

W0. Introduction

W0.1

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

CMS Energy Corporation (CMS Energy) is an energy company operating primarily in Michigan. It is the parent holding company of several subsidiaries, including its principal subsidiary, Consumers Energy Company (Consumers Energy or Company), an electric and natural gas utility serving about 6.7 million of Michigan's 10 million residents and CMS Enterprises Company (CMS Enterprises), primarily a domestic independent power producer. CMS Enterprises, through its subsidiaries and equity investments, is engaged in domestic independent power production, the marketing of independent power production, and the development and operation of renewable generation. This report is ONLY for the principal subsidiary of CMS Energy, Consumers Energy.

Consumers Energy acknowledges that the long term sustainability of our Company depends upon our ability to listen to our stakeholders and conduct business that promotes environmental health, increases societal value, and brings economic success so that we can provide safe, reliable, and affordable energy to our customers. This commitment is advanced by our focus on the triple bottom line: people, planet and profit.

In 2017, Consumers Energy continued its commitment to sustainability by maintaining first quartile sustainability performance as compared to its peers and being ranked first among 54 U.S. utilities companies as assessed by Sustainalytics, a global leader in sustainability ratings, research and analysis, for the second consecutive year. Consumers Energy was also ranked as the top Michigan Company and ninth in the nation by Newsweek's annual "Green Rankings, a reflection of its commitment to environmental principles.

Consumers Energy took its sustainability commitment to the next level in 2017 by conducting a thorough stakeholder engagement process to inform its new planet breakthrough goal. As a result of that effort, Consumers Energy adopted a five year goal to save 1 billion gallons of water through 2022.

This report is made as of the date hereof and contains "forward-looking statements" as defined in Rule 3b-6 of the Securities Exchange Act of 1934, Rule 175 of the Securities Act of 1933, and relevant legal decisions. The forward-looking statements are subject to risks and uncertainties and should be considered in the context of the risk and other factors detailed in CMS Energy's and Consumers Energy's SEC filings. Forward-looking statements should be read in conjunction with "FORWARD-LOOKING STATEMENTS AND INFORMATION" and "RISK FACTORS" sections of CMS Energy's and Consumers Energy's Form 10-K for the year ended December 31, 2016 and as updated in subsequent 10-Qs. CMS Energy's and Consumers Energy's "FORWARD-LOOKING STATEMENTS AND INFORMATION" and "RISK FACTORS" sections are incorporated herein by reference and discuss important factors that could cause CMS Energy's and Consumers Energy's results to differ materially from those anticipated in such statements. CMS Energy and Consumers Energy undertake no obligation to update any of the information presented herein to reflect facts, events or circumstances after June 30, 2017.

W-EU0.1a

(W-EU0.1a) Which activities in the electric utilities sector does your organization engage in?

Electricity generation
Transmission
Distribution

W-EU0.1b

(W-EU0.1b) For your electricity generation activities, provide details of your nameplate capacity and the generation for each power source.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross generation (MWh)
Coal – hard	1902	41.5	10098000
Lignite	0	0	0
Oil	0	0	0
Gas	2645	57.7	5202000
Biomass	0	0	0
Waste (non-biomass)	0	0	0
Nuclear	0	0	0
Geothermal	0	0	0
Hydroelectric	0	0	0
Wind	35	0.76	593000
Solar	2	0.04	6000
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	4584	100	15899000

W-OG0.1a

(W-OG0.1a) Which business divisions in the oil & gas sector apply to your organization?

Please select

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 2017	December 31 2017

W0.3

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

United States of America

W0.4

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

USD

W0.5

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

Companies, entities or groups over which financial control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Hydroelectric Operations	This report focuses on Consumers Energy's largest sources of water withdrawals, our steam electric power generating facilities which operate under National Pollutant Discharge Elimination System permits and comprise a majority of our water use. Our hydroelectric plants and Ludington Pumped Storage Facility are not included in this report.
Electric Distribution and Transmission Operations	This report focuses on Consumers Energy's largest sources of water withdrawals, our steam electric power generating facilities which operate under National Pollutant Discharge Elimination System permits and comprise a majority of our water use. Therefore, our electric distribution operations are not included in this report.
Gas Distribution, Transmission and Storage Operations	This report focuses on Consumers Energy's largest sources of water withdrawals, our steam electric power generating facilities which operate under National Pollutant Discharge Elimination System permits and comprise a majority of our water use. Therefore, our natural gas compressor stations are not included in this report.
Service Center, Call Centers and Office Buildings	This report focuses on Consumers Energy's largest sources of water withdrawals, our steam electric power generating facilities which operate under National Pollutant Discharge Elimination System permits and comprise a majority of our water use. Therefore, our service centers, call centers and office buildings are not included in this report.
Non-Utility Operations	This report focuses on Consumers Energy's largest sources of water withdrawals, our steam electric power generating facilities which operate under National Pollutant Discharge Elimination System permits and comprise a majority of our water use. Therefore, non-utility operations are not included in this report.

W1. Current state

W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Important	Direct Use: Quality freshwater from nearby lakes and rivers is withdrawn primarily for non-contact cooling purposes. In addition, water quality is important in steam generation as specific chemicals, including some salts, can result in boiler and condenser tube/pipe corrosion over time. This use is rated as "vital for operations" because without this water input, our steam electric generating facilities would not be able to operate as currently configured. While our intake systems can accommodate moderate fluctuations in water levels, maintaining historic lake and river levels is important to ongoing utilization of our current water intake infrastructure without significant and costly modification. Indirect Use: This use is rated as "important" because freshwater is essential to fuel exploration, production, and processing, which is vital to our operations.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Important	Direct: Recycled water is used for non-contact cooling and other plant processes and reduces the amount of freshwater withdrawn for these uses. Two of our generating facilities use primarily recycled water for condenser cooling. Indirect Use: This use is rated as "important" because recycling and reusing water is essential for fuel exploration, production, and processing, particularly in arid climates with less freshwater availability.

W1.2

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

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	Water withdrawn is monitored at 100% of sites (steam electric generating facilities) due to the vital importance of water to site operations and to track potential environmental risks. Water withdrawal volumes are required to be reported in a number of programs including water stewardship tracking, annual reporting of water usage to the Michigan Department of Environmental Quality (DEQ), and annual reporting to the United States Department of Energy, Energy Information Administration Form 923 Supplemental
Water withdrawals – volumes from water stressed areas	100%	Water withdrawn is monitored at 100% of sites (steam electric generating facilities) due to the vital importance of water to site operations and to track potential environmental risks. Water withdrawal volumes are required to be reported in a number of programs including water stewardship tracking, annual reporting of water usage to the Michigan Department of Environmental Quality (DEQ), and annual reporting to the United States Department of Energy, Energy Information Administration Form 923 Supplemental
Water withdrawals – volumes by source	100%	Water withdrawn from surface water, groundwater and municipal sources is monitored at 100% of sites (steam electric generating facilities) for the purposes of tracking water quality and availability from local systems.
Produced water associated with your metals & mining sector activities - total volumes	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes	Not relevant	
Water withdrawals quality	100%	Water withdrawal quality is monitored at 100% of sites (steam electric generation) to determine the necessary level of treatment required for use.
Water discharges – total volumes	100%	Water discharge volumes are monitored at 100% of sites (steam electric generating facilities) due to the vital importance of water to site operations and to track potential environmental risks. Water discharge volumes are required to be reported in a number of programs including water quality monitoring associated with site NPDES permits, annual reporting of water usage to the Michigan Department of Environmental Quality (DEQ), and annual reporting for the United States Department of Energy, Energy Information Administration Form 923 Supplemental.
Water discharges – volumes by destination	100%	Water volume discharged by destinations, including Great Lakes, inland lakes, rivers, ground and municipal water systems, is tracked for 100% of sites (steam electric generating facilities) for purposes of ensuring minimal adverse impact to local ecosystems and ensuring the majority of water withdrawn is returned to the watershed. Additionally, these volumes are required to be reported for water quality monitoring associated with site NPDES permits, annual reporting of water usage to the Michigan Department of Environmental Quality (DEQ), and annual reporting for the United States Department of Energy, Energy Information Administration Form 923 Supplemental.
Water discharges – volumes by treatment method	100%	Water discharged following different treatment methods is tracked for 100% of sites (steam electric generating facilities) to monitor treatment system effectiveness and capacity as well as for required water quality monitoring associated with site NPDES permits.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality is monitored at 100% of sites (steam electric generating facilities) for compliance with National Pollutant Discharge Elimination System (NPDES) surface water discharge permits as well as state-issued groundwater permits.
Water discharge quality – temperature	100%	Water discharge quality, including temperature, is monitored at 100% of sites (steam electric generating facilities) for compliance with National Pollutant Discharge Elimination System (NPDES) surface water discharge permits as well as state-issued groundwater permits.
Water consumption – total volume	100%	Water consumption is tracked at 100% of sites (steam electric generating facilities) in order to track consumptive losses through once-through cooling and cooling tower systems and makeup water needs to those systems. Consumptive losses are typically through evaporative losses or discharges to underground injection wells.
Water recycled/reused	Not monitored	
The provision of fully-functioning, safely managed WASH services to all workers	100%	Fully-functioning WASH services are provided for workers at 100% of sites (steam electric generating facilities) and are monitored for usage. Potable sources include groundwater wells and municipal sources, and usage from these sources is required to be reported through municipal water utility discharge permits, annual reporting of water usage to the Michigan DEQ, and annual reporting for the United States Department of Energy, Energy Information Administration Form 923 Supplemental.

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	1204582.6	Lower	The closure of seven coal-fired generating units in April 2016 resulted in lower water withdrawals for 2017
Total discharges	1199946.9	Lower	The closure of seven coal-fired generating units in April 2016 resulted in a higher utilization of gas-fired combined cycle plants and more efficient coal units. The gas-fired combined cycle plants generate electricity with a significantly lower water intensity than the coal-fired plants. This resulted in an overall reduction in total volume discharged.
Total consumption	4635.7	Lower	The closure of seven coal-fired generating units in April 2016 resulted in a higher utilization of gas-fired combined cycle plants and more efficient coal units. The gas-fired combined cycle plants generate electricity with a significantly lower water intensity than the coal-fired plants. This resulted in an overall reduction in total consumption.

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	100	This is our first year of measurement	WRI Aqueduct	According to the WRI Aqueduct tool using the electric power weighting scheme, the baseline water stress near Consumers Energy generating facilities are medium high.

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	Relevant	1198893.5	Lower	Due to plant retirements in April 2016, less surface water was withdrawn for operations
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations are not near brackish surface/seawater
Groundwater – renewable	Relevant	1081	Much lower	Due to plant retirements in April 2016 and maintenance outages in 2017, less groundwater was withdrawn for process and potable uses.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations do not withdraw groundwater from non-renewable aquifers
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations do not produce well production water
Third party sources	Relevant	4608.1	Lower	The electric generating plants which receive water from municipal sources generated approximately 15% fewer megawatt-hours in 2017.

W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	1199588.6	Much lower	Due to plant retirements and maintenance outages, less surface water was discharged from operations.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations are not near brackish surface/seawater
Groundwater	Relevant	1081	Lower	Due to plant retirements and maintenance outages, less water was discharged from operations.
Third-party destinations	Relevant		Lower	The electric generating plants which discharge water from municipal sources generated less in 2017.

W-EU1.3

(W-EU1.3) Do you calculate water intensity for your electricity generation activities?

Yes

W-EU1.3a

(W-EU1.3a) Provide the following intensity information associated with your electricity generation activities.

Water intensity value	Numerator: water aspect	Denominator: unit of production	Comparison with previous reporting year	Please explain
5.3	Total water withdrawn	MWh	Lower	7 coal-fired units were retired in April 2016. The remaining fleet is more water efficient which is reflected in the water intensity numbers.

W-OG1.3

(W-OG1.3) Do you calculate water intensity for your activities associated with the oil & gas sector?

