DTE Energy Company - Climate Change 2018

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

DTE Energy (NYSE: DTE) is a diversified U.S. energy company with approximately $12.6 billion in revenues for 2017. 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 Commissions (MPSC) and the Federal Energy Regulatory Commission (FERC). DTE Electric is engaged in the generation, purchase, distribution and sale of electricity to approximately 2.1 million customers in southeastern 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

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Equity share

C-EU0.7

(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.

Row 1

Electric utilities value chain

Electricity generation

Distribution

Other divisions

Gas storage, transmission and distribution

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Other, please specify (Chairman & CEO)	Our Chairman and CEO, together with other senior leaders of the company, exercise leadership in our sustainability initiatives. 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 and carbon reduction aspirations • 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
Other, please specify (Lead Independent Director)	The Board continues to believe a good governance practice is to elect a Lead Independent Director. The Lead Independent Director will have such responsibilities as required under the NYSE listing standards, as well as such other responsibilities as determined by the Board, including approving the agenda for Board discussions of strategic issues (including climate-related issues) for the company.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Climate-related issues impact all areas of DTE Energy's business and are therefore incorporated into the agenda at all Board meetings. Examples include obtaining approval from the Board for the company's 2050 carbon reduction goal announced in 2017, long-term strategies and action plans to meet these goals, risks associated with meeting or not meeting these goals, capital expenditures necessary to meet these goals, and setting milestone targets track and measure progress towards these goals. 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 climate change 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. The PPRC met 5 times in 2017,

C1.2

(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other, please specify (Vice President, Environmental Management)	Both assessing and managing climate-related risks and opportunities	Quarterly
Sustainability committee	Managing climate-related risks and opportunities	As important matters arise

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

Under the direction of senior management, the VP-EMR oversees the company's ESG

operations. In managing our sustainability initiatives, the VP-EMR:

• Represents the company on environmental issues with the public and in environmental

regulatory and legislative development

• Coordinates environmental studies and conducts environmental audits

• Supervises a department of approximately 75 people

ENVIRONMENTAL, SOCIAL AND GOVERNANCE TEAM

The cross-functional ESG Team was formed to coordinate and execute the company's multiple

streams of ESG disclosure. With members from legal, corporate communications, investor

relations, environmental compliance, technical accounting, and the corporate secretary,

the ESG team:

• Evaluates potential ESG disclosure platforms and templates, and makes recommendations

to management

• Reviews peer company disclosures for best practices

• Collects internal ESG data and drafts disclosure documents in consultation with relevant

business units

• Incorporates input from management and board reviewers

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?

Corporate executive team

Types of incentives

Monetary reward

Activity incentivized

Other, please specify (Performance -based incentives)

Comment

Our CEO received 55% of his 2017 total compensation in contingent, performance-based incentives that are focused on meeting

our system of corporate priorities, including our target to reduce carbon emissions. 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. 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.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Other, please specify (Corporate priority scorecards)

Comment
The company utilizes scorecards as a means to measure progress towards meeting company goals. The scorecards are utilized to assess annual incentive awards at the business unit level for all employees. Examples of corporate level priorities related to climate change that were tracked on scorecards at the business unit level in 2017 included the following: 1. Reduce carbon emissions 21% below 2005 (on way to 80% reduction by 2050) 2. Achieve annual customer electricity savings of 1.5% 3. Achieve annual customer gas savings of 1.0% 4. Drive 25% energy, water and waste reduction by 2022

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Monetary reward

Activity incentivized
Other, please specify (Alex Dow Award)

Comment
Alex Dow Award - The Alex Dow Award recognizes outstanding achievement related to the company's operation that is consistent with its responsibilities as an investor-owned utility and exemplifies DTE Energy's Core Values and incorporates the DTE Energy Operating System principles. Awards fall into the following categories: 1. Achievement or Innovation: An original achievement or innovation that has significant positive impact on corporate cost savings or increased revenues, gained outside recognition, and supports corporate strategies. 2. Emergency: An individual(s) taking extraordinary action in an emergency to prevent injury, loss of life, or damage to or loss of property. 3. Improved Operation: An outstanding individual(s) effort, beyond normal responsibilities, which significantly improved company wide operations, greatly impacted the company's financial success and supported corporate strategies. 4. Human Relations: An outstanding, sustained individual effort that has had a significant impact on improving the quality of life in the Community or the Company. 5. Public Relations: An outstanding, sustained individual effort that has had a significant impact on improving the corporate service and awareness in the communities in which we serve 6. Above and Beyond: Exceptional, consistent, and sustained efforts to achieve business success that goes above and beyond and exceeds expectations. 7. Lifetime Achievement: Original achievements and innovations that have had a sustained impact on the corporation and gained outside recognition. The Alex Dow award is one of 3 established employee performance recognition programs. Although these programs do not specifically target management of climate change issues, recipients have been awarded this honor in the past who are instrumental in creating and sustaining many environmental initiatives.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Recognition (non-monetary)

Activity incentivized
Other, please specify (Sarah Sheridan Award)

Comment
Sarah Sheridan Award - The Sarah Sheridan award recognizes Customer Service and Customer Satisfaction efforts for our external and internal customers, and our community (including volunteerism). The Sarah Sheridan Award is one of 3 established employee performance recognition programs. Although these programs do not specifically target management of climate change issues, recipients have been rewarded for their work in climate change or related environmental issues.

Who is entitled to benefit from these incentives?
All employees

Types of incentives
Other non-monetary reward

Activity incentivized
Other, please specify (Walter J. McCarthy Award)

Comment
Walter J. McCarthy, Jr. Award - Through the Walter J. McCarthy Volunteer Leadership Individual Grant Program, the DTE Energy Foundation awards up to $1,000 on behalf of its employees and retirees who volunteer personal time with eligible nonprofit organizations in Michigan. The Walter J. McCarthy, Jr. Award is one of 3 established employee performance recognition programs. Although these programs do not specifically target management of climate change issues, recipients are often rewarded for their work in climate change or related environmental issues.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	5	Aligned with annual planning cycles and shorter term targets to reach performance goals.
Medium-term	5	15	Generally aligned with Integrated Resource Plan timeframe and other regulatory submittals and disclosures required by the Michigan Public Service Commission.
Long-term	15	30	Aligned with DTE Energy's goal to reduce carbon emissions more than 80% by 2050.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.
Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	DTE Energy's long-term planning is guided by our commitment to reduce carbon emissions more than 80% by 2050. This commitment is based on an evaluation of climate-related risks.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

The Board receives, reviews and assesses reports from the Board Committees and from management relating to enterprise-level risks. Each Board Committee is

responsible for overseeing and considering risk issues relating to their respective Committee and reporting their assessments to the full Board at each regularly

scheduled Board meeting. When granting authority to management, approving strategies and receiving management reports, the Board and Committees consider, among other things, the risks we face. The following committees review management's assessment of risk for that Committee's respective area of responsibility:

- Audit Committee
- Finance Committee
- Organization and Compensation Committee
- Corporate Governance Committee
- Nuclear Review Committee
- Public Policy and Responsibility Committee

The charters for each of these committees are posted on the DTE Energy website. The Company also utilizes an internal Risk Management Committee, chaired by the Chairman, President and CEO and comprised of the Chief Financial Officer, Chief Risk Officer, General Counsel, General Auditor and other senior officers, that, among other things, directs the development and maintenance of comprehensive risk management policies and procedures, and sets, reviews and monitors risk limits on a regular basis for enterprise-level risks. The Company's Chief Risk Officer attends all Audit Committee meetings and meets annually with either the joint Audit Committee and Finance Committee or the full Board to update the members on the Company's enterprise-level risk management. The Chief Risk Officer also periodically meets with the other Board Committees and the full Board as may be required. These periodic meetings allow for two-way exchange of company and asset related risk, either from the business unit level that has identified an asset related risk, or from the Board Committee that may have a generally identified risk that could impact assets.

There are various risks associated with the operations of DTE Energy's utility and non-utility businesses. To provide a framework to understand the operating environment of DTE Energy, a brief explanation of the more significant risks associated with our businesses are provided in our 2017 Form 10-K annual report . Although we have tried to identify and discuss key risk factors, others could emerge in the future. Key risk factors related to climate change include the following:

- We are subject to rate regulation.
- Changes to Michigan's electric Customer Choice program could negatively impact our financial performance.
- Environmental laws and liability may be costly.
- Operation of a nuclear facility subjects us to risk.
- The supply and/or price of energy commodities and/or related services may impact our financial results.
- The supply and/or price of other industrial raw and finished inputs and/or related services may impact our financial results
- Construction and capital improvements to our power facilities, distribution systems and Gas Storage and Pipelines business subject us to risk.• Our participation in energy trading markets subjects us to risk.
- DTE Energy's non-utility businesses may not perform to expectations.
- DTE Energy's participation in energy trading markets subjects it to risk.
- Our ability to utilize production tax credits may be limited.
- Weather significantly affects operations.
- Renewable portfolio standards and energy efficiency programs may affect our business.
- Unplanned power plant outages may be costly.
- Regional, national and international economic conditions can have an unfavorable impact on us.
- If DTE Energy's goodwill becomes impaired, it may be required to record a charge to earnings.
- We may not be fully covered by insurance.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	DTE Electric is subject to U.S. EPA rules under the Clean Air Act that impose limits on air emissions, including greenhouse gases. U.S. EPA rules under the Clean Air Act requiring carbon performance standards for new and existing electric generating unit (EGU) sources of greenhouse gases under Sections 111(b) and 111(d) of the Clean Air Act were finalized in 2015. The 111(d) rule for existing sources, also known as the Clean Power Plan, has been stayed by the U.S. Supreme Court and the current EPA is in the process of repealing and replacing the rule. Regulation pertaining to renewable energy and/or clean energy requirements is also considered. In late 2016, Michigan passed legislation requiring electricity providers to meet a 12.5% renewable portfolio standard by 2019 and 15% by 2021 and an energy optimization goal of meeting at least 35% of the STate's electric needs through energy waste reduction and renewable energy by 2025.
Emerging regulation	Relevant, always included	Uncertainty around future environmental regulations creates difficulty planning long-term capital projects in our generation fleet and gas distribution businesses. These laws and regulations require us to seek a variety of environmental licenses, permits, inspections and other regulatory approvals. We could be required to install expensive pollution control measures or limit or cease activities, including the retirement of certain generating plants, based on the outcome of future regulations. In addition, emerging state or local legislative and /or ballot initiatives focused on clean energy and reducing carbon emissions are considered in climate risk assessments.
Technology	Relevant, sometimes included	Key technology uncertainties that impact future planning risks include the feasibility and cost of energy storage technologies. Utility scale energy storage technologies (e.g. batteries) to store energy from intermittent renewable generation are currently not feasible for wide-scale deployment across our service territory. However, if costs of utility scale storage decrease significantly, long-term generation planning could be impacted.
Legal	Relevant, always included	EPA and environmental groups have initiated enforcement actions against DTE Electric Co. alleging, among other things, that five DTE Electric power plants violated New Source Performance standards, Prevention of Significant Deterioration requirements, and operating permit requirements under the Clean Air Act. DTE Electric could be required to install additional pollution control equipment at some or all of the power plants in question, implement early retirement of facilities where control equipment is not economical, engage in supplemental environmental programs, and/or pay fines. We cannot predict the financial impact or outcome of this matter, or the timing of its resolution.
Market	Relevant, sometimes included	Future legislation or regulation could require DTE Electric to participate in a carbon emission trading program or a similar program that would put a price on the direct emissions of carbon. This could potentially impact the affordability of electricity to our customers.
Reputation	Relevant, always included	DTE Energy's aspiration is to be the best operated energy company in North America and a force for growth and opportunity in the communities where we live and serve. We are guided by our company's purpose, values and system of prioritties to support our jouney towards our aspiration. Risks that detract from achieving our aspiration would be considered reputational risks.
Acute physical	Relevant, always included	Increased frequency of severe storm events (e.g. severe thunderstorms, tornadoes, wind storms, and ice storms) would have an impact on the electrical transmission and distribution system infrastructure (e.g. poles and wires).
Chronic physical	Relevant, sometimes included	Decreases or increases in Great Lakes water levels due to changes in precipitation and evaporation patterns could have a negative impact on the ability to utilize water for electric generation cooling purposes or in transporting fuel and other raw materials to our plants via water vessels. Warmer average summer and winter temperatures could potentially impact seasonal demand for electricity and natural gas.
Upstream	Relevant, always included	Our mid and long-term planning relies on replacement of our retiring coal generation with natural gas and renewable energy. This includes a reliable and affordable supply of natural gas. Volatility in natural gas prices present a risk to the viability of future natural gas generation as part of a generation portfolio to meet carbon reduction goals.
Downstream	Relevant, sometimes included	Significant changes/disruptors in consumer demand for energy could impact future planning to meet this demand. The pace of penetration in the use of electric vehicles by our customers is one area that could significantly impact the demand for electricity on the grid.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

DTE Energy has understood and evaluated climate-related risks for many yearsm and in 2017 took action to put the company on a pathway to minimize this risk. DTE Energy is strongly committed to sharply reducing carbon emissions in a manner that is safe, maintains reliability and affordability for our customers. We have invested substantial time and resources in building a strategy to address climate change, which our chairman and CEO, Gerry Anderson, has described as the defining policy issue of our era. Well before the August 2015 announcement of the U.S. Clean Power Plan and the December 2015 adoption of the Paris Agreement, DTE Energy had started its transition toward a lower carbon profile for our generation fleet. Since 2005, we have reduced our carbon dioxide emissions by approximately 24 percent.

DTE Energy's commitment to provide energy that is both affordable and sustainable resulted in our industry-leading May 2017 announcement: we are undertaking a broad sustainability initiative to dramatically reduce the company's carbon emissions. This comprehensive plan includes (1) steady retirement of all our remaining

coal generation units, (2) construction of at least an additional 4,000 megawatts of renewable generation, (3) construction of up to 3,500 megawatts of new natural gas generation, (4) heavy investment in energy waste reduction and reducing peak demand, together with extensive investment in modernization of the electric grid and gas infrastructure. This plan will achieve a 30 percent reduction in CO2 emissions from 2005 levels by the early 2020s, a 45 percent reduction by 2030, a 75 percent reduction by 2040 and an 80 percent or higher reduction by 2050. We will continue to review technology development, electricity demand and economics and make additional low and zero emission modifications to the plan in the best interest of our customers.

The feasibility of our carbon reduction plan was confirmed in the 2017 Integrated Resource Plan (IRP) filed with the Michigan Public Service Commission (MPSC) by our electric utility. In the IRP, we analyzed multiple scenarios, including different sensitivities relating to gas prices and electricity market prices, as well as different cost and performance curves for renewable technologies. In evaluating these scenarios, it became clear that our IRP can support very robust carbon reduction targets. Our carbon reduction plan assumes a tighter reduction curve than mandated by the Clean Power Plan and higher levels of renewable generation.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Policy and legal: Mandates on and regulation of existing products and services

Type of financial impact driver

Technology: Capital investments in technology development

Company- specific description

Legislative or regulatory developments that mandate carbon reduction requirements or the utilization of renewable or clean energy beyond what we are already planning for could have unanticipated impacts on the capital expenditures (e.g. new generation

technologies) to meet these requirements.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
High

Potential financial impact

Explanation of financial impact
The Company cannot predict the financial impact of this risk at this time.

Management method
We manage these risks through the Board Committee structure described in our response to Question C1.1 and through our established long-term planning processes. We are actively involved in shaping and influencing proposed regulations at both the state and federal level through our involvement with industry groups. We advocate for environmental policy that proceeds in a manner that can be absorbed financially by our customer base.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Technology: Costs to transition to lower emissions technology

Type of financial impact driver
Technology: Capital investments in technology development

Company- specific description
We manage these risks through the Board Committee structure described in our response to Question C1.1 and through our established long-term planning processes, including the Integrated Resource Planning (IRP) process that is managed by the Michigan Public Service Commission (MPSC). We must seek approval from the MPSC for electric rate increases to support the capital costs of transitioning to a lower carbon supply of electricity.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Potential financial impact

Explanation of financial impact
The Company cannot predict the financial impact of this risk at this time.

Management method
We manage these risks through the Board Committee structure described in our response to Question C1.1 and through our established long-term planning processes.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Supply chain

Risk type
Transition risk

Primary climate-related risk driver
Market: Increased cost of raw materials

Type of financial impact driver
Market: Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatement)

Company- specific description
Our mid and long-term planning relies on replacement of our retiring coal generation with natural gas and renewable energy. This includes a reliable and affordable supply of natural gas. Volatility in natural gas prices present a risk to the viability of future natural gas generation as part of a generation portfolio to meet carbon reduction goals.

Time horizon
Medium-term

Likelihood
Unlikely

Magnitude of impact
Medium-high

Potential financial impact

Explanation of financial impact
The Company cannot predict the financial impact of this risk at this time.

Management method
The cost of fuel that we charge customers is managed through our Power Supply Cost Recovery rate program with the Michigan Public Service Commission.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Transition risk

Primary climate-related risk driver
Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver
Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description
Incorrect or negative perceptions of the company's approach to addressing climate change may lead to shareholder resolutions requesting additional action from the company.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium-low

Potential financial impact

Explanation of financial impact
The estimated financial implications would vary depending on the scope of a proposed shareholder resolution. We cannot predict the financial impact of this risk at this time.

Management method
The Company actively communicates with its shareholders about a broad range of topics. Our shareholder engagement efforts have generated valuable feedback related to renewable energy and sustainability, and we will continue to seek input from our shareholders around these issues. We publish an annual Corporate Citizenship report that is indexed to the GRI G4 standards. We respond to ESG organization requests for information such as the CDP Carbon and CDP Water questionnaires.

Cost of management

Comment
We do not expect this risk to require an additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 5

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver
Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Company- specific description
Ice storms, wind storms, severe thunderstorms and tornadoes can damage the electric distribution system infrastructure and require us to perform emergency repairs and incur material unplanned expenses. The expenses of storm restoration efforts may not be fully recoverable through the regulatory process. The biggest financial implications associated with the identified risks are the severe weather events for which DTE Electric Co. already has an existing budgeting and planning process in place to manage.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
DTE Electric Co. already has an existing budgeting and planning process in place to manage storm-related emergency events. These costs are integrated into existing budgets.

Management method
DTE Electric maintains a storm emergency and readiness center that is put into action when severe weather causes sudden increases in customer outages. The unpredictability of severe weather events makes it difficult to quantify the potential incremental cost of this risk that would be attributed to climate change. We don't expect physical risks from climate change to impact the company's storm emergency planning process in a way that would impact our normal long-range planning process. We cannot predict whether long term changes in frequency of severe weather events due to climate change will have more of an impact on the electric distribution infrastructure than normal year to year variations in severe weather events.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 6

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Rising mean temperatures

Type of financial impact driver
Reduced revenues from lower sales/output

Company- specific description
Year to year deviations from normal hot and cold weather conditions affect our earnings and cash flow. Higher than normal summer temperatures increase electricity demand for residential and commercial air conditioning, and potentially increase peak demand days for DTE Electric. Warmer than normal winters reduce the need for natural gas for heating, resulting in lower gas sales to retail customers.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
We cannot predict whether long-term trends in average temperatures due to climate change will have more of an impact on the demand for electricity or natural gas than year to year variations from normal temperatures. We cannot predict the financial impacts of this risk at this time.

Management method
We don't expect physical risks from climate change to impact the company in a way that would impact our normal long-range planning process. Meeting customer demand for our products is part of our normal operational planning. We do not see any change as a result of increased temperatures impacting this process.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

Identifier
Risk 7

Where in the value chain does the risk driver occur?
Direct operations

Risk type
Physical risk

Primary climate-related risk driver
Chronic: Other

Type of financial impact driver
Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)

Company- specific description
Decreases (or increases) in Great Lakes water levels due to changes in precipitation and evaporation patterns could have a negative impact on the ability to utilize water for electric generation cooling purposes or in transporting fuel and other raw materials to our plants via water vessels.

Time horizon
Current

Likelihood
Likely

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
Financial implications of Great Lakes water level changes could include capital costs to change cooling water intake structures and equipment, and costs to modify existing vessel unloading facilities. A longer shipping season on the Great Lakes due to warmer lake temperatures could have beneficial financial impacts due to a longer season for shipping coal and other commodities transported by ship. We cannot predict the financial impact of Great Lakes water level changes at this time.

Management method
We don't expect physical risks from climate change to impact the company in a way that would impact our normal long-range planning process. Over the past 100 years, Lake Erie and Lake Huron levels have fluctuated by almost 2 meters from highest levels to lowest levels. The company has planned around these fluctuations in the past and is not actively planning to manage or adapt to changes in Great Lakes water levels as a result of climate change.

Cost of management

Comment
No additional cost of management - these costs are integrated into existing budgets.

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Use of lower-emission sources of energy

Type of financial impact driver
Returns on investment in low-emission technology

Company- specific description
The company expects to make a return on its investment in renewables and natural gas generation to replace retiring coal generation.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Potential financial impact

Explanation of financial impact
The Michigan Public Service Commission issued an order in DTE Electric's rate case on April 19, 2018 that approved a return on equity of 10% for the company's capital investment of more than more than $1.1 billion since the last general rate case to replace aging distribution system infrastructure and to invest in the Company’s long-term generation assets, lower sales, inflation and working capital increases due primarily to changes in retiree benefit costs.

Strategy to realize opportunity
DTE's 2018 Renewable Energy Plan that was filed with the State of Michigan proposes 1,000 additional MWs of carbon-free electricity from new wind and solar projects in Michigan to be completed by 2022. This will drive investment of more than $1.7 billion in Michigan and double DTE's renewable energy capacity from 1,000 MWs to 2,000 MWs. In addition, in April 2018, the Michigan Public Service Commission approved certificates of necessity for the company to build a new 1,100 MW natural gas fired combined cycle gas turbine at an approved cost of $951.8 million.

Cost to realize opportunity
2000000000

Comment
The approximate capital investment to build new renewable and natural gas generation in the next five years is $2 billion as described in our answers above.

Identifier
Opp2

Where in the value chain does the opportunity occur?
Customer

Opportunity type
Products and services

Primary climate-related opportunity driver
Development and/or expansion of low emission goods and services

Type of financial impact driver
Increased revenue through demand for lower emissions products and services

Company- specific description
Increased customer participation in voluntary renewable programs. Customers may opt-in to programs that allow them to buy all or part of their energy from renewable energy sources. DTE Energy currently offers the following renewable energy programs to customers: 1) MIGreenPower is a simple and affordable program that empowers customers to increase the amount of renewable energy DTE Energy sources from local wind and solar projects. MIGreenPower is available to business onwners, homeowner or renters to help themp go green easily and affordably, without installing special equipment or making exterior alterations. MIGreenPower is Green-e Energy certified for businesses and for residential customers who subscribe at or above 25 percent, and meets the environmental and consumer protection standards set fort for by the nonprofit Center for Resource Solutions. 2) BioGreenGas is a voluntary residential program for DTE Gas customers which supports the local development of renewable natural gas by using the methane that arises naturally from landfills.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
The cost to manage this opportunity is built into existing operating budgets.

Strategy to realize opportunity
The MIGreenPower and BioGreenGas programs are managed through established marketing and billing programs. Launched in April 2017, the MIGreenPower program provides interested customers with an easy and affordable way to reduce their carbon footprint by increasing the percentage of their energy usage that is attributed to DTE’s newest renewable projects. Customers who subscribe to MIGreenPower can elect to increase the amount of renewable energy they use in 5 percent increments, up to 100 percent. DTE Gas Customers may elect to pay a premium of $2.50 per month to support the development and advance the utilization of natural gas generated from biogas resources.

Cost to realize opportunity

Comment
The company cannot share the cost of these programs at this time.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Customer

Opportunity type
Products and services

Primary climate-related opportunity driver
Other

Type of financial impact driver
Other, please specify (Customer energy efficiency programs)

Company- specific description
DTE's Energy Waste Reduction (EWR) programs are designed to help reduce customers' energy use by increasing customer awareness of energy saving possibilities, and providing products and services such as rebates, tips, tools, strategies and energy efficiency education to help customers make informed energy saving decisions. On December 16, 2016, Public Act 342, which amends Michigan's 2008 Act 295 energy law, was signed into law. For large electric and gas providers, the law requires continued annual energy savings through 2021 of 1% for electric providers and 0.75% for gas providers, of their prior year total annual retail sales.

Time horizon
Current

Likelihood
Virtually certain

Magnitude of impact
Medium

Potential financial impact

Explanation of financial impact
In 2017, DTE Electric spent $93.2 million compared to the planned $93.2 million to implement the electric EWR program, whereas DTE Gas spent $25.5 million compared to the planned $25.4 million to implement the gas EWR program. The EWR Programs are paid for by all customers via a surcharge placed on their electric and natural gas bills.

Strategy to realize opportunity
DTE Energy EWR programs are funded through surcharges on customer energy bills that are approved by the Michigan Public Service commission..

Cost to realize opportunity

Comment

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	We are providing energy waste reduction services to customers in accordance with Michigan legislation. We have also developed voluntary renewable energy programs that customers may subscribe to in helping to meet customer's own renewable energy goals.
Supply chain and/or value chain	Not evaluated	
Adaptation and mitigation activities	Not impacted	We have not identified impacts that are above or beyond normal fluctuations in physical risks and that are not already included in current business planning.
Investment in R&D	Not evaluated	
Operations	Impacted	We have committed to a carbon reduction goal that will achieve a 30 percent reduction in CO2 emissions from 2005 levels by the early 2020s, a 45 percent reduction by 2030, a 75 percent reduction by 2040 and an 80 percent or higher reduction by 2050. In order to meet this commitment we have announced retirements of existing coal-fired power plants, building more renewable generation and building a natural gas fired power plant.
Other, please specify	Please select	

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	DTE Energy must seek approval from the Michigan Public Service Commission to increase electricity rates charged to customer to fund capital expenditures, including new generation to replace retiring coal generation. In April 2018 an MPSC order authorized DTE Electric to raise base rates by $65 million and approved a return on equity (“ROE”) of 10%. This order responded to an April 2017 application filed by DTE requesting a general rate increase of approximately $231 million. The need for the rate increase was driven primarily by the Company’s capital investment of more than $1.1 billion since the last general rate case to replace aging distribution system infrastructure and to invest in the Company’s long-term generation assets, In July 2018, DTE submitted a new rate case request that determined the need for additional annual revenues in the amount of approximately $328 million effective as early as June 6, 2019, in order to recover, among other things, capital costs associated with the addition of new generation.
Operating costs	Please select	
Capital expenditures / capital allocation	Impacted	In order to meet DTE Energy's commitment to carbon reductions and to replace retiring coal generation, the company needs to invest in cleaner replacement generation. The company filed a plan with the state of Michigan to double renewable (wind and solar) energy capacity from 1,000 MW to 2,000 MW by 2022. This is expected to drive more than $1.7 million in renewable investments in Michigan. In addition, in April 2018 DTE Energy received certificates of necessity from the Michigan Public Service to Commission to build an 1,100 MW natural gas combined cycle power plant that will commence operation in 2022. The estimated cost of the natural gas plant is around $1 billion.
Acquisitions and divestments	Not evaluated	
Access to capital	Impacted	DTE Energy must seek approval from the Michigan Public Service Commission to increase electricity rates charged to customer to fund capital expenditures, including new generation to replace retiring coal generation. In April 2018 an MPSC order authorized DTE Electric to raise base rates by $65 million and approved a return on equity (“ROE”) of 10%. This order responded to an April 2017 application filed by DTE requesting a general rate increase of approximately $231 million. The need for the rate increase was driven primarily by the Company’s capital investment of more than $1.1 billion since the last general rate case to replace aging distribution system infrastructure and to invest in the Company’s long-term generation assets, In July 2018, DTE submitted a new rate case request that determined the need for additional annual revenues in the amount of approximately $328 million effective as early as June 6, 2019, in order to recover, among other things, capital costs associated with the addition of new generation.
Assets	Impacted	The company is potentially impacted by regulatory risks associated with climate change issues that impact financial planning for construction of new assets (i.e. natural gas power plants, renewable genertaaion, natural gas pipelines) and planning for retirement of existing assets. These risks are discussed in depth in the DTE Energy's 2017 10K.
Liabilities	Impacted	The company is potentially impacted by regulatory uncertainty associated with climate change issues that create liabilities and potentially impact financial planning. If increased regulations of GHG emissions are implemented, the operations of DTE Electric's fossil-fueled generation assets may be significantly impacted. Since there can be no assurances that environmental costs may be recovered through the regulatory process, the Registrants' financial performance may be negatively impacted as a result of environmental matters. These risks are discussed in depth in the DTE Energy's 2017 10K.
Other	Please select	

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

i. How the business strategy has been influenced.

Our CEO led the Edison Electric Institute and his peer electric utility executives in negotiations with the Environmental Protection Agency on development of the final federal Clean Power Plan rule that required states to implement plans to reduce carbon emissions from electric utilities by 2030. The Clean Power Plan was finalized in late 2015 but has since been stayed by the U.S. Supreme Court and proposed for repeal by the current EPA. During negotiations on the final Clean Power Plan, our company ran many carbon reduction scenarios to 2030 and beyond. Recognizing that pressure to reduce carbon emissions from the electric utility sector will continue, the company's scenario planning exercise identified potential pathways for meeting an 80% reduction target by 2050.

ii. An example of how the business strategy has been influenced.

DTE Energy publicly announced a mid-century carbon reduction strategy in May 2017 that commits the company to a carbon reduction goal of more than 80% by 2050, including milestone goals of 30% by the early 2020s, 45% by 2030 and 75% by 2040. The feasibility of the 2050 carbon reduction plan was confirmed in the 2017 Integrated Resource Plan (IRP) that DTE filed with the Michigan Public Service Commission (MPSC) by our electric utility. In the IRP, we analyzed multiple scenarios, including different sensitivities relating to gas prices and electricity market prices, as well as different cost and performance curves for renewable technologies. In evaluating these scenarios, it became clear that our IRP can support very robust carbon reduction targets. Our carbon reduction plan assumes a tighter reduction curve than mandated by the Clean Power Plan and higher levels of renewable generation.

iii. What have been the most substantial business decisions made during the reporting year that have been influenced by the climate change driven aspects of the strategy?

DTE Energy's industry-leading commitment to an 80% reduction in carbon emissions by 2050 was the most substantial business decision made in 2017 that was influenced by climate related issues.

iv. What aspects of climate change have influenced the strategy (e.g. need for adaptation, regulatory changes, or opportunities to develop green business);

Expected continuation of regulatory, investor and other stakeholder pressure to reduce (mitigate) carbon emissions from the electric sector are the primary climate-related influences on our business strategy.

v. Climate change influences on short-term strategy.

DTE Electric's capital investments over the 2018-2022 period are estimated at $2 billion for new generation. DTE Electric has retired three coal-fired generation units and has announced plans to retire an additional eight coal-fired generating units through 2023. These will be replaced with natural gas-fired generation and renewables (wind and solar).

vi. Climate change influences on long-term strategy.

Potential climate change policy and other regulatory pressures are factored into long-term planning and decisions for future investment needs within DTE Electric Co. and other business units. In May 2018, DTE announced a 50% Clean Energy Goal by 2030, achieved through a combination of investments in at least 25% renewable energy and the remaining from energy efficiency. This goal was set by DTE Energy in conjunction with an agreement with Clean Energy, Healthy Michigan to place aside a ballot proposal to increase the state's renewable portfolio standard.

vii. How we are gaining strategic advantages over competitors.

Competition in the regulated electric distribution business is primarily from the on-site generation of industrial customers and from distributed generation applications by industrial and commercial customers. We do not expect significant competition for distribution to any group of customers in the near term. Competition in the gas business primarily involves other natural gas transportation providers, as well as providers of alternative fuels and energy sources. The primary focus of competition for end-user transportation is cost and reliability. Some large commercial and industrial customers have the ability to switch to alternative fuel sources such as coal, electricity, oil, and steam. If these customers were to choose an alternative fuel source, they would not have a need for DTE Gas' end-user transportation service. DTE Gas competes against alternative fuel sources by providing competitive pricing and reliable service, supported by its storage capacity. Gas Storage and Pipelines has competition from other pipelines and storage providers. Operations are dependent upon a limited number of customers and the loss of any one or a few customers could have a material adverse effect on the results of Gas Storage and Pipelines. There are limited competitors for Power and Industrial Projects' existing disparate businesses who provide similar products and services. Power and Industrial Projects examines closely the regulatory and competitive environment, new and pending legislation, the number of competitors, and its ability to achieve sustainable margins.

viii. How the Paris Agreement has influenced the business strategy.

Policies (e.g. the Clean Power Plan) that are implemented to support GHG reduction commitments made by the U.S. under the Paris Agreement influence our business strategy. The uncertainty of these policies following the withdrawal of the U.S. from the Paris Agreement has not changed DTE Energy's long-term carbon reduction strategy.

C3.1d

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios	Details
Other, please specify	We use forward-looking scenario analyses to support our integrated resource plan (IRP) efforts for submittal to the Michigan Public Service Commission. These sceanrios also assess the feasibility of reducing emissions from DTE Energy more than 80% by 2050, which is the level that the scientific community agrees is necessary to limit global warming to less than 2 degrees C. We have not directly followed prescribed methods for conducting these scenarios.

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization's low-carbon transition plan.

Details of DTE Energy's low-carbon transition plan have been discussed in the answers to Questions 3.1a through 3.1b above and elsewhere in our response to this questionnaire. In summary, DTE Energy's commitment to provide energy that is both affordable and sustainable resulted in our industry-leading May 2017 announcement: we are undertaking a broad sustainability initiative to dramatically reduce the company's carbon emissions. This comprehensive plan includes (1) steady retirement of all our remaining coal generation units, (2) construction of at least an additional 4,000 megawatts of renewable generation, (3) construction of up to 3,500 megawatts of new natural gas generation, (4) heavy investment in energy waste reduction and reducing peak demand, together with extensive investment in modernization of the electric grid and gas infrastructure. This plan will achieve a 30 percent reduction in CO2 emissions from 2005 levels by the early 2020s, a 45 percent reduction by 2030 (along with a 25% renewable portfolio by 2030), a 75 percent reduction by 2040 and an 80 percent or higher reduction by 2050.

To begin to meet these goals, in the next five years we will be retiring three coal plants, doubling our renewable generation from 1,000 MW to 2,000 MW, and building a new natural gas-fired 24/7 energy source. We will continue to review technology development, electricity demand and economics and make additional low and zero emission modifications to the plan in the best interest of our customers.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number
Abs 1

Scope
Scope 1

% emissions in Scope
94

% reduction from base year
80

Base year
2005

Start year
2017

Base year emissions covered by target (metric tons CO2e)
37700000

Target year
2050

Is this a science-based target?
No, and we do not anticipate setting one in the next 2 years

% achieved (emissions)
24

Target status
Underway

Please explain
Our 2050 carbon reduction goal includes milestone goals of 30% below 2005 levels by the early 2020s, 45% by 2030 and 75% by 2040.

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Target
Renewable energy production

KPI – Metric numerator
25 percent renewable portfolio standard

KPI – Metric denominator (intensity targets only)

Base year

Start year

Target year
2030

KPI in baseline year

KPI in target year

% achieved in reporting year
10

Target Status
Underway

Please explain
DTE Energy has committed to a goal to produce cleaner energy in Michigan, targeting at least a 50 percent Clean Energy Goal by 2030– achieved through a combination of investments in at least 25 percent renewable energy, and the remaining through energy efficiency. DTE Energy has complied with all state-mandated targets for renewable energy. Previous legislation had required a 10 percent renewable standard by 2015, which we have met or exceeded each applicable year. The most recent energy legislation sets a 12.5 percent renewable energy target by 2019 and 15 percent by 2021. DTE Energy is well positioned to meet these future goals with the addition of new generation resources currently planned or under development.

Part of emissions target

Is this target part of an overarching initiative?
Other, please specify (DTE's overall carbon reduction goal)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.
Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*	3	2000
Implemented*		
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Activity type
Energy efficiency: Building services

Description of activity
Other, please specify (Lighting, HVAC, Building Mgmt Systems)

Estimated annual CO2e savings (metric tonnes CO2e)
1800

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
388000

Investment required (unit currency – as specified in CC0.4)
775300

Payback period
1-3 years

Estimated lifetime of the initiative
Ongoing

Comment
Lighting replacement, improvement and upgrades to DTE Energy Gas facilities.

Activity type
Energy efficiency: Building services

Description of activity
Other, please specify (Building controls, HVAC and lighting)

Estimated annual CO2e savings (metric tonnes CO2e)

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
240000

Investment required (unit currency – as specified in CC0.4)
331000

Payback period
Please select

Estimated lifetime of the initiative
Ongoing

Comment
Building controls, HVAC and lighting upgrades at DTE Energy headquarters.

Activity type
Energy efficiency: Building services

Description of activity
Lighting

Estimated annual CO2e savings (metric tonnes CO2e)
64

Scope
Scope 2 (location-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)
2240

Investment required (unit currency – as specified in CC0.4)
86000

Payback period
>25 years

Estimated lifetime of the initiative
Ongoing

Comment
Replacement of lighting with more efficient lighting at DTE's largest two fossil generation plants. Cost savings are based on DTE Electric internal company rate, not a rate which would be charged to customers.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	Construction of renewable energy sources to meet a renewable portfolio standard as well as programs to reduce demand through energy efficiency measures is required under Michigan Energy Legislation. Environmental regulations aimed at conventional pollutants such as sulfur dioxide, oxides of nitrogen, and mercury will drive emission reductions from coal-fired power plants that will also reduce emissions of greenhouse gases. Future compliance with federal greenhouse gas rules will drive additional curtailment of coal-fired generation and require investment in lower emitting generation sources such as renewables and natural gas fired power plants.
Partnering with governments on technology development	DTE's Smart Grid Investment initiative was funded in part by a grant from the U.S. Department of Energy. We have also applied for funding at the state level for research on electric vehicles and their impact on the electric power system.
Dedicated budget for energy efficiency	Building efficiency improvements described in our response to Question 4.3b are funded through dedicated energy efficiency budgets.
Employee engagement	DTE Energy is in the process of establishing and executing an employee communications and ambassador program, including change management strategies, to build awareness of and engagement in sustainability efforts. This includes a branding and communications campaign around environmental leadership, outlining launch of both internal and external campaigns and messaging.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Group of products

Description of product/Group of products
DTE Electric customer Energy Waste Reduction Program offerings

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (EPA Equivalency Calculator)

% revenue from low carbon product(s) in the reporting year

Comment
567,000 metric tons of CO2 emissions avoided in 2017 as a result of DTE Electric customer Energy Waste Reduction programs.

Level of aggregation
Group of products

Description of product/Group of products
DTE Gas customer Energy Waste Reduction Program offerings

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (EPA Equivalency Calculator)

% revenue from low carbon product(s) in the reporting year

Comment
95,000 metric tons of CO2 emissions avoided in 2017 as a result of DTE Gas customer Energy Waste Reduction programs.

Level of aggregation
Product

Description of product/Group of products
MIGreenPower is a simple and affordable program that empowers customers to increase the amount of renewable energy DTE Energy sources from local wind and solar projects. The program helps business owners, homeowners or renters go green easily and affordably, without installing special equipment or making exterior alterations. Program participation is structured in 5 percent increments (up to 100 percent of your electricity use) — giving you the power to choose the level of impact that works best for you.

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Other, please specify (MIGreenPower is Green-e Energy certified)

% revenue from low carbon product(s) in the reporting year

Comment

Level of aggregation
Product

Description of product/Group of products
The DTE Gas BioGreen Gas program is a voluntary renewable energy program for DTE Gas Customers. Customers elect to pay a premium of $2.50 per month to support the development and advance the utilization of natural gas generated from landfills and other biogas resources.

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Please select

% revenue from low carbon product(s) in the reporting year

Comment

C-EU4.6

(C-EU4.6) Describe your organization’s efforts to reduce methane emissions from your electricity generation activities.

DTE Electric's use of natural gas for generation was only 5 percent of total energy used to supply electricity, so we do not have focused efforts on reducing methane from our electric generation activities.

Our gas utility, DTE Gas, is focused on reducing methane emissions from its operations. DTE Gas is a member of the Environmental Protection Agency's Natural Gas STAR Methane Challenge Program. The Company has made the following commitments under the Methane Challenge Program:
1. Reducing leaks from gas compressor engines by implementing a rod packing leak rate testing and replacement program.
2. Replacing all existing cast iron and unprotected steel gas distribution mains over the next 20 years.

A report on how DTE Energy is managing and mitigating its methane emissions will be posted on the DTE Energy website by the 4th Quarter of 2018.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
January 1 2005

Base year end
December 31 2005

Base year emissions (metric tons CO2e)
37722000

Comment
Scope 1 emissions from DTE Electric (formerly Detroit Edison) power plants only. This represents more than 90% of total CO2 emissions for DTE Energy in 2005.

Scope 2 (location-based)

Base year start
January 1 2006

Base year end
December 31 2006

Base year emissions (metric tons CO2e)
3600000

Comment
As reported to CDP for reporting year 2006.

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
US EPA Climate Leaders: Direct Emissions from Stationary Combustion
US EPA Climate Leaders: Direct Emissions from Mobile Combustion Sources
US EPA Mandatory Greenhouse Gas Reporting Rule
Other, please specify (US EPA eGRID Summary Tables 2016)

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

US EPA eGRID Summary Tables 2016 (Created 2/15/2018) - Table 1. Subregion Output Emission Rates - Subregion: RFC Michigan (RFCM)

US EPA Mandatory Greenhouse Gas Reporting Rule (40 CFR 98) Table A-1 to Subpart A - GWPs (published 11/29/2013 & effective 1/1/2014)

U.S. EPA Center for Corporate Climate Leadership - Emission Factors for Greenhouse Gas Inventories (Last Modified 3/9/2018) - Tables: 1 - Stationary Combustion; 2 - Mobile Combustion CO2; 8 - Business Travel & Employee Commuting ; & 9 - Upstream Transportation and Distribution and Downstream Transportation and Distribution

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

31857000

End-year of reporting period

<Not Applicable>

Comment

Scope 1 emissions include emissions from the following business units: DTE Electric Company - stationary sources and fleet vehicles DTE Gas Company - stationary sources, including fugitive emissions, and fleet vehicles DTE Power and Industrial Projects - stationary sources DTE Gas Storage and Pipelines - stationary sources, including fugitive emissions

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Row 1

Scope 2, location-based
1715000

Scope 2, market-based (if applicable)
<Not Applicable>

End-year of reporting period
<Not Applicable>

Comment
Scope 2 emissions are reported for transmission and distribution line losses for purchased power and internal use of power on the DTE Electric system. US EPA's eGRID2016 (location-based) emission factors were used to calculate these emissions.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?
Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source
Stationary sources not subject to US EPA's Mandatory Greenhouse Gas Reporting under 40 CFR 98 are not included in this report.

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not evaluated

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not evaluated

Explain why the source is excluded
Stationary sources emitting less than 25,000 metric tons (mt) of CO2e per year are not subject to Mandatory GHG Reporting under 40 CFR 98. Facilities that are not subject to federal GHG Reporting, but that are subject to state required GHG reporting, are not included in this report. Note that facilities which once reported over the 25,000 mt of CO2e threshold continue to report to US EPA until emissions are below 15,000 or 25,000 mt of CO2e for 3 or 5 consecutive years, respectively, as required under 98.2(i)(1-2).

Source
Electricity purchased by DTE Energy businesses and facilities.

Relevance of Scope 1 emissions from this source
Emissions are not evaluated

Relevance of location-based Scope 2 emissions from this source
Emissions are not evaluated

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not evaluated

Explain why the source is excluded
The amount of electricity purchased by DTE Energy businesses and facilities is insignificant compared to the Scope 1 Direct Emissions produced by the company to generate electricity.

Source
Biomass emissions

Relevance of Scope 1 emissions from this source
Emissions are relevant and calculated, but not disclosed

Relevance of location-based Scope 2 emissions from this source
Emissions are not evaluated

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not evaluated

Explain why the source is excluded
CO2 emitted from the combustion of biomass is not required to be reported under EPA's Mandatory GHG Reporting (40 CFR 98). Biogenic CO2 emissions are provided in C6.7 and C6.7a below.

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
DTE Energy purchases significant amounts of goods and services to maintain business unit operations, especially for the utility operations, DTE Electric Company and DTE Gas Company. Emissions from these purchases have not been calculated.

Capital goods

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
DTE Energy invests in capital goods to grow and maintain business unit operations. DTE Energy's utility businesses require significant capital investments to maintain and improve the electric generation and electric and natural gas distribution infrastructure and to comply with environmental regulations and renewable energy requirements. Emissions from these purchases have not been calculated.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status
Relevant, calculated

Metric tonnes CO2e
3532000

Emissions calculation methodology
Calculated from eGRID2016 (Created February 15, 2018) using the total output emission rate (lb/MWh) for CO2e in subregion RFC Michigan.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Emissions from total purchased power, less interconnection sales.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Metric tonnes CO2e
442000

Emissions calculation methodology
Calculated by multiplying the coal usage (short tons) per coal source (i.e. Low Sulfur Western, High Sulfur Eastern) by 1 of the 2 applicable standard route distances. Then, the total ton-miles of all coal transportation was multiplied by the respective CO2, CH4, and N2O emission factors to calculate CO2e for all coal transportation. Emission factors for Rail were utilized from Table 9 - Upstream Transportation and Distribution and Downstream Transportation and Distribution of Emission Factors for GHG Inventories (Last Modified 3/9/2018).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Estimated emissions from the transportation of coal.

Waste generated in operations

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
DTE's pollution prevention programs help minimize impacts and conserve resources by reducing the volumes of wastes that would otherwise be disposed of in landfills. 590,415 tons (49.2%) of coal combustion products (CCPs) including fly ash, bottom ash, boiler slag, flue gas desulfurization materials, and scrubber by-products were managed as beneficial use by-products (including being sold) and were diverted from the landfill. 183,511 gallons of used oil were recovered for energy across gas and electric utilities. 177,501 tons (23%) of coal ash and 412,000 tons (99.9%) of gypsum were recycled in 2017. In addition to coal ash and gypsum recycling, 11,047 tons of materials were also recycled during 2017 including but not limited to: 3,140 tons of steel/ferrous from electric operations, 635 tons of steel/ferrous from gas operations, 1,304 tons of non-ferrous/transformers, etc., 224 tons of non-ferrous/wire bundles, 587 tons of copper, 418 tons of lead, 398 tons of aluminum, 927 tons of miscellaneous metals, 126 tons of electric meters, 300 tons of gas meters, 1,531 tons of outage materials (e.g. catastrophic storms), 60 tons of plastic (HDPE), 59 tons of scrap electronics, 400 tons (107,831 gallons) of transformer oil, 187 tons of cardboard, 489 tons of wood (e.g. poles, pallets), and 262 tons of paper. Of the food and paper wastes from the Detroit headquarters office, 31.5 tons were composted and 322 tons were converted to energy through incineration. The total emissions avoided from these recycling, energy recovery, composting, and beneficial use activities have not been calculated.

Business travel

Evaluation status
Not relevant, calculated

Metric tonnes CO2e
4000

Emissions calculation methodology
Based on employee business miles traveled in personal vehicles while on company business. Miles are claimed by each employee and recorded in a central database. Emission factors for Passenger Car were utilized from Table 8 - Business Travel and Employee Commuting of Emission Factors for GHG Inventories (Last Modified 3/9/2018).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Emissions related to business travel are currently only calculated for employee-owned vehicles (for which mileage was reimbursed). Rental vehicles, air, bus, motorcycle, and rail business travel are not accounted for. Note that emissions from company-owned vehicles are included in Scope 1.

Employee commuting

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
Not expected to be a significant source of emissions for DTE Energy.

Upstream leased assets

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
Not expected to be a significant source of emissions for DTE Energy.

Downstream transportation and distribution

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
Downstream emissions from natural gas deliveries are reported separately under Use of Sold Products of Scope 3 emissions. Indirect emissions from line losses on the electric distribution system are included in the Scope 2 emissions.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation
DTE Energy's largest businesses are the utilities of DTE Electric Company and DTE Gas Company. The products sold for these utilities is electricity and natural gas. These products are used to provide energy to customers and are generally not processed or reprocessed into other materials.

Use of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
9312000

Emissions calculation methodology
This value is determined in accordance with the requirements of 40 CFR Part 98 Subpart NN and therefore does not include emissions from deliveries to customers whose meters register an annual volume greater than 460,000 Mscf of natural gas deliveries.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Explanation
Emissions reported represent the CO2e that would result from the combustion of complete oxidation of natural gas delivered by local distribution companies owned by DTE Energy.

End of life treatment of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

DTE Energy's largest businesses are the utilities DTE Electric Company and DTE Gas Company. The products sold for these utilities are electricity and natural gas. Once consumed, there is no end of life of these sold energy products.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Not expected to be a significant source of emissions for DTE Energy.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Not expected to be a significant source of emissions for DTE Energy.

Investments

Evaluation status

Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Other (upstream)

Evaluation status
Relevant, calculated

Metric tonnes CO2e
341000

Emissions calculation methodology
An upstream transmission and distribution (T and D) line loss equivalent to DTE Electric's internal T and D line loss of 6.98% is assumed. Calculated using eGRID2016's (Created February 15, 2018) total output emission rate (lb/MWh) for CO2e in subregion RFC Michigan.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Explanation
Emissions represent the estimated transmission and distribution line losses that occur upstream before DTE Electric receives purchased power for distribution.

Other (downstream)

Evaluation status
Not evaluated

Metric tonnes CO2e

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?
Yes

C6.7a

(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.
475000

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
2663

Metric numerator (Gross global combined Scope 1 and 2 emissions)
33572000

Metric denominator
unit total revenue

Metric denominator: Unit total
12607000000

Scope 2 figure used
Location-based

% change from previous year
17

Direction of change
Decreased

Reason for change
A slight decrease in emissions (1.6%) with a substantial increase in company operating revenue (18.6%).

Intensity figure
3291

Metric numerator (Gross global combined Scope 1 and 2 emissions)
33572000

Metric denominator
full time equivalent (FTE) employee

Metric denominator: Unit total
10200

Scope 2 figure used
Location-based

% change from previous year
4

Direction of change
Decreased

Reason for change
A slight decrease in emissions (1.6%) and a hiring increase (total # of employees grew by 2.0%).

Intensity figure
0.7657

Metric numerator (Gross global combined Scope 1 and 2 emissions)
30007000

Metric denominator
megawatt hour generated (MWh)

Metric denominator: Unit total
39190000

Scope 2 figure used
Location-based

% change from previous year
8

Direction of change
Increased

Reason for change
A slight increase in emissions from DTE Electric (2.8%) and a decrease in total generation (5.0%).

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?
Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	30987000	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	734000	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	137000	IPCC Fourth Assessment Report (AR4 - 100 year)

C-EU7.1b

(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	0	0	
Combustion (Electric utilities)	29802000	75000	0	30007000	The Total CO2e emissions include 131,000 metric tons of N2O as CO2e
Combustion (Gas utilities)	0	0	0	0	
Combustion (Other)	0	0	0	0	
Emissions not elsewhere classified	0	0	0	0	

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	31857000

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division
By facility
By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
DTE Electric Company	30043000
DTE Gas Company	695000
Gas Storage and Processing	417000
Power and Industrial Projects	703000

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Belle River Power Plant	7179000	42.772537	-82.512287
Greenwood Energy Center	331000	43.118746	-82.699338
Monroe Power Plant	15511000	41.892188	-83.351507
River Rouge Power Plant	1011000	42.270541	-83.124536
St. Clair Power Plant	3695000	42.760065	-82.476004
Trenton Channel Power Plant	2014000	42.124468	-83.182181
Delray	17000	42.296312	-83.104348
DTE East China (Dean Peakers)	79000	42.776094	-82.475334
Renaissance Power	170000	43.18518	-84.84631
Belle River MIlls Compressor Station	51000	42.787031	-82.528585
Taggart (Six Lakes) Compressor Station	20000	43.447704	-85.143875
Washington 10 Compressor Station	32000	42.767423	-83.005333
Citizens Gas Fuel Company	0		
DTE Energy MichCon LDC	583000		
Bluestone Gathering System	131000		
Susquehanna Gathering Company, LLC	217000		
DTE Appalachia Gathering, LLC	70000		
DTE Calvert City, LLC	212000	37.032707	-88.350334
EES Coke Battery	227000	42.292335	-83.111504
Mobile Energy Services, LLC	159000	30.732479	-88.077065
Procter & Gamble Company - Ivorydale	105000	39.170961	-84.507224

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Sources (Combustion and Fugitives)	31813000
Mobile Combustion Sources (Vehicles)	44000

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	30007000	<Not Applicable>	Emissions for DTE Electric facilities only.
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	1715000			

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
DTE Electric Company	1715000	

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Transmission and Distribution Line Losses	1715000	

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities	131000	Decreased	16	Scope 1 emissions for Power and Industrial Projects decreased due to previously accounting for 2 facilities: Shenango and Tuscola. Shenango ceased operation in 2016. Tuscola's contract ended in February 2017 and responsibilities for all reporting activities for CY2017 were transferred to the new owner.
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology	405000	Decreased	19	Significant decrease in total Scope 2 emissions due to updated eGRID Emission Factors from 2014 to 2016 (Dated 2/15/2018)
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other	307322	Increased	279.8	The primary reason for the increase in Scope 1 Gas Storage and Pipelines emissions results from more accurate emission calculations based on methodology and emission factors. Additionally, it was the first full year of operation for a large portion of the assets (many of which commenced mid-year 2016).

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 65% but less than or equal to 70%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	Please select		2768000	2768000
Consumption of purchased or acquired electricity	<Not Applicable>			
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>		<Not Applicable>	
Total energy consumption	<Not Applicable>		2768000	2768000

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)
Bituminous Coal

Heating value
Please select

Total fuel MWh consumed by the organization
7645000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Subbituminous Coal

Heating value
Please select

Total fuel MWh consumed by the organization
80405000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Petroleum Coke

Heating value
Please select

Total fuel MWh consumed by the organization
2573000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Fuel Oil Number 2

Heating value
Please select

Total fuel MWh consumed by the organization
785000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Fuel Oil Number 6

Heating value
Please select

Total fuel MWh consumed by the organization
600

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Natural Gas

Heating value
Please select

Total fuel MWh consumed by the organization
6556000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Coke Oven Gas

Heating value
Please select

Total fuel MWh consumed by the organization

1980000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Blast Furnace Gas

Heating value
Please select

Total fuel MWh consumed by the organization
166000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Wood

Heating value
Please select

Total fuel MWh consumed by the organization
1071000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Agricultural Waste

Heating value
Please select

Total fuel MWh consumed by the organization
382000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
General Municipal Waste

Heating value
Please select

Total fuel MWh consumed by the organization
532000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Other, please specify (Solid Byproducts)

Heating value
Please select

Total fuel MWh consumed by the organization
301000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Motor Gasoline

Heating value
Please select

Total fuel MWh consumed by the organization
73000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

Fuels (excluding feedstocks)
Diesel

Heating value
Please select

Total fuel MWh consumed by the organization
106000

MWh fuel consumed for the self-generation of electricity

MWh fuel consumed for self-generation of heat

MWh fuel consumed for self-generation of steam
<Not Applicable>

MWh fuel consumed for self-generation of cooling
<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration
<Not Applicable>

C8.2d

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Agricultural Waste

Emission factor
118.17

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Agricultural Byproducts

Comment
32 g CH4/MMBtu and 4.2 g N2O/MMBtu used as well to calculate total CO2e emissions.

Bituminous Coal

Emission factor
93.28

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Bituminous Coal

Comment
11 g CH4/MMBtu and 1.6 g N2O/MMBtu used as well to calculate total CO2e emissions.

Blast Furnace Gas

Emission factor
274.32

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Blast Furnace Gas

Comment
0.022 g CH4/MMBtu and 0.10 g N2O/MMBtu used as well to calculate total CO2e emissions.

Coke Oven Gas

Emission factor
46.85

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Coke Oven Gas

Comment
0.48 g CH4/MMBtu and 0.10 g N2O/MMBtu used as well to calculate total CO2e emissions.

Diesel

Emission factor
10.21

Unit
kg CO2 per gallon

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 2 - Mobile Combustion CO2 - Diesel Fuel

Comment
Used to calculate total CO2e emissions

Fuel Oil Number 2

Emission factor
73.96

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Distillate Fuel Oil No. 2

Comment
3.0 g CH4/MMBtu and 0.60 g N2O/MMBtu used as well to calculate total CO2e emissions.

Fuel Oil Number 6

Emission factor
75.1

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Residual Fuel Oil No. 6

Comment
3.0 g CH4/MMBtu and 0.60 g N2O/MMBtu used as well to calculate total CO2e emissions.

General Municipal Waste

Emission factor
90.7

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Municipal Solid Waste

Comment
32 g CH4/MMBtu and 4.2 g N2O/MMBtu used as well to calculate total CO2e emissions.

Motor Gasoline

Emission factor
8.78

Unit
kg CO2 per gallon

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 2 - Mobile Combustion CO2 - Motor Gasoline

Comment
Used to calculate total CO2e emissions

Natural Gas

Emission factor
53.06

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Natural Gas

Comment
1.0 g CH4/MMBtu and 0.10 g N2O/MMBtu used as well to calculate total CO2e emissions.

Petroleum Coke

Emission factor
102.41

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Petroleum Coke (Solid)

Comment
32 g CH4/MMBtu and 4.2 g N2O/MMBtu used as well to calculate total CO2e emissions.

Subbituminous Coal

Emission factor
97.17

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Sub-bituminous Coal

Comment
11 g CH4/MMBtu and 1.6 g N2O/MMBtu used as well to calculate total CO2e emissions.

Wood

Emission factor
93.8

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Wood and Wood Residuals

Comment
7.2 g CH4/MMBtu and 3.6 g N2O/MMBtu used as well to calculate total CO2e emissions.

Other

Emission factor
105.51

Unit
kg CO2 per million Btu

Emission factor source
U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors - Emission Factors for GHG Inventories - (Last Modified 3/9/2018) Table 1 - Stationary Combustion - Solid Byproducts

Comment
32 g CH4/MMBtu and 4.2 g N2O/MMBtu used as well to calculate total CO2e emissions.

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	41569000	2768000	1968000	
Heat				
Steam				
Cooling				

C-EU8.2e

(C-EU8.2e) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

Coal – hard

Nameplate capacity (MW)
6687

Gross electricity generation (GWh)
31200

Net electricity generation (GWh)
28921

Absolute scope 1 emissions (metric tons CO2e)
30445000

Scope 1 emissions intensity (metric tons CO2e per GWh)
1052.7

Comment

Lignite

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Oil

Nameplate capacity (MW)
316

Gross electricity generation (GWh)
5

Net electricity generation (GWh)
1

Absolute scope 1 emissions (metric tons CO2e)
54000

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment
A Scope 1 emissions intensity for oil is not representative because the Net Electricity Generation is extremely low.

Gas

Nameplate capacity (MW)
2854

Gross electricity generation (GWh)
1135

Net electricity generation (GWh)
1074

Absolute scope 1 emissions (metric tons CO2e)
823000

Scope 1 emissions intensity (metric tons CO2e per GWh)
765.99

Comment

Biomass

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Waste (non-biomass)

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Nuclear

Nameplate capacity (MW)
1217

Gross electricity generation (GWh)
9091

Net electricity generation (GWh)
8692

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
Emissions from nuclear are zero. Therefore, the emissions intensity is zero.

Geothermal

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Hydroelectric

Nameplate capacity (MW)
989

Gross electricity generation (GWh)

Net electricity generation (GWh)
1021

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
The energy to fill the hydroelectric pumped storage facility is 1,402 GWh. The energy created by releasing the water through hydroelectric turbines was 1,021 GWh, resulting in a net energy loss of 381 GWh. Emissions from hydroelectric sources are zero. Therefore, the emissions intensity is zero.

Wind

Nameplate capacity (MW)
611

Gross electricity generation (GWh)

Net electricity generation (GWh)
1897

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
Emissions from renewable sources are zero. Therefore, the emissions intensity is zero.

Solar

Nameplate capacity (MW)
54

Gross electricity generation (GWh)

Net electricity generation (GWh)
71

Absolute scope 1 emissions (metric tons CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment
Emissions from renewable sources are zero. Therefore, the emissions intensity is zero.

Other renewable

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Other non-renewable

Nameplate capacity (MW)

Gross electricity generation (GWh)

Net electricity generation (GWh)

Absolute scope 1 emissions (metric tons CO2e)

Scope 1 emissions intensity (metric tons CO2e per GWh)

Comment

Total

Nameplate capacity (MW)
12727

Gross electricity generation (GWh)
41431

Net electricity generation (GWh)
41676

Absolute scope 1 emissions (metric tons CO2e)
31321000

Scope 1 emissions intensity (metric tons CO2e per GWh)
752

Comment

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

C-EU8.4

(C-EU8.4) Does your electric utility organization have a global transmission and distribution business?
Yes

C-EU8.4a

(C-EU8.4a) Disclose the following information about your global transmission and distribution business.

Country/Region
United States of America

Voltage level
Distribution (low voltage)

Annual load (GWh)
45278

Scope 2 emissions (basis)
Location-based

Scope 2 emissions (metric tons CO2e)
1715000

Annual energy losses (% of annual load)
7

Length of network (km)
76000

Number of connections

Area covered (km2)
52616

Comment
Unclear what "number of connections" refers to. DTE Electric serves 2.2 million customers. Annual load data provided above is the net system output.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description
Waste

Metric value
30

Metric numerator
30% reduction in waste by 2022 from DTE facilities

Metric denominator (intensity metric only)

% change from previous year
0.5

Direction of change
Increased

Please explain
Solid municipal waste tonnage sent waste to energy was higher than target for 2017. This was mainly attributed to higher occupancy levels at the DTE Energy Headquarters. In 2018, DTE Energy is moving to Total Waste Management Services at all locations.

Description
Other, please specify (Water usage reduction)

Metric value
35

Metric numerator
35% reduction in municipal water use by 2022

Metric denominator (intensity metric only)

% change from previous year
15

Direction of change
Decreased

Please explain
Achieved 15% water reduction in 2017 primarily attributed activities at the DTE headquarters pond to reduce pond leakage, workspace remodeling, and other water conservation activities.

C-EU9.5a

(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Gas	1000000000	37	2022	Approximate CAPEX spend for construction of a new 1,100 MW natural gas-fired power plant.
Other renewable	1700000000	63		Approximate CAPEX spend for construction of up to 1,000 new MW of renewable generation (wind and solar).

C-EU9.5b

(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Please select				

C-CO9.6/C-EU9.6/C-OG9.6

(C-CO9.6/C-EU9.6/C-OG9.6) Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope
Scope 1

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
High assurance

Attach the statement
ECMPS Submission Summary 2017.pdf

Page/ section reference
All pages: Summary of 2017 required submissions to U.S. Environmental Protection Agency for reporting of emissions from continuous emission monitors (CEMs) for each DTE Electric fossil generation unit required to install a CEM system under 40 CFR Part 75. These electronic submissions include a summary of emissions, required monitoring plans, and quality assurance certifications. These submission are signed off by the Vice President of Fossil Generation, DTE's Designated Representative.

Relevant standard
Certified emissions measurement and reduction scheme (CEMARS)

Proportion of reported emissions verified (%)
90

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price
Other, please specify (Scenario planning)

GHG Scope
Scope 1

Application
We use a carbon price in carbon reduction scenarios that are used to inform our long-term business strategy.

Actual price(s) used (Currency /metric ton)

Variance of price(s) used

Type of internal carbon price
Shadow price

Impact & implication

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our customers

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement
Other, please specify (Energy Waste Reduction (EWR) Programs)

Details of engagement
<Not Applicable>

Size of engagement

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement
DTE Energy engages customers on reducing GHG emissions and related climate issues by offering numerous programs to help customers save energy and purchase clean energy. Methods for reaching customers include direct advertising, website offerings, e-mails, social media, bill inserts, event sponsorships, and free subscriptions to tailored energy publications, among others. Programs that enable customers to improve energy efficiency and reduce energy receive priority as they support energy efficiency goals mandated by state legislation. DTE's Energy Waste Reduction programs are designed to help reduce customers' energy use by increasing customer awareness of energy saving possibilities, and providing products and services such as rebates, tips, tools, strategies and energy efficiency education to help customers make informed energy saving decisions. Many of the programs in 2017 were continuations of programs launched in 2009, although some minor program adjustments were implemented. DTE continually works to offer EWR programs that assure all customer segments are encouraged to participate. Programs are designed to capture both electric and natural gas savings.

Impact of engagement, including measures of success
The success of DTE's programs are measured by verified energy savings reported annually to the Michigan Public Service

Commission. In 2017 the DTE Energy EWR programs produced verified net energy savings of 762 GWh electricity and 1,735 MMcf of natural gas through the various program offerings. These savings were well above the minimum required by Michigan's Clean, Renewable and Efficient Energy Act, also known as Public Act 295 (PA 295), as amended by Public Act 342 of 2016.

Type of engagement
Collaboration & innovation

Details of engagement
Other – please provide information in column 5

Size of engagement

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement
Also, as described in our response to Question 2.4a, DTE Energy offers clean energy (renewable) products to both electric and gas customers: (i) MIGreenPower is DTE Energy's voluntary renewable energy program. Customers that enroll in MIGreenPower support the generation of electricity from Michigan-based, renewable energy sources. MIGreenPower is a Green-e Energy certified renewable energy program. Green-e Energy™ is the nation's leading independent certification and verification program for renewable energy and greenhouse gas emission reductions in the retail market. (ii) BioGreenGas Program for DTE Gas customers is a voluntary residential program which supports the local development of renewable natural gas by using the methane that arises naturally from landfills.

Impact of engagement, including measures of success
Enrollment in MIGreen Power at the end 2017 was 1,081 customers representing 8,084 MWh of renewable generation. Enrollment in BioGreen Gas at the end of 2017 was approximately 1,920 customers.

Type of engagement
Collaboration & innovation

Details of engagement
Other – please provide information in column 5

Size of engagement

% Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement
DTE Insight is a mobile app that provides customers with real-time home energy usage data by connecting their home’s smart electric meter to their smartphone. Our customers can use this data to inform their decisions about home energy use from heating and cooling, to the use of appliances and even home weatherization. The app can help customers save energy (reduce GHG emissions) and reduce their bills.

Impact of engagement, including measures of success

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?
Direct engagement with policy makers
Trade associations
Funding research organizations
Other

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap and trade	Support with minor exceptions	DTE Energy participated in advocacy related to cap-and-trade legislation before the U.S. Congress in 2009 and 2010. Legislative initiatives to reduce greenhouse gases gave way to Executive Branch proposals under the Obama Administration. Many of the Obama era rules are now being considered for repeal or replacement by the Trump Administration.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
Carbon tax	Neutral	DTE Energy has tracked and monitored executive branch-level discussions as well as learning sessions by some members of Congress on the potential for a carbon tax. DTE Energy has also tracked the various proposals that have emanated from research organizations. The company will continue to be engaged as new Congressional and think tank proposals are presented.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
Energy efficiency	Support	DTE Energy has closely tracked energy efficiency legislation at the federal level and supports energy conservation measures. DTE Energy also monitors the research and development of efficiency technologies.	DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
Energy efficiency	Support	DTE Energy supported Michigan Public Act (PA) 342 of 2016, that continues the energy waste reduction requirements for electric and gas providers in Michigan that began in 2009. percent of retail sales for natural gas utilities in 2012, and each year thereafter. The standards went into effect in 2009, and ramped up gradually to the current level. The standards will remain at this level in perpetuity unless superseded by future legislation, or suspended by the Michigan Public Service Commission.	The 2016 legislation requires electric providers to achieve incremental energy savings of 1.0% to total electricity sales through 2021. Natural gas providers must achieve incremental energy savings of 0.75% per year. The policy must provide a reasonable timeframe for transition of existing fleets and assure a reasonable cost on customers.
Clean energy generation	Support with minor exceptions	DTE Energy is supportive of a national clean or renewable energy standard, as long as it allows for flexibility to match a state's renewable and clean energy potential. DTE Energy believes that wind energy is a vital part of the energy mix to meet Michigan's future energy needs and DTE Energy has been harnessing wind to benefit DTE Energy's customers and the environment.	States are better suited to enact clean energy legislation due to state and regional differences in the availability of clean energy resources. GHG policies are still under development. DTE generally supports national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The policy must provide a reasonable timeframe for transition of existing generation fleets and assure a reasonable cost on customers. It should also provide flexibility to various regions of the U.S. allowing for particular differences.
Clean energy generation	Support	DTE Energy supported Michigan Public Act (PA) 342 of 2016, that requires the Company to obtain 15 percent of our retail sales from qualifying renewable resources by 2021. DTE Energy has already met the requirement to meet the current 10 percent renewable standard.	DTE generally prefers state clean energy policy solutions over national policy to address the nation's energy future. This can be achieved in different ways, the details of the approach being key. The state policy must provide a reasonable time frame for transition of existing generation fleets and assure a reasonable cost on customers. State policies provide flexibility to various regions of the U.S. allowing for particular differences.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Edison Electric Institute

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EEI member companies are committed to addressing the challenge of climate change and support an 80-percent reduction in

greenhouse gas emissions by 2050. As the Executive Administration works to address this issue, it is essential to include effective consumer-protection measures that help to reduce price increases for consumers and avoid harm to U.S. industry and the economy.

How have you, or are you attempting to, influence the position?
DTE Energy tracks the activities of all of the associations of which the company is a member. Further, we work to provide input to align trade association positions with DTE Energy's position, and we participate in their advocacy to policy makers to the extent possible.

Trade association
American Gas Association

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
The American Gas Association encourages the use of lower carbon emitting fossil fuels. AGA submitted comments to the Senate Energy and Natural Resouces Committee in the past urging that any clean energy standrard include natural gas, that energy efficiency be included as a compliance path in any standard, and that policy makers recognize the even cleaner path of encouraging the direct use of natural gas.

How have you, or are you attempting to, influence the position?
DTE Energy tracks the activities of all of the associations of which the company is a member. Further, we work to provide input to align trade association positions with DTE Energy's position, and we participate in their advocacy to policy makers to the extent possible.

Trade association
National Association of Manufacturers

Is your position on climate change consistent with theirs?
Mixed

Please explain the trade association's position
The NAM and its member companies are committed to protecting the environment through greater environmental sustainability, increased energy efficiency and conservation and reducing greenhouse gas emissions believed to be associated with global climate change. Their positiion is that the U.S. cannot solve the climate change issue alone. The establishment of federal climate change policies to reduce greenhouse gas emissions, whether legislative or regulatory, must be done in a thoughtful, deliberative and transparent process that ensures a competitive level playing field for U.S. companies in the global marketplace. The NAM opposes any federal or state government actions regarding climate change that could adversely affect the international competitiveness of the U.S. marketplace economy. Any climate change policies should focus on cost-effective reductions, be implemented in concert with all major emitting nations, and take into account all greenhouse sources and sinks. The NAM believes that federal climate policies generally should pre-empt state policies.

How have you, or are you attempting to, influence the position?
DTE Energy tracks the activities of all of the associations of which the company is a member. Further, we work to provide input to align trade association positions with DTE Energy's position, and we participate in their advocacy to policy makers to the extent possible.

Trade association
Nuclear Energy Institute

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
NEI serves as a unified industry voice before the U.S. Congress, executive branch agencies and federal regulators, as well as international organizations and venues. NEI also provides a forum to resolve technical and business issues for the industry. Federal, state and local policymakers increasingly recognize nuclear energy's zero NEI serves as a unified industry voice before the U.S. Congress, executive branch agencies and federal regulators, as well as international organizations and venues. NEI also provides a forum to resolve technical and business issues for the industry. Federal, state and local policymakers increasingly recognize nuclear energy's zero carbon emissions footprint and it's contribution to meeting growing electricity demand while reducing greenhouse-gas emissions.

How have you, or are you attempting to, influence the position?
DTE Energy tracks the activities of all of the associations of which the company is a member. Further, we work to provide input to align trade association positions with DTE Energy's position, and we participate in their advocacy to policy makers to the extent

possible.

Trade association
Interstate Natural Gas Association of America

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
Increased use of natural gas is helping to combat climate change by lowering carbon dioxide emissions. While U.S. gas production is up 37 percent since 1990, greenhouse gas emissions are down 17 percent. The natural gas pipeline industry is tackling methane emissions by "tightening up" its system. In the past 30 years, the industry has reduced the number of pipeline leaks by 94 percent through pipeline integrity and maintenance programs and continued investment in new pipeline facilities. Natural gas has an important role in helping the nation become a larger user of renewable energy, like wind and solar in electric generation. It is the number one "back stop" to ensure we continue to have electricity even when the sun isn't shining or the wind isn't blowing. INGAA has focused more recently on influencing oil and gas regulations related to emissions of methane than on climate legislation.

How have you, or are you attempting to, influence the position?
DTE Energy tracks the activities of all of the associations of which the company is a member. Further, we work to provide input to align trade association positions with DTE Energy's position, and we participate in their advocacy to policy makers to the extent possible.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?
No

C12.3e

(C12.3e) Provide details of the other engagement activities that you undertake.

DTE Energy is a member of the Midcontinent Power Sector Collaborative, run by the Great Plains Institute, which consists of state officials, investor-owned utilities, generation and transmission cooperatives, merchant generators, public power producers and environmental organizations from the Midwest or with a significant Midwestern presence. Over the past four years, the Collaborative has discussed ways that the U.S. Environmental Protection Agency (EPA) and the states could devise guidelines and state plans reducing carbon emissions from existing power plants under section 111(d) of the Clean Air Act (EPA's Clean Power Plan). In response to efforts by the new EPA Administration to repeal or replace Obama era climate regulations, the Collaborative is now evaluating pathways for achieving mid-century decarbonization.

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Climate change policy, initiatives, and mandatory requirements are managed by the Vice President, Environmental. The VP, Environmental reports on key environmental issues to the DTE Energy President and Chief Executive Officer (CEO) during monthly meetings of the Government, Regulatory, and Community (GRC) Committee . Major recommendations related to corporate environmental strategies, including climate change, are developed by this Committee. Direct and indirect activities with trade organizations, research groups, and other stakeholders that influence policy are taken into account in developing recommendations by the GRC.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In voluntary sustainability report

Status
Complete

Attach the document
2018 EEI ESG Sustainability Report - DTE Energy.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics

Publication
In voluntary sustainability report

Status
Complete

Attach the document
DTE_CCR_PDF_digital.pdf

Content elements
Governance
Strategy
Emissions figures
Emission targets
Other metrics

Publication
In other regulatory filings

Status
Complete

Attach the document
DTEEnergyCompany_10K_20180216.pdf

Content elements
Governance
Strategy
Risks & opportunities
Emission targets
Other metrics

C14. Signoff

C-FI

(C-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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Manager, Environmental Sustainability and Climate Change	Environment/Sustainability manager

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

DTE Energy provides electricity and natural gas to customers in our DTE Electric and DTE Gas service territories in Michigan . The annual average GHG emissions per KWh of electricity or per standard cubic feet (scf) of natural gas can readily be calculated by customers using emission factors provided by EPA. DTE Electric does not provide specific values for the GHG intensity of electricity delivered to our customers.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	12607000000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	2333311072

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

We don't allocate emissions to our customers. Customers can calculate their emissions from their electricity use using EPA's e-GRID data, located at: https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid

Customers can calculate their emissions from natural gas use using EPA's emissions factors for GHG Inventories at: https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	DTE provides two commodities to customers: Electricity and Natural Gas. Emissions from customer energy use can be calculated by applying emission factors to each customer's total energy usage. We do not see a need at this time to allocate emissions to customers when estimated emissions can be calculated by the customer.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

DTE Energy provides electricity and gas to our customers. The GHG emissions from the electricity delivered by DTE Electric to our customers can be calculated using EPA's e-GRID emission factors for electricity purchased off of the energy grid, or based on contracts and/or bilateral agreements with electricity providers such as renewable or other low-carbon energy providers.

Customers can calculate emissions from DTE Gas deliveries using the volume of gas delivered and billed by DTE Gas times an emission factor for natural gas provided by EPA or other sources.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC3.1

(SC3.1) Do you want to enroll in the 2018-2019 CDP Action Exchange initiative?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2017-2018 Action Exchange initiative?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services, if so, what functionality will you be using?

No, I am not providing data

SC4.2d

(SC4.2d) Have any of the initiatives described in SC4.2c been driven by requesting CDP Supply Chain members?

No

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms