CMS Energy Corporation - Water Security 2020

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, including the development and operation of renewable generation and marketing of independent power production. 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 2018, Consumers Energy committed to a new Corporate Planet Breakthrough Goal to save 1 billion gallons of water through 2022.
1. 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 most recent Form 10-K and as updated in reports CMS Energy and Consumers Energy file with the SEC. 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 the date hereof.

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 technology.

	Nameplate capacity (MW)	% of total nameplate capacity	Gross electricity generation (GWh)
Coal – hard	1978	37.9	10153
Lignite			
Oil			
Gas	2982	57.1	6252
Biomass			
Waste (non-biomass)			
Nuclear			
Fossil-fuel plants fitted with carbon capture and storage			
Geothermal			
Hydropower			
Wind	255.8	4.9	717
Solar	4.53	0.09	8
Marine			
Other renewable			
Other non-renewable			
Total	5220	100	17130

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 2019	December 31 2019

W0.3

(W0.3) Select the countries/areas 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 (NPDES) 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 Environment, Great Lakes, and Energy (EGLE), 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.
Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector]	<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	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 Environment, Great Lakes, and Energy (EGLE), 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 Environment, Great Lakes, and Energy (EGLE), 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	26-50	Water recycled/reused is tracked at approximately 50% of sites (steam electric generating facilities) as part of the company-wide water savings goal. Water reuse at our coal fired generating plants include reusing once through cooling water for makeup water needs in the air quality control systems and routing stormwater runoff from coal pile storage to be reused as condenser cooling water onsite.
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 Department of Environment, Great Lakes, and Energy (EGLE), 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	1105054	About the same	Total water withdrawals in 2019 for the Consumers Energy steam electric generating fleet were within about 10% of the withdrawals for 2018.
Total discharges	1099043	About the same	Total water discharges in 2019 for the Consumers Energy steam electric generating fleet were within about 10% of the discharges for 2018.
Total consumption	6011	Higher	Total water consumption in 2019 for the Consumers Energy steam electric generating fleet was approximately 17% higher than the discharges for 2018. This is a result of increased utilization at one of our gas turbine plants which resulted in a 31% increase in water consumption at this location.

W1.2d

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

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Identification tool	Please explain
Row 1	Yes	Less than 1%	Much lower	WRI Aqueduct	According to the WRI Aqueduct tool using the electric power weighting scheme, the baseline water stress near Consumers Energy generating facilities are low. In August 2019, WRI released an updated version of the Aqueduct Water Risk Atlas. Due to improvements in the model, the baseline water stress reported in 2018 as medium to high risk is now categorized as low risk.

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	1097735	About the same	Due to unit outages in 2019, 10% less surface water was withdrawn for cooling water in 2019 than in 2018.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations are not near brackish surface/seawater
Groundwater – renewable	Relevant	1519	About the same	While process water groundwater usage was lower than 2018, 2% more groundwater was withdrawn in 2019 for potable uses and temporary dewatering for construction purposes.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations do not withdraw groundwater from non-renewable aquifers
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations do not produce well production water
Third party sources	Relevant	5801	Higher	The electric generating plants which receive water from municipal sources generated approximately 16% more megawatt-hours in 2019.

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	1098454	About the same	Due to more maintenance outages in 2019, 10% less surface water was discharged in 2019 than in 2018.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Consumers Energy electric generation operations are not near brackish surface/seawater.
Groundwater	Relevant	198	About the same	The electric generating plants which discharge water from groundwater sources generated about the same in 2019.
Third-party destinations	Relevant	392	About the same	The electric generating plants which discharge water from municipal sources generated about the same in 2019.

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 (m3)	Numerator: water aspect	Denominator	Comparison with previous reporting year	Please explain
67	Total water withdrawals	MWh	Lower	The decrease in water intensity can be accounted for by decreased dispatching of coal- fired units which use more water to produce electricity

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

Unknown

Rationale for this coverage

Historically the Company requests information periodically 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.

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.

Comment

W1.4b

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

Type of engagement

Onboarding & compliance

Details of engagement

Inclusion of water stewardship and risk management in supplier selection mechanism

Requirement to adhere to our code of conduct regarding water stewardship and management

% of suppliers by number

Unknown

% of total procurement spend

Unknown

Rationale for the coverage of your engagement

Consumers Energy operates in a manner that conserves and protects natural resources and the environment and as such has a third party code of conduct requiring third parties comply with environmental laws and regulations and conduct operations on behalf of Consumers Energy in an environmentally friendly manner. When selecting suppliers, the Company has a process for evaluating bids on environmentally friendly approaches or alternatives which include water usage. In addition, the Company has a new supplier pre-qualification process which includes questions on suppliers' environmental policies to ensure third party employees have environmental plans in place and in turn train their employees on these plans.

Impact of the engagement and measures of success

Supplier evaluation in the bid process and during pre-qualification allows the Company to evaluate supplier performance in key sustainability areas and provides context for pursuing further engagement with suppliers in these areas.

Comment

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 important. To do this we have conducted a materiality assessment to help shape our sustainability efforts and plans to conduct an updated materiality assessment in 2020. Additionally, in 2018 Consumers Energy announced new corporate wide planet goals. The Company met with stakeholders including key customers to engage them collaboratively and get input and feedback on what environmental issues we should be focusing on. 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?

No

W2.2

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

No

W3. Procedures

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-sluice 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 have been 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	The Company commissioned studies of thermal plumes in 2016 and complies with NPDES temperature limits.

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?
1 to 3 years

Type of tools and methods used
Other

Tools and methods used
Internal company methods
External consultants

Comment
Consumers Energy utilizes a system to assess the water risks from plant system upgrades, 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

(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. The Company Sustainability goals were implemented in 2018. In 2019 the Company met with Michigan based environmental non-governmental organizations (NGO s) to discuss environmental concerns. The Company plans to conduct an updated materiality assessment in 2020.
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. The Company Sustainability goals were implemented in 2018. The Company plans to conduct an updated materiality assessment in 2020.
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 the Michigan Department of Environment, Great Lakes, and Energy's Water Use Advisory Council where we serve as the representative for Michigan's electric and gas utilities to further protect these communities. Our Senior Vice President for Governmental and Public Affairs also serves on the International Joint Commission'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, community 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. The Company Sustainability goals were implemented in 2018. The Company plans to conduct an updated materiality assessment in 2020.
NGOs	Relevant, always included	Consumers Energy monitors prominent NGOs to take their opinions into considerations when assessing environmental risk. The Company's Foundation supports numerous groups including the Saginaw Basin Land Conservancy, Annis Water Resources Institute at Grand Valley State University, Michigan Nature Association, Conservation Resources Alliance, and Michigan United Conservation Clubs and others to decrease the State's water risks and 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. The Company Sustainability goals were implemented in 2018. In 2019 the Company met with Michigan based NGO's to discuss environmental concerns. The Company plans to conduct an updated materiality assessment in 2020.
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. The Company Sustainability goals were implemented in 2018. The Company plans to conduct an updated materiality assessment in 2020.
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 affects 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. The Company Sustainability goals were implemented in 2018. The Company plans to conduct an updated materiality assessment in 2020.
Suppliers	Relevant, sometimes 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.
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	Relevant, sometimes included	We engage with Michigan based academic institutions 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. The Company Sustainability goals were implemented in 2018. The Company plans to conduct an updated materiality assessment in 2020.

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 with 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. In addition, the Company tracks environmental regulations and rulemakings to ensure compliance with emerging contaminants.

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 impact 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. In the Company's financial report, specific risks associated with the Company's substantial capital investment program include governmental approvals and permitting, and changes in environmental, legislative, and regulatory requirements. These risks could produce a substantive impact to our business.

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. A facility is a steam electric generating facility. This represents 100% of in-scope facilities defined within the boundary of this report.

W4.1c

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

Country/Area & River basin

United States of America	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

<Not Applicable>

% 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/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Physical	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 one facility to receive fuel (coal) deliveries via container ship, although rail transport is also available through its scheduled retirement in 2023.

Timeframe
More than 6 years

Magnitude of potential impact
Medium-high

Likelihood
Unlikely

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 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

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

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Regulatory	Regulation of discharge quality/volumes

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. One example of risk is with regards to the upcoming revised effluent limitation guidelines for steam electric generating units (ELGs). To date, a final rule has not been published; however, we are expecting significant changes to the management of wastewater which will include capital spending and operation and maintenance costs.

Timeframe
1-3 years

Magnitude of potential impact
Medium-high

Likelihood
More likely than not

Are you able to provide a potential financial impact figure?
No, we do not have this figure

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure - minimum (currency)
<Not Applicable>

Potential financial impact figure - maximum (currency)
<Not Applicable>

Explanation of financial impact
Financial impact is unknown and in the case of ELGs depends on the outcome of wastewater studies which are being conducted in 2020.

Primary response to risk
Engage with regulators/policymakers

Description of response
Consumers Energy participates in various policy-related groups 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/Area & River basin

United States of America	St. Lawrence

Stage of value chain
Supply chain

Type of risk & Primary risk driver

Physical	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 the Company to dredge intake locations to support continued operation.

Timeframe
More than 6 years

Magnitude of potential impact
Unknown

Likelihood
Unlikely

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
Costs could vary widely depending on magnitude of potential impacts.

Primary response to risk

Direct operations	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

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 generating units. Consumers Energy understands the significance of the Great Lakes to the public and wildlife 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
More than 6 years

Magnitude of potential financial impact
High

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
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, water accounting data, and a comparison with the previous reporting year.

Facility reference number
Facility 1

Facility name (optional)
JH Campbell

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.91

Longitude
-86.2

Located in area with water stress
No

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)
830244

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
828725

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable

1519

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
829955

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
829758

Discharges to brackish surface water/seawater
0

Discharges to groundwater
198

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
289

Comparison of total 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 and was about the same as last year with roughly a 3% decrease in withdrawals and discharges and a 1% decrease in consumption due to refined reporting efficiencies.

Facility reference number
Facility 2

Facility name (optional)
DE Karn

Country/Area & River basin

United States of America	St. Lawrence

Latitude
43.64

Longitude
-83.84

Located in area with water stress
No

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)
269279

Comparison of total withdrawals with previous reporting year
Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
269010

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
270

Total water discharges at this facility (megaliters/year)
268697

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
268697

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
0

Total water consumption at this facility (megaliters/year)
582

Comparison of total 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 reduction in water use correlates back to a 9% reduction in operating hours at this location.

Facility reference number
Facility 3

Facility name (optional)
Zeeland Generating Station

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.82

Longitude
-85.99

Located in area with water stress
No

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)
3301

Comparison of total withdrawals with previous reporting year
Higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
3301

Total water discharges at this facility (megaliters/year)
36

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
36

Total water consumption at this facility (megaliters/year)
3265

Comparison of total consumption with previous reporting year
Higher

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. Increased dispatch at this location resulted in an overall increase in water use compared to 2018.

Facility reference number
Facility 4

Facility name (optional)
Jackson Generating Station

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.24

Longitude
-84.37

Located in area with water stress
No

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)
2231

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
0

Withdrawals from brackish surface water/seawater
0

Withdrawals from groundwater - renewable
0

Withdrawals from groundwater - non-renewable
0

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
2231

Total water discharges at this facility (megaliters/year)
356

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
0

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
356

Total water consumption at this facility (megaliters/year)
1876

Comparison of total 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. Overall water use was about the same when compared to 2018.

W5.1a

(W5.1a) 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?
<Not Applicable>

Water withdrawals – volume by source

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water withdrawals – quality

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – total volumes

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – volume by destination

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharges – volume by treatment method

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharge quality – quality by standard effluent parameters

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water discharge quality – temperature

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water consumption – total volume

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

Water recycled/reused

% verified
Not verified

What standard and methodology was used?
<Not Applicable>

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) (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)	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. The Boards of Directors ("Board") of CMS Energy and Consumers Energy, made up of a number of directors with experience and knowledge of environmental issues, have the highest level of oversight of our public responsibility and sustainability practices. Review of these practices occur at the Board level with the Governance, Sustainability and Public Responsibility Committee ("GS&PR Committee") also being responsible for advising and assisting the Board with respect to our public responsibility and sustainability matters. This committee consist of three board members. In addition to Board oversight, management of CMS Energy and Consumers Energy has implemented an Environmental and Sustainability Council ("E&SC") in order to create a group of critical internal leaders who will work together to ensure our actions meet our environmental goals. The E&SC reports to the GS&PR Committee.

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) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

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

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	No, and we do not plan to introduce them in the next two years	

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.

W6.6

(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)

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 were considered in the Company's long term strategic plan for electric generation. The Company's integrated resource plan, approved in 2018, that the Company filed with the Michigan Public Service Commission, takes into account environmental impacts from the types of generation the Company will 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?

Row 1

Water-related CAPEX (+/- % change)
2

Anticipated forward trend for CAPEX (+/- % change)
-90

Water-related OPEX (+/- % change)
-50

Anticipated forward trend for OPEX (+/- % change)
-20

Please explain
The numbers provided are estimates based on projected expenditures for major projects to comply with water-related environmental regulations. They may not be inclusive of all water-related expenditures and are based on spending estimates, not actual spend. Water-related capital and operational expenditures at the steam-electric generating facilities were dominated by spending to comply with the Resource Conservation and Recovery Act Coal Combustion Residuals (CCR) Rule for both coal ash landfills and surface impoundments. Looking forward, water-related capital spending is expected to decrease in 2020 due to the completion of aggressive CCR landfill and surface impoundment closure work conducted in 2019 related to the CCR Rule. Looking forward, water-related operational expenditures are expected to decrease as CCR units are permanently closed or removed entirely.

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
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 saving 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

% of target achieved
47

Please explain
Target was set at the end of 2017 with the first full year of data collected in 2018. The Company exceeded its 2019 target goal by 30%.

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 2019 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 which was rolled out to all employees in 2018 and continues in 2019.

Baseline year
2017

Start year
2018

End year
2022

Progress
Item 1 - Continued use of the environmental review process for projects requiring new water withdrawals Item 2 - Projects were initiated in 2018 including reuse of runoff water for condenser cooling and onsite dust suppression. Item 3 - Operational changes were introduced at one generating plant in 2018 to reduce the run time of specific water-intensive pumps. This practice has been implemented, resulting in large water savings and is being evaluated at the remaining generating plants. Company environmental awareness training was rolled out in 2018 and will continue annually for all employees.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?
No, but we are actively considering verifying within the next two years

W10. Sign off

W-FI

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

W10.1

(W10.1) Provide details for the person that has signed off (approved) your CDP water response.

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

W10.2

(W10.2) 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	6376000000

SW0.2

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

Yes

SW0.2a

(SW0.2a) Please share your ISIN in the table below.

	ISIN country code	ISIN numeric identifier (including single check digit)
Row 1	US	US12589610

SW1.1

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

Facility reference number

Facility 1

Facility name

Requesting member

General Motors Company

Description of potential impact on member

There will be no potential impact on the member as Consumers Energy is a part of the Midcontinent Independent System Operator (MISO), Zone 7. MISO ensures reliable electric delivery across the system. In the event one of our facilities went down, electricity will still be delivered to our customers with no impact to the requesting member.

Comment

This also applies to Facility 2.

SW1.2

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

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	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 90% of electric energy use at three facilities with wind power and committed to doing so for 20 years.

Requesting member
General Motors Company

Category of project
Other

Type of project
Other, please specify (Experimental Advanced Renewable Program (EARP))

Description of project
The Consumers Energy Experimental Advanced Renewable Program (EARP) is a program to develop and test programs to enable the development of Michigan's renewable energy resources. Customers participating in the EARP must be capable of generating electricity from natural sunlight through a photovoltaic solar electricity generating system. 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 by means of solar.

Progress
General Motors has two facilities participating in the EARP with Consumers Energy committed to purchasing the output of General Motors 150 kW DC solar arrays for up to a 15-year period, but no later than August 31, 2019.

SW3.1

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

Product name
Electric power generated from steam electric generating facilities

Water intensity value
67

Numerator: Water aspect
Water withdrawn

Denominator
Megawatt-hours

Comment
The decrease in water intensity can be accounted for by decreased dispatching of coal- fired units which use more water to produce power.

Submit your response

In which language are you submitting your response?
English

Please confirm how your response should be handled by CDP

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

Please confirm below
I have read and accept the applicable Terms