Please select

W1.4

(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

(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

Unknown

% of total procurement spend

76-100

Rationale for this coverage

The Company has used two different methods to survey suppliers. Annually, the Company requests information from its largest suppliers, on a cost basis, to discern if the supplier has the potential to negatively impact the environment, if an environmental management system has been implemented and whether cost effective measures to avoid pollution have been implemented. In addition, in November 2016, a one-time Alliance Supplier Sustainability Survey was sent to the top 219 suppliers representing 80% of procurement spend that asked questions on metrics for all environmental media, including water use and consumption, water-related company goals, and water availability and scarcity in the region the supplier operates in.

Impact of the engagement and measures of success

Supplier surveys on environmental management and water-related metrics allow the company to evaluate supplier performance in key sustainability areas and provides context for pursuing further engagement with suppliers in these areas. Several suppliers were engaged as stakeholders in part of our new sustainability goal development, both to provide feedback on what they see as valuable and to benchmark against high performing companies in the area of sustainability.

Comment

W1.4b

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

W1.4c

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

Consumers Energy believes the basis of our sustainability efforts should be founded on what both we and our stakeholders deem to be most material. In developing new sustainability goals, the company met with stakeholders including key customers to engage them collaboratively and get input and feedback on where the company should move in terms of sustainability. The results of these meetings were compiled and became the basis for the goals set for all media, including water, for the next five years.

W2. Business impacts

W2.1

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

Yes

W2.1a

(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

Other, please specify (St. Lawrence, Lake Michigan watershed)

Type of impact driver

Regulatory

Primary impact driver

Other, please specify (Regulatory uncertainty)

Primary impact

Increased operating costs

Description of impact

New federal regulations affecting operation of cooling water intake systems and effluent limitations of process waters specific to the steam electric industry have the potential to require infrastructure modifications at both the JH Campbell and DE Karn facilities. New regulations are being challenged in the courts, and reconsidered by the EPA, creating regulatory uncertainty regarding what might ultimately be required and when to comply with these regulations.

Primary response

Engage with regulators/policymakers

Total financial impact

80000000

Description of response

For the new regulation, the Company is developing compliance strategies, including conceptual plans for facility infrastructure modification. For the regulatory uncertainty, the Company is engaged with industry groups to stay aware of court challenges/decisions to better understand how those decisions may/may not affect our regulatory compliance strategies, and in turn, our capital investment needs and associated market competitiveness.

Country/Region

United States of America

River basin

St. Lawrence

Type of impact driver

Physical

Primary impact driver

Declining water quality

Primary impact

Increased operating costs

Description of impact

At the JH Campbell coal-fired facility, a groundwater well field system provides high quality boiler make-up to unit boilers. The water quality and reliable system yield has declined in recent years.

Primary response

Infrastructure maintenance

Total financial impact

1000000

Description of response

Consumers Energy has investigated and is continuing to monitor the decline in water quality/quantity. Increased infrastructure maintenance has increased system function in the short term. Additional capital investment or other measures may eventually be required if the issue continues.

W2.2

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

No

W3. Procedures

W-EU3.1

(W-EU3.1) How does your organization identify and classify potential water pollutants associated with your business activities in the electric utilities sector that could have a detrimental impact on water ecosystems or human health?

Consumers Energy complies with all federal, state, and local regulations for steam electric generating facilities which discharge water. Potential pollutants to surface water are identified through the Effluent Limitation Guidelines set forth by EPA and regulated through National Pollutant Discharge Elimination System (NPDES) permits. Laboratory analysis, visual observations, flow measurements, and temperature are used as metrics and indicators. Potential pollutants to groundwater from coal combustion residuals (CCR) are identified and monitored per the Resource Conservation and Recovery Act CCR rule and state solid waste permitting rules. In general CCR pollutants are categorized into detection and assessment monitoring parameters. Potential impacts are assessed by comparison to state and federal limits and mitigated through compliance with those limits. NPDES permits include daily maximum and weekly or monthly limits to account for chronic and acute toxicity to surface water populations such as benthic organisms. Groundwater limitations are set by federal and state rules to be protective of human health and the environment.

W-EU3.1a

(W-EU3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants associated with your activities in the electric utilities sector on water ecosystems or human health.

Potential water pollutant	Description of water pollutant and potential impacts	Management procedures	Please explain
Coal combustion residuals	Coal Combustion Residuals (CCRs) can contain metals which leach into transport or groundwater. Metals at sufficient concentrations can be harmful to human health and the environment	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (Engineering controls)	CE does not wet-sludge fly ash at any currently generating steam-electric generating site, which significantly reduces potential water contamination from fly ash. All fly ash is handled dry and placed in licensed landfills which are subject to closure and post-closure requirements under state and federal rules. Spill and fugitive dust emergency management procedures and training are implemented at each site. Bottom ash transport water complies with effluent limit guidelines set by EPA and limits within the NPDES permit at all steam electric generating sites. Unlined bottom ash impoundments are being closed and replaced by lined impoundments or concrete tanks to prevent the spillage, leaching, and leakage of bottom ash transport water. All surface impoundments have been evaluated for structural stability. Annual meetings are held with local emergency planners and responders .
Hydrocarbons	Hydrocarbons released to surface water can have toxic physical and chemical effects on human health and the environment. Hydrocarbon sheens can also be unsightly and cause nuisances to surrounding communities.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	CE has Spill Prevention, Control, and Countermeasures (SPCC) plans in place at all steam electric generating facilities, which include procedures and training requirements to prevent and mitigate spills. Emergencies are managed using an Incident Command System which can be scaled up or down as needed. Community groups and first responders are engaged during the formation and updating of these plans. All steam electric generating facilities are required to check for oil sheen on water daily. SPCC plans outline the necessary notifications that need to be made should a hydrocarbon spill leave the site.
Radiation	Radium isotopes in water may cause cancer, kidney issues, or birth defects.	Other, please specify (Radium isotope testing in groundwater)	Radium isotopes are analyzed in monitoring wells surrounding coal combustion residuals disposal units per the federal Resource Conservation and Recovery Act.
Thermal pollution	Thermal pollution caused by releasing warm water used for cooling can cause organisms to go into temperature shock.	Compliance with effluent quality standards	CE commissioned studies of thermal plumes in 2016 and complies with NPDES temperature limits.

W-OG3.1

(W-OG3.1) How does your organization identify and classify potential water pollutants associated with its activities in the oil & gas sector that may have a detrimental impact on water ecosystems or human health?

