DTE Energy Company - Water Security 2020

W0. Introduction

W0.1

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

DTE Energy (NYSE: DTE) is a diversified U.S. energy company with approximately $12.7 billion in revenue for 2019. Our largest operating subsidiaries are DTE Electric Co., an electric utility, and DTE Gas Co., a natural gas utility. DTE Electric is a Michigan corporation organized in 1903 and is a public utility subject to regulation by the Michigan Public Service Commission (MPSC) and the Federal Energy Regulatory Commission (FERC). DTE Electric is engaged in the generation, purchase, distribution and sale of electricity to approximately 2.2 million customers in southeast Michigan. DTE Gas is a Michigan corporation organized in 1898 and is a public utility subject to regulation by the MPSC. DTE Gas is engaged in the purchase, storage, transmission, gathering, distribution and sale of natural gas to approximately 1.3 million customers throughout Michigan and the sale of storage and transportation capacity. Our other businesses are involved in 1) natural gas pipelines, gathering and storage; 2) power and industrial projects; and 3) energy marketing and trading operations. More information on DTE Energy, including our Corporate Citizenship Report, can be found at: DTEenergy.com.

W-EU0.1a

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

Electricity generation
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	5265	44.69	26724
Lignite	0	0	0
Oil	325	2.76	5
Gas	2946	25	2624
Biomass	321	2.72	454
Waste (non-biomass)	0	0	0
Nuclear	1161	10.08	10315
Fossil-fuel plants fitted with carbon capture and storage	0	0	0
Geothermal	0	0	0
Hydropower	1088	9.85	21
Wind	611	5.19	3183
Solar	65	0.55	77
Marine	0	0	0
Other renewable	0	0	0
Other non-renewable	0	0	0
Total	11781	100	45215

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 operational control is exercised

W0.6

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

Yes

W0.6a

(W0.6a) Please report the exclusions.

Exclusion	Please explain
Electric Distribution Operations	DTE Energy is focusing on the company's largest sources of water withdrawal and use; namely, our steam electric power generating stations, other facilities that operate under National Pollutant Discharge Elimination System (NPDES) permits and/or local sanitary sewer permits, and company headquarters. The company does not track all types of water inputs and outputs for its electric distribution centers or electric transmission facilities. In addition, the company tracks water discharged from electrical manholes and vaults, but it is not included in this report. The water use at these types of facilities is significantly less than that of the steam electric power generating stations. Geographically, DTE is only reporting on Michigan operations.
Gas Distribution, Transmission, and Storage Operations	DTE Energy is focusing on the company's largest sources of water withdrawal and use; namely, our steam electric power generating stations, other facilities that operate under National Pollutant Discharge Elimination System (NPDES) permits and/or local sanitary sewer permits, and company headquarters. The company does not track all types of water inputs and outputs for its gas distribution, transmission and storage operations. The water use at these types of facilities is significantly less than that of the steam electric power generating stations. The one exception to this exclusion is Taggart Compressor Station. This facility holds a NPDES Permit and therefore is included in the disclosure. Geographically, DTE is only reporting on Michigan operations.
Service Centers, Call Centers and Office Buildings	DTE Energy is focusing on the company's largest sources of water withdrawal and use; namely, our steam electric power generating stations, other facilities that operate under National Pollutant Discharge Elimination System (NPDES) permits and/or local sanitary sewer permits, and company headquarters. The company does not track all types of water inputs and outputs for its service centers, call centers and office buildings. The water use at these types of facilities is significantly less than that of the steam electric power generating stations. In general, the source of water at these facilities is purchased from local municipalities. The one exception to this exclusion is the water use information at the corporate headquarters in Detroit, MI. Geographically, DTE is only reporting on Michigan operations.
Non-Utility Operations	DTE Energy is focusing on the company's largest sources of water withdrawal and use; namely, our steam electric power generating stations, other facilities that operate under National Pollutant Discharge Elimination System (NPDES) permits and/or local sanitary sewer permits, and company headquarters. The company does not track all types of water inputs and outputs for its non-utility operations such as gas storage and pipelines, power & industrial projects and energy trading services. Geographically, DTE is only reporting on Michigan operations.
Utility Operations	DTE Energy is minority owner of a pumped storage facility in Michigan; this plant generates electricity and is regulated. Operations and water reporting for this facility is performed by the majority owner, therefore it is excluded from this questionnaire. Geographically, DTE is only reporting on Michigan operations.

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: Sufficient amounts of good quality freshwater are vital for non-contact cooling at our steam electric generating plants as currently designed. We could not supply electricity, an essential product for customers, without this resource. Additionally, water quality is a significant concern, as certain chemicals in water can affect operations through pipe and condenser tube corrosion. We have measures in place to resolve issues related to small changes in water quality. For example, DTE uses certain polymers to reduce conductivity of water before it is used in steam electric generating plants. In the future, with the transition of the power generation base, including the reduction in coal power generation, and the increase in renewable power generation, the importance of direct use of water will decrease from vital to important. Indirect: Sufficient amounts of good quality freshwater are required at facilities throughout the DTE Energy organization. Municipal water supply for employee use is necessary to support all our operations. Additionally, freshwater is necessary for the production and processing of fuel used for the company's power generating plants. In terms of DTE's supply chain, reduction in the company's use of coal as a fuel source in the future (2023 & 2040) will make water a less important aspect of the fuel supply process.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Neutral	Direct: Sufficient amounts of recycled water are required for non-contact cooling at two of our steam electric generating plants (Fermi 2 and Greenwood). These two plants represent approximately 46% of DTE's water use. This increased from 25% in the 2019 disclosure, giving it the direct use rating of "vital". Indirect: Although the indirect use of recycled, brackish and/or produced water has not been formally evaluated, it is estimated that this water input is not a significant part of the value chain for DTE. Freshwater availability is not a concern, giving recycled water an importance rating of "neutral."

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%	Of the 12 facilities included in this disclosure, 100% are measured and monitored for withdrawal volumes. Total withdrawals are calculated from circulation pump nameplate capacity and pump run time for surface water sources, and through metering for municipal water sources. Most withdrawals are in the form of noncontact cooling water for our electric generating facilities. These fresh water withdrawals are measured and monitored for monthly NPDES reporting, as well as annual water use reporting for the state of Michigan. These reports are required by federal and state regulations, and reflects continuous monitoring.
Water withdrawals – volumes by source	76-99	Of the 12 facilities included in this disclosure, 99% are measured and monitored for water withdrawals by source. Total withdrawals are calculated from circulation pump nameplate capacity and pump run time for surface water sources, and through metering for municipal water sources. Most withdrawals are in the form of noncontact cooling water for our electric generating facilities. These fresh water withdrawals from the Great Lakes basin are measured and monitored for monthly NPDES reporting, as well as annual water use reporting for the state of Michigan. These reports are required by federal and state regulations. Other surface water withdrawals are made for dust control purposes, primarily at electric generation and coal processing facilities. These withdrawals are typically not measured or monitored. Other withdrawals are from ground water, rainwater and municipal water supplies; these withdrawals may not be measured, and account for <1% of the total.
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%	Of the 12 facilities included in this disclosure, 100% are measured and monitored for water withdrawals quality. We monitor water withdrawal quality at the facility level for monthly NPDES reporting. For example, per NPDES permit requirements, at all our plants, we measure temperature of intake waters continuously. Mercury is monitored quarterly as a requirement of the Pollutant Minimization Program (PMP).
Water discharges – total volumes	100%	Of the 12 facilities included in this disclosure, 100% are measured and monitored for water discharge volumes. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. Most of discharges are in the form of noncontact cooling water from our electric generating facilities. These discharges are measured and monitored for monthly NPDES reporting, as well as annual water use reporting for the state of Michigan. These reports are required by federal and state regulations. For example, the River Rouge Power Plant can discharge a maximum of 654.6 MGD of treated processed water and an unspecified amount of stormwater through the main outfall. The NPDES permit requires daily monitoring of flow.
Water discharges – volumes by destination	100%	Of the 12 facilities included in this disclosure, 100% are measured and monitored for water discharge volumes by destination. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. Most discharges are in the form of noncontact cooling water from our electric generating facilities to surface waters. These discharges are returned to surface waters, and are measured and monitored for monthly NPDES reporting, as well as annual water use reporting for the state of Michigan. These reports are required by federal and state regulations.
Water discharges – volumes by treatment method	76-99	On Site Treatment: Of the 12 facilities included in this disclosure, most discharges (76-99%) are associated with our electric generating facilities, and are treated on site with various methods (e.g. chemical clarification, plain clarification, oil/water separation). Off Site Treatment: The remaining discharges are largely associated with the potable water needs or our facilities, and are treated by independent off-site municipal treatment plants or private treatment storage & disposal facilities (TSDF). These discharges are returned to surface waters in most cases, and are measured/monitored by the offsite facility.
Water discharge quality – by standard effluent parameters	76-99	On Site Treatment: Water quality standards for the most of discharges are provided in the NPDES permits associated with our electric generating facilities. Of the 12 facilities included in this disclosure, this represents 76-99%. The NPDES program is administered by the State of Michigan where most discharges take place. Off Site Treatment: Water quality standards for the remaining discharges are governed by the permits associated with the municipal treatment plants or private TSDFs. These facilities have NPDES permits of their own in most cases.
Water discharge quality – temperature	76-99	Most discharges are in the form of noncontact cooling water from our electric generating facilities, representing 76-99% of the 12 facilities included in this disclosure. Temperatures of these discharges are measured and monitored for monthly NPDES reporting, as well as the calculation of the thermal discharge. These reports are required by federal and state regulation. Discharge temperature is not monitored for DTE headquarters, which discharges to the city sewer.
Water consumption – total volume	76-99	Most consumption (76-99%) is calculated for our electric generating facilities and reported annually to the State of Michigan. Consumption for these operations are neither measured nor monitored directly. However, measured and monitored data is used in the formulas for calculating water consumption, which is accepted industry practice. This figure represents the evaporative loss, which is calculated for each facility using average monthly heat input, and regional and seasonal coefficients for evaporative loss; these values are then added and reported as total consumption for the company. The consumption volume is associated with other operations such as potable water needs, groundwater withdrawal/discharges, and dust control, which we do not monitor.
Water recycled/reused	1-25	Cooling water is recycled at two of our steam electric generating plants (Fermi 2 and Greenwood). These two plants represent approximately 17% of the 12 sites included in this disclosure. Recirculation pump capacity is multiplied by the number of hours of operation to determine the amount of water recycled/reused.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Fully functioning Water Supply, Adequate Sanitation and Hygiene (WASH) is provided for all workers throughout the organization. Our operations are located in well-developed areas with modern facilities where WASH is readily available. WASH services are metered for billing purposes, which are mainly provided by local municipalities.

