action plan. We consider this to be a measure of success – identifying and correcting water management risks on site through the audit process.

Comment

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Customers

Type of engagement

Innovation & collaboration

Details of engagement

Collaborate with stakeholders on innovations to reduce water impacts in products and services

Rationale for your engagement

Only a few select types of Applied Materials tools require ultrapure water in production processes. Most of our tools only require cooling water, which runs in a closed-loop process and is negligible in terms of water consumption. Because of this our focus on water has come through the lens of energy efficiency, for example, looking at hardware and software processes that reduce water flow and thus the required energy to pump the water. We are working with our largest customers, who collectively represent over 70% of our scope 3 category 11 emissions, to share these types of solutions as a part of our Design for Sustainability program, which is part of our strategy to optimize our equipment and to drive energy and water reductions with customers where we can make the greatest impact. Applied Materials is also starting to gather water consumption indicators across its tools as a part of our 3x30 product efficiency modelling initiative in order to identify efficiency opportunities for specific tools so we can engage with customers on options for reducing water in the future.

Impact of the engagement and measures of success

Engagement success is measured through the total number of projects where efficiency measures are implemented across our tools and the total reductions associated with such projects.

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?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	Water pollutants are identified and classified through environmental impact assessments and environmental aspect assessments we make in alignment with our public EHS policy, ISO 14001, ISO 45001, OSHA's Voluntary Protection Program, and various EHS risk assessment and compliance programs we have in place. We regularly review chemicals used, maintain compliance to industrial wastewater permits, and where applicable, implement stormwater management plans and SPCC (spill protection and control, etc.), which are all driven by local regulatory control.	<Not Applicable>

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Inorganic pollutants

Description of water pollutant and potential impacts

Inorganic pollutants that Applied Materials' uses and manages include heavy metals such as copper and acids (i.e., hydrofluoric acid, nitric acid, sulfuric acid, hydrochloric acid). Inorganic pollutants can be nonbiodegradable, persist in the environment, and can have a disruptive effect on public health and ecosystem health.

Copper is listed in the EPA Drinking Water Contaminant List and hydrochloric acid is listed in the Consolidated List of Lists under EPCRA/CERCLA/CAA.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

- Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
- Beyond compliance with regulatory requirements
- Industrial and chemical accidents prevention, preparedness, and response
- Water recycling
- Reduction or phase out of hazardous substances
- Requirement for suppliers to comply with regulatory requirements
- Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
- Upgrading of process equipment/methods

Please explain

We evaluate the environmental aspects and impacts of water pollutants in alignment with ISO 14001 and various EHS risk assessment and compliance programs. Throughout our facilities, we have various levels of protection from organizational to physical and chemical controls. We deploy a hierarchy of control which prioritizes replacement and minimization of hazardous substances, then implementing engineering controls, then lastly, implementing procedural and/or administrative controls such as SWPPP, SPCC, solvent management plans, NDPEs, etc. We also use monitoring wells to determine groundwater quality. We have self-tested, voluntary wells and some that are tested by local regulators. In all sites with industrial wastewater treatment, we ensure discharges are in alignment with local permit requirements, including engineering controls, instrumentation and monitoring, and sampling/reporting to regulatory agencies. We self-monitor and/or the POTW tests water quality and validate that we meet permit limits. All manufacturing locations have registered ISO 14001:2015 and ISO 45001:2018 certifications or are on track to receive certification.,

For inorganic pollutants in particular, we have treatment systems or tank-and-haul system to a disposal facility for heavy metals and deploy pH neutralization for relevant acids.

Water pollutant category

Oil

Description of water pollutant and potential impacts

Oils that Applied Materials' uses and manages include diesel, gasoline, hydraulic oil and other commonly used industrial oils. Oil pollution can damage ecosystems and contaminate water for drinking and other purposes. Stormwater management is particularly important for oils that exist on impervious surfaces and can reach local ecosystems in bad weather.

Gasoline is listed in the EPA Superfund Chemicals List and IARC Group 2B (possibly carcinogenic to humans) list.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

- Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
- Beyond compliance with regulatory requirements
- Industrial and chemical accidents prevention, preparedness, and response
- Water recycling
- Reduction or phase out of hazardous substances
- Requirement for suppliers to comply with regulatory requirements
- Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
- Upgrading of process equipment/methods

Please explain

We evaluate the environmental aspects and impacts of water pollutants in alignment with ISO 14001 and various EHS risk assessment and compliance programs.

Throughout our facilities, we have various levels of protection from organizational to physical and chemical controls. We deploy a hierarchy of control which prioritizes replacement and minimization of hazardous substances, then implementing engineering controls, then lastly, implementing procedural and/or administrative controls such as SWPPP, SPCC, solvent management plans, NDPEs, etc. We also use monitoring wells to determine groundwater quality. We have self-tested, voluntary wells and some that are tested by local regulators. In all sites with industrial wastewater treatment, we ensure discharges are in alignment with local permit requirements, including engineering controls, instrumentation and monitoring, and sampling/reporting to regulatory agencies. We self-monitor and/or the POTW tests water quality and validate that we meet permit limits. All manufacturing locations have registered ISO 14001:2015 and ISO 45001:2018 certifications or are on track to receive certification.

Water pollutant category

Other synthetic organic compounds

Description of water pollutant and potential impacts

Synthetic organic compounds that Applied Materials' uses and manages include solvents and VOCs such as toluene, isopropyl alcohol and methanol. Synthetic organic compounds can persist in the environment and can have a disruptive effect on public health and ecosystem health.

Toluene is listed in the EPA Drinking Water Contaminant List and methanol is listed in the Consolidated List of Lists under EPCRA/CERCLA/CAA.

Value chain stage

Direct operations

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience

Beyond compliance with regulatory requirements

Industrial and chemical accidents prevention, preparedness, and response

Water recycling

Reduction or phase out of hazardous substances

Requirement for suppliers to comply with regulatory requirements

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

Upgrading of process equipment/methods

Please explain

We evaluate the environmental aspects and impacts of water pollutants in alignment with ISO 14001 and various EHS risk assessment and compliance programs.

Throughout our facilities, we have various levels of protection from organizational to physical and chemical controls. We deploy a hierarchy of control which prioritizes replacement and minimization of hazardous substances, then implementing engineering controls, then lastly, implementing procedural and/or administrative controls such as SWPPP, SPCC, solvent management plans, NDPEs, etc. We also use monitoring wells to determine groundwater quality. We have self-tested, voluntary wells and some that are tested by local regulators. In all sites with industrial wastewater treatment, we ensure discharges are in alignment with local permit requirements, including engineering controls, instrumentation and monitoring, and sampling/reporting to regulatory agencies. We self-monitor and/or the POTW tests water quality and validate that we meet permit limits. All manufacturing locations have registered ISO 14001:2015 and ISO 45001:2018 certifications or are on track to receive certification.

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.

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Tools and methods used

WRI Aqueduct

Other, please specify (Datamaran; External consultants)

Contextual issues considered

Water availability at a basin/catchment level

Water quality at a basin/catchment level

Impact on human health

Water regulatory frameworks

Status of ecosystems and habitats

Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Customers

Employees

Investors

Local communities

Regulators

Suppliers

Comment

Applied Materials conducted its own annual analysis using the WRI Aqueduct tool to identify facilities located in High- and Extremely High-water risk regions across its global operations and tracks associated water use across these facilities. In addition, an assessment of water stress-related risks was included in the physical climate risk assessment conducted for Applied Materials in 2020/2021 by Trucost, which identified top facilities that—due to their location-- are expected to be subject to relatively higher associated risks between 2020-2050. In 2021 Applied Materials also began using the Datamaran platform to identify and evaluate ESG risks (including climate and water-related issues) in term of significance to the relevant stakeholders listed above.

Value chain stage

Supply chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market

Tools and methods used

RBA Country Risk Assessment Tool

Contextual issues considered

Water availability at a basin/catchment level

Water quality at a basin/catchment level

Stakeholder conflicts concerning water resources at a basin/catchment level

Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Employees

Local communities

Suppliers

Comment

Applied Materials uses the RBA's RMI Global Risk Map to review the risk scores of our suppliers. The risk score considers a variety of categories, including water-related risk. These scores are primarily used to determine which sites to audit - Applied Materials audits all sites with a medium-risk and high-risk score. Suppliers are familiar with the risk categories that are incorporated in the score because these topics are also included in the RBA Self-Assessment Questionnaire, which suppliers are required to complete before an audit. Approximately 80% of Applied Materials procurement spend is accounted for in these RBA tools.

W3.3b

(W3.3b) 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.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	<p>To help better understand current and future water risks, Applied Materials’ water risk assessment includes the use of the WRI Aqueduct Tool to assess which facilities are located in High- and Very High-water risk regions across its global operations and track the sites’ associated use of water on an annual basis. To further enhance our analysis, in 2020/2021 we engaged Trucost to conduct a quantitative and qualitative assessment of our assets’ physical climate-related risk exposure to climate hazards (which includes water stress) under high, moderate, and low climate change scenarios. We performed a facility-level risk assessment that considered facility location, relative water stress levels in that region, and evaluated the risks through 2050.</p> <p>In addition, starting in 2021 Applied Materials is using the Datamaran platform to systematically evaluate and prioritize ESG-related topics (including climate and water-related risks and issues) in terms of significance to its key stakeholders such as customers, investors, suppliers, and regulators. The results were informed through Applied Materials internal stakeholder input along with Datamaran’s aggregated research and benchmarking of external stakeholder sources (reports, regulations, media, etc.).</p>	<p>Although Applied Materials is not an intensive user of water, access to sufficient water quantity that is of good water quality is critical to our manufacturing and R&D operations, as well as general facilities services, and thus included in our assessment. Applied Materials continuously monitors all relevant regulatory frameworks across its operations to ensure our business meets or exceeds applicable and relevant regulatory requirements.</p>	<p>The stakeholders selected are consistent with our overall ESG materiality assessment process. We operate in an interdependent value chain that is reliant on water to deliver our technologies. Thus, the priorities/significance of water-related issues is considered for both our customers and key suppliers. Investors have articulated their interests in Applied Materials’ management of water-related issues and hold the business accountable to demonstrating progress and performance on ESG matters broadly. Conducting outreach with regulators and monitoring relevant regulations are critical to ensuring our company’s compliance and ability to anticipate any shifts in local and regional regulations that may impact our access and use of water across our facilities.</p>	<p>Facilities groups are responsible for water use management at specific Applied Materials sites, with oversight from the company’s EHS organization. Our Managing Director of EHS is responsible for ensuring that water-related risks and minimization opportunities are assessed as appropriate. Our facilities group is responsible for capital approval process that funds water-efficiency upgrades.</p> <p>Our Real Estate group assesses water stress risk using the WRI Aqueduct Tool for all new leased, purchased, or constructed buildings. For large-scale construction, such as our newest R&D center in California, we are taking longer term water risk into consideration in our water projections, sizing systems appropriately based on that, and emphasizing water recycling/reuse as much as possible, including setting water-specific KPIs.</p> <p>Water reduction is covered under our EHS policy and ISO 14001 EHSMS, which call for our business operations to identify opportunities, make continual improvements on environmental preservation and natural resource conservation and meet or exceed applicable and relevant regulatory requirements. Limited portions of our operations use water in any significant amount; however, we continue to work with our applications labs that maintain and operate equipment for R&D purposes on opportunities to reduce our water consumption.</p>

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?

Applied Materials defines substantive financial or strategic impacts as those that could materially and adversely affect Applied Materials’ business, financial performance, continuity of operations, and/or cause reputational harm. Our risk assessment processes allow us to evaluate and prioritize the impact of emerging and ongoing risks, which would be considered substantive based on factors like probability, magnitude, and duration, depending on the scenario. The thresholds used to determine whether an impact is substantive are specific to the risk, scenarios, and time horizons evaluated; thus, generalizations on specific thresholds are difficult to provide. Some quantitative indicators we use to assess whether an impact is substantive include:

- % Change to Applied Materials’ OPEX
- % Change to Applied Materials’ profit margins
- % Revenue gains/losses
- % Change in market share
- Number of days of interrupted R&D or manufacturing
- Number of days/weeks of accelerated/delayed time to market
- Potential for swings in stock price due to shareholder behavior
- Presence or absence of mitigating factors

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	2	1-25	Two manufacturing/lab sites, one in China, the other in Israel, represent 11% of Applied Materials' overall FY22 water footprint and are located in High and Extremely High overall water risk regions, according to the WRI Aqueduct tool.

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?

Country/Area & River basin

China	Huang He (Yellow River)
-------	-------------------------

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

Less than 1%

Comment

Applied Materials has one campus containing 2 buildings in Xi'an, China. These buildings consist of lab and office space. The site manages all aspects of water use and discharge properly and according to regulatory requirements. Water-stress-related impacts are unlikely to cause substantive financial impact but could interrupt strategic R&D operations. Any risks that may interrupt our operations are evaluated and mitigated through our business continuity planning.

Country/Area & River basin

Israel	Other, please specify (Mediterranean Sea, East Coast)
--------	--

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

Production value for the metals & mining activities associated with these facilities

<Not Applicable>

% company's annual electricity generation that could be affected by these facilities

<Not Applicable>

% company's global oil & gas production volume that could be affected by these facilities

<Not Applicable>

% company's total global revenue that could be affected

1-10

Comment

Applied Materials has 1 campus containing 3 buildings in Rehovot, Israel. Applied manages all aspects of water use and discharge properly and according to regulatory requirements. Any risks that may interrupt our operations are evaluated and mitigated through our business continuity planning.

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.

Country/Area & River basin

China	Huang He (Yellow River)
-------	-------------------------

Type of risk & Primary risk driver

Chronic physical	Water stress
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Primary potential impact

Increased operating costs

Company-specific description

Applied Materials' operations are not water intensive; however, water quality is important for routine operations. Water is primarily used for domestic, landscaping and industrial uses such as cooling towers, scrubbers, ultra-pure water, boilers and chillers. The Huang He River is rated as having Extremely High baseline water stress according to the WRI Aqueduct tool. It is projected to have Extremely High future water stress in 2030 based on all scenarios (pessimistic, business as usual, and optimistic). The water stress in this region puts the facility at risk to supply disruption, increased cost, and reliability of operations. We have not currently experienced any business disruptions due to water supply.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-low

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)

<Not Applicable>

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Applied Materials is in the process of evaluating its overall water baseline and identifying measures to improve efficiency holistically across our operations. Detailed analysis of cost saving or avoided regulatory/utility fees has not been completed at this time.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

The Xi'an facilities team has implemented projects to reduce water withdrawal at the site. Some projects include rainwater reclamation for landscaping and capturing reverse osmosis (RO) reject water for toilet flush use. In addition, the site plans to implement various future water savings projects over the next 3-5 years.

Cost of response

0

Explanation of cost of response

Water management is folded into standard site OPEX budgets. No water-related capital was spent in the reporting year.

Country/Area & River basin

Israel	Other, please specify (Mediterranean Sea, East Coast)
--------	--

Type of risk & Primary risk driver

Chronic physical	Water stress
------------------	--------------

Primary potential impact

Increased operating costs

Company-specific description

Applied Materials' operations are not water intensive; however, water quality is important for routine operations. Water is primarily used for domestic, landscaping and industrial uses such as HVAC and chilled water systems. The Mediterranean Sea is rated as having High baseline water stress according to the WRI Aqueduct tool. It is projected to have Extremely High future water stress in 2030 based on all scenarios (pessimistic, business as usual, and optimistic). The water stress in this region puts the facility at risk of supply disruption, increased cost, and challenges to the reliability of its operations. We have not currently experienced any business disruptions due to water supply.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-low

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)

<Not Applicable>

Potential financial impact figure - minimum (currency)

<Not Applicable>

Potential financial impact figure - maximum (currency)

<Not Applicable>

Explanation of financial impact

Applied Materials is in the process of evaluating its overall water baseline and identifying measures to improve efficiency holistically across our operations. Detailed analysis of cost saving or avoided regulatory/utility fees has not been completed at this time.

Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

Description of response

In our Rehovot campus, the site has implemented several water savings opportunities. Some of these projects include:

- Smart and economic irrigation system used on campus grounds
- Installation of faucet aerators in restrooms throughout the campus to reduce flow rate
- Installation of "flow-less" system – electric control valves that automatically close main feeding lines when constant irregular flow is recognized.
- Installation of new water treatment and distribution system to our main cafeteria which is designed to deliver safer drinking water with fewer leaks and will require less water-intensive maintenance compared to the old system.
- In addition, the site has plans for water savings projects, including improvements to the cooling towers / supporting system to add sand filtration with back-wash.

Cost of response

0

Explanation of cost of response

Water management is folded into standard site OPEX budgets. No water-related capital was spent at this facility in the reporting year.

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	Risks exist, but no substantive impact anticipated	Only a few select types of Applied Materials tools require ultrapure water in production processes. Most of our tools only require cooling water, which runs in a closed-loop process and is negligible in terms of water consumption. Risks associated with Applied Materials' value chain may exist in some regions in the manufacturing of select semiconductor products and any potential limitations, restrictions, or costs associated with this; however, there is currently no mechanism in place to accurately and quantitatively assess specific water-related risks at a water-basin level associated with our customers, especially taking into consideration the extensive risk mitigation measures many of them are taking based on their water use levels.

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.

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

Although Applied Materials' operations are not water-intensive, access to high quality water across our operations is important to the business, especially in our R&D and manufacturing operations, with emphasis on sites located in high- or very high-water risk regions. Identifying and implementing water efficiency measures have led to some cost-saving opportunities, especially for water heating or cooling processes that also tie to energy-savings. We also seek to optimize our water use overall to ensure we play our part in limiting stress on the local water basin and to help insulate our operations from the impact of any future water regulations or restrictions.

Specific water-savings projects that were completed in the reporting year include:

- Our lab in Taiwan installed a new process wastewater recycling system, saving 2,624,166 gallons in FY22
- Our lab in Xi'an, China, upgraded four local scrubbers, conserving 2,373,800 gallons of water annually
- Our facility in Austin, TX, began using HVAC condensate for landscape irrigation, conserving 1,364,580 gallons of water annually

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Low-medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

41400

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact

During the reporting year, Applied Materials completed several water efficiency related upgrades. The financial impact figure is calculated using regional average water utility pricing multiplied by the estimated gallons of water saved due to the completion of projects.

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Xi'an, China

Country/Area & River basin

China	Huang He (Yellow River)
-------	-------------------------

Latitude

34.3416

Longitude

108.9398

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

201

Comparison of total withdrawals with previous reporting year

Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

201

Total water discharges at this facility (megaliters/year)

169

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

169

Total water consumption at this facility (megaliters/year)

32

Comparison of total consumption with previous reporting year

Higher

Please explain

The demand for semiconductors and related products led to more research and development (R&D), testing, and production, which increased the need for water consumption for labs and factories. The Xi'an facility is made up of an R&D lab and demonstration cleanroom, which requires high purity water for its operations. The weather in Xi'an also contributed to higher water usage. The high temperature and high humidity during July to September in Xi'an increased cooling tower usage.

Facility reference number

Facility 2

Facility name (optional)

Rehovot, Israel

Country/Area & River basin

Israel	Other, please specify (Mediterranean Sea, East Coast)
--------	--

Latitude

31.892773

Longitude

34.811272

Located in area with water stress

Yes

Primary power generation source for your electricity generation at this facility

<Not Applicable>

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)

61

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

0

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

61

Total water discharges at this facility (megaliters/year)

53

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

0

Discharges to groundwater

0

Discharges to third party destinations

53

Total water consumption at this facility (megaliters/year)

8

Comparison of total consumption with previous reporting year

Lower

Please explain

The demand for semiconductors and related products led to more research and development (R&D), testing, and production, which increased the need for water consumption for labs and factories. The facilities in Israel are made up of R&D labs, manufacturing and testing cleanrooms, which require high purity water for their operations. However, this facility was able to reduce its water withdrawal and consumption compared to the previous reporting year. In the previous year, we had a cooling tower system upgrade that caused a spike in water withdrawal. The facility was able to return to more typical water withdrawal levels this year.

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified
76-100

Verification standard used

Water consumption / use is validated at each location by reviewing monthly invoices received from the local municipality or service provider. This data is then entered into our internal environmental data management system. We receive third party verification from ERM CVS, which uses International Standard on Assurance Engagements ISAE 3000 (Revised). Assurance level is Limited Assurance.

Please explain
<Not Applicable>

Water withdrawals – volume by source

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water withdrawals – quality by standard water quality parameters

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water discharges – total volumes

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water discharges – volume by destination

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water discharges – volume by final treatment level

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water discharges – quality by standard water quality parameters

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

Water consumption – total volume

% verified
Not verified

Verification standard used

<Not Applicable>

Please explain

W6. Governance

W6.1

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

No, but we plan to develop one within the next 2 years

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 or committee	Responsibilities for water-related issues
Board-level committee	<p>Responsibilities: Applied Materials' Corporate Governance and Nominating Committee (CGNC) oversees our ESG strategy to foster accountability. On a quarterly basis, the CGNC is briefed by the Senior Director of ESG on the status of Applied Materials' company-wide environmental, social and governance (ESG) strategy, focused on integrating sustainability into our operations and company culture through initiatives aligned to business strategy that address a broad set of stakeholders, including customers, employees, suppliers, governments, investors and our local communities. This strategy is reviewed by the CGNC on a quarterly basis. The CGNC is informed and provides input on Applied Materials' various environmental initiatives, which include water management, and tracks progress through their review of our annual sustainability report.</p> <p>Example of water-related decisions: The CGNC was recently engaged to review and approve all of Applied Materials' environmental disclosures, including the refinement of our water consumption and withdrawal data and year on year progress.</p>

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 Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding strategy	Applied Materials' Senior Director of ESG presents progress on Applied Materials' overall ESG strategy and sustainability initiatives, which include water use, to the CGNC on a quarterly basis. The CGNC reviews progress and data associated with water use during its review of Applied Materials' annual sustainability report.

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	Criteria include: - Professional experience or exposure to water-related issues - Understanding of water-related concepts, such as water-related risks and their intersection with climate change and environmental resource management - Understanding and familiarity with environmental data and metrics	<Not Applicable>	<Not Applicable>

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 Corporate Asset Services)

Water-related responsibilities of this position

- Assessing future trends in water demand
- Assessing water-related risks and opportunities
- Managing water-related risks and opportunities
- Setting water-related corporate targets
- Integrating water-related issues into business strategy
- Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The Vice President of Corporate Asset Services oversees and is responsible for assessing and managing water-related risks and opportunities for global operations, including monitoring water use, identifying measures to optimize water use, and meeting any local water-related regulations or requirements across our facilities. This role collaborates with our Senior Director of ESG who delivers quarterly environmental updates, which may cover water-related issues if there are relevant updates on this topic (i.e., substantial new water-related initiatives or new goals), to the Corporate Governance and Nominating Committee (CGNC) and the executive team, which includes the CEO. In addition, Applied Materials publishes an annual sustainability report that covers water-related data and updates on management of water related risks and opportunities.

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	No, and we do not plan to introduce them in the next two years	Applied Materials' operations are not water-intensive; therefore, management of water-related issues has not been prioritized in the C-suite's ESG-related scorecard, which informs executive compensation. However, the C-suite does have compensation-based incentives for other critical ESG issues, including GHG emissions and energy.

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?

Applied Materials is a member of SEMI, which, continuously seeks opportunities to enhance resource conservation throughout the semiconductor industry, which includes water efficiency efforts. Applied Materials is an active member in various SEMI working groups and strives to engage and influence the group to ensure strategic opportunities to address pertinent water-related issues are addressed. We are not aware of inconsistencies between the work of this group and Applied Materials' water priorities. If an inconsistency were to be identified, Applied Materials would first take a proactive engagement approach through SEMI's working groups to identify and define a solution to rectify the issue with the other members and organization leaders. If engagement methods were not successful, then Applied Materials would weigh the costs/benefits of continuing its membership with the group, and make an informed decision with key internal stakeholders.

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	Yes, water-related issues are integrated	11-15	Access to high quality water is critical to our operations; it is used in our manufacturing processes and R&D (i.e., rinsing equipment), as well as for general building services (utilities, domestic water, landscaping, etc.). To meet our business growth objectives in response to substantial demand for semiconductor products, the company is expanding its operations. Continued access to key inputs such as high-quality water is necessary for meeting our growth objectives. Further, Applied Materials is in the process of evaluating water-specific reduction targets across its operations to mitigate risks related to water. Water is also vital for our customers, who rely on substantial quantities of ultrapure water in the chip manufacturing process. Although only a few of Applied Materials' tools consume substantial amounts of water, our global Design for Sustainability team is including the modelling of water use across our tools to ensure this factor can be analyzed and managed.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	To meet our business growth objectives in response to substantial demand for semiconductor products, the company is expanding its operations. New site selection considers local regulations and costs related to water consumption and considers access to high quality water to ensure continuity of our operations. Water is vital to our customers, as well. To maintain Applied Materials' leading role in equipment manufacturing, we must ensure our products reflect continuous efficiency improvements. As a key input and priority issue for our customers, water efficiency is considered in the design and performance of our products.
Financial planning	Yes, water-related issues are integrated	11-15	In response to continued strong demand across the semiconductor industry Applied Materials will be expanding our business operations, for which access to stable supplies of high-quality water is critical. Operational costs for utilities including water are included in our plans for all new or expanded sites.

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)

-52

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

557

Water-related OPEX (+/- % change)

4

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

5

Please explain

As demand for Applied Materials equipment is projected to increase significantly over the next several years, we are investing in more R&D, Manufacturing and Office space globally, thus driving an increased usage of water (and all utilities). In addition to increasing our global footprint with new facilities, our existing facilities water systems are aging and must be replaced as they reach end-of-life, driving significant capex spend in water-related systems.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	In 2020/2021 Applied Materials completed its first climate-related scenario analysis with the support of Trucost. Water stress was a risk factor incorporated into the physical risk assessment across our key global facilities modelled from 2020 to 2050 using RCP 2.6, 4.5 and 8.5 climate scenarios and identified the locations for which water stress poses risks, what the trajectory of that risk is over time, and level of relevant/impact it has for the site.

W7.3a

(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Water-related Climate-related	Water stress risks were assessed across our top 32 global facilities for the period 2020-2050 using RCP 2.6, 4.5 and 8.5 climate scenarios. Water stress is defined as "Projected future ratio of water withdrawals to total renewable water supply in a given area" and evaluated at the river basin level.	Possible outcomes for the sites located in higher water stress-risk locations, such as Xi'an, China and Rehovot, Israel may include increasing costs related to meeting any new regulations or limitations on water consumption in these regions as well as costs related to upgrading our sites and manufacturing processes to respond to limitations in access to high-quality water.	Operational Design for safety and the environment and conservation of natural resources (inclusive of water) are core pillars of our EHS Management system. Applied Materials takes water access and regulation into account when considering real estate expansion and is in the process of evaluating a corporate water efficiency goal over the medium-term (5-10 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

Applied Materials' operations are not water-intensive, therefore measures such as setting an internal price on water have not been prioritized. Applied Materials is in the process of evaluating a corporate water efficiency goal to ensure responsible consumption of the resource.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	Yes	Low water impact products are defined as products that use less water (quantity) than either previous models or similar products on the market.	<Not Applicable>	We currently offer low water impact products and are actively researching ways for our products to use less water during their use phase. Our Reflexion® LK Prime® CMP is currently commercially available and considered to be low water impact because it uses 50% less deionized water compared to an average CMP process. Most recently, we developed the Centura® Sculpta® patterning system, realizing energy savings of more than 15 kWh per wafer and water savings of ~15 liters per wafer. Although we have made strides in developing water-efficient products, most of Applied Materials' equipment has negligible water-related impacts and is inherently "low water impact" - water is chiefly used for cooling purposes and is run through a close-loop system within our tools. Applied Materials is in the process of gathering and modelling further data, including water consumption, as part of our 3x30 initiative; this data will enable a credible approach for qualifying products as low water impact.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

No, but we plan to within the next two years

W8.1c

(W8.1c) Why do you not have water-related target(s) and what are your plans to develop these in the future?

	Primary reason	Please explain
Row 1	Other, please specify (Managed by Site)	All manufacturing locations have registered ISO 14001:2015 certifications or are on track to receive certification, which drive continual improvement at each location, including water conservation opportunities. The sites identify resource conservation, including water, and develop and implement conservation or reduction activities, as applicable. Tracking of water use is fed into Applied Materials' centralized environmental data tracking system. Sites consider water-minimization initiatives as appropriate and feasible. Applied Materials is in the process of evaluating both site-level and corporate water efficiency goals.

W9. Verification

W9.1

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

Yes

ERM CVS - Assurance Report for Applied Materials CDP Water 2023.pdf

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	Water withdrawals – total volumes; Total water withdrawal from all areas with water stress	ISAE 3000	Water use is validated at each location by reviewing monthly invoices received from the local municipality or service provider. This data is then entered into our internal environmental data management system. We receive third party verification from ERM CVS, which uses International Standard on Assurance Engagements ISAE 3000 (Revised). Assurance level is Limited Assurance.

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Yes	Direct operations	Tracking polybags, plastic corrugated, foam.

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Yes	Direct operations	We have banned PVC and EPS as a packaging material and all thermoplastics

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	Plastic packaging is needed to keep high levels of cleanliness and quality of products through supply chain, and there is no alternative to polybags

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	Yes	Plastic packaging	Reduce the total weight of plastic packaging used and/or produced	Reduce polybag thickness from 6mil to 4mil, reduce smaller bags from 4mil to 3mil, and eliminate double bagging where unnecessary. Reduce thickness of 5mm PP boxes to 4mm, and optimize or remove foam from crate bases where it is not needed.

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	Yes	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	Yes	

W10.8

(W10.8) Provide the total weight of plastic packaging sold and/or used, and indicate the raw material content.

	Total weight of plastic packaging sold / used during the reporting year (Metric tonnes)	Raw material content percentages available to report	% virgin fossil-based content	% virgin renewable content	% post-industrial recycled content	% post-consumer recycled content	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used		None	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	Data is unknown at this time.

W10.8a

(W10.8a) Indicate the circularity potential of the plastic packaging you sold and/or used.

	Percentages available to report for circularity potential	% of plastic packaging that is reusable	% of plastic packaging that is technically recyclable	% of plastic packaging that is recyclable in practice at scale	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	None	<Not Applicable>	<Not Applicable>	<Not Applicable>	Data is unknown at this time.

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	President and Chief Executive Officer	Chief Executive Officer (CEO)

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	25785000000

SW1.1

(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?

No, CDP supply chain members do not buy goods or services from facilities listed in W5.1

SW1.2

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

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	Yes, for some facilities	We are providing locations for the two key facilities identified in high water risk regions specified in our disclosure.

SW1.2a

(SW1.2a) Please provide all available geolocation data for your facilities.

Identifier	Latitude	Longitude	Comment
Xi'an, China	34.3416	108.9398	
Rehovot, Israel	31.892773	34.811272	

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?

No

SW3.1

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

Product name

Total company water withdrawals

Water intensity value

0.078

Numerator: Water aspect

Water withdrawn

Denominator

Liters / \$ revenue

Comment

The reported intensity value looks at our total company-wide water withdrawals (L) divided by 2022 revenue (\$).

Product name

Total company water consumption

Water intensity value

0.016

Numerator: Water aspect

Water consumed

Denominator

Liters / \$ revenue

Comment

The reported intensity value looks at our total company-wide water consumption (L) divided by 2022 revenue (\$).

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

Please select your submission options	I understand that my response will be shared with all requesting stakeholders	Response permission
	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Yes, CDP may share our Main User contact details with the Pacific Institute

Please confirm below

I have read and accept the applicable Terms