

Climate Change 2017 - CMS Energy Corporation

Module: Introduction

Page: Introduction

CC0.1

Introduction

Please give a general description and introduction to your organization.

CMS Energy Corporation's (CMS Energy) business strategy is focused primarily on its principal subsidiary, Consumers Energy Company (Consumers Energy or Company), an electric and natural gas utility serving about 6.7 million of Michigan's 10 million residents. CMS Energy, through its CMS Enterprises subsidiary, is also engaged in domestic independent power production and the marketing of independent power production.

This report is ONLY for the principal subsidiary of CMS Energy, Consumers Energy.

Consumers Energy acknowledges that the long term sustainability of our Company depends upon our ability to listen to our stakeholders and conduct business that promotes environmental health, increases societal value, and brings economic success so that we can provide safe, reliable, and affordable energy to our customers. This commitment is advanced by our "Leave it Better Than We Found It" corporate culture.

In 2016, Consumers Energy continued its commitment to sustainability by maintaining first quartile sustainability performance as compared to its peers and being ranked first among 54 U.S. utilities companies as assessed by Sustainalytics, a global leader in sustainability ratings, research and analysis. Consumers Energy is committed to maintaining 1st quartile performance as defined by our corporate sustainability goal for 2013-2017. As a utility, we recognize that our operations contribute greenhouse gases ("GHGs") to the atmosphere. One of the objectives under this corporate sustainability goal was to create a performance progress report for our greenhouse gas emissions and disclose our results to the public, a goal that was successfully achieved and maintained through 2016. Additionally, under our sustainability goal in 2015 the Company took on new energy efficiency and alternative fuel projects.

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

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed

Fri 01 Jan 2016 - Sat 31 Dec 2016

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country

United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD(\$)

CC0.6

Modules

As part of the request for information on behalf of investors, companies in the electric utility sector, companies in the automobile and auto component manufacturing sector, companies in the oil and gas sector, companies in the information and communications technology sector (ICT) and companies in the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire.

If you are in these sector groupings, the corresponding sector modules will not appear among the options of question CC0.6 but will automatically appear in the ORS navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below in CC0.6.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Governance and Public Responsibility Committee, a committee of the Board, has the responsibility to review public responsibility matters including the Company's stakeholder outreach, stewardship, and corporate social responsibility strategies to help develop and shape public policies relevant to the Company's business operations.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

No

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Annually	Board or individual/sub-set of the Board or committee appointed by the Board	State of Michigan	> 6 years	

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

Consumers Energy has an Enterprise Risk Management ("ERM") Process to monitor and track potentially significant risks to our business. The ERM process requires business units to annually review, update and report risk profiles to senior management and the Board. This review includes identification of operational risks, financial risks, regulatory risks, strategic risks and risks associated with information/cyber systems. This process also includes carbon-related policy and relevant physical risks.

The Company has additional long term risk management processes with Board review. Our integrated resource planning ("IRP") process identifies and quantifies the impact of various risks with regards to providing reliable, cost effective, and environmentally friendly energy to our customers. Consumers Energy maintains a balanced portfolio of resource options to address any risks that the company may face. The IRP process addresses risk by evaluating numerous planning scenarios and sensitivities that potentially affect the business. For example, variables such as electric demand, carbon pricing, fuel prices, state and federal mandates, and market conditions are altered to quantify risk.

On an asset level, physical climate change risks are assessed including the impact of changing weather on our generating plants' abilities to operate as configured. Risks from potential future environmental laws, rules and regulations are also evaluated.

On a company level, risk results are compiled for the Company as a whole to determine the overall potential impact. The corporate risk map plots these risks as to their likelihood of occurrence and potential impact, defining their materiality. Severity is characterized in terms of likelihood and impact. Impact involves potential effect on earnings, market capitalization and reputation. These indicators, along with mitigating actions, are updated annually and presented to senior management and the Board.

CC2.1c**How do you prioritize the risks and opportunities identified?**

Risks are prioritized by their likelihood and impact.

CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process**

Consumers Energy is committed to sustainability which means focusing on the triple bottom line (people, planet, profit). With each decision made, the Company considers our impact on all of our stakeholders. Consumers Chief Executive Officer and leadership team own the sustainability business strategy but also have personnel assigned to manage climate change issues, which includes policy and regulation development, analysis, planning and communication. Company personnel, in conjunction with the Company's management team and the Board of Directors, develops the Company's strategy on climate change as a component of the Company's overall business strategy.