W-EU1.2a

(W-EU1.2a) For your hydropower operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations measured and monitored	Please explain
Fulfilment of downstream environmental flows	Not monitored	DTE Energy is minority owner of a pumped storage facility in Michigan; this plant generates electricity and is regulated. Operations and water reporting for this facility is performed by the majority owner, therefore it is excluded from this questionnaire.
Sediment loading	Not monitored	DTE Energy is minority owner of a pumped storage facility in Michigan; this plant generates electricity and is regulated. Operations and water reporting for this facility is performed by the majority owner, therefore it is excluded from this questionnaire.
Other, please specify	Not monitored	DTE Energy is minority owner of a pumped storage facility in Michigan; this plant generates electricity and is regulated. Operations and water reporting for this facility is performed by the majority owner, therefore it is excluded from this questionnaire.

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	4110675	About the same	The thresholds for comparison to previous years are as follows: >50% change = “Much Lower”/”Much Higher”, 25-50% change = “Lower”/”Higher”, and <25% change = “About the Same.” Total withdrawals are calculated from circulation pump nameplate capacity and pump run time for surface water sources, and through metering for municipal water sources. The amount of withdrawal in 2019 was approximately 4% lower than in 2018 (4,291,311 ML). DTE is in the process of retiring several coal-fired power plants, which will result in less total future withdrawals in the company’s operations.
Total discharges	4023976	About the same	Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. The amount of discharge in 2019 was approximately 5% lower than in 2018 (4,215,364 ML). DTE is in the process of closing several coal-fired power plants, which will result in less total future withdrawals in the company’s operations.
Total consumption	75963	About the same	This figure represents the evaporative loss, which is calculated for each facility using average monthly heat input, and regional and seasonal coefficients for evaporative loss; these values are then added and reported as total consumption for the company. The amount of consumption in 2019 was approximately 2% lower than in 2018 (77,276 ML). Major changes to total consumption are not anticipated in the near future; however, climate change may significantly affect evaporative loss on a longer timeline.

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	No	<Not Applicable>	<Not Applicable>	WRI Aqueduct	Most withdrawals are not from water stressed areas. There are seven electric generating stations and one natural gas compressor station that withdraw fresh water from the Michigan Great Lakes, which are located in the St. Lawrence watershed, a relatively water abundant area. Based on the WRI’s Aqueduct Water Risk Atlas for electric power, some of DTE’s sites have been mapped as medium to high risk, with much of Michigan being low to medium risk. However, little weighting should be given to the “Baseline Water Stress” category for Michigan because of the low likelihood of withdrawals affecting the abundant supply. Thus, our sites are located in mostly low-medium risk areas. Additionally, water stress in DTE’s operational areas is expected to remain the same in the next 10 years per the Atlas’ projections.

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	4107940	About the same	Sufficient amounts of good quality freshwater are relevant because they are used for non-contact cooling at our steam electric generating plants as currently designed. We could not supply electricity, an essential product for customers, without this resource. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from pump capacity and run time. For example, the Monroe Power Plant withdraws water from Lake Erie, the magnitude of which is not directly measured, but calculated through the method described above. The amount of fresh surface water withdrawal in 2019 was approximately 4% lower than in 2018 (4,288,647 ML). The values remained about the same because there weren't any significant changes in operation. DTE is in the process of retiring several coal-fired power plants, which will result in less fresh surface water withdrawals in the company’s operations.
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	Withdrawal from brackish surface water/seawater is not part of our operations, and we do not expect it to be part of our operations in the future.
Groundwater – renewable	Relevant	2100	About the same	One facility, Sibley Quarry, withdraws from groundwater. The amount withdrawn in 2019 was approximately 1% higher than in 2018 (2,081 ML). The values remained about the same because there weren't any significant changes in operation. Withdrawal from groundwater is calculated from pump capacity and run time.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	Withdrawal from groundwater - non-renewable sources is not part of our operations, and we do not expect it to be part of our operations in the future.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	Withdrawal from produced/entrained water is not part of our operations, and we do not expect it to be part of our operations in the future.
Third party sources	Relevant	636	About the same	Two facilities, Greenwood Energy Center and Company Headquarters, withdraw water from municipal sources, making it relevant to our operations. Withdrawal volumes are measured through water metering. The amount withdrawn in 2019 was approximately 9% higher than in 2018 (583 ML).

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	4023785	About the same	Discharge by destination is calculated by subtracting the estimated fresh surface water consumption from the estimated water withdrawn. The amount of discharge in 2019 was approximately 5% lower than in 2018 (4,215,166). The values remained about the same because there weren't any significant changes in operation. As water withdrawals decrease in the company's future due to diversifying DTE's power generation fleet, discharges are also expected to decrease.
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	Discharge to brackish surface water/seawater is not part of our operations. DTE does not project including this as part of our operations in the future.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	Discharge to groundwater is not accounted for as part of our operations. DTE does not project including this as part of our operations in the future.
Third-party destinations	Relevant	190	About the same	While many DTE facilities discharge to municipal/industrial wastewater treatment systems, we actively measure the discharge from three facilities: Fermi 2 Power Plant (27 ML), Company Headquarters (136 ML), and River Rouge Power Plant (24 ML). In 2018, we also had discharge from Conners Creek Power Plant (2 ML). For Company Headquarters, magnitude of discharge is equivalent to withdrawal. For plants, discharge is determined by an estimation using the number of discharge pumps and the run time. The amount of discharge reported in 2019 is approximately 4% lower than the amount discharged in 2018 (198 ML). In the future, it is expected that municipal/industrial discharges will stay the same or decrease due to a company-wide water use reduction strategy.

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
109.7	Freshwater withdrawals	MWh	About the same	Water intensity is calculated using the total water withdrawn from surface water sources for power generating facilities (m3), and total electric energy produced from these facilities based on nameplate capacity and run time (MWH). Water intensity decreased 4% in 2019 compared to the previous year (113.97 m3/MWh). Water intensity is expected to decrease with DTE's strategy of retiring coal-fired power plants and replacing them with less water-intensive generation units. This intensity metric is used internally to determine the efficiency of electric generation facilities in terms of water.

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
26-50

% of total procurement spend
26-50

Rationale for this coverage
The proportion of suppliers that receive surveys corresponds to approximately 40% of total non-regulated procurement spend. Suppliers are selected for engagement based on the following criteria: If the supplier has a DTE Supplier Performance Management (SPM) scorecard, if they are a top 100 supplier for DTE spend, or if a DTE sustainability team member's business unit requests that the supplier take the survey. This selection process identifies the suppliers that are most impactful and significant to the organization. Suppliers are requested to report on water use to measure success of actions and identify areas of improvement throughout DTE's supply chain. DTE uses the results of the survey when making final decisions on supplier selection, giving suppliers incentive to report on water management and stewardship.

Impact of the engagement and measures of success
DTE is part of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA), an organization of utilities and suppliers collaborating to advance sustainability best practices in supply chain activities and supplier networks. Water use for suppliers is self-reported via The Sustainability Project (TSP) supplier survey tool, which was launched in 2018. DTE uses this information to measure success of actions and identify opportunities for improvement across the Company's supply chain. In general, questions revolve around measures for water efficiency and conservation (e.g., water-conserving plumbing indoors). Data/metrics are also requested to supplement responses. Success will be measured by the number of conservation measures implemented by suppliers, reductions in annual water use, whether targets are in place and measured, whether data is third party verified, and whether performance is publicly reported.

Comment
Survey questions vary by industry (e.g., for construction, questions focus on minimizing water use in water-challenged areas and implementing stormwater management plans). Metrics are requested to supplement responses; however, they are not required at this time. In 2019, DTE included data metrics in the TSP survey where water conservation measures are claimed by suppliers. More information on EUISSCA and TSP can be found at: https://www.euissca.org/the-sustainability-project.html.

W1.4b

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

Type of engagement
Onboarding & compliance

Details of engagement
Requirement for water-related targets is included in your supplier selection mechanism
Requirement to adhere to our code of conduct regarding water stewardship and management

% of suppliers by number
26-50

% of total procurement spend
51-75

Rationale for the coverage of your engagement
The proportion of suppliers that receive surveys corresponds to approximately 40% of total non-regulated procurement spend. Suppliers are selected for engagement based on the following criteria: If the supplier has a DTE Supplier Performance Management (SPM) scorecard, if they are a top 100 supplier for DTE spend, or if a DTE sustainability team member's business unit requests that the supplier take the survey. This selection process identifies the suppliers that are most impactful and significant to the organization. Suppliers are requested to report on water use to measure success of actions and identify areas of improvement throughout DTE's supply chain. DTE uses the results of the survey when making final decisions on supplier selection, giving suppliers incentive to improve water management and stewardship. Additionally, contractors working on DTE's construction projects are educated and engaged in on our regulatory requirements (water related perrmits)

Impact of the engagement and measures of success
DTE uses information from the TSP supplier survey tool to measure success of actions and identify opportunities for improvement across the Company's supply chain. Success is measured by the number of conservation measures implemented by suppliers, reductions in annual water use, whether targets are in place and measured, whether data is third party verified, and whether performance is publicly reported. DTE considers the results of the survey when making final decisions on supplier selection, giving suppliers incentive for improving water management strategies.

Comment
More information on TSP can be found at: https://www.euissca.org/the-sustainability-project.html.

W1.4c

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

Our rationale is to maintain open channels of communication with employees, government agencies, public officials, the media, and the public to meet their information needs regarding energy and environmental issues. We participate with government agencies and others in framing responsible laws, regulations, and standards affecting the community, our customers, employees, and the environment. We partner with over 15 private organizations and government agencies including Wildlife Habitat Council, The Nature Conservancy, Friends of the Detroit River, and other water and wildlife conservation organizations. DTE works with these organizations because of their shared dedication to water/wildlife conservation, and the opportunity to collaborate with like-minded individuals. One method of engagement is the DTE Energy Green Team, a company-wide organization of employees, retirees, family members, and friends who volunteer their time to work on environmental projects on our properties and in the communities we serve. The team engages with Detroit River International Wildlife Refuge, Friends of the Detroit River, and other organizations through volunteer work and community outreach. Customers and other partners in our value chain recognize DTE Energy as an organization on the front lines of environmental sustainability. Success of this type of engagement is measured through the extent of exposure to other organizations and agencies, the number of positive environmental actions implemented, and public perceptions of DTE. Our Environmental Policy, conservation initiatives, and partnerships are also available for the public to view on our website.

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 the total financial impact.

Country/Area & River basin

United States of America	St. Lawrence

Type of impact driver & Primary impact driver

Regulatory	Tighter regulatory standards

Primary impact

Increased compliance costs

Description of impact

Revised Effluent Limitation Guidelines (ELGs) for steam electric plants were finalized on September 30, 2015. New limits imposed a substantive financial burden to the company, and were one of many contributing factors to several plant closures. The most significant changes were the requirements to cease discharge of bottom ash transport water (BATW) and fly ash transport water and perform enhanced treatment of flue gas de-sulfurization (FGD) wastewater. Closing plants required the company to invest in new base load generation. The revised ELGs will only impact plants that will continue to operate beyond the latest compliance date. The impact will be in the form of both capital and operation/maintenance costs. In late 2017, a new ELG rule was issued that resulted in the postponement of compliance dates for BATW and FGD waste water until new requirements can be developed and issued. The postponement lends uncertainty to the company's strategy for complying with the ELGs as we currently do not know what the new requirements for BATW and FGD waste water will be. Fly ash transport water requirements from the 2015 Rule are still in effect. This impact is detrimental to the Company because additional capital investment may impact customer rates.

Primary response

Engage with regulators/policymakers

Total financial impact

3700000

Description of response

For fly ash transport water, compliance with ELG requirements begins as early as 11/1/2018, but no later than 12/31/2023. However, the costs for compliance have already begun in the form of technology evaluations, testing and engineering. With the postponement in place as previously described, the length of impact for BATW and FGD wastewater is uncertain. The total exact financial impact is unknown; the number reported represents estimated 2019 capital expenses related to ELG regulations. The Company is currently evaluating a suite of technologies that would give us compliance with the ELGs. We are forecasting significant expenses related to ELG in 2020 and later years. DTE’s response to regulatory impacts improves water security for the Company by ensuring environmental regulatory compliance, which protects water sources. The substantial effort to comply with the revised regulations is expected to result in tighter operational performance for CWIS at the applicable facilities.

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?

Yes, enforcement orders or other penalties

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders and/or other penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

Type of penalty
Other penalty type, please specify (NPDES Violation Notice)

Financial impact
814686

Country/Area & River basin

United States of America	St. Lawrence

Type of incident
Other non-compliance with permits, standards, or regulations

Description of penalty, incident, regulatory violation, significance, and resolution
DTE's St. Clair Power Plant reported discolored discharges from one of its outfalls, attributed to sediment buildup in Coal Pile Runoff Basins. The Michigan Department of Environmental Quality (DEQ) issued a Violation Notice specifying a violation of the NPDES Permit Narrative Standard. The DEQ required a written response specifying housekeeping measures and timeline of implementation. In response to the Violation Notice, the Coal Pile Runoff Basin was dredged. The cost of this operation is reflected in the financial impact.

Type of penalty
Other penalty type, please specify (NPDES Compliance Evaluation Inspection)

Financial impact
0

Country/Area & River basin

United States of America	St. Lawrence

Type of incident
Other, please specify (Follow up actions required after inspection)

Description of penalty, incident, regulatory violation, significance, and resolution
Michigan's Department of Energy, Great Lakes, and Environment (EGLE) performed a routine inspection at DTE's Taggart Compressor Station. Although no visual concerns were noted in the effluent, some items were identified that required followup: flow meter calibration, review of pH meter procedure to ensure approved method is used, and ensure pH procedures follow QA/QC requirements. Followup measures were handled by existing staff and processes; there were no additional costs associated with the response to this compliance evaluation.

Type of penalty
Other penalty type, please specify (NPDES Violation Notice)

Financial impact
800000

Country/Area & River basin

United States of America	St. Lawrence

Type of incident
Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution
DTE's Connors Creek Power Plant was noncompliant with its NPDES permit due to pH and Total Suspended Solids (TSS) outside of the range specified in the permit. Laboratory results indicated that an unauthorized wastewater stream was introduced. To prevent reoccurrence, the outfall of concern stopped receiving Coal Pile Runoff Basin water discharge to the outfall and instead was discharged to the city sewer through a separate permit. In addition, any water generated from the demolition activities unable to be discharged to the city sewer due to parameter exceedances was containerized for offsite disposal. The Environmental Team also planned to conduct more frequent site walkdowns and provide specific training/guidance for field workers when implementing new dewatering processes. The aforementioned cost is due to the cost of water management and disposal once discharge through the NPDES permit was prohibited.

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?

Water pollutants are identified and classified as part of the application process for the National Pollutant Discharge Elimination System (NPDES) permit, which is part of DTE's established standard. As part of the permitting process the State of Michigan requires us to assess water quality parameters specific to our industry. We must also comply with regulatory requirements related to accidental spills and other incidents related to release of hazardous materials at our facilities. In addition, DTE follows an established standard in conducting environmental impact assessments as part of our licensing process for plants to identify and classify potential water pollutants associated with business activity that could have a detrimental impact on water ecosystems or human health. For example, a potential detrimental impact considered in DTE's assessments is thermal discharge. DTE categorizes pollutants into two groups based on toxicity level (i.e., toxic pollutants and other pollutants). The assessment of overall impact includes chronic/acute toxicity, persistence, and bioaccumulation. For example, at DTE Trenton Channel Power Plant canals and drains receiving our discharge are protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, and fish consumption. For toxic pollutants at this plant, the volume of canals and drains used to ensure that effluent limitations are sufficiently stringent to meet Water Quality Standards is 25% of the applicable design flow of the receiving stream. The Company updates thresholds based on changes to NPDES permit requirements.

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 consist of fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) solids produced at power plants burning fossil fuel. Potential impacts to surface waters include changes in pH and increased Total Suspended Solids (TSS), which can affect the health of aquatic life that live optimally under certain pH conditions.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	We comply with NPDES permits, develop and implement Storm Water Pollution Prevention Plans (SWPPP), Spill Prevention, Control & Countermeasure (SPCC) Plans, and other incident response plans. These procedures manage risks of impacts by applying treatment methodologies appropriate for controlling TSS and pH. The success of these procedures is evaluated by regular monitoring of discharges after treatment. DTE also uses dry ash for beneficial reuse, and has initiated compliance with the new coal combustion residuals (CCR) rules by closing unlined bottom ash impoundments and ash ponds.
Radiation	During normal operations, nuclear power plants release small amounts of radiation that are strictly regulated by the US Nuclear Regulatory Commission (NRC). The regulatory system for radioactive materials is designed to prevent the possibility that anyone could receive an exposure even close to the levels that might inflict short-term damage. Radiation can adversely impact aquatic life, as well as human health, by altering genetics and interfering with reproduction.	Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness Other, please specify (Compliance with US NRC rules and regs)	Experience has shown that, during normal operations, nuclear power plants typically release only a small fraction of the radiation allowed by the NRC's established limits. The radioactive material that fuels a nuclear power plant is contained in ceramic fuel pellets that are capable of withstanding thousands of degrees of heat. These fuel pellets are then encased in hollow metal rods that help keep the material from interacting with the water that cools the reactor. In addition, the reactor's thick metal walls and piping, as well as a massive reinforced concrete containment structure, are designed to keep the coolant, fuel, and associated radiation isolated from the environment. Our nuclear power plant, Fermi 2, adheres to stringent regulations of the U.S. Nuclear Regulatory Commission (NRC), in addition to robust internal standards and procedures. The NRC reviews a reactor license application to address detrimental environmental impacts. NRC publishes this in its Environmental Impact Statement and provides ways to mitigate these impacts. DTE ensures that Fermi 2 complies with radiation dose limitations and monitors radiation release; reports can be found by the general public on the NRC website. The procedures identified manage risk by minimizing radiation released to the environment through compliance measures. As stated, the success of these procedures is evaluated by regular monitoring of discharges, such as required periodic fish studies in waters surrounding the Fermi 2 Power Plant.
Contaminated cooling water	Cooling water systems are used to remove waste heat from the process to the environment. Circulating pumps move the cooled water through a piping circuit that includes heat exchangers, reactor jackets, and other critical pieces of process equipment and then back to either the surface water (once-through system) or the cooling tower (closed-cycle system). Cooling water has the potential to degrade ecosystems by increasing the temperature of surface waters in the mixing zone. Health and livability can be reduced for aquatic species that only thrive under certain temperatures. Since large volumes of air pass through a cooling tower to enable cooling, potential biological impacts must be controlled.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	Cooling water contamination is prevented by following operation and maintenance procedure and complying with NPDES permit limits and specifications. These procedures manage risk by limiting contamination. The success of these procedures is evaluated by regular monitoring of discharges. For example, chlorine is used in cooling water systems to control biological growth, and total residual chlorine is monitored on a regular basis.
Thermal pollution	Thermal pollution is any deviation from the natural temperature in a habitat and can range from increased temperatures associated with industrial cooling activities to discharges of cold water into streams. This can detrimentally impact aquatic ecosystems by affecting biological activities of organisms and decreasing oxygen supply.	Compliance with effluent quality standards Community/stakeholder engagement Emergency preparedness	Thermal effluents are regulated because heat is defined as a pollutant under Clean Water Act (CWA) Section 502(6). DTE has performed thermal plume studies for power plants with identified risk. We comply with NPDES permits that authorize any thermal effluent discharge. This compliance manages risk by monitoring any negative impacts thermal pollution can have on aquatic ecosystems and whether action should be taken to minimize the pollution. The success of these procedures is evaluated by regular monitoring of discharges.
Other, please specify	Mercury is another relevant water pollutant for DTE. The Clean Water Act identifies acceptable pollution levels in water for mercury that must be complied with to protect human health, fish, and wildlife. Mercury impacts aquatic ecosystems, including fish, by increasing toxicity in organisms. This can have a potential impact for humans consuming these organisms.	Compliance with effluent quality standards Measures to prevent spillage, leaching, and leakages Community/stakeholder engagement Emergency preparedness	We comply with NPDES permits that set up monitoring requirements and limits for mercury. We also developed and implement Pollution Minimization Plans (PMPs) for mercury. These procedures manage risks by reviewing the sources on a semi-annual basis and controlling mercury sources as feasible. The success of these procedures is evaluated by regular monitoring and reporting of discharges.