W-OG3.1a

(W-OG3.1a) For each business division of your organization, describe how your organization minimizes the adverse impacts on water ecosystems or human health of potential water pollutants associated with your oil & gas sector activities.

Potential water pollutant	Business division	Description of water pollutant and potential impacts	Management procedures	Please explain
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W3.3

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

Yes, water-related risks are assessed

W3.3a

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

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

Annually

How far into the future are risks considered?

2 to 5 years

Type of tools and methods used

Other

Tools and methods used

Internal company methods

External consultants

Comment

Consumers Energy utilizes a system that assesses the water risk of system or plant upgrades and modifications and new projects. This assessment takes into account the water withdrawal and discharge capacities allowed in current permits and does not allow the project to proceed if it exceeds the current permit capacity, and in some cases, the resource capacity established by the State of Michigan. This assessment addresses any water issues that may occur during project inception.

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

Suppliers are surveyed on water-related issues but a formal risk assessment has not been performed.

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	Water availability and quantity are important to Consumers Energy generating facilities, primarily as once-through cooling water. Water levels and general conditions are monitored by facility operations and corporate environmental staff on a routine basis. When a system design change is presented the impacts on water needs are evaluated (via the Michigan Water Withdrawal Assessment Tool and internal knowledge of the resource) to verify that there is available water capacity with no adverse impact. Similarly, when new projects are considered water needs are vetted with associated water quality standards and reporting requirements.
Water quality at a basin/catchment level	Relevant, always included	Water quality is critical to Consumers Energy operations and environmental compliance. Water intake quality is considered in design and operations, and monitored as needed for system operation and compliance. Water discharge quality is always taken into account in risk assessments and is subject to federal, state, and local regulations.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Consumers Energy has local personnel throughout the State of Michigan who are responsible for stakeholder conflicts. These representatives ensure that such conflicts are brought to the attention of the appropriate personnel so that their risks will be assessed and a resolution will be implemented. The Company uses internal Company knowledge of the stakeholders, the stakeholders' issues and the particular resource to address the issue.
Implications of water on your key commodities/raw materials	Relevant, sometimes included	At this time, the Company does not require suppliers to report specifically on water use and quality risks. However, the Company does request information from suppliers to discern if materials and/or services could negatively impact the environment, if an environmental management system has been implemented and whether cost effective measures to avoid pollution have been implemented.
Water-related regulatory frameworks	Relevant, always included	As these issues arise, they are evaluated under the existing framework of State water withdrawal regulations, waste water discharge permitting and other applicable water availability and quality regulations. To do this, Consumers Energy uses internal Company knowledge. Consumers Energy also participates on the State of Michigan, Water Use Advisory Council, which was established by the Governor of Michigan. Through participation on this council, Consumers Energy represents utility interests in water use regulations and stays abreast on state and regional developments and associated dialogue.
Status of ecosystems and habitats	Relevant, always included	When assessing new projects an internal review captures any impacts on aquatic ecosystems and habitats to determine if applicable permits are required. If a permit is required, risks are mitigated through the permitting process. To be successful in this process, the Company uses its internal knowledge of sensitive ecosystems, species and habitats, and at times, knowledge of technical experts outside the Company.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Employees doing physical labor need showers. The majority of these employees are at generating facilities (and natural gas compressor stations, gas storage operations, and service centers, which are not captured in the scope of this report due to their comparatively small water use). Employees at all facilities have access to restrooms and potable water.
Other contextual issues, please specify	Not considered	

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

	Relevance & inclusion	Please explain
Customers	Relevant, always included	It is important that customers recognize Consumers Energy's commitment to being a reliable and environmentally conscious company while also keeping electric and gas rates affordable. Consumers has done this through conducting a materiality assessment. This assessment allows a variety of Company stakeholders to communicate to the Company what environmental, social and governance issues are the most important to them. Furthermore, stakeholder outreach was conducted in 2017 for both the development of new Company sustainability goals and for the integrated resource plan process.
Employees	Relevant, always included	Employee knowledge and understanding of water risks is acknowledged as a vital component to managing water risks. Responsibility for maintaining compliance with permits and water regulation is shared among employees. The level and amount of training connected to water risks is evaluated to determine the Company's overall risk and based on job function. We also engage our employees through conducting a materiality assessment. This assessment allows a variety of Company stakeholders to communicate to the Company what environmental, social and governance issues are the most important to them.
Investors	Relevant, always included	We have made investors aware of our water stewardship initiative and update them on our progress toward meeting goals as part of our overall environmental stewardship commitment. When assessing water risks, we take into consideration how investors perceive water risk as their perceptions drive our ability to acquire capital and earn a return on their investment. To further take into account the views of the investment community, Consumers Energy responds to an annual questionnaire from Sustainalytics, a sustainability benchmarking organizing who specializes in the sustainability interests of investors. Sustainalytics provides us with a list of issues that are most material to the investment group within the categories of environment, social and governance.
Local communities	Relevant, always included	In communities where our facilities are located, local communities are directly impacted by our water use decisions. Our employees comprise portions of these local communities. Thus considering impacts to local communities is also considering impacts to employees. When planning new projects we take into consideration how local communities will be impacted. We also participate in various state advisory groups to further protect these communities such as the Michigan Department of Environmental Quality's Water Use Advisory Council and Wetlands Advisory Council where we serve as the representative for Michigan's electric and gas utilities. We also participated in an "expert" workshop hosted by the International Joint Commission (IJC) to develop "ecological indicators" to measure the efficacy of actions taken under the renewed Great Lakes Water Quality Agreement between the United States and Canada. Our Senior Vice President for Governmental and Public Affairs also serves on the IJC's Great Lakes Water Quality Board. Additionally, we have an internal process for stakeholder engagement for new generation projects. We also engage with local communities through conducting a materiality assessment. This assessment allows a variety of Company stakeholders to communicate to the Company what environmental, social and governance issues are the most important to them. Moreover, we have designated staff serving as local community area managers who routinely engage with the local governments, communities representatives and customers in their area to learn of and respond to specific inquiries, including environmental related inquiries. Furthermore, stakeholder outreach was conducted in 2017 for both the development of new Company sustainability goals and for the integrated resource plan process.
NGOs	Relevant, always included	Consumers Energy monitors prominent environmental non-governmental organizations (NGOs) to take their opinions into considerations when assessing environmental risk. The Company's Foundation supports numerous watershed based conservation groups including Friends of the Rouge, Huron Pines, and Headwaters Conservancy to decrease the State's water risks. The Foundation also supports various land conservancies, such as the Grand Traverse Land Conservancy, the Little Traverse Bay Conservancy, and others which protect the land and the watersheds within their service area. NGOs have an opportunity to comment on the NPDES permit in the permitting process. Additionally, we engage with NGOs through conducting a materiality assessment. This assessment allows a variety of Company stakeholders to communicate to the Company what environmental, social and governance issues are the most important to them. Furthermore, stakeholder outreach was conducted in 2017 for both the development of new Company sustainability goals and for the integrated resource plan process.
Other water users at a basin/catchment level	Relevant, always included	We assess all local water users to determine water risks. This includes other industries with high water usage rates such as agriculture.
Regulators	Relevant, always included	We comply with all water withdrawal and discharge regulations as well as regulations dealing with sensitive species and habitats, water resources (i.e., wetlands, streams, and floodplains), and erosion and sedimentation control. We also engage with regulators through conducting a materiality assessment. This assessment allows a variety of Company stakeholders to communicate to the Company what environmental, social and governance issues are the most important to them. Furthermore, stakeholder outreach was conducted in 2017 for both the development of new Company sustainability goals and for the integrated resource plan process.
River basin management authorities	Not relevant, explanation provided	There are no specific River Basin management authorities in our territory.
Statutory special interest groups at a local level	Relevant, always included	When new projects are submitted for environmental review that affect Native American tribes on the Au Sable, Manistee and Muskegon Rivers, as well as treaty waters of Lake Michigan, we proceed with consideration for these tribes. Furthermore, stakeholder outreach was conducted in 2017 for the development of new Company sustainability goals.
Suppliers	Relevant, always included	The Company requests information from suppliers to discern if an environmental management system has been implemented and whether cost effective measures to avoid pollution have been implemented.

	Relevance & inclusion	Please explain
Water utilities at a local level	Relevant, always included	The Company utilizes water from several local water utilities. As part of our business interactions with local water utilities/purveyors, we provide estimates of average and peak water use. Subsequently, through this process they evaluate the impact of our water use on their system's capacity.
Other stakeholder, please specify	Not relevant, explanation provided	No other stakeholders were considered by the Company in 2017.

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.

The water risk at each steam electric generation facility is considered on an individual basis. These generating facilities use large amounts of water which require water related risks to be evaluated frequently through NPDES, groundwater and water withdrawal permit requirements. Risk assessments are built into the environmental regulations that we operate under. We operate in a regulatory environment that is mature in regards to water risk assessment and we rely on this framework as a risk assessment tool. Consumers Energy also utilizes a system that assesses the water risk of new projects. This assessment takes into account the water withdrawal and discharge capacities allowed in current permits and does not allow the project to proceed if it exceeds the current permit capacity, and in some cases, the resource capacity established by the State of Michigan. This assessment addresses any water issues that may occur during project inception. Additionally, the Company requests information from its largest suppliers, on a cost basis, to discern if the supplier has the potential to negatively impact the environment, if an environmental management system has been implemented and whether cost effective measures to avoid pollution have been implemented.

W4. Risks and opportunities

W4.1

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

Yes, both in direct operations and the rest of our value chain

W4.1a

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

Consumers Energy defines a substantive change in our business, operations, revenue or expenditure for water risk as any change that would dramatically affect our operation reliability, costs or reputation. The definition applies to direct operations. Specific levels of change or numeric metrics of change in business, operations, revenue or expenditure for water are not established. Electricity markets are complex and based on many factors, including the relative cost of electricity within an established organization, often covering several states. The organization is approved by the Federal Energy Regulatory Commission (FERC) to coordinate, control and monitor the use of the electric transmission system by utilities, generators and marketers. For the operations and facilities covered in this response, that organization is the Midcontinent Independent System Operator (MISO), Zone 7.

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	4	100	A facility is a steam electric generating facility.

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

United States of America

River basin

St. Lawrence

Number of facilities exposed to water risk

4

% company-wide facilities this represents

100%

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

100%

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

Please select

% company's total global revenue that could be affected

100%

Comment

A facility is a steam electric generating facility.

W4.2

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

Country/Region

United States of America

River basin

St. Lawrence

Type of risk

Physical

Primary risk driver

Drought

Primary potential impact

Increased operating costs

Company-specific description

Changing water levels could result in the restructuring of cooling water intake and discharge structures. Higher or lower water levels could result in an impaired ability to withdraw water for cooling using the existing systems. This is relevant for the company's coal-fired generating units that use water from the Great Lakes primarily for once-through cooling. Additionally, changing water levels could affect the ability of the facilities to receive coal deliveries via container ship.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-high

Likelihood

Unlikely

Potential financial impact

Explanation of financial impact

The financial impact of the risk is the cost per day of an unplanned plant outage due to the inability to withdraw sufficient water for cooling and other systems.

Primary response to risk

Increase investment in new technology

Description of response

The company plans to retire all coal-fired generating units using once-through cooling by 2040, and shift towards renewable sources that do not have a dependence on water availability. As the company shifts away from these units, the risk is lowered. Until that time, the lake levels are monitored to ensure current infrastructure is able to function appropriately. If levels reached points where impacts were beginning to be seen on existing systems, the company would evaluate whether or not capital investment in infrastructure was appropriate to extend the life of the plant.

Cost of response

0

Explanation of cost of response

No cost included as the shift to renewable sources of generation has multiple drivers.

Country/Region

United States of America

River basin

St. Lawrence

Type of risk

Regulatory

Primary risk driver

Regulatory uncertainty

Primary potential impact

Increased compliance costs

Company-specific description

More stringent water use and/or discharge regulations could affect cost to customers as a result of increased capital spending and operation and maintenance costs. Uncertainty surrounding the date of publication and content of the revised effluent limitation guidelines for steam electric generating units (ELGs) is one example of this risk.

Timeframe

4 - 6 years

Magnitude of potential impact

Medium-high

Likelihood

Unlikely

Potential financial impact

Explanation of financial impact

Financial impact is unknown and in the case of ELGs depends on the outcome of litigation and the content of the new rulemaking.

Primary response to risk

Engage with regulators/policymakers

Description of response

Consumers Energy participates in various policy-related groups including the Utility Water Act Group (UWAG) to engage with regulators and understand and influence policy outcomes. Additionally, the company has made an effort to work closely with state environmental agencies through permit renewal processes to stay aligned on interpretations and understand how current and upcoming rulemakings may be applied.

Cost of response**Explanation of cost of response**

Cost of response is unknown/not measured.

W4.2a

(W4.2a) Provide details of risks identified within your value chain (beyond 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

St. Lawrence

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Seasonal supply variability/inter annual variability

Primary potential impact

Increased operating costs

Company-specific description

The largest supplier cost is the cost of fuel (i.e. coal and natural gas). Impact might include water regulations specific to the coal and natural gas industries. Coal supply could be impacted by lake levels, and in turn require CE to dredge intake locations to support continued operation.

Timeframe

>6 years

Magnitude of potential financial impact

Unknown

Likelihood

Unlikely

Potential financial impact

Explanation of financial impact

Costs could vary widely depending on magnitude of potential impacts.

Primary response to risk

Increase investment in new technology

Description of response

The company plans to retire all coal-fired generating units using once-through cooling by 2040, and shift away from sources of new generation that have a dependence on water availability. As the company shifts away from these units, the risk is lowered. Until that time, the lake levels are monitored to ensure current infrastructure is able to function appropriately. If levels reached points where impacts were beginning to be seen on existing systems, the company would evaluate whether or not capital investment in infrastructure was appropriate to extend the life of the plant.

Cost of response

0

Explanation of cost of response

No cost included as the shift to renewable sources of generation has multiple drivers.

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

Products and services

Primary water-related opportunity

Increased sales of existing products/services

Company-specific description & strategy to realize opportunity

Water has and will continue to be an important resource in electric generation. It is used to generate steam to turn a turbine. Additionally, water is used for condenser cooling at our gas and coal-fired units. Consumers Energy understands the significance of the Great Lakes and their impact on our business. Having these abundant water resources available to our operations allows the company to efficiently operate. Consumers Energy supports the continued protection and preservation of the Great Lakes water resources through compliance with water withdrawal and discharge regulatory requirements, engagement in the larger community discussion water resource protection, and achievement of established company-wide water savings goals. Wise management of this resource and disclosure of management efforts aligns with shareholder interests.

Estimated timeframe for realization

>6 years

Magnitude of potential financial impact

High

Potential financial impact

Explanation of financial impact

Without such high water availability that allows for once-through cooling, additional infrastructure such as cooling towers or air-cooled systems would be required to be installed to reuse water. The capital and operating costs of this additional infrastructure are substantial.

W5. Facility-level water accounting

W5.1

(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)

JH Campbell

Country/Region

United States of America

River basin

St. Lawrence

Latitude

42.91

Longitude

86.2

Primary power generation source for your electricity generation at this facility

Coal - hard

Oil & gas sector business division

Not applicable

Total water withdrawals at this facility (megaliters/year)

816332.4

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

816088.4

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

244

Comparison of consumption with previous reporting year

About the same

Please explain

Withdrawal, discharges, and consumption are based on actual pump operating hours and the estimated flow rate of each operating pump. The slightly lower volumes can be accounted for by an increased use of more water-efficient units during the year.

Facility reference number

Facility 2

Facility name (optional)

DE Karn

Country/Region

United States of America

River basin

St. Lawrence

Latitude

43.64

Longitude

83.84

Primary power generation source for your electricity generation at this facility

Coal - hard

Oil & gas sector business division

Not applicable

Total water withdrawals at this facility (megaliters/year)

383787.7

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

383500.2

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

287.5

Comparison of consumption with previous reporting year

About the same

Please explain

Withdrawal, discharges, and consumption are based on actual pump operating hours and the estimated flow rate of each operating pump. The slightly lower volumes can be attributed to the retirement of more water-intensive units in 2016.

Facility reference number

Facility 3

Facility name (optional)
Zeeland Generating Station

Country/Region
United States of America

River basin
St. Lawrence

Latitude
42.82

Longitude
85.99

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

Oil & gas sector business division
Not applicable

Total water withdrawals at this facility (megaliters/year)
2499.6

Comparison of withdrawals with previous reporting year
About the same

Total water discharges at this facility (megaliters/year)
38.5

Comparison of discharges with previous reporting year
Lower

Total water consumption at this facility (megaliters/year)
2461.1

Comparison of consumption with previous reporting year
Lower

Please explain
Withdrawal and consumption are based on actual pump operating hours and the estimated flow rate of each operating pump. Discharges are based on flow meters to the municipal wastewater treatment works.

Facility reference number
Facility 4

Facility name (optional)
Jackson Generating Station

Country/Region
United States of America

River basin
St. Lawrence

Latitude
42.24

Longitude
84.37

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

Oil & gas sector business division
Not applicable

Total water withdrawals at this facility (megaliters/year)
1962.9

Comparison of withdrawals with previous reporting year

About the same

Total water discharges at this facility (megaliters/year)

319.8

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

1643.1

Comparison of consumption with previous reporting year

About the same

Please explain

Withdrawal and consumption are based on actual pump operating hours and the estimated flow rate of each operating pump. Discharges are based on flow meters to the municipal wastewater treatment works.

W5.1a

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

Facility reference number

Facility 1

Facility name

JH Campbell

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

815251.4

Brackish surface water/seawater

0

Groundwater - renewable

1081

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Withdrawals are based on actual pump operating hours and the estimated flow rate of each operating pump. The slightly lower volumes can be accounted for by an increased use of more water-efficient units during the year.

Facility reference number

Facility 2

Facility name

DE Karn

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

383642.1

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced water

0

Third party sources

145.6

Comment

Withdrawals are based on actual pump operating hours and the estimated flow rate of each operating pump. The slightly lower volumes can be accounted for by an increased use of more water-efficient units during the year.

Facility reference number

Facility 3

Facility name

Zeeland Generating Station

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

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced water

0

Third party sources

2499.6

Comment

Facility reference number

Facility 4

Facility name

Jackson Generating Station

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

0

Brackish surface water/seawater

0

Groundwater - renewable

0

Groundwater - non-renewable

0

Produced water

0

Third party sources

1962.9

Comment

W5.1b

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

Facility reference number

Facility 1

Facility name

JH Campbell

Fresh surface water

815887.6

Brackish surface water/Seawater

0

Groundwater

200.8

Third party destinations

0

Comment

Facility reference number

Facility 2

Facility name

DE Karn

Fresh surface water

383500.2

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Facility reference number

Facility 3

Facility name

Zeeland Generating Station

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

38.5

Comment

Facility reference number

Facility 4

Facility name

Jackson Generating Station

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

319.8

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

JH Campbell

% recycled or reused

Less than 1%

Comparison with previous reporting year

This is our first year of measurement

Please explain

JH Campbell is equipped with a closed loop heat exchanger which cools and reuses equipment cooling water.

Facility reference number

Facility 2

Facility name

DE Karn

% recycled or reused

Less than 1%

Comparison with previous reporting year

This is our first year of measurement

Please explain

Two of the units at DE Karn are equipped with cooling towers. The water for the cooling towers is recycled.

W5.1d

(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?

Water withdrawals are not verified by an external party, but are reported to the State of Michigan Department of Environmental Quality (MDEQ) through Annual Water Use Reporting for the state's Water Use Program and are subject to state inspection.

Water withdrawals – volume by source

% verified

Not verified

What standard and methodology was used?

Water withdrawals by sources are not verified by an external party, but are reported to the MDEQ through Annual Water Use Reporting for the state's Water Use Program and are subject to state inspection.

Water withdrawals – quality

% verified

Not verified

What standard and methodology was used?

Water withdrawal quality is not verified by an external party, but is reported to the MDEQ through the NPDES Permit program and is subject to state inspection.

Water discharges – total volumes

% verified

Not verified

What standard and methodology was used?

Water discharges are not verified by an external party, but are reported to the MDEQ through Annual Water Use Reporting for the state's Water Use Program as well as through the NPDES Permit program, and are subject to state inspection.

Water discharges – volume by destination

% verified

Not verified

What standard and methodology was used?

Water discharges by destination are not verified by an external party, but are reported to the MDEQ through Annual Water Use Reporting for the state's Water Use Program as well as through the NPDES Permit program, and are subject to state inspection.

Water discharges – volume by treatment method

% verified

Not verified

What standard and methodology was used?

Water discharges by treatment method are not verified by an external party, but are reported to the MDEQ through Annual Water Use Reporting for the state's Water Use Program as well as through the NPDES Permit program, and are subject to state inspection.

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

What standard and methodology was used?

Water discharge quality by standard effluent parameters is not verified by an external party, but is reported to the MDEQ through the NPDES Permit program and is subject to state inspection.

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

Water discharge quality by temperature is not verified by an external party, but is reported to the MDEQ through the NPDES Permit program and is subject to state inspection.

Water consumption – total volume

% verified

Not verified

What standard and methodology was used?

Water consumption is not verified by an external party. Water consumption values for cooling systems are reported to the Department of Energy, Energy Information Administration and are subject to review.

Water recycled/reused

% verified

Not verified

What standard and methodology was used?

Water recycle/reused is not verified by an external party.

W6. Governance

W6.1

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

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

W6.1a

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

	Scope	Content	Please explain
Row 1	Company-wide	Description of water-related performance standards for direct operations Company water targets and goals Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action	Consumers Energy's water policy is accessible on our Corporate website as a stakeholder outreach tool. This is a Corporate policy encompassing all of our operations with a heightened focus on our direct generation operations. Consumers Energy also produces an annual Sustainability report which aims to educate our stakeholders on our most material environmental, social and governance issues including water.

W6.2

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

Yes

W6.2a

(W6.2a) Identify the position(s) of the individual(s) on the board with responsibility for water-related issues.

Position of individual	Please explain
Chief Executive Officer (CEO)	At least annually, the President/Chief Executive Officer and the Board of Directors are briefed on water related issues, including progress toward meeting water stewardship goals and impacts of existing and proposed regulations on operations and long-term financial plans.

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 annual budgets Reviewing and guiding risk management policies Reviewing and guiding corporate responsibility strategy Setting performance objectives	Water-related issues are integrated into oversight of compliance and risk management to ensure the company is meeting regulatory requirements. Proposed and future regulatory challenges are integrated into decisions on major capital expenditures and budgets, and implementation of those efforts is then monitored. Water reduction goals and targets are set and company performance towards them is tracked.

W6.3

(W6.3) Below board level, provide the highest-level management position(s) or committee(s) with responsibility for water-related issues.

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

Other C-Suite Officer, please specify (Senior Vice President)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Annually

Please explain

Senior Vice Presidents are responsible for managing progress on water related targets and ensuring the Company meets commitments that have been laid out in the water policy. At least annually, the President/Chief Executive Officer and the Board of Directors are briefed on water related issues, including progress toward meeting water stewardship goals and impacts of existing and proposed regulations on operations and long-term financial plans.

W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4

(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

No, and we do not plan to introduce them in the next two years

W6.5

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

- Yes, direct engagement with policy makers
- Yes, trade associations

W6.5a

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

Input on association priorities and direction is given with consideration to ensure it is consistent with the Company water policy. If an inconsistency is found, the Company will provide comments to influence the association's position, and if necessary, vote against the action. Moreover, the Company re-evaluates its participation in trade associations annually to validate that Company water-related priorities are maintained and/or enhanced with its involvement.

W7. Business strategy

W7.1

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

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	16-20	Water-related issues are considered as the company develops a long term strategic plan for electric generation. The recent integrated resource plan that the company filed with the Michigan Public Service Commission took into account environmental impacts when determining what types of generation the company would pursue to replace its aging coal fleet. The plan includes an increase in renewables and primarily solar, due to low impacts to both air and water.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	When a new operations facility is being evaluated, the impacts on water needs are evaluated to verify that there is available water capacity with no adverse impact. This evaluation takes into account the criteria needed to obtain permits. The outcome of this evaluation would impact locations being considered, generating unit type, plant design, and cost.
Financial planning	Yes, water-related issues are integrated	5-10	Long term financial plan considers projected costs of compliance with current and proposed water-related regulatory requirements. Projects impacting water are evaluated in the design stage and costs of water related impacts or issues are integrated into long term financial plan overall cost for the project.

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?

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1					

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?

No

W7.4

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

Row 1

Does your company use an internal price on water?

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

Please explain

The company does not plan to use an internal price on water and will instead integrate water stewardship into our practices through our water policy and sustainability programs.

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 Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Water intensity reduction target set in 2012 to reduce gallons of water withdrawn per MWh generated by 17% by 2017 and 20% by 2020, through water intensive generating unit retirements and increased efficiency at remaining units. The 2020 target was achieved two years early, by end of 2017, so in 2017 a new five year target to save 1 billion gallons in 5 years was set for 2018-2022. This was set in order to drive progress towards efficiency and process improvements throughout the company, to achieve the goal of a culture change towards water stewardship.

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

Product water intensity

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Reduce water intensity (gallons withdrawn per megawatt-hour generated) by 17% by 2017 and 20% by 2018 through operational efficiencies and strategic shifts in the generating fleet towards less coal-fired generation. Target was set in order to drive towards improving company water stewardship culture and efforts. Target year advanced from 2020 to 2018 due to projections indicating goal will be met two years early. Goal was met and surpassed by the end of 2017.

Quantitative metric

% reduction per unit of production

Baseline year

2012

Start year

2013

Target year

2020

% achieved

100

Please explain

Through shifts to less coal-fired generation, particularly in 2016 when seven coal-fired units were decommissioned, and increased operation of less water intensive natural gas-fired combined cycle units with cooling towers, the water intensity target was met and surpassed in 2017. The 2017 water intensity was 35% lower than the baseline of 2012, against a target of 20%.

Target reference number

Target 2

Category of target

Water withdrawals

Level

Company-wide

Primary motivation

Water stewardship

Description of target

Reduce company water use by saving 1 billion gallons over the next five years. The goal is to reduce water withdrawals and consumption and increase water recycling and reuse at company facilities. The intent is to drive a culture change throughout the company towards water stewardship. The previous target focused on generating facilities only with unit retirements contributing significantly. With no unit retirements planned in the next five years, the company chose a target that allows anyone in the company to count their contributions towards savings water, and drives further scrutiny of existing and new processes and equipment and water efficiency.

Quantitative metric

Absolute reduction in total water withdrawals

Baseline year

2017

Start year

2018

Target year

2022

% achieved

0

Please explain

Target was set at the end of 2017, beginning in 2018, so no progress was achieved in 2017. In 2017, a five year plan was created

and targets were set for specific facilities and projects based on expected savings.

W8.1b

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

Goal

Other, please specify (Improve CE water stewardship culture)

Level

Company-wide

Motivation

Water stewardship

Description of goal

In conjunction with the water intensity reduction target, the company pursued a goal of improving water stewardship practices, particularly at generating facilities. Efforts to improve water stewardship in 2017 included 1) increased scrutiny through environmental review process for projects requiring new water withdrawals, 2) inclusion of reuse or recycle options for projects with water requirements, and 3) management of water-intensive systems with efforts to reduce run time of such equipment where possible. These efforts were wrapped into the new water reduction target set at the end of 2017. This target is intended to drive progress towards a company-wide culture change around water stewardship. The target enables the entire company to get involved to reduce the environmental impact of operations and see opportunities and benefits of analyzing water risk of activities. The water reduction target is part of an overall sustainability effort of the company to focus on the triple bottom line of people, planet and profit. The company is also driving the culture change through information and education, including environmental awareness training developed in 2017, and required for all employees in 2018.

Baseline year

2017

Start year

2018

End year

2022

Progress

Items 1 and 2 - In late 2017, improvements to the environmental review process and form were incorporated to allow for additional opportunities to address new project water usage and reuse options. Item 3 - began planning for operational changes reducing run time of specific water-intensive pumps at one generating plant, to be tested and implemented in 2018. Company environmental awareness training development completed, including water stewardship section and overview of water reduction target, with training ongoing through 2018.

W9. Linkages and trade-offs

W9.1

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

Yes

W9.1a

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

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Increased biodiversity

Description of linkage/tradeoff

At steam electric generating stations, reductions in cooling water intake structure water withdrawals for once-through cooling systems have been correlated with reductions in impingement and entrainment of fish and other aquatic organisms.

Policy or action

Where applicable, the Company is evaluating the design, operation and location of cooling water intake structures to meet federal regulatory requirements/standards aimed at reducing impingement and entrainment mortality.

W10. Verification

W10.1

(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?

No, but we are actively considering verifying within the next two years

W11. Sign off

W-FI

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

W11.1

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

	Job title	Corresponding job category
Row 1	Executive Director of Environmental and Laboratory Services	Environment/Sustainability manager

W11.2

(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

Yes

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	

SW0.2

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

Please select

SW1.1

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

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

SW1.1a

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

Facility reference number

Please select

Facility name

Requesting member

General Motors Company

Description of potential impact on member

Comment

SW1.2

(SW1.2) Are you able to provide geolocation data for your site facilities not already reported in W5.1?

Please select

SW2.1

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

SW2.2

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

Yes

SW2.2a

(SW2.2a) Please select the requesting CDP supply chain member(s) that have driven collaborative water projects.

Requesting member

General Motors Company

Category of project

Other

Type of project

Other, please specify (Renewable Energy Pilot Program)

Description of project

The Consumers Energy Voluntary Large Customer Renewable Energy Pilot Program has been implemented in partnership with General Motors. This program allows Consumers Energy to decrease water intensity fleet-wide by accelerating the development of and bringing to scale more water efficient energy production such as wind and solar.

Progress

General Motors has committed to matching 100% of energy use at two facilities with wind power, and committed to doing so for three years.

SW3.1

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

Product name

Electric power generated from steam electric generating facilities

Water intensity value

5.3

Numerator: Water aspect

Water withdrawn

Denominator: Unit of production

Megawatt-hours

Comment

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms
