

# Waste Management, Inc. - Water Security 2019

W0. Introduction

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W0.1

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

Waste Management is North America's leading provider of comprehensive environmental services. Since 2007, we have been working toward a set of sustainability goals to achieve by 2020, all designed to support our customers' environmental stewardship, reduce our overall impact on the environment and differentiate us from competitors. Since then, we're proud to say significant progress has been made.

We have had to be nimble to achieve our environmental goals. Importantly, the recycling market has changed around us, as has our business strategy, with impacts on the way we calculate progress by shifting our focus from a simple weight-based metric to a metric expressing tangible environmental benefit, i.e., reduction of greenhouse gases from our operations. In order to clearly communicate the environmental benefits we are creating, we are recalibrating our goals to reflect the energy use and GHG reductions achieved through waste reduction, recycling, composting and converting landfill gas into low-emissions energy and fuel. We also are targeting our goals to meet the Paris Climate Agreement targets.

ENVIRONMENTAL GOAL 1. To offset four times the GHG emissions we generate through our operations by 2038.

In 2017, the services that Waste Management provided offset the emissions of our own operations by three times. Our new goal, a jump from three times to four, will require us to decrease the emissions from our operations while increasing the emissions-reduction services we provide for ourselves and our customers. We have identified several initiatives to achieve our goals:

- To emit fewer emissions through our operations by transitioning from diesel to alternative fuel vehicles in 90 percent of our entire fleet, and using renewable fuel in over 90 percent of our vehicles. Our goal of emitting fewer emissions requires an investment in a Near Zero fleet. Over 90 percent of our fleet purchases are projected to be "NZVs" (Near Zero Vehicles), which will allow us to reduce emissions associated with our fleet 45 percent by 2038, against a 2010 baseline.
- To continue to improve energy efficiency at our facilities, reducing our own emissions throughout our systems.
- To avoid emissions by capturing methane at our landfills for use by third parties as renewable electricity and renewable fuel.
- To increase avoided emissions by recycling materials for the greatest environmental benefits.

COMMUNITY GOAL 2. To help make communities in which we live and work safe, resilient and sustainable.

Though our operations span 20 million customers in the U.S. and Canada, we are very much a local business that is an integral part of the communities we serve. We want to help make our communities, cities, towns and counties better places to work and live — today and for the future. To do so, we support events, programs and organizations that are as varied as the thousands of communities and individuals we serve.

We concentrate on initiatives that enhance our environment, promote education and improve the livability of our communities. Focus areas include:

- Projects that reduce environmental impacts, including beautification and litter control efforts
- Providing environmental education and outreach
- Supporting wildlife preservation efforts
- Supporting safe neighborhood programs
- Supporting a variety of charitable giving projects

Please note that answers in this questionnaire are supplied on behalf of Waste Management, Inc., which is a holding company; all operations are conducted by its subsidiaries. Hereafter, Waste Management, Inc., its consolidated subsidiaries and consolidated variable interest entities are referred to as "Waste Management", "WM", "the company", "we" or "us".

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## 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

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

Canada  
United States of America

W0.4

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

USD

W0.5

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**(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

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

No

W1. Current state

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W1.1

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**(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	Not very important	Important	Unlike product manufacturing, Waste Management primarily offers waste hauling and environmental services for customers across North America. The primary use of freshwater in our direct operations and value chain is for domestic uses such as drinking, sanitation and landscaping. We selected "Not Very Important" as the rating for our direct use since aspects of our direct operations, such as sanitation and landscaping, do not require freshwater to be of good quality and are primarily a local issue. We selected the "Important" rating for indirect use because we purchase some products that require water as a direct input during production, including bottled drinking water, which is used by drivers and operators at many of our sites. We do not anticipate any future changes to our direct or indirect operations that would change the importance of freshwater available for use.
Sufficient amounts of recycled, brackish and/or produced water available for use	Neutral	Important	Our hauling operations use recycled water for truck maintenance and periodic cleaning and washing. Our recycling operations and transfer stations use recycled water for odor mitigation. Our landfill operations use recycled water for soil stabilization and fugitive dust emissions control. Some of our renewable energy projects use recycled water in boilers for steam turbines. We selected "Neutral" for our direct operations, as these processes are primarily dependent on water quantity and not water quality. Many of our suppliers used recycled, brackish, and/or produced water in the production of their products and some of our suppliers operate in regions that are exposed to substantial water risk or may become exposed to substantial risk moving forward. For this reason, we have selected "Important" for our indirect use. We do not anticipate any future changes to our direct or indirect operations that would change the importance of recycled, brackish, and/or produced water available for use.

**W1.2**

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	76-99	Volumes of water usage at a majority of our facilities are based on monthly invoices as part of an enterprise wide Utility Bill Management Program (UBM). A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes. We estimate the water withdrawals from these sites using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes.
Water withdrawals – volumes from water stressed areas	76-99	Volumes of water usage at a majority of our facilities are based on monthly invoices as part of an enterprise wide Utility Bill Management Program (UBM). Each year, site location and usage data are cross-referenced with the WRI Aqueduct Tool to quantify the volumes withdrawn from sites located within water stressed areas.
Water withdrawals – volumes by source	76-99	Based on monthly invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems. A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sectors]	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>
Water withdrawals quality	76-99	Based on monthly invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems and be of good quality.
Water discharges – total volumes	76-99	We consider most of our water to be discharged to municipal water treatment systems, and equal to the amount of water withdrawn, less the water consumed by employees and operations. A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes.
Water discharges – volumes by destination	76-99	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to be discharged to municipal water treatment systems or recycled/reused on site for various processes. A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes.
Water discharges – volumes by treatment method	76-99	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to be discharged to municipal water treatment systems. A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes.
Water discharge quality – by standard effluent parameters	76-99	WM facilities comply with the provisions of the National Pollution Discharge Elimination System (NPDES) in mitigating point source pollution at the point of discharge using an array of best management practices. This practice also includes region specific standard effluent parameters that are measured locally according to NPDES and the facility's Water Quality Management Plan.
Water discharge quality – temperature	76-99	WM facilities comply with the provisions of the National Pollution Discharge Elimination System (NPDES) in mitigating point source pollution at the point of discharge using an array of best management practices. This practice also includes region specific parameters that are measured locally according to NPDES and the facility's Water Quality Management Plan.
Water consumption – total volume	76-99	Our consumption calculation is a yearly estimate based on gallons per employee per day (GED) that is representative of the number of employees we have working in these facilities in a reporting year. WM continues to explore and develop ways to accurately measure its water consumption.
Water recycled/reused	1-25	Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills, recycling facilities and transfer stations, and in boilers for steam turbines at select renewable energy projects, but we are unable to quantify it for more than 1-25% of our facilities.
The provision of fully-functioning, safely managed WASH services to all workers	100%	All WM facilities across North America comply with local development code and municipal ordinances regarding mandatory provisions of fully functioning water supply, adequate sanitation and hygiene (WASH) in its facilities. All our workers, regardless of their status of employment, gender orientation, age, race and nationality have 100% access to WASH.

**W1.2b**

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

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	2987	Higher	When normalized on a per-employee basis, our water withdrawals increased 20.63% in 2018, which is "higher". Volumes of water usage at a majority of our facilities are based on monthly invoices as part of an enterprise wide Utility Bill Management Program (UBM). Our water usage increase in 2018 was primarily due to acquisitions of additional properties and is expected to continue fluctuating as our operations change due to acquisition and divestiture.
Total discharges	2447.46	Higher	When normalized on a per-employee basis, our water discharges increased 26.38% in 2018, which is "higher". Volumes of water usage at a majority of our facilities are based on monthly invoices as part of an enterprise wide Utility Bill Management Program (UBM). Our water discharges increased in 2018 primarily due to acquisitions of additional properties and is expected to continue increasing as we continue to grow via acquisition. For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source (i.e. groundwater to groundwater, third party to third party), where $W = D + C$ . In 2018, our ratio of water discharged to water withdrawn increased only slightly, from 78.2% to 81.9%.
Total consumption	539.54	About the same	Our consumption calculation is based on gallons per employee per day (GED), and is representative of the number of employees we have working in our facilities at the end of the reporting year. WM continues to explore and develop ways to more accurately measure its water consumption. As this calculation is dependent on our number of total employees, when normalized on a per-employee basis this value will remain the same.

**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	34.72	About the same	WRI Aqueduct	Each site's location and usage data are cross-referenced with the WRI Aqueduct Tool each year to quantify the volumes withdrawn from sites located within "Extremely High" or "High" water stressed areas. In 2018, WRI recalibrated the Aqueduct Tool to better reflect overall water scarcity. After updating our map of water-stressed areas, our previously reported value of 18.61% of withdrawals from water stressed areas is adjusted to 32.05% for 2017. Our 2018 value of 34.72% represents an 8.3% increase and is "About the same"

**W1.2h**

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Not relevant	<Not Applicable>	<Not Applicable>	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems or groundwater wells.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems or groundwater wells.
Groundwater – renewable	Relevant	59.54	Lower	A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes. We estimate the water withdrawals from these sites using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes. For 2017, our groundwater withdrawals were 75.60 megaliters. Our 2018 value of 59.54 megaliters represents a 21.2% decrease from the previous year and is considered “lower”.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems or groundwater wells.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Based on invoice information provided by our Utility Bill Management (UBM) provider, we consider most of our water to come from municipal water systems or groundwater wells.
Third party sources	Relevant	2927.46	Much higher	For most of our operations, specifically in all WM offices across North America, we use municipal water for domestic purposes only. WM’s hauling, recycling and landfill operations use municipal water and/or recycled water in varying degrees, based on specific needs. In 2017, our reported value was 2,299.56 megaliters. Our 2018 value of 2,927.46 represents a 27.3% increase and is considered “much higher”. As new sites are added into our portfolio, our overall water use increases, even as individual facilities reduce their water withdrawals.

**W1.2i**

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Not relevant	<Not Applicable>	<Not Applicable>	We consider most of our water to be discharged to municipal water treatment systems, and equal to the amount of water withdrawn, less the water consumed by employees and operations.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	We consider most of our water to be discharged to municipal water treatment systems, and equal to the amount of water withdrawn, less the water consumed by employees and operations.
Groundwater	Relevant	47.78	Lower	A small percentage of our landfill sites, mostly in rural areas, use water wells for dust mitigation control and leachate extraction processes and discharge this water to on-site septic systems. For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source (i.e. groundwater to groundwater, third party to third party), where $W = D + C$ . For 2017, our groundwater discharges were 60.67 megaliters. Our 2018 value of 47.78 megaliters represents a 21.2% decrease from the previous year and is considered “lower”.
Third-party destinations	Relevant	2399.68	Much higher	We consider most of our water to be discharged to municipal water treatment systems, and equal to the amount of water withdrawn, less the water consumed by employees and operations. In 2017, our reported value was 1,796.94 megaliters. Our 2018 value of 2,399.68 represents a 33.5% increase and is considered “much higher”. However, our ratio of water discharged to water withdrawn increased only slightly, from 78.2% to 81.9%. As new sites are added into our portfolio, our overall water use increases, even as individual facilities reduce their water discharges.

**W1.2j**

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

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	1-10	About the same	Recycled water is used for a variety of purposes including, to wash trucks and control dust and landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

**W1.4**

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

- Yes, our suppliers
- Yes, our customers or other value chain partners

**W1.4a**

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**(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?**

**Row 1**

**% of suppliers by number**

Less than 1%

**% of total procurement spend**

Less than 1%

**Rationale for this coverage**

While we do not directly engage with specific suppliers, we regularly discuss our sustainability efforts with a variety of stakeholders from environmental and community groups to business and manufacturing leaders, from government associations to scientific academies. These stakeholders can be found across multiple sectors and within our communities.

**Impact of the engagement and measures of success**

All of these stakeholder engagements are essential in helping us stay abreast of current trends, perspectives and policy matters that affect our industry, our customers and our communities.

**Comment**

**W1.4b**

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**(W1.4b) Provide details of any other water-related supplier engagement activity.**

**Type of engagement**

Innovation & collaboration

**Details of engagement**

Encourage/incentivize innovation to reduce water impacts in products and services

**% of suppliers by number**

1-25

**% of total procurement spend**

1-25

**Rationale for the coverage of your engagement**

We discuss water quality issues with our suppliers and customers pursuant to our participation in the RCRA Corrective Action Project and the Sediment Management Working Group. Both groups fund research on water quality parameters, and discuss the



interaction between water contamination and discharge standards and coverage.

#### **Impact of the engagement and measures of success**

Through our work with these groups, we have been successful at encouraging innovation to reduce water impacts by investigating new technologies and contaminant sampling and testing techniques with the two groups.

#### **Comment**

Our participation in various working groups involves a large network of our suppliers and customers. We estimate this group to include between 1-25% of our suppliers, and between 1-25% of our total procurement spend.

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#### **Type of engagement**

Innovation & collaboration

#### **Details of engagement**

Educate suppliers about water stewardship and collaboration

#### **% of suppliers by number**

1-25

#### **% of total procurement spend**

1-25

#### **Rationale for the coverage of your engagement**

In addition to our work with the Wildlife Habitat Council (WHC) in certifying wildlife habitat and environmental education at our sites, Waste Management works with WHC on collaborative efforts among nonprofits, government agencies and companies to create conservation strategies.

#### **Impact of the engagement and measures of success**

For example, the Corporate Pollinator Ecosystem Project (C-PEP) brings together companies with the United States Business Council for Sustainable Development to identify pollinator habitats on corporate land and ultimately help revive declining pollinator populations. Upon project culmination, the C-PEP Survey will be presented to the federal government as a response to President Obama's 2014 goal to restore or enhance 7 million acres of land for pollinators.

#### **Comment**

We estimate supplier and stakeholder involvement with our WHC work to involve 1-25% of our suppliers, and between 1-25% of our total procurement spend.

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#### **Type of engagement**

Innovation & collaboration

#### **Details of engagement**

Encourage/incentivize innovation to reduce water impacts in products and services  
Encourage/incentivize suppliers to work collaboratively with other users in their river basins  
Educate suppliers about water stewardship and collaboration

#### **% of suppliers by number**

Less than 1%

#### **% of total procurement spend**

Less than 1%

#### **Rationale for the coverage of your engagement**

As the title sponsor of the Waste Management Phoenix Open, we work collaboratively with our suppliers to ensure that it is a water positive event. The WMPO implements conservation measures to ensure that water is used responsibly and limits pressures on the municipal water supply. Hand-washing stations used hand sanitizer instead of water, and in 2018 WM captured an estimated 6,353 gallons of grey water. Since 2011, approximately 37,787 gallons of water from cooking and cleaning have been reused in the portable toilets.

#### **Impact of the engagement and measures of success**

2018 marked the fourth year of the Waste Management Phoenix Open Water Campaign. Working with Bonneville Environmental Foundation as a Change the Course sponsor, and teaming up with Kohler, M Culinary and The Thunderbirds, WM restored 75 million gallons of water to the Verde River in Arizona, bringing the four year total to over 236 million gallons restored.

#### **Comment**

Our water engagement activities at the Waste Management Phoenix Open involve less than 1% of our suppliers and less than 1% of our overall procurement spend.

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## W1.4c

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

At Waste Management, we take a systematic approach to stakeholder engagement, starting with public accountability. Every two years we identify the key stakeholders with whom we engage — from environmental and community groups to business and manufacturing leaders, from government associations to scientific academies. These stakeholders can be found across multiple sectors and within our communities. All are essential in helping us stay abreast of current trends, perspectives and policy matters that affect our industry, our customers and our communities.

Our engagement takes many forms. When working on facility upgrades and new construction, we map our community footprint and seek to engage groups and individuals in open dialogue through Community Advisory Councils or more informal routine interactions, open house events, public meetings, tours and more. With our larger customers, we host sustainability forums that focus on ways to reduce costs, lessen environmental footprints and increase the reuse of resources.

Participation in policy discussions supplements our dialogue at the local level and ensures that we are working with stakeholders from many perspectives. We give dozens of presentations each year on topics involving recycling, renewable energy and fuel, and civic engagement. We believe there is enormous value in bringing together diverse viewpoints in a sustained effort to find common ground and mutual understanding of difficult environmental challenges.

## W2. Business impacts

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### W2.1

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

Yes

### W2.1a

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#### (W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.

##### Country/Region

United States of America

##### River basin

Not known

##### Type of impact driver

Physical

##### Primary impact driver

Severe weather events

##### Primary impact

Other, please specify (Disruption in Operations)

##### Description of impact

In recent years, WM Market Areas, such as Texoma, Gulf Coast, and Southern California, have experienced service challenges because of more extreme weather events, such as hurricanes, heavy rainfall, extreme flooding, mudslides and wildfires. For example, in October, Hurricane Michael caused a five-day disruption of operations in our Gulf Coast and South Atlantic areas as well as nearly \$500,000 in damage to our Dothan and Panama City Hauling locations.

**Primary response**

Develop flood emergency plans

**Total financial impact**

2500000

**Description of response**

Anticipating severe weather events, our Market Areas have created Emergency Management Plans and take anticipatory action to relocate trucks, secure adequate fuel supplies, flood-proof power supplies, and use technology to respond to logistical challenges. In the aftermath of Hurricane Michael, teams at many of our sites, such as our Springhill Landfill, operated on 24-hour a day/7-day a week shifts for many months to handle the increase in inbound storm debris. This acceleration of use can impact the lifespan of landfill facilities. Waste Management carries insurance for Property Damage/Business Interruption with a deductible of \$2,500,000 per storm event. The current cost of contingency planning, insurance, and securing disaster-related supplies and technology is minimal compared to overall operational expenditures.

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**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Type of impact driver**

Physical

**Primary impact driver**

Drought

**Primary impact**

Other, please specify (Disruption in Operations)

**Description of impact**

In some parts of the Southwest Region of the United States, particularly in California, prolonged extreme drought conditions are potentially affecting some of our operations' ability to use water in our recycling facilities and transfer stations for odor mitigation and fleet maintenance and Landfill facilities for fugitive dust control.

**Primary response**

Develop drought emergency plans

**Total financial impact**

0

**Description of response**

WM market areas in these affected regions are getting advice from WM corporate on ways to prepare for State mandated water use reduction policies and regulations (California). Also, our internal sustainability consulting team, WMSS, has started to reach out to affected market areas to help facilities at local levels to implement conservation and reduction measures such as upgrades of current water fixtures to more efficient fixtures, outlining new internal water policies and procedures for measurement and monitoring of consumption and reporting. We estimate the financial impact of these conditions to be less than 1% of our revenue of \$14.9 Billion.

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**W2.2**

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

Yes, fines, enforcement orders or other penalties but none that are considered as significant

**W2.2a**

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**(W2.2a) Provide the total number and financial value of all water-related fines.**

**Row 1**

**Total number of fines**

6

**Total value of fines**

297171

**% of total facilities/operations associated**

0.01

**Number of fines compared to previous reporting year**

Lower

**Comment**

The number of facilities affected represents .01% of our total facilities. Additionally, the total value of the fines represents less than .01% of our revenue.

**W3. Procedures**

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**W3.3**

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

Yes, water-related risks are assessed

**W3.3a**

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

**Direct operations**

**Coverage**

Full

**Risk assessment procedure**

Water risks are assessed as a standalone issue

**Frequency of assessment**

Annually

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

>6 years

**Type of tools and methods used**

Tools on the market

**Tools and methods used**

WRI Aqueduct

**Comment**

We rely on data provided by the World Resources Institute's Aqueduct Water Risk Atlas to map our facility locations based on its extreme water scarcity categories throughout North America.

**Supply chain**

**Coverage**

None

**Risk assessment procedure**

<Not Applicable>

**Frequency of assessment**

<Not Applicable>

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

<Not Applicable>

**Type of tools and methods used**

<Not Applicable>

**Tools and methods used**

<Not Applicable>

**Comment**

**Other stages of the value chain**

**Coverage**

None

**Risk assessment procedure**

<Not Applicable>

**Frequency of assessment**

<Not Applicable>

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

<Not Applicable>

**Type of tools and methods used**

<Not Applicable>

**Tools and methods used**

<Not Applicable>

**Comment**

### W3.3b

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

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	We include this information when assessing our risks to direct operations because we have facilities across North America, and according to the WRI Aqueduct Water Risk Atlas, about 35% of our facility portfolio is located in water stressed regions, designated as high or extremely high water risk.
Water quality at a basin/catchment level	Relevant, always included	We maintain a comprehensive network of more than 6,000 groundwater-monitoring wells around our facilities, and every landfill uses monitoring strategies (many involving sophisticated statistical evaluations) to ensure that water quality in adjacent surface water and groundwater bodies is not impacted. WM ensures that at each of our facilities we are able to provide employees clean water for drinking and sanitation. Other aspects of our operations do not depend on the quality of the water at our facilities.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	The basins in which facilities are located can impact water costs and availability. We need to provide leadership in water protection, conservation and stewardship for the sustainability of the water system. As part of our risk assessment, we identify local stakeholders and open consultation with them in community engagement initiatives at key projects and in particular with regard to our conservation programs with local and national NGOs such as a Wildlife Habitat Council (WHC).
Implications of water on your key commodities/raw materials	Not relevant, included	This issue is not relevant because WM is a service provider and does not produce products that require commodities and raw materials. We do not anticipate implications of water on key commodities/raw materials to be relevant in the future.
Water-related regulatory frameworks	Relevant, always included	We recognize that regulatory changes due to continued water stress/scarcity of affected regions, specifically in the west and southwest of the United States, are always within sight. Our government affairs staff monitor these changes as part of annual strategic and risk management planning processes.
Status of ecosystems and habitats	Relevant, always included	Our closed or capped landfill sites participate in local ecosystem and habitat regeneration programs through Wildlife Habitat Council (WHC) certification. To date, there are 90 programs that are certified under WHC. In some of our landfill locations, we have opened our WHC sites to the public, particularly to academic institutions, for educational purposes.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	All WM facilities across North America comply with local development code and municipal ordinances regarding mandatory provisions of fully functioning water supply, adequate sanitation and hygiene (WASH) in its facilities. All our workers, regardless of their status of employment, gender orientation, age, race and nationality have 100% access to WASH.
Other contextual issues, please specify	Not considered	

### W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, sometimes included	Our recent assessment shows that there is little or relatively no impact to our customers from our organization's current water risk. However, changes in operations in the future to mitigate potentially negative impacts in water stressed regions where our facilities are located may affect the future cost of disposal, recycling and landfilling operations. Our costs will rise, as will those of our customers.
Employees	Relevant, always included	Continued water stress currently identified in specific regions of the United States may potentially spread and impact water supply in other regions as well. Since our business operations rely fully on our 43,700 employees, the impact of reduced water quality and quantity will potentially affect our employees' health and productivity.
Investors	Relevant, always included	Through the years, we recognize that our investors have been increasingly aware of the impact of water resources on the business sector generally, although WM is generally less water dependent than most in the industry.
Local communities	Relevant, always included	Watershed areas where our facilities are located, particularly our landfills, are vulnerable to degradation in water resources. That is why we have regularly partnered with federal, state and local stakeholders to continually evaluate the sufficiency and effectiveness of regulations protecting the water supply.
NGOs	Relevant, always included	WM has partnered with many NGOs to evaluate the sufficiency of the regulatory system as it impacts water quality and quantity. In the reporting year, WM partnered with federal and state governments and NGOs to call for Life Cycle Thinking when evaluating products and services.
Other water users at a basin/catchment level	Relevant, always included	In the context of extreme weather events, whether drought or extreme precipitation associated with climate change, other water users at a local level where our facilities are located may be impacted indirectly. Some Market Areas are already experiencing shortages in some locations, and factor into local plans the mechanisms that will be available to allocate water in the event of scarcity.
Regulators	Relevant, always included	Watershed areas where our facilities are located, particularly our landfills, are vulnerable to degradation in water resources. That is why we have regularly partnered with federal, state and local stakeholders to continually evaluate the sufficiency and effectiveness of regulations protecting the water supply.
River basin management authorities	Relevant, always included	Watershed areas where our facilities are located, particularly our landfills, are vulnerable to degradation in water resources. That is why we have regularly partnered with federal, state and local stakeholders to continually evaluate the sufficiency and effectiveness of regulations protecting the water supply.
Statutory special interest groups at a local level	Relevant, always included	Watershed areas where our facilities are located, particularly our landfills, are vulnerable to degradation in water resources. That is why we have regularly partnered with federal, state and local stakeholders to continually evaluate the sufficiency and effectiveness of regulations protecting the water supply.
Suppliers	Relevant, sometimes included	Unlike product manufacturing, Waste Management primarily offers waste hauling and environmental services with multiple qualified suppliers across North America. Our supply chain therefore is not directly exposed to water related risks that have the potential to generate a substantial change in our business operation, revenue or expenditure.
Water utilities at a local level	Relevant, always included	While WM is a service provider and does not produce products that will impact commodities and raw materials, we continue to assess water impacts to our overall operations. Our landfill sites use water to enhance anaerobic digestions and mitigate fugitive dust emissions. Some Market Areas are already experiencing shortages in some locations, and factor into local plans the mechanisms that will be available to allocate water in the event of scarcity.
Other stakeholder, please specify	Not considered	

**W3.3d**

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

At a company level, WM initiated an enterprise risk management (ERM) committee several years ago and continues to expand and refresh the analytical tools for its risk assessment. While the ongoing responsibility for risk assessments rests with various field and corporate management, the Committee determines which risks are most significant to WM and should be reported to the Board. Water-related risks related to our supply chain and other aspects of our value chain are evaluated as part of this process.

At asset level, various internal groups benchmark risks, including assessment of likelihood and severity, known controls and metrics to monitor the risks. External stakeholders and independent organizations are consulted on an on-going basis (identity is disclosed in WM's biennial sustainability reporting) to provide the equivalent of open-source advice on risks and mitigation. The impacts of climate change as a physical, regulatory and legislative risk and the opportunities that may be presented by water-related response and mitigation are increasingly key elements of these consultations.

For our direct operations, our water risk assessment approach is based on geographic location and types of operation. Each year, our facility list is cross-referenced with the WRI Aqueduct Tool to classify the Overall Water Risk of each site. Sites with an Overall Water Risk of "High" or "Extremely High" Risk are deemed as water-stressed for our assessment. Additional local factors are taken into account, such as drought conditions and overall water availability and vulnerability. For example, in some Market Areas truck wash programs are shifting to use of recycled water to reduce reliance on municipal water.

## W4. Risks and opportunities

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### W4.1

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**(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

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

Waste Management defines substantive strategic impact as events that directly impact the day-to-day operations of our facilities for an extended period of time, not only in terms of additional costs to maintain operations but also in potential lost revenues from the inability to service our customers via collection, hauling, and disposal of materials. WM has sites that operate in a variety of regions, therefore the magnitude of the individual financial impacts of these operational disruptions will vary from site to site.

For example, virtually any of WM's landfill sites in the U.S. and Canada are vulnerable to intermittent drought conditions, flood conditions or both. These significant weather pattern changes can impact the behaviors of materials decaying in a controlled MSW landfill environment. Flooding can impede the collection of landfill gas by filling collection wells with water; drought can reduce the rate of decay of organic material because water is essential to the decay process. Both extreme conditions result in additional labor being required to manage the landfill gas collection system, with additional liquids collection required to respond to excess moisture, and with adjustments to the gas collection system vacuum required to respond to the decrease in gas generation resulting from too little moisture. This can also create roadblocks for the productivity of the landfill gas-to-energy portion of our business.

For this analysis, we include those sites that are listed with a "High" or "Extremely High" Overall Water Risk, as indicated by the WRI Aqueduct Tool.

**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	114	1-25	For this analysis, we include those sites that are listed with a "High" or "Extremely High" water risk, as indicated by the WRI Aqueduct Tool. In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

**W4.1c**

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

**Country/Region**

Canada

**River basin**

Other, please specify (Various River Basins in Alberta)

**Number of facilities exposed to water risk**

2

**% 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**

---

**Country/Region**

Canada

**River basin**

Other, please specify (Various River Basins in Saskatchewan)

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Arizona)

**Number of facilities exposed to water risk**

8

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in California)

**Number of facilities exposed to water risk**

36

**% company-wide facilities this represents**

---

1-25

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Illinois)

**Number of facilities exposed to water risk**

26

**% company-wide facilities this represents**

1-25

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Indiana)

**Number of facilities exposed to water risk**

5

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Kansas)

**Number of facilities exposed to water risk**

2

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Michigan)

**Number of facilities exposed to water risk**

13

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in North Dakota)

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in New Mexico)

**Number of facilities exposed to water risk**

2

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Ohio)

**Number of facilities exposed to water risk**

9

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

---

**River basin**

Other, please specify (Various River Basins in Oklahoma)

**Number of facilities exposed to water risk**

4

**% 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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Texas)

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Utah)

**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**

In 2018, WRI recalibrated the Aqueduct Tool which resulted in an increase in WM sites exposed to "High" water risk.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River basins in Wisconsin)

**Number of facilities exposed to water risk**

3

**% 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**

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## W4.2

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**(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/Region**

United States of America

**River basin**

Other, please specify (Multiple River Basins)

**Type of risk**

Physical

**Primary risk driver**

Increased water scarcity

**Primary potential impact**

Other, please specify (Disruption in Operations)

**Company-specific description**

Water is used for dust control and soil compaction at our landfills, to clean and maintain our fleets, and for employee drinking and sanitation needs. Disruptions in water service could impact our operations.

**Timeframe**

1 - 3 years

**Magnitude of potential impact**

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**

The financial impact is expected to be de minimis as compared to our overall revenue of \$14.9 Billion.

**Primary response to risk**

Adopt water efficiency, water re-use, recycling and conservation practices (Water reuse and recycling)

**Description of response**

At our landfill sites, we protect waterways and watersheds, and apply structural best management practices (BMPs) to recharge ground water supplies, e.g., stormwater capture using rain gardens and detention basins. We also implement greywater recycling.

**Cost of response**

0

**Explanation of cost of response**

The cost is expected to be de minimis as compared to our overall revenue of \$14.9 Billion.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Multiple River Basins)

**Type of risk**

Regulatory

**Primary risk driver**

Higher water prices

**Primary potential impact**

Increased operating costs

**Company-specific description**

Higher water prices may impact some of our sites that depend on municipal water as the only source of water to run landfill, fleet and support operations. As our water prices increase we must pass this cost onto our customers or decrease our revenues.

**Timeframe**

Current up to 1 year

**Magnitude of potential impact**

Medium

**Likelihood**

Likely

**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**

The cost is expected to be de minimis as compared to our overall revenue of \$14.9 billion.

---



**Primary response to risk**

Establish site-specific targets

**Description of response**

For all our facilities, especially those in water stressed regions, we implement water efficiency measures by changing to more efficient fixtures at end-of-life, exploring opportunities for greywater recycling, mitigating water use in landscaping by using native plants that can thrive without use of water and tracking water consumption to identify baseline and set meaningful reduction goals.

**Cost of response**

0

**Explanation of cost of response**

While some water efficiency measures may require advanced technologies to aid in monitoring, limiting use, or recycling water, the establishment of water reduction goals will not require additional expenditures. The cost is expected to be de minimis as compared to our overall revenue of \$14.9 billion.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Multiple River Basins)

**Type of risk**

Regulatory

**Primary risk driver**

Increased difficulty in obtaining withdrawals/operations permit

**Primary potential impact**

Constraint to growth

**Company-specific description**

Landfill sites in water stressed regions may encounter difficulty in obtaining lease extensions and capacity expansions due to stricter land use policies and protection of undeveloped lands. This can impact our ability to add capacity at sites in the affected regions.

**Timeframe**

More than 6 years

**Magnitude of potential impact**

Medium-high

**Likelihood**

About as likely as not

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

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact**

The financial impact is expected to be de minimis as compared to our overall revenue of \$14.9 billion

**Primary response to risk**

Engage with regulators/policymakers

**Description of response**

Our government affairs staff monitor regulatory changes as part of annual strategic and risk management planning processes. As part of this process we anticipate and mitigate regulatory changes and uncertainties by implementing best management practices now rather than later, when regulations become applicable.

**Cost of response**

0

---

**Explanation of cost of response**

The cost is expected to be de minimis as compared to our overall revenue of \$14.9 billion.

---

**Country/Region**

United States of America

**River basin**

Other, please specify (Multiple River Basins)

**Type of risk**

Physical

**Primary risk driver**

Severe weather events

**Primary potential impact**

Other, please specify (Disruption in Operations)

**Company-specific description**

In addition to damage to structures or equipment, severe weather events can cause service disruptions.

**Timeframe**

1 - 3 years

**Magnitude of potential impact**

Medium

**Likelihood**

Likely

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

Yes, a single figure estimate

**Potential financial impact figure (currency)**

2500000

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact**

WM has sites that operate in a variety of regions, therefore the financial impacts of operational disruptions due to severe weather events will vary from site to site. WM carries insurance for Property Damage/Business Interruption with a deductible of \$2,500,000 per storm event

**Primary response to risk**

Develop flood emergency plans

**Description of response**

The severe weather events have caused the Market Areas to take anticipatory action to relocate vehicles, secure adequate fuel supplies, flood-proof power supplies, and use technology to respond to logistical challenges.

**Cost of response**

0

**Explanation of cost of response**

The cost of response is rolled into larger operational costs and not specific to water issues.

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W4.2c

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**(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	As an integrated environmental service company, our primary supply chain involves the trucks, heavy equipment, and containers that we use to manage the waste that we collect, as well as safety gear, information technology, and office supplies that we utilize to operate our business. Additionally, WM is in many instances part of a closed loop materials management process. Our municipal and private sector customers contracting for recycling services are in fact the suppliers of the raw materials we collect to feed our Materials Recovery Facilities, which in turn serve as the suppliers of the feedstock for paper, metal and other manufacturing companies. These companies produce products that after being used are collected by WM for recycling to use again. As such, our supply chain is not directly exposed to water-related risks that have the potential to generate a substantial change in our business operation, revenue or expenditure. WM continues to evaluate exposure to water-related risks from our supply chain.

**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**

Water consumption monitoring and baseline establishment, including as well as implementing globally accepted environmental design guidelines such as LEED and Green Globes.

**Estimated timeframe for realization**

Current - up to 1 year

**Magnitude of potential financial impact**

Medium

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

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

**Explanation of financial impact**

We estimate the financial impact to be less than 1% of our revenue of \$14.9 Billion.

**Type of opportunity**

Resilience

**Primary water-related opportunity**

Increased resilience to impacts of climate change

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

Constantly refining our emergency planning and response capabilities to be able to service communities impacted by weather-related events.

### Estimated timeframe for realization

1 to 3 years

### Magnitude of potential financial impact

Medium

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

No, we do not have this figure

### Potential financial impact figure (currency)

<Not Applicable>

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

<Not Applicable>

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

<Not Applicable>

### Explanation of financial impact

To prepare for the possibility of extreme weather emergencies that have the potential to disrupt our business, we have instituted emergency contingency plans and staged emergency equipment and fuel to ensure continuity of service or a return to service in the shortest time period possible. These plans are based on an assessment of the types of disasters that could affect each business region and the ways in which each type of disaster would impact our employees, business operations and community needs. Implementing best management practices now to mitigate these weather-related risks in the future allows our businesses in these areas to operate more efficiently and demonstrate environmental leadership in our industry. Although business continuity is our primary opportunity, cost savings and increase in our brand value are positive impacts of these strategies. The financial impact of these planning and implementation processes is rolled up into operational impacts and not specific to water issues.

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## W5. Facility-level water accounting

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### W5.1

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

#### Facility reference number

Facility 1

#### Facility name (optional)

Alberta - 2 Facilites

#### Country/Region

Canada

#### River basin

Other, please specify (Various River Basins in Alberta)

#### Latitude

52.82907

#### Longitude

-110.85319

#### 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)**

1.64

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

1.58

**Comparison of discharges with previous reporting year**

Lower

**Total water consumption at this facility (megaliters/year)**

0.05

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 37.2% in 2018. On a similar basis, our discharges decreased by 37.9%. Both values are considered "Lower". Our consumption value remained "About the Same" The coordinates listed are for our facility in this province with the largest withdrawal volume.

---

**Facility reference number**

Facility 2

**Facility name (optional)**

Saskatchewan - 1 Facility

**Country/Region**

Canada

**River basin**

Other, please specify (Various River Basins in Saskatchewan)

**Latitude**

50.48167

**Longitude**

-104.56376

**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)**

0.21

**Comparison of withdrawals with previous reporting year**

Much higher

**Total water discharges at this facility (megaliters/year)**

0.06

**Comparison of discharges with previous reporting year**

Much higher

**Total water consumption at this facility (megaliters/year)**

0.14

**Comparison of consumption with previous reporting year**

Much higher

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 299.4% in 2018. Our discharges rose from a de minimis value in 2017. Our consumption value also increased by 176.1%. All values are considered "Much Higher". The substantial increase at this site, on a normalized basis, was due to a significantly reduced employee count at this facility.

---

**Facility reference number**

Facility 3

**Facility name (optional)**

Arizona - 8 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Arizona)

**Latitude**

32.337647

**Longitude**

-111.074996

**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)**

29.22

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

24.56

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

4.66

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 21.2% in 2018. On a similar basis, our discharges increased by 25.0%. Both values are considered "Higher". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 4

**Facility name (optional)**

California - 36 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in California)

**Latitude**

34.114377

**Longitude**

-117.92892

**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)**

822.33

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

775.96

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

46.37

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 42.2% in 2018. On a similar basis, our discharges increased by 45.6%. Both values are considered "Higher". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 5

**Facility name (optional)**

Illinois - 26 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Illinois)

**Latitude**

41.504551

**Longitude**

-88.133188

**Primary power generation source for your electricity generation at this facility**

&lt;Not Applicable&gt;

**Oil & gas sector business division**

&lt;Not Applicable&gt;

**Total water withdrawals at this facility (megaliters/year)**

70.25

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

47.13

**Comparison of discharges with previous reporting year**

Lower

**Total water consumption at this facility (megaliters/year)**

23.11

**Comparison of consumption with previous reporting year**

Higher

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 15.6% in 2018. On a similar basis, our discharges decreased by 28.4%. Both values are considered "Lower". Our consumption increased by 32.5% and is "Higher". The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 6

**Facility name (optional)**

Indiana - 5 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Indiana)

**Latitude**

41.62324

**Longitude**

-85.974354

**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)**

57.41

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

55.86

**Comparison of discharges with previous reporting year**

Lower

**Total water consumption at this facility (megaliters/year)**

1.55

**Comparison of consumption with previous reporting year**

Higher

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 15.0% in 2018. On a similar basis, our discharges decreased by 15.9%. Both values are considered "Lower". Our consumption increased by 38.9% and is "Higher". The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 7

**Facility name (optional)**

Kansas - 2 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Kansas)

**Latitude**

37.637382

**Longitude**

-97.341726

**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)**

1.34

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

0.73

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

0.6

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 9.3% in 2018. On a similar basis, our discharges increased by 18.4%. Both values are considered "Higher". Our consumption value remained "About the Same". The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 8

**Facility name (optional)**

Michigan - 13 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Michigan)

**Latitude**

42.92

**Longitude**

-85.707183

**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)**

15.24

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

9.6

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

5.64

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 13.2% in 2018. On a similar basis, our discharges increased by 21.0%. Both values are considered "Higher". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 9

**Facility name (optional)**

North Dakota - 1 Facility

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in North Dakota)

**Latitude**

48.144608

**Longitude**

-98.927097

**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)**

0.07

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

0.07

**Comparison of consumption with previous reporting year**

Lower

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 17.3% in 2018 and is "Lower". Our discharges remained de minimis in 2018. Our consumption value also decreased by 22.2% and is "Lower".

---

**Facility reference number**

Facility 10

**Facility name (optional)**

New Mexico – 2 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in New Mexico)

**Latitude**

32.728716

**Longitude**

-103.149499

**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)**

---

0.58

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

Much lower

**Total water consumption at this facility (megaliters/year)**

0.58

**Comparison of consumption with previous reporting year**

Lower

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 17.4% in 2018 and is "Lower". Our discharges decreased to a de minimis level in 2018, and is considered "Much Lower". Our consumption value also decreased by 14.4% and is "Lower". The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 11

**Facility name (optional)**

Ohio – 9 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Ohio)

**Latitude**

41.375219

**Longitude**

-81.488083

**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)**

5.38

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

1.96

**Comparison of discharges with previous reporting year**

Lower

**Total water consumption at this facility (megaliters/year)**

3.42

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals decreased by 12.3% in 2018. On a similar basis, our discharges decreased by 30.0%. Both values are considered "Lower". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

---

Facility 12

**Facility name (optional)**

Oklahoma – 4 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Oklahoma)

**Latitude**

35.469066

**Longitude**

-97.616109

**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)**

28.56

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

25.6

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

2.97

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 20.1% in 2018. On a similar basis, our discharges increased by 23.0%. Both values are considered "Higher". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**Facility reference number**

Facility 13

**Facility name (optional)**

Texas - 1 Facility

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Texas)

**Latitude**

27.71243

**Longitude**

-97.46187

**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)**

---

0.19

**Comparison of withdrawals with previous reporting year**

Much higher

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

0.19

**Comparison of consumption with previous reporting year**

Much higher

**Please explain**

Our withdrawal and consumption values increased from a de minimis level in 2017, due to an increased headcount at this facility, therefore these values are considered "Much Higher." Our discharge value remained de minimis for 2018.

---

**Facility reference number**

Facility 14

**Facility name (optional)**

Utah - 1 Facility

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Utah)

**Latitude**

40.74021

**Longitude**

-112.057755

**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)**

0.33

**Comparison of withdrawals with previous reporting year**

About the same

**Total water discharges at this facility (megaliters/year)**

0.26

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

0.06

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, all values remained "About the Same".

---

**Facility reference number**

Facility 15

**Facility name (optional)**

---

Wisconsin - 3 Facilities

**Country/Region**

United States of America

**River basin**

Other, please specify (Various River Basins in Wisconsin)

**Latitude**

43.038406

**Longitude**

-89.419575

**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)**

4.24

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

1.75

**Comparison of discharges with previous reporting year**

Higher

**Total water consumption at this facility (megaliters/year)**

2.49

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

When normalized on a per-employee basis, our withdrawals increased by 10.9% in 2018. On a similar basis, our discharges increased by 31.2%. Both values are considered "Higher". Our consumption value remained "About the Same" The coordinates listed are for our facility in this state with the largest withdrawal volume.

---

**W5.1a**

---

**(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.**

**Facility reference number**

Facility 1

**Facility name**

Alberta - 2 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

1.64

**Comment**

---

**Facility reference number**

Facility 2

**Facility name**

Saskatchewan - 1 Facility

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

0.21

**Comment**

---

**Facility reference number**

Facility 3

**Facility name**

Arizona - 8 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

29.22

**Comment**

---

**Facility reference number**

Facility 4

**Facility name**

California - 36 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

822.33

**Comment**

---

**Facility reference number**

Facility 5

**Facility name**

Illinois - 26 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

---

**Groundwater - renewable**

1.82

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

68.43

**Comment**

Water withdrawals from sites with groundwater wells is estimated using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes.

---

**Facility reference number**

Facility 6

**Facility name**

Indiana - 5 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

0.59

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

56.82

**Comment**

Water withdrawals from sites with groundwater wells is estimated using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes.

---

**Facility reference number**

Facility 7

**Facility name**

Kansas - 2 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

1.34

**Comment**

**Facility reference number**

Facility 8

**Facility name**

Michigan - 13 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

1.63

---



**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

13.61

**Comment**

Water withdrawals from sites with groundwater wells is estimated using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes.

---

**Facility reference number**

Facility 9

**Facility name**

North Dakota - 1 Facility

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

0.07

**Comment**

---

**Facility reference number**

Facility 10

**Facility name**

New Mexico - 2 facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

0.58

**Comment**

---

**Facility reference number**

Facility 11

**Facility name**

Ohio - 9 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

5.38

---

**Comment**

---

**Facility reference number**

Facility 12

**Facility name**

Oklahoma - 4 Facilities

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

28.56

**Comment**

---

**Facility reference number**

Facility 13

**Facility name**

Texas - 1 Facility

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

0.19

**Comment**

---

**Facility reference number**

Facility 14

**Facility name**

Utah - 1 Facility

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

**Brackish surface water/seawater**

**Groundwater - renewable**

0.33

**Groundwater - non-renewable**

**Produced/Entrained water**

**Third party sources**

0

**Comment**

Water withdrawals from sites with groundwater wells is estimated using 81 gallons/employee/day, the national average of the USGS estimate for self-supply groundwater withdrawals per capita for domestic purposes.

---

**Facility reference number**

Facility 15

---

**Facility name**

Wisconsin - 3 Facilities

Fresh surface water, including rainwater, water from wetlands, rivers and lakes

Brackish surface water/seawater

Groundwater - renewable

Groundwater - non-renewable

Produced/Entrained water

Third party sources

4.24

**Comment**

---

W5.1b

---

(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.

**Facility reference number**

Facility 1

**Facility name**

Alberta - 2 Facilities

Fresh surface water

Brackish surface water/Seawater

Groundwater

Third party destinations

1.58

**Comment**

---

**Facility reference number**

Facility 2

**Facility name**

Saskatchewan - 1 Facility

Fresh surface water

Brackish surface water/Seawater

Groundwater

Third party destinations

0.06

**Comment**

---

**Facility reference number**

Facility 3

**Facility name**

Arizona - 8 Facilities

Fresh surface water

Brackish surface water/Seawater

Groundwater

Third party destinations

---

24.56

**Comment**

---

**Facility reference number**

Facility 4

**Facility name**

California - 36 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

775.96

**Comment**

---

**Facility reference number**

Facility 5

**Facility name**

Illinois - 26 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

1.46

**Third party destinations**

45.67

**Comment**

For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source, where  $W = D + C$ .

---

**Facility reference number**

Facility 6

**Facility name**

Indiana - 5 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

0.47

**Third party destinations**

55.39

**Comment**

For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source, where  $W = D + C$ .

---

**Facility reference number**

Facility 7

**Facility name**

Kansas - 2 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

---

**Groundwater**

**Third party destinations**

0.73

**Comment**

---

**Facility reference number**

Facility 8

**Facility name**

Michigan - 13 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

1.31

**Third party destinations**

8.29

**Comment**

For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source, where  $W = D + C$ .

---

**Facility reference number**

Facility 9

**Facility name**

North Dakota - 1 Facility

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

0

**Comment**

Water discharges at this site were less than .01 megaliters and are considered "de minimis"

---

**Facility reference number**

Facility 10

**Facility name**

New Mexico - 2 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

0

**Comment**

Water discharges at this site were less than .01 megaliters and are considered "de minimis"

---

**Facility reference number**

Facility 11

**Facility name**

Ohio - 9 Facilities

**Fresh surface water**

---

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

1.96

**Comment**

---

**Facility reference number**

Facility 12

**Facility name**

Oklahoma - 4 Facilities

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

25.6

**Comment**

---

**Facility reference number**

Facility 13

**Facility name**

Texas - 1 Facility

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

**Third party destinations**

0

**Comment**

Water discharges at this site were less than .01 megaliters and are considered "de minimis"

---

**Facility reference number**

Facility 14

**Facility name**

Utah - 1 Facility

**Fresh surface water**

**Brackish surface water/Seawater**

**Groundwater**

0.26

**Third party destinations**

0

**Comment**

For each source, withdrawn water (W) that is not consumed by our employees or through our operations (C) is returned (D) to the source, where  $W = D + C$ .

---

**Facility reference number**

Facility 15

**Facility name**

Wisconsin - 3 Facilities

---

Fresh surface water

Brackish surface water/Seawater

Groundwater

Third party destinations

1.75

Comment

---

## W5.1c

---

**(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.**

**Facility reference number**

Facility 1

**Facility name**

Alberta - 2 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 2

**Facility name**

Saskatchewan - 1 Facility

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 3

**Facility name**

Arizona - 8 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

---

**Facility reference number**

Facility 4

**Facility name**

California - 36 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 5

**Facility name**

Illinois - 26 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 6

**Facility name**

Indiana - 5 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 7

**Facility name**

Kansas - 2 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---



---

**Facility reference number**

Facility 8

**Facility name**

Michigan - 13 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 9

**Facility name**

North Dakota - 1 Facility

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 10

**Facility name**

New Mexico - 2 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 11

**Facility name**

Ohio - 9 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

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**Facility reference number**

Facility 12

**Facility name**

Oklahoma - 4 Facilities

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 13

**Facility name**

Texas - 1 Facility

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 14

**Facility name**

Utah - 1 Facility

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

---

**Facility reference number**

Facility 15

**Facility name**

Wisconsin - 3 Facility

**% recycled or reused**

1-10%

**Comparison with previous reporting year**

About the same

**Please explain**

Recycled water is used for a variety of purposes including, to wash trucks and control dust at landfills and transfer stations, and in boilers for steam turbines at select renewable energy projects. We estimate that this represents between 1-10% of our total water use.

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W5.1d

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

**Water withdrawals – total volumes**

**% verified**

Not verified

**What standard and methodology was used?**

Our data is not currently verified, but we are actively considering verifying within the next two years.

**Water withdrawals – volume by source**

**% verified**

Not verified

**What standard and methodology was used?**

**Water withdrawals – quality**

**% verified**

Not verified

**What standard and methodology was used?**

**Water discharges – total volumes**

**% verified**

Not verified

**What standard and methodology was used?**

**Water discharges – volume by destination**

**% verified**

Not verified

**What standard and methodology was used?**

**Water discharges – volume by treatment method**

**% verified**

Not verified

**What standard and methodology was used?**

**Water discharge quality – quality by standard effluent parameters**

**% verified**

Not verified

**What standard and methodology was used?**

**Water discharge quality – temperature**

**% verified**

Not verified

**What standard and methodology was used?**

**Water consumption – total volume**

**% verified**

Not verified

**What standard and methodology was used?**

**Water recycled/reused**

**% verified**

Not verified

**What standard and methodology was used?**

## W6. Governance

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### W6.1

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

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

### W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Description of water-related performance standards for direct operations Company water targets and goals Commitments beyond regulatory compliance Commitment to water-related innovation Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	We recognize that fresh water supplies are an increasingly scarce resource in our world. Though our operations are not relatively water intensive, we nevertheless work to use water sparingly and responsibly in our operations. Primary water uses include dust control and soil compaction at our landfills; cleaning and maintenance in our fleets; and drinking and sanitation in our facilities. Our approach to water conservation is guided by our company-wide conservation policy, which counsels facilities to consistently look for opportunities to reduce our water usage. In addition to conserving water, Waste Management works to maintain or improve the quality of local water supplies and to replenish subsurface water supplies. In some instances, we use methods such as reverse osmosis purification to treat and return water from industrial use into the environment at drinking-water quality and, at some facilities, we design "zero discharge" stormwater management infrastructure. More information can be found on pages 90-91 of our 2018 Sustainability Report. <a href="http://www.wm.com/sustainability/pdfs/WasteManagement_SustainabilityReport_2018.pdf">http://www.wm.com/sustainability/pdfs/WasteManagement_SustainabilityReport_2018.pdf</a>

### W6.2

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

Yes

### W6.2a

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

Position of individual	Please explain
Chief Executive Officer (CEO)	As a member of our Board, our CEO regularly receives environmental, health and safety compliance reports from management. Our Compliance Audit Services department supports these efforts and oversees compliance audits at all company-owned, -operated and -controlled facilities and operations.

**W6.2b**

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

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Overseeing major capital expenditures Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	Members of the Senior Leadership Team (listed in W6.3) report to our Board of Directors on issues relating to climate change (including recycling productivity, renewable energy generation, water-related issues, and pending regulatory matters) that may have near- or longer-term impact on our finances or the value of services we provide. The Board, in turn, provides our Senior Leadership Team strategic advice for the business

**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)**

Chief Operating Officer (COO)

**Responsibility**

Both assessing and managing water-related risks and opportunities

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

Half-yearly

**Please explain**

As part of the oversight of our collection and disposal operations, our Executive Vice President and Chief Operating Officer has responsibility for issues related to water and water risk as a component of our operations.

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

Other C-Suite Officer, please specify (SVP and Chief Legal Officer)

**Responsibility**

Both assessing and managing water-related risks and opportunities

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

Half-yearly

**Please explain**

Our Senior Vice President and Chief Legal Officer retains responsibility for confirming that we operate in an environmentally compliant and environmentally conscious manner. This includes coordination of climate change legislative and regulatory issues for the Company through our Sustainability team which interfaces regularly with partners in our Legal, Government Affairs, Communications, and Environmental Management departments.

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

Other, please specify (Senior Director, Sustainability and Policy)

**Responsibility**

Both assessing and managing water-related risks and opportunities

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

As important matters arise

**Please explain**

The Senior Director of Sustainability and Policy, reporting to our Senior Vice President and Chief Legal Officer, oversees the work of our GHG Reporting Team, coordinating the corporate-wide reporting efforts such as data collection, calculation, updates and report composition.

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

Other, please specify (VP, Environmental Management Group)

**Responsibility**

Both assessing and managing water-related risks and opportunities

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

As important matters arise

**Please explain**

Reporting to the Vice President of Disposal Operations Support, our VP, Environmental Management Group manages the day to day operations of our environmental compliance teams.

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**W6.5**

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

Yes, direct engagement with policy makers

Yes, trade associations

Yes, funding research organizations

**W6.5a**

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**(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?**

At the end of 2018, WM formed a Sustainability Team that works directly with members of our Legal, Government Affairs, Communications, Environmental Management and WM Sustainability Services (WMSS) departments to monitor emerging sustainability-related programs and other events and provide feedback internally to our SVP and Chief Legal Officer and Chief Operative Officer, our Board of Directors and our business units, as well as externally to legislators and regulators on elements that may impact the company and the environmental services industry at policy level. The same cross-functional team ensures that engagements and activities that may influence a policy, directly or indirectly are properly monitored and vetted for consistency with the company's overall climate change strategies. Our internal Public Policy Group oversees federal and state legislative and regulatory response to enhance the consistency of WM advocacy across multiple forums. Individual responsibility for policy oversight for issues with climate change implications (e.g., clean air regulations, natural gas vehicle incentives, recycling policy) is identified on the WM intranet site to enhance consistency and coordination.

**W6.6**

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

Yes (you may attach the report - this is optional)

3.1b WM 10K Proxy Combo (Page 81).pdf

**W7. Business strategy**

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**W7.1**

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**(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	When establishing our strategic objectives, we take into account the perspectives of our customers, shareholders, employees, community members, regulators and other stakeholders, as well as our performance against key internal metrics and our reputation as measured with key audiences. We may employ "heat maps" that identify the geographic scope and intensity of risks and opportunities.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	We align our major financial, operational, environmental, community, people, safety, compliance and customer objectives with those specific company-wide programs and initiatives that have been approved and funded as critical to achieving our strategic objectives. Performance expectations are communicated throughout the organization, and senior leadership assigns quarterly and annual targets to which our field operations are held accountable. An ongoing initiative focuses all employees on knowing our customers better, optimizing assets, innovating in technologies, creating more efficient systems and extracting maximum value from the waste stream.
Financial planning	Yes, water-related issues are integrated	11-15	Opportunities presented to Waste Management from outside or inside the company that have the best potential to deliver high degrees of water-use reduction at low cost or to deliver water use reductions combined with a positive return are given priority for implementation. This approach to addressing the challenges of climate change is integrated into our evaluation of all activities and potential investments — from collection fleet and logistics to administrative functions and operating facilities.

**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**

We consider water-related capital expenditure changes de minimis compared to our overall CAPEX and OPEX.

**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	Yes	

**W7.3a**

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

Yes

## W7.3b

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

	Climate-related scenario(s)	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify (WRI Aqueduct)	WM facilities located in areas with medium to high public awareness around water issues could carry higher reputational risks if water is not sustainably managed. For example, 47% of our Material Recovery Facilities (MRFs) are in high flood areas and 8% are in extremely high flood areas; 2 of these MRFs are also in areas with threatened amphibians. 10% of MRFs are in areas of medium to high drought severity. In a business as usual scenario, looking ahead at both 2030 and 2040, the majority of our MRFs are located in areas anticipated to experience near normal water demand and supply. Two MRFs may experience up to 1.4x increase in water supply, and to 1.2x decrease in current water supply, and 3 MRFs may experience up to 1.4x in water demand. One MRF is in an area of high flooding AND medium to high drought severity and is not anticipated to experience near normal supply and increased demand (1.2x) in 2030 and 2040.	Scenario analyses of the physical impact of climate change on all locations where WM has a facility of any kind has resulted in taking a closer look at potential future impacts. For example, over half of WM materials recycling facilities are currently in high or extremely high flood areas. Using the WRI Aqueduct tool, we consider other locations that might be similarly impacted in 2030 and begin to adapt existing Hurricane Preparedness Plans for these locations. We also consider multiple scenarios where WM operations are impacted to varying degrees and put plans in place to utilize the closest operations that would be out of the severe weather path. Another example is plotting WM locations into scenario analysis that shows areas of high drought severity and high likelihood of wildfires to try to predict where we may need to be prepared in the future.

## 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, but we are currently exploring water valuation practices

#### Please explain

We have requested information from CDP regarding best practices for valuing water within our operations.

## W8. Targets

### W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	When establishing our strategic objectives, we take into account the perspectives of our customers, shareholders, employees, community members, regulators and other stakeholders, as well as our performance against key internal metrics and our reputation as measured with key audiences. We often employ "heat maps" that identify the geographic scope and intensity of risks and opportunities. We align our major objectives with those specific company-wide programs and initiatives that have been approved and funded as critical to achieving our strategic objectives. Performance expectations are communicated throughout the organization, and senior leadership assigns quarterly and annual targets to which our field operations are held accountable. We set targets as part of our annual budgeting process. The targets represent commitments we have made to our stakeholders and include improvements and metrics that are factored into employee evaluations. Our operations at all levels report progress in reaching the targets. At the corporate level, monthly and quarterly reports are prepared and presented to the Board of Directors at each of its meetings. There are Monthly Business Review and Quarterly Business Review meetings to continually engage layers of management on progress toward company goals. This format and target-setting process (using specific key performance indicators) was integrated into our annual performance planning process to ensure consistency among strategy, performance planning, and performance measurement and accountability

**W8.1a**

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

**Target reference number**

Target 1

**Category of target**

Monitoring of water use

**Level**

Company-wide

**Primary motivation**

Cost savings

**Description of target**

Our goal is to have 100% of our non-groundwater facilities that use metered municipal water monitoring water use through our UBM System by 2020.

**Quantitative metric**

% sites monitoring water withdrawals total volumes

**Baseline year**

2014

**Start year**

2014

**Target year**

2020

**% achieved**

54

**Please explain**

We are continuing to work with our Accounting, Supply Chain, and Real Estate groups to ensure that all metered-use sites are added into the database. Additionally, in 2017 we began estimating water use at other sites, such as those that primarily use groundwater, using USGS groundwater withdrawal data and other internal estimates. This enables us to better monitor the amount of water used at our facilities and allows each Market Area and individual site to assess any water related issues such as leaks or usage deviations.

## W8.1b

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**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.**

**Goal**

Watershed remediation and habitat restoration, ecosystem preservation

**Level**

Company-wide

**Motivation**

Water stewardship

**Description of goal**

WM participates in the Wildlife Habitat Council and Corporate Lands for Learning Programs. These programs help protect watershed areas through conservation, education and active community involvement. We have established a goal of protecting more wildlife habitat across North America by providing wildlife habitat at 100 of our landfills.

**Baseline year**

2007

**Start year**

2007

**End year**

2020

**Progress**

While we achieved our goal of providing wildlife habitat at 100 of our landfills in 2010 – 10 years ahead of schedule, WM currently has 90 active Wildlife Habitat Programs, including “Lands for Learning” projects.

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## W9. Linkages and trade-offs

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### W9.1

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**(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

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

**Linkage or tradeoff**

Linkage

**Type of linkage/tradeoff**

Environmental restoration

**Description of linkage/tradeoff**

Waste Management owns a wide range of properties — large and small, urban and rural. At our larger properties, in the substantial areas that we set aside as buffer zones, we make a concerted effort to enhance the natural value of the land by providing habitat for wildlife and offering educational opportunities and natural beauty to the surrounding community. For example, one of our key partners in protecting and enhancing wildlife habitat is the Wildlife Habitat Council (WHC), a nonprofit organization recognized as the authoritative conservation program for businesses. Our long-standing partnership with WHC has resulted in the creation of 95 WHC-certified projects at Waste Management sites.

**Policy or action**

Our projects are included in the WHC's Conservation Registry, an interactive database that maps conservation, restoration and wildlife habitat-enhancement projects worldwide, allowing us to better understand the impact of our conservation programs. We continue to expand certified sites to include small urban habitats at transfer stations, recycling facilities and other smaller Waste Management facilities. Beyond the wildlife habitats certified at our active and closed facilities, we lease our unused property for productive use by farmers and ranchers. In partnership with WM's Environmental Legacy Management Group, USDA Forest Service researchers planted more than 3,000 fast-growing willow and poplar trees near four closed WM landfills in Wisconsin. These trees will help serve as a natural water and soil filtration system. The process, known as "phytoremediation," cleans the water before it flows to rivers and streams. The research is part of the Great Lakes Restoration Initiative, an effort mobilizing more than 2,000 projects aimed at safeguarding water quality in the massive Great Lakes Basin.

**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, we do not currently verify any other water information reported in our CDP disclosure

**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 CEO	Chief Executive Officer (CEO)

**W11.2**

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(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

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## SW. Supply chain module

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### SW0.1

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

	Annual revenue
Row 1	14914000000

### SW0.2

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

No

### SW1.1

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(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?

Yes, CDP supply chain members buy goods or services from facilities listed in W5.1

### SW1.1a

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(SW1.1a) Indicate which of the facilities referenced in W5.1 could affect a requesting CDP supply chain member.

**Facility reference number**

Facility 4

**Facility name**

California - 36 Facilities

**Requesting member**

California Department of General Services (DGS)

**Description of potential impact on member**

Changes in precipitation patterns can result in drought or flood conditions that may impact landfill operations. WM's landfills in California are subject to intermittent drought conditions, flood conditions or both. Flooding conditions can have an impact on collection operations if employees are unable to report to work and/or if collection vehicles are unable to service customers. This would directly impact our ability to service our customers, including the member. Both flooding and drought can impact the decay rate of organic materials in a controlled MSW landfill environment. Such conditions may result in decreased or increased landfill gas and fluctuation in gas generation could impact energy recovery projects. This can increase our operating costs leading to pricing fluctuations for our customers, including the member.

**Comment**

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## SW1.2

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

No, this is confidential data

## SW2.1

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

#### Requesting member

California Department of General Services (DGS)

#### Category of project

Promote river basin collective action

#### Type of project

Invite customer to collaborate with other users in their river basins to reduce impact

#### Motivation

Through our work with various stakeholder working groups, we have been successful at encouraging innovation to reduce water impacts by investigating new technologies and sampling techniques.

#### Estimated timeframe for achieving project

2 to 3 years

#### Details of project

We discuss water quality issues with many of our suppliers and customers pursuant to our participation in the RCRA Corrective Action Project and the Sediment Management Working Group. Both groups fund research on water quality parameters, and discuss the interaction between water contamination and discharge standards and coverage. We would encourage California Department of General Services to collaborate via these or other working groups.

#### Projected outcome

Reduce the impact on river basins throughout California and protect water quality and availability.

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## SW2.2

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

No

## SW3.1

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

**Product name**

Solid Waste Management (Landfilled or Recycled Materials)

**Water intensity value**

0.023

**Numerator: Water aspect**

Water withdrawn

**Denominator: Unit of production**

Tons Managed

**Comment**

In 2018, WM used 2,987,001 cubic meters (2,987.00 megaliters) of water in operations while handling over 132 million tons of Municipal Solid Waste and Recycled Material. Total tonnage is an aggregation of landfill and recycling tonnage from two distinct data sets.

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**Submit your response**

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**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 Customers	Yes, submit Supply Chain Questions now

**Please confirm below**

I have read and accept the applicable Terms