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
Partial

Risk assessment procedure
Water risks are assessed as a standalone issue

Frequency of assessment
Annually

How far into the future are risks considered?
3 to 6 years

Type of tools and methods used
International methodologies
Other

Tools and methods used
Internal company methods
Other, please specify (ISO 14001)

Comment
DTE conducts annual spill plan reviews, annual storm water pollution prevention plans reviews, monthly environmental compliance reviews, annual corporate environmental compliance audits, and self-assessment audits conducted in conformance with ISO 14001. Coverage is partial because water-related risk assessment is limited to only the utility sector of our operations.

Supply chain

Coverage
Partial

Risk assessment procedure
Water risks are assessed as a standalone issue

Frequency of assessment
Annually

How far into the future are risks considered?
3 to 6 years

Type of tools and methods used
Other

Tools and methods used
Internal company methods
Other, please specify (The Sustainability Project (TSP) supplier survey tool)

Comment
DTE is part of the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA), an organization of utilities and suppliers collaborating to advance sustainability best practices in supply chain activities and supplier networks. Water use for suppliers is self-reported via The Sustainability Project (TSP) supplier survey tool, which was launched in 2018. Survey questions vary by industry and are used to assess water-related risks for our supply chain. DTE uses this information to measure success of actions and identify opportunities for improvement across the Company's supply chain. Coverage is partial because the TSP survey is sent to only a portion of our suppliers, as identified in section W1.4a.

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
Water-related risks are not assessed for other stages of the value chain.

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, sometimes included	Water availability is important to our operations, particularly for cooling water use; however, we operate in a region where water is readily available. DTE uses the MI Withdrawal Assessment Tool when evaluating new large quantity withdrawal projects to determine the potential impact on nearby water resources. The MI Withdrawal Assessment Tool assesses water availability risk depending on location, weather, and industry type.
Water quality at a basin/catchment level	Relevant, sometimes included	Source water quality is relevant to operations because DTE aims to reduce environmental impact and maintain compliance when discharging water. Water quality risk is assessed by referencing regulatory requirements and maintaining compliance. For example, DTE monitors mercury and Total Suspended Solids (TSS) for incoming and discharged water to manage the risk of regulatory noncompliance. DTE also assesses water quality risk to protect power generating equipment and improve efficiency.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, sometimes included	Stakeholder concerns are relevant to operations because DTE aims to be community-minded and consider all stakeholders and water uses when using water resources. On an as-needed basis, we will engage with stakeholders on water issues, as a risk assessment tool. For example, DTE engages with stakeholders by responding to complaints from the public regarding potential water impacts.
Implications of water on your key commodities/raw materials	Relevant, always included	Implications of water on key commodities (i.e., electricity) is relevant to operations because water quantity and quality is a driving force in producing electricity. Risk assessment tools include referencing regulatory requirements and maintaining compliance, as well as identifying biological, thermal, and water quality constraints to efficient equipment operation. For example, DTE identifies high levels of Total Suspended Solids (TSS) as a risk to effective equipment operation and electricity production by looking at equipment operation parameters and guidelines.
Water-related regulatory frameworks	Relevant, always included	Water regulatory risk is a key driver for our operations. Regulations shape the nature of our power generation fleet. As an assessment tool, DTE tracks new and changing water-related regulations, and develops policies and procedures based on these regulations. For example, DTE has been tracking the anticipated changes to Effluent Limitation Guidelines (ELG) and is in the process of decommissioning coal-fired power plants to avoid risk of noncompliance with fly ash/flue gas desulfurization/bottom ash wastewater requirements. DTE will replace these plants with less water-intensive power generation technologies.
Status of ecosystems and habitats	Relevant, always included	Impacts on ecosystems are included in permit applications and are used as means of assessing risk. Voluntary habitat preservation and restoration is a priority for the company. For example, the Company adjusts the design of new projects to avoid or limit impacts on wetlands, and effectively manage stormwater.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Employee safety is a number one priority for the company and providing access to fully functioning safety requirements related to water is essential. DTE's safety department assesses this risk and ensures that water provided at our facilities adheres to drinking water standards.
Other contextual issues, please specify	Not considered	Other contextual issues are not considered.

W3.3c

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

	Relevance & inclusion	Please explain
Customers	Relevant, sometimes included	Customers are included in risk assessment to maintain DTE's reputation of providing reliable and efficient energy to our customers. Generally, the company's use of water does not directly impact customers; however, we will engage customers as necessary if a water risk involves potential customer impact. The method of engagement would be a notification to EGLE, which would then be shared with the customer.
Employees	Relevant, always included	Employees are included in risk assessment to ensure workplace safety. Employee training and attention to water-related aspects are key to minimizing water risks. Through the implementation of our ISO 14001 certified Environmental Management System, employees become aware of water-related aspects and risks and are instrumental in controlling these risks.
Investors	Relevant, sometimes included	Investors are considered in risk assessment to increase confidence in investment return and improve DTE's capital acquisition. Investor reaction to water risk, as well as overall environmental risks, for the company are considered at an enterprise level. However, water risks do not receive the same attention from investors as other environmental risks, such as carbon emissions. The method of engagement is through annual disclosure reports.
Local communities	Relevant, always included	Local communities are considered in risk assessment because our water use and discharges can potentially impact local communities that use these waters. We partner with over 15 private organizations and government agencies including Wildlife Habitat Council, The Nature Conservancy, Friends of the Detroit River, and other water and wildlife conservation organizations. DTE engages with Detroit River International Wildlife Refuge, Friends of the Detroit River, and other organizations through volunteer work and community outreach. We work with local regulatory agencies to meet required water standards. The risks and impacts to these communities are considered during risk assessment discussions.
NGOs	Relevant, sometimes included	Because our water use and discharges potentially impact local communities and we work with agencies on water permits, NGOs get involved with the permit review process and are considered in risk assessment. Risks from NGO engagement are considered during water permit application periods and/or when NGOs choose to engage with the company.
Other water users at a basin/catchment level	Relevant, sometimes included	Other water users at a basin/catchment level are considered in water risk assessments because our water use and discharges can potentially impact the usability of the source water for our local communities. These risks are assessed through a public-private partnership with the Huron to Erie Monitoring Network, a real-time drinking water monitoring network that protects the public from environmental and man-made contaminants. At the Belle River Power Plant, monitoring equipment has been installed at cooling water intakes, increasing the response time for potential spills in the vicinity of the intake. The method of engagement with other water users is through notification regarding potential spills/contaminants if detected.
Regulators	Relevant, always included	Regulators are considered in risk assessment because regulations drive much of our water risk and can result in increased costs, changes in operations, and upgrades to infrastructure. Risks of non-compliance with these regulations is a key driver performing a risk assessment. For example, DTE may engage with regulators to negotiate favorable limits/allocation in reference to potential new water regulations.
River basin management authorities	Relevant, sometimes included	River basin management authorities are considered in risk assessment to decrease the potential of water conflicts. It's not clear what river basin management authorities should be considered in a risk assessment for our region. We engage with the U.S. Army Corps of Engineers on projects related to dredging or navigation channels and we would evaluate risks related to these projects on an as needed case by case basis. The method of engagement is through notification and permitting.
Statutory special interest groups at a local level	Relevant, sometimes included	Tribes or International Joint Commission (IJC) are considered in risk assessment to decrease the potential of water conflicts. Tribes or IJC may engage us in specific water issues that may arise on a case by case basis related to our water use and quality of water discharges.
Suppliers	Relevant, always included	Suppliers are considered in risk assessment to ensure sufficient supply of goods and services. We require all our suppliers to meet the environmental regulatory requirements and comply with sustainable design and construction practices. We engage with suppliers through an annual supplier survey requesting information about water efficiency measures.
Water utilities at a local level	Relevant, always included	Our facilities discharge to locally-owned water utilities and are required to meet pre-treatment standard prior to discharge. DTE considers water utilities at a local level in risk assessment because the potential to exceed these standards are a significant risk to the company. The method of engagement is through notification and permitting.
Other stakeholder, please specify	Not considered	Other stakeholders are not considered.

W3.3d

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

DTE considers regulatory risks, reputational risks, availability risks, and natural disaster risks that create water-related risks. DTE uses the WRI Aqueduct Water Risk Atlas to assess relevant water-related risks for the electric power industry currently, as well as projected conditions. Risk of drought and baseline water stress (availability risks) are given little weight because of the abundant water supply of the Great Lakes system. The application of risk assessment tools for direct operations involves annual spill plan reviews, monthly environmental compliance reviews, annual corporate environmental compliance audits, and self-assessment audits conducted in conformance with ISO 14001. The outcomes of the risk assessment are used to inform the decision-making process by reviewing data in cross-functional groups under the ISO 14001 certification. DTE makes decisions relating to risk response by using cost-benefit analyses, considering investor objectives, and environmental impact. Coverage is partial because water-related risk assessment is limited to only the utility sector of our operations. The application for risk assessment tools for DTE's supply chain is reflected in the company's involvement with the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA), an organization of utilities and suppliers collaborating to advance sustainability best practices in supply chain activities and supplier networks. Water use for suppliers is self-reported via The Sustainability Project (TSP) supplier survey tool, which was launched in 2018. Survey questions vary by industry and are used to assess water-related risks for our supply chain. DTE uses this information to measure success of actions and identify opportunities for improvement across the Company's supply chain. The survey outcome is used to inform DTE's supplier selection process. Coverage is partial because the TSP survey is sent to only a portion of our suppliers, as identified in section W1.4a.

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?

Most of our operations and supply chain takes place in Michigan, which has an abundant fresh water supply. The risks to our company are significant at this time, (e.g. as regulations continue to change and challenge our industry); however; DTE is mitigating these risks through transitioning its electricity generation fleet to less water intensive technologies, such as renewables and combined cycle natural gas. DTE defines substantive impact as a legislative, regulatory, or physical change in supply that would reduce our ability to withdraw the amount of water needed to produce adequate amount of electricity for our customers. Additionally, the definition extends to any financial and strategic impact on both supply chain and operations that an investor would deem substantive, and DTE aims to maintain a reputation of sound risk assessment and management among its investors. This definition applies to our direct operations. For example, extreme weather conditions are identified as a risk in our 2019 10-K Annual Report, which we would consider a substantive financial or strategic impact if it caused damage to the electric distribution system infrastructure and power generation facilities. The 2018 Polar Vortex in Michigan was an example of an event we would consider substantive. Damage to facilities due to cold weather impacts daily operations relating to water availability and usability. Recovering from these setbacks would result in increased costs from unforeseen maintenance to our power generation facilities to improve water usability, therefore negatively impacting the financial performance of the company. DTE does not define specific numerical thresholds for substantive water-related impact.

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	10	76-99	DTE considers the following a facility: company headquarters, electric power generating stations, and all sites that hold NPDES permits (the 12 sites included in this disclosure). A facility exposed to water risk is defined as one that has the capacity to withdraw over 100,000 gallons of water per day (GPD), has a surface water withdrawal permit by the State of Michigan, or discharges to surface water. There are six electric generating stations and one natural gas compressor station that withdraw fresh water from the Michigan Great Lakes, which are located in the St. Lawrence watershed. In addition, there are two inactive electric generating facilities and one quarry facility that discharge to the Michigan Great Lakes. All 10 of these facilities are in the eastern United States, a relatively water abundant area. Because DTE draws from and discharges to the Great Lakes system, water risk is significantly lower than any water risk present in the western U.S. region.

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
10

% company-wide facilities this represents
76-99

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
76-99

% 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
41-50

Comment
All 10 facilities that withdraw fresh water from or discharge water to the Michigan Great Lakes are located in the St. Lawrence watershed. This represents 83% of the 12 facilities included in this disclosure. A significant decrease in the water level within the watershed could put these facilities at risk of damage or losing production. The amount of generation or production capacity lost by a significant change in the water level within the watershed could range from 0% to 91% depending on the nature of the event or situation. For example, a significant drop in water level in the Great Lakes could result in the loss of cooling water, and therefore generation or production, at one or all the facilities. DTE's response would be to increase focus on diversifying its power generation fleet to reduce water reliance, and exploring alternative options for water supply. This percentage divides the power generation from the 10 facilities by the power generation from DTE's entire generation fleet, including renewable energy, natural gas, and hydroelectric power. The revenue generated by these 10 facilities represents 41% of our global revenue. Great Lakes water levels rise and fall on a cyclical basis over decades. Currently, they are at an all-time high, but were at record lows 20 years ago. DTE has adjusted to these cyclical fluctuations by incorporating measures, such as dredging of intakes during low water levels to counteract these changes.

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	Other, please specify (Effects of climate change and drought)

Primary potential impact
Increased cost of capital

Company-specific description
Changing water levels could require restructuring of cooling water intake structures (CWIS) and plant discharge structures. Unpredictable variations in temperature and weather patterns because of climate change can adversely impact operations through alternating levels of precipitation and potential drought. Secondary impacts could include changes in financial distribution leading to monetary stressors on the organization through unintended remediation, process inefficiency, and unplanned outages. Great Lakes water levels rise and fall on a cyclical basis over decades. Currently, they are at an all-time high, but were at record lows 20 years ago. DTE has adjusted to these cyclical fluctuations by incorporating measures, such as dredging of intakes during low water levels to counteract these changes.

Timeframe
Unknown

Magnitude of potential impact
Low

Likelihood
Likely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact

The financial impact has not been quantified financially. For DTE's operations, the major financial impact would be from the company's response to changing water levels at plant intakes and discharges.

Primary response to risk
Engage with regulators/policymakers

Description of response
DTE would engage with public policy makers and would increase capital expenditure to address infrastructure inadequate for the new conditions. By updating infrastructure, the company can be better prepared to mitigate water risk as it pertains to electric production for customers. Engagement and response to changes in water availability is immediate. The timeframe to see consequences of climate change is unknown. Although water availability concern due to climate change is apparent in other parts of the U.S., we do not expect a large impact in the Great Lakes region and we do not expect a need for a response to this risk in the immediate future. Engaging with policy makers would strengthen our process of managing future impacts through identifying potential impacts, planning, and applying best practices.

Cost of response

Explanation of cost of response
The cost of response is not quantified at the corporate level. DTE expects that the major costs would be related to updating infrastructure to account for new conditions. Increased engagement with policy makers would not have significant cost, but could be very effective in sharing best practices for the power generation industry and for working to reduce costs to our customers.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Regulatory	Mandatory water efficiency, conservation, recycling or process standards

Primary potential impact
Increased operating costs

Company-specific description
The company may have to change its operations (e.g. reduce intake and output) in order to meet mandatory requirements. DTE is already in the process of transitioning from coal-fired generation to more generation from renewable sources and natural gas. As this transition occurs, water use will decrease, keeping in line with any potential water conservation measures in future.

Timeframe
Unknown

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
This impact has not been quantified financially.

Primary response to risk
Develop drought emergency plans

Description of response
The company would endeavor to negotiate favorable limits, but would ultimately comply with the regulatory requirements, which may result in increased operating costs.

Cost of response

Explanation of cost of response
This response is not quantified. Cost of negotiations would be minimal; however, major changes to infrastructure to meet regulatory requirements would require significant capital. Operating costs would increase as the company would endeavor to reduce water withdrawal magnitude and output.

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
Clean Water Act regulations related to 316(b) for cooling water intake structures, and effluent limitation guidelines (ELG) for wastewater discharges, will require substantive physical and operational changes at our steam electric generating stations. In addition, the revised coal combustion residuals (CCR) rule requires extensive changes to wastewater systems at some of our facilities.

Timeframe
1-3 years

Magnitude of potential impact
High

Likelihood
Virtually certain

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
19000000

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

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

Explanation of financial impact
It is estimated that capital expenses associated with ELG compliance will be 19 million for 2020, and will increase further in 2021 and beyond. Although reported as a capital expense in last year's report, 316(b) compliance is currently an operating cost and is not included in the financial impact figure. 316(b) will not be a capital cost until 2024 at the earliest. The financial impact for the CCR rule has not been quantified for water-related expenses.

Primary response to risk
Comply with local regulatory requirements

Description of response
The company has engaged with public policy makers, has engaged with suppliers to evaluate new technologies, increased capital expenditure, and increased investment in new technology to be able to comply with the regulatory requirements.

Cost of response
19000000

Explanation of cost of response
The company has evaluated the impact of the CCR rules and is in the process of coming into compliance. Strategies to address the revised 316(b) rules and the revised ELGs are underway. The financial impact for the CCR rule has not been quantified for water-related expenses. It is estimated that capital expenses associated with ELG compliance will be 19 million for 2020, and will increase further in 2021 and beyond. Although reported as a capital expense in last year's report, 316(b) compliance is currently an operating cost and is not included in the cost of response. 316(b) will not be a capital cost until 2024 at the earliest. Increased expenditure to explore new technologies is the main cost associated with this response, which may be substantial as DTE implements these technologies to comply with regulations.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Regulatory	Increased difficulty in obtaining withdrawals/operations permit

Primary potential impact
Increased operating costs

Company-specific description
The company may have to change its operations (e.g. reduce water withdrawal) in order to meet revised limits to water withdrawal.

Timeframe
Unknown

Magnitude of potential impact
Unknown

Likelihood
Virtually certain

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
Although a specific financial impact figure is unknown, DTE expects that the greatest financial impact would be related to rethinking, redesigning, and implementing power generating processes to minimize the use of water (i.e., DTE's response to the risk). Further financial impact would result from supplementing surface water withdrawals

with withdrawals from municipal sources. Direct financial impact because of permit obtainment difficulties is not anticipated.

Primary response to risk
Comply with local regulatory requirements

Description of response
DTE foresees this as a potential future risk, but does not consider it an immediate risk at this time. The company would endeavor to negotiate favorable limits/allocation, but would ultimately comply with the regulatory requirements, which may result in increased operating costs.

Cost of response

Explanation of cost of response
Complying with regulatory requirements would include rethinking current processes to reduce water withdrawal, and implementing those solutions. The cost of the response would mainly be associated with upgrades, additions, and restructuring of our current power generating processes. Additionally, if DTE were to supplement surface water withdrawals with withdrawals from municipal sources, this would also increase costs.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Physical	Flooding

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
Changing water levels could require restructuring of cooling water intake structures (CWIS) and plant discharge structures. Unpredictable variations in temperature and weather patterns because of climate change can adversely impact operations through alternating levels of precipitation and potential flooding. Secondary impacts could include changes in financial distribution leading to monetary stressors on the organization through unintended remediation, process inefficiency, and unplanned outages. Great Lakes water levels rise and fall on a cyclical basis over decades. Currently, they are at an all-time high, but were at record lows 20 years ago. DTE has planned for these cyclical fluctuations in its operations.

Timeframe
Unknown

Magnitude of potential impact
Low

Likelihood
Likely

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

Potential financial impact figure (currency)
<Not Applicable>

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

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

Explanation of financial impact
This impact has not been quantified financially.

Primary response to risk
Develop flood emergency plans

Description of response
In response to a noncompliance due to flooding, the Company notifies the state and emergency response management while coordinating with contractors to remediate any impact. Flooding can result in process inefficiency, infrastructure damage, and unplanned outages, which could disrupt production capacity.

Cost of response

Explanation of cost of response
Cost of response not quantified at corporate level.

Country/Area & River basin

United States of America	St. Lawrence

Type of risk & Primary risk driver

Physical	Ecosystem vulnerability

Primary potential impact
Reduction or disruption in production capacity

Company-specific description
DTE considers ecosystem vulnerability a risk to disruption of production capacity. For example, at the Trenton Channel Power Plant, water temperature of discharged

waters is a concern as it relates to aquatic life. This risk is mitigated through NPDES permit obligations by monitoring and reporting for water temperature.

Timeframe
Unknown

Magnitude of potential impact
Low

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 cost of response is not quantified at corporate level; however, DTE expects that the implementation of upgraded/new technologies will be the main cost associated with this risk.

Primary response to risk
Other, please specify (Conduct studies monitoring impact on aquatic ecosystem)

Description of response
The Company conducts studies that monitor the impact of operations on aquatic species and uses this data to inform its decisions.

Cost of response

Explanation of cost of response
The cost of response is not quantified at corporate level; however, DTE expects that the implementation of upgraded/new technologies will be the main cost associated with this risk.

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	Increased water scarcity

Primary potential impact
Supply chain disruption

Company-specific description
Water scarcity would contribute to a potential decrease in fuel supply (e.g., from coal mining or natural gas production) required for power generation. This decrease would disrupt DTE's supply chain.

Timeframe
Unknown

Magnitude of potential impact
Medium

Likelihood
Very 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

Although a specific financial impact figure is unknown, DTE expects that the greatest financial impact would be related to rethinking, redesigning, and implementing power generating processes to minimize reliance on fuel sources affected by water scarcity. DTE expects that costs for fuel in this instance would increase, creating further financial impact.

Primary response to risk

Supplier engagement	Promote investment in infrastructure and technologies for water saving, re-use and recycling among suppliers

Description of response

DTE does not foresee water scarcity as an anticipated risk in the near future; however, we would respond by implementing alternative solutions for fuel supply in power generation operations. For example, further investment in renewable energy sources would reduce reliance on coal, as well as the risk of water scarcity as it affects our supply chain.

Cost of response

Explanation of cost of response

The cost of the response would mainly be associated with upgrades, additions, and restructuring of our current power generating processes.

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

Seasonal variability affects water levels, which in turn impacts fuel supply. Water regulations may change related to the coal and natural gas industries as a result. As a result of decreased fuel supply, cost of fuel could potentially increase.

Timeframe

Unknown

Magnitude of potential impact

Unknown

Likelihood

Very 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

Although a specific financial impact figure is unknown, DTE expects that the greatest financial impact would be related to rethinking, redesigning, and implementing power generating processes to minimize reliance on fuel supply affected by seasonal variability (i.e., DTE's response). DTE expects that costs for fuel in this instance would increase, creating further financial impact.

Primary response to risk

Supplier engagement	Promote investment in infrastructure and technologies for water saving, re-use and recycling among suppliers

Description of response

DTE does not foresee seasonal variability as a major risk in the near future; however, we would respond by implementing alternative solutions for fuel supply in power generation operations. As the company moves toward closing down coal-fired plants and exploring alternative fuel sources, we expect to reduce this risk even further.

Cost of response

Explanation of cost of response

The cost of the response would mainly be associated with upgrades, additions, and restructuring of our current power generating processes.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
Water efficiency in operations is expected to increase as DTE pursues the opportunity of diversifying its generation fleet. The company will close three coal burning power plants by 2023, and increase the percentage of renewable energy sources. For example, since 2008, DTE has developed 13 wind parks and has spent $170 million developing 31 solar arrays. While we're already Michigan's largest producer of renewable energy, we've pledged to increase our renewable energy investments by $2 billion over the next five years, more than doubling our renewable capacity. A diversified energy portfolio increases renewable energy sources and provides a non-polluting energy source, with minimal environmental impact – adding no new air or water impacts. More water-efficient operations would have company-wide benefits related to cost savings, but would specifically benefit power generation operations, making it a strategic opportunity.

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
DTE costs for water for power generation are relatively low; however, diversifying our generation fleet will decrease both capital expenditure and fuel costs in the long term, causing moderate water related financial impact. Implementing the solution, however, will result in a high financial investments of $2 billion over the next five years. This figure is associated with the solar and wind energy infrastructure and investments.

Type of opportunity
Efficiency

Primary water-related opportunity
Improved water efficiency in operations

Company-specific description & strategy to realize opportunity
The new combined cycle plant is planned to be in operation by April 2022. It will include an approximately 1,150 megawatt state-of-the-art natural gas fired 2 x 1 combined cycle power plant with two combustion turbines/heat recovery steam generator trains; and one steam turbine. As proposed, it is the highest efficiency and lowest emitting technology available in gas-fired plants. It will produce enough energy to supply electricity to 850,000 homes. The maximum expected water withdrawal for the proposed plant is approximately 10 MGD (~14,000 ML per year). The estimated discharge rate is approximately 5 MGD (~7,000 ML per year), with the flows depending on the number of cooling tower cycles used.

Estimated timeframe for realization
1 to 3 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
DTE costs for water for power generation are relatively low; however, diversifying our generation fleet and including technologies more environmentally friendly will decrease environmental compliance costs associated with ELG and CCR rules. The initial high capital investment causes high financial impact.

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)
Belle River Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.773888

Longitude
-82.495833

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)
588819

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
588819

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
0

Total water discharges at this facility (megaliters/year)
582563

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
582563

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)
5400

Comparison of total consumption with previous reporting year
About the same

Please explain
The withdrawal, discharge, and consumptive use of water were about the same in 2019 compared to 2018. The thresholds for comparison to previous years are as follows: >50% change = “Much Lower”/”Much Higher”, 25-50% change = “Lower”/”Higher”, and <25% change = “About the Same.” Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. The Belle River Power Plant is expected to be retired by 2030; therefore, withdrawals, consumption, and discharge will trend downward and then go to 0 once the plant is retired. DTE owns 81% of the Belle River Power Plant; however, values reported here encompass the entire plant.

Facility reference number
Facility 2

Facility name (optional)
Connors Creek Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.355556

Longitude
-82.961388

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Not applicable

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
0

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
0

Total water discharges at this facility (megaliters/year)
44

Comparison of total discharges with previous reporting year
Much higher

Discharges to fresh surface water
42

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
2

Total water consumption at this facility (megaliters/year)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
Withdrawal and consumptive use is zero and shows no change in 2019 compared to 2018. This facility no longer generates electric power and is retired. The discharge amount is the amount of water removed from the basements of the plant (groundwater infiltration) and dewatering of existing basins, which increased 636%. This increase is due to dewatering activities during demolition and decommissioning, which occurred in 2019. In the next year, discharge is expected to fall to zero as retiring is completed.

Facility reference number
Facility 3

Facility name (optional)
Fermi 2 Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
41.9625

Longitude

-83.25833

Located in area with water stress
No

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

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
64081

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
64081

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
0

Total water discharges at this facility (megaliters/year)
40094

Comparison of total discharges with previous reporting year
Higher

Discharges to fresh surface water
40066

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
27

Total water consumption at this facility (megaliters/year)
26163

Comparison of total consumption with previous reporting year
About the same

Please explain
Water withdrawal and consumption show little change in 2019 compared to 2018. Discharge was 29% higher in 2019 than in 2018, which is due to groundwater dewatering activities required for piping removal and replacement at the site. Water withdrawal is determined by adding discharge and consumption values. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated through a calculation involving the number of pumps and the run time. The Fermi 2 Power Plant is expected to remain at current levels in its water use in the future.

Facility reference number
Facility 5

Facility name (optional)
Harbor Beach Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
43.85155

Longitude
-82.64405

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Not applicable

Oil & gas sector business division

<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
0

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
0

Total water discharges at this facility (megaliters/year)
51

Comparison of total discharges with previous reporting year
Lower

Discharges to fresh surface water
51

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)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
This facility no longer generates electric power and was divested to a developer. In 2019 there were no withdrawals or consumption. The discharge is accumulated stormwater in the treatment basins. Ownership was transferred to another party in mid-2019, and will not be included in this disclosure in the future.

Facility reference number
Facility 6

Facility name (optional)
Monroe Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
41.893173

Longitude
-83.346132

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)
2076905

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
2076905

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
0

Total water discharges at this facility (megaliters/year)
2043792

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
2043792

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)
33098

Comparison of total consumption with previous reporting year
About the same

Please explain
Withdrawal, discharge, and consumptive water use have remained about the same in 2019 compared to 2018. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. Withdrawals, consumption, and discharge are not expected to change significantly until the plant begins the process of shutting down in the late 2030s.

Facility reference number
Facility 7

Facility name (optional)
River Rouge Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.2738

Longitude
-83.1117

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)
156701

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
156701

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
0

Total water discharges at this facility (megaliters/year)
142937

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
142913

Discharges to brackish surface water/seawater
0

Discharges to groundwater
0

Discharges to third party destinations
24

Total water consumption at this facility (megaliters/year)
1452

Comparison of total consumption with previous reporting year
Much higher

Please explain
Withdrawal and discharge remained about the same in 2019 compared to 2018. Consumption increased by 99%, due to increase in heat input which increased evaporative loss. This could be related to aging equipment requiring more cooling water, or the use of new equipment used for discharge temperature measurements. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. The River Rouge Power Plant is expected to be retired by 2022; therefore, withdrawals, consumption, and discharge will trend downward and then go to 0 once the plant is retired.

Facility reference number
Facility 8

Facility name (optional)
St. Clair Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.762777

Longitude
-82.472222

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)
939355

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
939355

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
0

Total water discharges at this facility (megaliters/year)
933592

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
933592

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)
5839

Comparison of total consumption with previous reporting year
About the same

Please explain
Water withdrawal, discharge, and consumption remained about the same in 2019 compared to 2018. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. The St. Clair Power Plant is expected to be retired by 2023; therefore, withdrawals, consumption, and discharge will trend downward and then go to 0 once the plant is retired.

Facility reference number
Facility 9

Facility name (optional)
Sibley Quarry Landfill

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.158009

Longitude
-83.187871

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Not applicable

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
2100

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
2100

Withdrawals from produced/entrained water
0

Withdrawals from third party sources
0

Total water discharges at this facility (megaliters/year)
2100

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
2100

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)
0

Comparison of total consumption with previous reporting year
About the same

Please explain
The water withdrawal, discharge, and consumption are about the same as in the previous year. Sibley Quarry Landfill is a former limestone quarry that is an active Type III Low Hazard Industrial Landfill for coal combustion residuals. The quarry is currently dewatered via the quarry sump, which consists primarily of groundwater and precipitation. Pumping continues to support the landfill operations. In the future, water use for Sibley Quarry is expected to show no significant changes. Discharge rates are measured with a flow meter and withdrawals are considered equal to discharges since there is no consumptive use, just pure dewatering.

Facility reference number
Facility 10

Facility name (optional)
Taggart Compressor Station

Country/Area & River basin

United States of America	St. Lawrence

Latitude
43.442612

Longitude
-85.143392

Located in area with water stress
No

Primary power generation source for your electricity generation at this facility
Not applicable

Oil & gas sector business division
<Not Applicable>

Total water withdrawals at this facility (megaliters/year)
13255

Comparison of total withdrawals with previous reporting year
Much higher

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
13255

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
0

Total water discharges at this facility (megaliters/year)
13221

Comparison of total discharges with previous reporting year
Much higher

Discharges to fresh surface water
13221

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)
37

Comparison of total consumption with previous reporting year
Much higher

Please explain

W.C. Taggart Compressor Station provides natural gas to the market areas in Detroit, Mt. Pleasant, Carson City, Greenville, Lakeview, Vine, Muskegon, Ludington, and Belding. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. In 2019, water withdrawal, discharge and consumption increased significantly because of a change in the way flows were calculated. In previous years, a flow meter was used to report flow; in 2019, pump curves were used to report flows for part of the year because of flow meter malfunction. For this reason, flows may be overestimated. In the future, the Taggart Compressor Station is expected to maintain the general levels of withdrawal, discharge, and consumption as were recorded in 2019.

Facility reference number
Facility 11

Facility name (optional)
Trenton Channel Power Plant

Country/Area & River basin

United States of America	St. Lawrence

Latitude
42.123024

Longitude
-83.181633

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)
268824

Comparison of total withdrawals with previous reporting year
About the same

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
268824

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
0

Total water discharges at this facility (megaliters/year)
265000

Comparison of total discharges with previous reporting year
About the same

Discharges to fresh surface water
265000

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)
2808

Comparison of total consumption with previous reporting year
Much higher

Please explain
Water withdrawal and discharge both remained about the same in 2019 compared to 2018. Water consumption increased approximately 61% from 2018 to 2019 due to the plant not operating for two months in 2018, but operating for all months in 2019. Water withdrawal is determined through a calculation involving river or lake intake, which is estimated from circulation pump nameplate capacity and run time. Evaporative loss is incorporated into the consumption figure; it is calculated using average monthly heat input, and regional and seasonal coefficients for evaporative loss. Discharge is calculated by subtracting estimated total consumption from estimated total withdrawals. The Trenton Channel Power Plant is expected to be retired by 2023; therefore, withdrawals, consumption, and discharge will trend downward and then go to 0 once the plant is retired.

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
76-100

What standard and methodology was used?
The value of 76-100% verification represents analytical data provided by external laboratories used on a portion of the effluent parameters required by NPDES permits. The rest of the effluent parameters/data are measured by internal resources. All facilities participate in annual Discharge Monitoring Reports Quality Assurance (DMRQA) studies conducted by third parties.

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	Select facilities, businesses, or geographies only	Description of business dependency on water Description of business impact on water Company water targets and goals Commitments beyond regulatory compliance Commitment to stakeholder awareness and education Commitment to water stewardship and/or collective action Recognition of environmental linkages, for example, due to climate change	DTE Energy's Environmental Policy includes components that specifically address water issues. The Environmental Policy applies to our regulated business units that are certified to the ISO 14001 standard for environmental management systems. The Environmental Policy is available here: https://newlook.dteenergy.com/wps/wcm/connect/dte-web/home/community-and-news/common/environment/environmental-policies DTE's Environmental Policy includes the following statements that are specific to water: "We commit to, and hold our employees and officers accountable to….Strive to eliminate unnecessary use of water in our facilities and to improve the quality of our water discharges." A materiality assessment to identify key environmental, economic, and social issues that are important to both internal and external stakeholders was completed in early 2017 and included in DTE's 2016-2017 Corporate Citizenship Report at: https://empoweringmichigan.com/dte-impact/performance/. Water was not identified as a key issue for DTE as a result of the materiality assessment, which suggests that DTE's Environmental Policy sufficiently addresses water issues for the company. Extensive time and effort is being expended to comply with the revised rules related to water (e.g. revised Effluent Limitation Guideline (ELG) requirements to cease discharge of bottom ash transport water (BATW) (rule currently being revised) and fly ash transport water and perform enhanced treatment of flue gas de-sulfurization (FGD) wastewater, and tighter operational performance standards for cooling water intake structures (CWIS) per 316(b) rules). For example, detailed decision documents have been created for several facilities that will continue to operate past the final compliance date for the ELG rule (rule currently being revised). These decision documents provide a strategy and pathway toward meeting the compliance deadline and beyond. The company has also incorporated water usage strategy as part of an internal sustainability initiative.

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)	Our President and CEO, together with other senior leaders of the company, exercise leadership in our sustainability initiatives. They are given water-related responsibilities so that water initiatives are brought in from the highest level for a company-wide approach. Through the Government Regulatory Committee, and Force for Growth Committee and other leadership committees, DTE Energy's senior management: • Executes the company's ESG strategy in consultation with the Board of Directors • Manages our environmental compliance processes • Mobilizes our employees, resources and partner organizations to strengthen and promote prosperity in our communities • Reports to Board of Directors on outcomes of ESG initiatives • Manages risks associated with environmental and sustainability opportunities • Receives compensation tied to achievement of company goals, including ESG targets

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 - all meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	The Public Policy and Responsibility Committee (PPRC) of the DTE Energy Board of Directors is responsible for reviewing and advising the Board on emerging social, economic, political, reputational and environmental issues that could significantly affect the Company's business and performance in relation to the community, shareholders, customers and employees. The PPRC's responsibilities and duties include direct responsibility for water-related issues that affect the Company. The PPRC's Charter is available on our website and includes the following statements on Membership & Authority: 1. The Committee shall be composed of three or more directors as determined by the Board of Directors. Committee members are appointed for one-year terms and can be re-appointed for additional terms. 2. The Committee has the authority to perform the duties listed in this Charter, as it determines to be necessary and advisable from time to time in its business judgment. 3. The Committee shall meet as necessary, but no fewer than three times a year. The Committee shall keep minutes or other records of its meetings. 4. The Committee has the authority to retain independent outside professional advisors or experts as it deems advisable or necessary, including the sole authority to retain and terminate any such advisors or experts, to carry out its duties. The Committee shall have sole authority to approve related fees and retention terms.

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

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

Other, please specify (Vice President, Environmental Management & Safety)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The Vice President of Environmental Management & Safety manages a group that is responsible for managing compliance with environmental regulations, and assessing water-related risks and opportunities across the company. The Vice President attends board meetings quarterly, in which water-related issues are discussed. The Vice President reports directly to the President and COO of DTE Electric.

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	Yes	

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Please explain
Monetary reward	Chief Executive Officer (CEO) Other C-suite Officer (All C-suite officers are tied to the same system of priorities.)	Reduction of water withdrawals Reduction in consumption volumes Improvements in efficiency - direct operations Improvements in efficiency - supply chain Supply chain engagement	The Company's compensation programs are designed to clearly align performance objectives for our Named Executive Officers with the interests of shareholders and with our system of priorities. Our performance measures are designed to help move our Company toward achieving these priorities. Our CEO received 59% of his 2019 total compensation in contingent, performance-based incentives, which includes, but is not limited to water-related performance indicators. For our other Named Executive Officers, the average percentage of contingent, performance-based compensation was 48%. Our short-term and long-term performance metrics all tie directly to our system of priorities (see above). The rationale for this indicator is that these are the same metrics that management uses to assess the Company's progress toward our aspiration of becoming the best-operated energy company in North America and a force for growth and prosperity in the communities where we live and serve.
Non-monetary reward	No one is entitled to these incentives	<Not Applicable>	Other non-monetary rewards are not offered.

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
Yes, funding research organizations

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?

The ISO 14001 certified systems ensure that these facilities have processes in place to meet compliance with environmental regulations. Compliance with regulations helps to influence policy that is consistent with our overall strategy for the business, including protecting the environment. Water policy and strategy for the company is managed by the Vice President of Environmental Management & Safety. Per ISO 14001 standard, if an inconsistency is discovered, a cross-functional team identifies, problem-solves, and coordinates a corrective action and follows through completion of the countermeasure.

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	A vision or objective entitled "Water Usage" was incorporated into the company's developing environmental sustainability initiative in late 2016. Water withdrawal and water consumption are currently identified as the metrics (or KPIs) for these objectives. In addition, greater regulator engagement can be secured by coming into compliance with the new ELG rule gives the Company opportunity to engage with state regulators to craft a long-term strategy that benefits all parties. Note: This rule is not yet finalized. DTE holds ongoing cross-functional meetings to evaluate strategies and financial impact. Our long-term strategy incorporates the goal to maintain a reliable power generation system with affordable rates for customers. An example of this is DTE's initiative to close down three coal-fired power plants by 2023, and replace these with more efficient combined-cycle plants (e.g., Blue Water Energy Center). DTE uses the ISO 14001 certified Environmental Management System to comply with, as well as exceed, regulatory requirements. For example, DTE implements green infrastructure and low flow systems at Company Headquarters and all our Service Centers as a voluntary measure.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	16-20	Water resource considerations are factored into electrical generation sources. As actions are underway to cease generation from coal fired plants in the next 0 to 20 years, the Company is in the process of planning to construct new electric generation (e.g., Blue Water Energy Center). Several of the main considerations for this expansion are based on the availability of water and the condition of cooling water intake structures (CWIS) components at existing facilities. Also, tighter operational performance standards are put in place. One example is the company's work to comply with the revised 316(b) regulations of the Clean Water Act for cooling water intake structures (CWIS). The substantial effort to comply with the revised regulations is expected to result in tighter operational performance for CWIS at the applicable facilities. In addition, to increase reliability and affordability, DTE has expanded, and continues to expand, our renewable generation fleet specifically solar and wind generation.
Financial planning	Yes, water-related issues are integrated	16-20	There are increased investment opportunities related to implementing revised environmental regulations such as the 316(b) example provided above. Another investment opportunity is the effort to comply with the revised effluent limitation guideline (ELG) rule for NPDES permitted discharges. The Company is in the process of implementing strategies to comply with the new rule, and those strategies will require a substantial capital investment. Note: This rule is under revision. Furthermore, DTE is driven by the economic benefit of renewables and continues to invest in renewable generation to improve the financial outlook of the Company. Aligning Company goals to shut down coal-fired power plants will reduce operating costs and provide a lucrative, long-term solution that is profitable for both the Company and the community. The Company mitigates financial risk by strategically selecting sites for future development to minimize impacts on natural resources, such as wetlands. DTE recognizes the fiscal advantages of adopting these solutions and considers financial impact in the Company long-term business strategy.

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)

-59

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

414

Water-related OPEX (+/- % change)

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

Please explain

DTE decreased water-related CAPEX spending by 59% in 2019 due to 316(b) and ELG. This change is attributed to 316(b) being an operating expense in 2019, instead of a capital expense as it was in previous years. The company anticipates a 414% increase in CAPEX spending in 2020, due to solely to ELG Rule implementation. Significant increases in expenses are forecasted for 2021 and beyond. DTE does not explicitly differentiate OPEX spending for water-related issues from total OPEX spending.

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	DTE has performed scenario analyses to support long-range planning for electric generation that was submitted to the Michigan Public Service Commission in the Company's Integrated Resource Plan (IRP) in 2019. The scenario analyses for the IRP outline pathways that support DTE's emission reduction goal of reducing carbon emissions 80% from a 2005 baseline by 2040. The pathway selected anticipates a 90% reduction in water withdrawal from a 2005 baseline by 2040.

W7.3a

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

Yes

W7.3b

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

	Climate-related scenarios and models applied	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify (Scenarios to support DTE's 2019 IRP submittal)	Possible water-related outcomes are reductions in water withdrawal rates and consumption that are aligned with the company's carbon reduction goals.	As the company transitions away from coal-fired generation to more renewable and natural gas generation, water used for cooling and other purposes will decline.

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

DTE does not plan on using an internal price on water; however the Company's water policy focuses on water reduction and reuse strategies in all projects.

W8. Targets

W8.1

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

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Company-wide targets and goals Business level specific targets and/or goals Activity level specific targets and/or goals Site/facility specific targets and/or goals	Targets are monitored at the corporate level Goals are monitored at the corporate level	Relevant targets/goals are identified by determining long-term cost-saving initiatives, improving water and energy efficiency, and driving the initiative of environmental stewardship. Targets/goals are prioritized based on the level of impact the initiative will have on the company as whole, as well as by weighing the pros and cons of pursuing the initiative. DTE considers company reputation, long-term environmental impact, efficiency of systems, initial investment cost, and return on investment payback period. Business-level specific targets and goals include reducing the number of NPDES non-compliances. Company-wide targets and goals exist around water usage and water consumption as a part of a developing environmental sustainability initiative that began in 2016, and will continue to develop in the future.

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

Business activity

Primary motivation

Corporate social responsibility

Description of target

Reduce water withdrawal by 40% in 2023, 60% in 2030, and 90% by 2040.

Quantitative metric

% reduction in total water withdrawals

Baseline year

2005

Start year

2017

Target year
2023

% of target achieved
62

Please explain
Since 2005, DTE has reduced surface water withdrawals for power generation by 25% by retiring coal-fired power plants (e.g., Conners Creek and Harbor Beach Power Plants) that utilize water for cooling, which accomplishes 62% of our 2023 target. DTE projects that surface water withdrawals will continue to decrease in the future, as more water efficient systems are installed (e.g., Greenwood's closed loop cooling water system) and coal-fired power plants are retired. These water goals are aligned with the company's goals to reduce carbon emissions from electric generating facilities 32% from a 2005 baseline by 2023, 50% by 2030 and 80% by 2040. These numbers represent current projections and are subject to change in the future.

Target reference number
Target 2

Category of target
Product water intensity

Level
Business activity

Primary motivation
Water stewardship

Description of target
Reduce water intensity (million gallons per year withdrawn divided by giga-watt hours energy produced) by 25% by 2023, 35% by 2030, and 90% by 2040.

Quantitative metric
% reduction per unit of production

Baseline year
2005

Start year
2017

Target year
2023

% of target achieved
0

Please explain
Since 2005, DTE has reduced surface water withdrawals for power generation by 25% by retiring coal-fired power plants (e.g., Conners Creek and Harbor Beach Power Plants) that utilize water for cooling. DTE projects that surface water withdrawals will continue to decrease in the future, as our generational mix transitions to renewables and natural gas, and coal-fired generation retires. Although surface water withdrawals have decreased since 2005, power generation has also decreased, keeping water intensity about the same as the start year. DTE does not expect to make major progress on this target until Blue Water Energy Center is added to its power generation fleet in 2023. These water goals are aligned with the company's goals to reduce carbon emissions from electric generating facilities 32% from a 2005 baseline by 2023, 50% by 2030 and 80% by 2040. These numbers represent current projections and are subject to change in the future.

Target reference number
Target 3

Category of target
Water consumption

Level
Site/facility

Primary motivation
Water stewardship

Description of target
DTE's target is to reduce water use by 35% by 2022 at DTE Gas and Electric facilities, excluding plant operations. As part of an internal initiative, DTE aims to develop and implement a plan to reduce water consumption/impact, with primary focus on Company Headquarters. Other areas of focus will be Service Centers and the Fermi Power Plant (outside of power block).

Quantitative metric
% reduction in total water consumption

Baseline year
2016

Start year
2017

Target year
2022

% of target achieved
77

Please explain
In 2019, DTE achieved 27% reduction from 2016 levels, which accomplishes 77% of our target.

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 water stewardship culture)

Level
Company-wide

Motivation
Corporate social responsibility

Description of goal
DTE aims to improve water stewardship practices at power generating facilities, company offices, and other business units across the company. This will help achieve water security by instilling a culture of water reduction policies where possible. This goal is important to the company because water reduction initiatives are environmentally responsible and cost-saving. The company is implementing this goal company-wide by going through an environmental review process captured in the environmental change checklist for each new project, including water use and management of wastewater. Whenever possible, water reduction is accomplished through reuse/recycle options and process change. Additionally, the use of water intensive systems is monitored to decrease run time when use is not necessary.

Baseline year
2016

Start year
2017

End year
2023

Progress
Progress is assessed through the amount of water being reused/recycled, in addition to other measures.

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

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.

N/A

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	VP - Environmental Management and Safety	Other, please specify (Vice President - Environment/Safety)

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)].
No

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	12669000000

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	2333311072

SW1.1

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

We do not have this data and have no intentions to collect it

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	No, we do not have this data and have no plans to collect it	

SW2.1

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

SW2.2

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

No

SW3.1

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

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