Point of view documents that explain the current anticipated impact on the Company from a proposed climate change related regulation are also developed and shared with management and distributed through the Company as needed. Additionally, Consumers Energy has a corporate sustainability breakthrough goal. Under this goal Consumers Energy established a corporate GHG reduction target. This is a three phase target resulting in a 20% reduction in our Carbon Intensity Ratio (CIR) by 2025 (2008 baseline). There are intermediate goals consisting of 5% CIR reduction by 2015, which was met, and 10% by 2020 which was met in 2016 with the retirement of 950 MW of coal generation.

The Chief Executive Officer communicates our climate change and sustainability strategy to the Company's employees and Board through presentations, Company policies and ultimately in our decisions. The climate change and sustainability strategy is also reflected in external communications made through, among other things, financial and regulatory reporting, news releases, the CMS and Consumers websites, the annual Sustainability Report, and the CDP.

Aspects of climate change that have influenced our business strategy include proposed federal legislation as well as state and U.S. Environmental Protection Agency (EPA) regulation governing emissions of GHG and also social pressure, including the investment community, to consider further reducing GHG emissions from our operations.

We have numerous short term business strategies to reduce GHG emissions such as modernizing our natural gas pipeline infrastructure, which reduces fugitive methane emissions, as well as building efficiency standards for any new construction. Modernizing our natural gas pipelines started in 2012 and will continue until approximately 2036. Consumers Energy is a partner to the EPA's Natural Gas STAR Program since 1996. As part of our natural gas business, we look for opportunities to reduce methane releases from the storage and delivery of natural gas. We have received two "Continuing Excellence" awards for our voluntary measures to reduce methane emissions under the Natural Gas Star Program. Additionally, Consumers Energy joined the Natural Gas STAR Methane Challenge Program as a Founding Member in 2016. The Company became a partner under the program's Natural Gas Distribution Segment: Mains – Cast Iron and Unprotected Steel Best Management Plan (BMP) Commitment. Our goal under this BMP is a 3% or greater reduction in cast iron and unprotected steel distribution mains, for a five year period, beginning in 2016. Consumers Energy filed their Methane Challenge Implementation Plan in September. Future performance for this commitment will closely parallel existing work projected to be done under the Enhanced Infrastructure Replacement Program (EIRP). Reporting of the Methane Challenge Commitment progress will utilize data the Company gathers for our compliance obligations under the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration regulations found in 49 CFR Part 191.

Additionally, approximately 1,700,000 upgraded meters and modules were installed by the end of 2016. State-wide installations are planned to continue through 2017 for a total of approximately 1.8 million electric smart meters and 600,000 natural gas meter communication modules. In 2016, we completed all new systems functionality associated with the meters which includes

electronic meter reads which will eliminate estimated reads, energy efficiency program participation and remote turn on turn off of electric meters.

Aspects of climate change have also influenced our long term strategies through our capacity planning process. In this process we evaluate a number of factors including an estimated carbon price for CO2 emissions in our generation capacity planning. Future generation planning incorporates this business strategy to make sound business decisions. For example, in 2016 Consumers Energy retired seven coal fired power plants, which comprised approximately one third of our coal fleet. This was the most substantial business decision influenced by this capacity planning process.

Our long- term strategy also includes building and operating at least 306 MW of new wind generation by 2022, long-term power purchase agreements for renewables, and implementation of a customer energy efficiency program. Our efficiency program was initiated through state legislation in 2008. While the current statute has numerous mandates and goals which the Company has met, the efficiency gains will continue into the future and is expected to reduce total customer electric demand by 1% annually and gas demand by 0.75% annually. Michigan passed new state energy legislation late in December of 2016, which became effective in April 2017, which will help shape continuing efficiency gains.

In 2015, EPA finalized the Clean Power Plan (CPP), a suite of regulations targeting carbon dioxide emissions from existing fossil fuel plants. In 2016 the Company continued to evaluate the potential short and long term implications from the ongoing activities surrounding the CPP, even in light of the February 2016 decision by the Supreme Court of the United States to stay the implementation of the CPP.

One particular competitive advantage of factoring climate change into our business strategy is that it promotes diversity of our electrical generation portfolio, which leads to an overall reduction of risk associated with price volatility inherent with operating a generating fleet dominated by one fuel source. Maintaining a diverse generation fleet allows our ratepayers to be better insulated from price swings associated with any one particular generating technology or fuel source.

With the implementation of our triple bottom line we have moved from a compliance driven organization to an accountability driven organization where consideration of the impacts of our operations influence our future decisions; such as in the area of generation planning and evaluating new technologies. This culture change is being carried out under the umbrella of our Corporate Sustainability Program.

CC2.2c

Does your company use an internal price on carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price on carbon

Consumers Energy cannot predict if or when a carbon cap and trade program comes into fruition, but does consider it a possibility and plans accordingly. For example, we periodically evaluate possible cap and trade options as alternative scenarios and often utilize a carbon allowance price forecast that was developed by a third party industry expert.

For example, on October 23, 2015, the EPA finalized the Clean Power Plan addressing carbon emissions from coal and oil fired Electric Generating Units (EGUs). This was a parallel rulemaking under the Clean Air Act ("CAA") Section 111(d) Existing Source Performance Standards ("ESPS") and CAA Section 111(b) New Source Performance Standards ("NSPS"). The 111(d) rulemaking clearly allows for states to pursue either a rate or mass compliance basis, which may or may not result in a price on carbon. However, on February 9, 2016, SCOTUS stayed the Clean Power Plan pending judicial review. SCOTUS indicated that the stay will be in effect through a determination by the Court to deny any petitions for writs of certiorari that are filed, or after a judgment is issued by the Court if the Court takes the case on certiorari. Furthermore, the Trump Administration has announced that it will reconsider the Clean Power Plan, and intends to attempt to renegotiate the Paris Climate Accord.

Consumers Energy cannot predict the outcome of this litigation or the Trump Administration's reconsideration, but will continue to monitor regulatory activity regarding greenhouse gas emissions standards that may affect EGUs.

Regardless of the outcomes, Consumers Energy will continue to use updated carbon pricing models to evaluate potential carbon pricing scenarios to inform our future business decisions.

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers

Trade associations

Funding research organizations

CC2.3a**On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Other: Emissions regulations on power plants	Oppose	Consumers Energy staff has tracked EPA's development of the Clean Power Plan (CPP) (regulations under the Section 111 of the CAA that target GHG emissions from Electric Generating Units (EGUs)). The CPP includes regulations that govern new and modified EGUs along with broadly regulating existing EGUs. In concert, the regulations set national emission standards for GHG emissions from any fossil fuel-fired EGU. Consumers Energy employs internal staff who participate in utility and industry based trade associations, and heavily participate in the administrative rulemaking process (notice and comment procedures). In February 2016, the Supreme Court of the United States placed a judicial stay on the CPP. Litigation efforts will continue for the next few years. Consumers Energy staff continue to work with state and federal entities to address how potential CPP implementation interacts with concurrent energy policy discussions.	While we support transitioning to cleaner fuel sources as infrastructure and economy allow, we believe that EPA's EGU regulations could be improved. Consumers Energy will continue to participate in industry groups that comment on and educate EPA and the Michigan Department of Environmental Quality on the effects of such regulation on the electric utility industry. We will supplement those efforts with company specific input when necessary. Consumers Energy continues to advocate for any state or federal regulations, or guidelines, impacting existing EGUs to recognize prior investments in the generation fleet in order to not penalize any investments in carbon reductions prior to the rulemaking and to and to set a fair standard to be implemented on a reasonable timeline.
Clean energy generation	Support	In 2016, the State of Michigan passed new state energy policy, which will become effective in April 2017. Consumers Energy staff participated in this research process via roundtable discussions, workgroups, and public presentations.	Consumers Energy supports the newly enacted state energy policy. We will continue to engage in legislative workgroups and discussions to best implement the revised mandates on utilities for energy efficiency and renewable energy

CC2.3b**Are you on the Board of any trade associations or provide funding beyond membership?**

Yes

CC2.3c**Please enter the details of those trade associations that are likely to take a position on climate change legislation**

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
American Gas Association (AGA)	Consistent	AGA believes that every discussion about clean energy standards should include natural gas—and that energy efficiency and reduced environmental impacts be considered primary criteria for the nation's climate and energy policies.	Consumers Energy participates in policy development activities as well as technical support activities initiated through AGA.
Edison Electric Institute (EEI)	Consistent	EEI member companies continue to support the goals of our nation's environmental laws and are working to ensure that they are fully met. Further, EEI believes policies to address climate change should seek to minimize impacts on consumers and avoid harm to U.S. industry and the economy.	Consumers Energy participates in policy development activities as well as technical support activities initiated through EEI.
Electric Power Research Institute (EPRI)	Consistent	EPRI acknowledges that the energy industry is faced with unprecedented uncertainties around environmental regulation and climate policies. They have committed to developing tools and models to assist both the public and private sector decision makers in understanding the costs and benefits of policy alternatives.	Consumers Energy participates in policy development activities as well as technical support activities initiated through EPRI.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3f

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?

Consumers Energy has staff that tracks and analyzes developments around climate change strategy. This group is housed in the corporate Environmental Services Department. Additionally, Consumers Energy has a Sustainability Program housed in our Government and Public Affairs Department, with supporting teams throughout the company. There is regular contact between the respective teams as well as an expanded Sustainability Leaders team that includes such areas as purchasing, that regularly meet to discuss Company activities that may impact our climate change strategy. Additionally, we have governmental affairs staff that regularly engage with policy makers.

Further Information**Page: CC3. Targets and Initiatives****CC3.1**

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target

Intensity target

Renewable energy consumption and/or production target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1	99.1%	11.5%	2009	18196261	2016	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	The electric energy optimization program reduces electrical consumption on a cumulative basis from baseline 2009 to 2016, resulting in a decrease in generation and thus a decrease in emissions. Base year emissions are primarily monitored values via Continuous Emission Monitoring Systems (CEMS) units. Actual emission reductions are based on estimates of reductions based on documented efficiency reductions.
Abs2	Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2)	100%	7.3%	2009	10876467	2016	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	The energy natural gas optimization program reduces natural gas consumption on a cumulative basis from baseline 2009 to 2016, resulting in a decrease in natural gas combustion and thus a decrease in emissions. Actual emission reductions are based on estimates of reductions based on documented

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
								efficiency reductions. Actual reductions have exceeded the targeted reductions for every year of the program.

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment
Int1	Scope 1	100%	38%	Other: U.S. tons/MWhr	2008	1.057	2025	Yes, but this target has not been approved as science-based by the Science Based Targets initiative	This is a three phase voluntary reduction that will achieve a minimum 20% reduction in our Carbon Intensity Ratio by 2025. There are intermediate goals consisting of 5% CIR reduction by 2015 and 10% by 2020. The CIR is measured in U.S. tons CO2 emitted per MWh.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	20	No change	0	This is a three phase target will culminate in a minimum 20% reduction in our Carbon Intensity Ratio by 2025. There are intermediate goals consisting of 5% CIR reduction by 2015 and 10% by 2020.

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
RE1	Electricity consumption	2009		0%	2021	15%	In 2016 the State of Michigan revised it's renewable energy goal. The new program establishes a 15% statewide target by 2021.

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Int1	50%	100%	This is a three phase voluntary reduction that will achieve a minimum 20% reduction in our Carbon Intensity Ratio by 2025. There are intermediate goals consisting of 5% CIR reduction by 2015 and 10% by 2020.

CC3.2

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

CC3.2a

Please 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	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	Net metering	Avoided emissions	Other: This is a direct GHG offset calculation association with avoided energy production/consumption	0%	Less than or equal to 10%	
Product	Solar Gardens	Avoided emissions		0.08%	Less than or equal to 10%	
Product	Coal combustion by-products (CCB)	Avoided emissions	Other: This is a direct GHG offset calculation association with avoided energy production/consumption	0%	Less than or equal to 10%	Use of CCB in the cement manufacturing process reduces the amount of raw materials required. This reduction in raw materials results in lower emissions from cement manufacturing. There is no significant corporate revenue generated from this product stream.
Product	Continuous energy monitoring for identifying and reducing waste.	Avoided emissions	Other: This is a direct GHG offset calculation association with avoided energy production/consumption	0%	Less than or equal to 10%	The Virtual Energy Engineer service gives customers insights into their energy consumption that allow for the identification and reduction of waste , which minimalizes their carbon footprint and improves their bottom line.
Product	Commercial &	Avoided	Other: This is a direct	0%	Less than	The C&I Demand

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
	Industrial Demand Response	emissions	GHG offset calculation association with avoided energy production/consumption		or equal to 10%	Response program calls on our business customers to reduce electric load during peak times in the summer. This prevents CES from purchasing additional load generated from non-renewable resources. Demand Response supports the 2016 Energy law with our renewable energy standard increasing from 10 percent to 15 percent by 2021.

CC3.3

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

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*	3	1218368
Implemented*		
Not to be implemented		

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary / Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy purchase	Through 2016 Consumer Energy has contracted for the purchase of	1213120	Scope 1	Mandatory	0	1590000000	>25 years	Ongoing	This initiative is not restricted to the reporting year only

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary / Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	approximately 556 MW of nameplate capacity from renewable energy suppliers. In 2016, these renewable energy sources contributed to a reduction of 1251927 metric tonnes of CO2 emissions. Scope 1 emissions are reduced from these efforts. This is part of a mandatory effort to comply with a 2008 state statute.								and is expected to reduce greenhouse gas emissions annually. Therefore this initiative is considered to be continuous .
Fugitive emissions reductions	We have been an EPA Natural Gas STAR Program Partner since 1996. The Natural Gas STAR Program is a voluntary program to identify and address fugitive emissions of methane. As part of our natural gas business, we look for opportunities to reduce	90635	Scope 3	Voluntary	596280	498196	<1 year	Ongoing	This initiative is not restricted to the reporting year only and is expected to reduce greenhouse gas emissions annually. Therefore this initiative is considered to be continuous .

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary / Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	methane releases from the storage and delivery of natural gas. We received a "Continuing Excellence Award" in both 2007 and 2009 for our voluntary measures to reduce methane releases. These measures include capturing and injecting natural gas back into our natural gas system while performing maintenance on our pipelines, replacing components and implementing best management practices to reduce venting. In 2016, these efforts helped reduce methane emissions by 188,822 Mcf. This is a voluntary initiative that reduces Scope 1 and Scope 3 emissions.								

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary / Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Fugitive emissions reductions	Our Enhanced Infrastructure Replacement Program (EIRP) targets higher risk distribution and transmission piping to be replaced. Through this effort, in 2016 we reduced potential methane emissions by 10,934 Mcf. In 2016, Consumers Energy also became a founding member in EPA's voluntary Methane Challenge program, where members commit to utilizing best management practices to reduce fugitive methane losses from distribution and transmission processes. This is a voluntary initiative that reduces Scope 2 emissions.	5248	Scope 2 (location-based)	Voluntary	34529	95017820	21-25 years	Ongoing	This initiative is not restricted to the reporting year only and is expected to reduce greenhouse gas emissions annually. Therefore this initiative is considered to be continuous.

CC3.3c**What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Compliance with regulatory requirements/standards	Compliance with regulatory requirements receives priority funding.
Financial optimization calculations	Energy efficiency activities within our facilities are determined based on the return on the investment. These calculations include an assumed price of carbon emissions.
Internal price on carbon	The estimated cost of carbon may be incorporated into financial investment decisions.
Dedicated budget for energy efficiency	Funding to spur development and deployment of smart-meters, LEED certified buildings and electric vehicle charging stations is intended to help drive the development and deployment of clean and efficient energy and remain current with the industry direction.

Further Information**Page: CC4. Communication****CC4.1****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	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Air	Air Consumers Energy.pdf	
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Air	greenhouse-gas-policy.pdf	
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Page 27, Page 50-51, Page 70-71	2016-CMS-Energy-Annual-Report.pdf	
In mainstream reports (including an integrated report) but have not used the CDSB Framework	Complete	Page 5, 15, 32-33	Sustainability Report Pages.pdf	

Further Information**Module: Risks and Opportunities****Page: CC5. Climate Change Risks****CC5.1****Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply**

Risks driven by changes in regulation

Risks driven by changes in physical climate parameters

Risks driven by changes in other climate-related developments

CC5.1a**Please describe your inherent risks that are driven by changes in regulation**

Risk driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Cap and trade schemes	Future policy to reduce GHG emissions through cap and trade scheme with an aggressive schedule may result in	Increased operational cost	3 to 6 years	Direct	Unlikely	Medium	Future cap and trade programs could have an impact on our operations and the cost of	This risk is currently being managed through participation in both legislative and	The Company spends \$200k/yr on participating in policy and strategy development. In 2016, the

Risk driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	emission allowance costs						electric generation from fossil fuels due to spending on emission allowance purchases for compliance or the capital cost of additional equipment. Costs of cleaner generating units or costs of advanced controls such as carbon capture and sequestration are estimated to exceed \$1B/unit.	regulatory policy development, by strategy development, and by monitoring the development of control options through participation with industry research affiliations such as the Edison Electric Institute (EEI) and the IHS Markit. Another risk mitigant is related to our ability to mothball or retire select generating units and provide energy with new technology that meets potential new requirements. This option is subject to regulatory approval.	Company spent about \$45.9 million on coal-fired plant decommissioning costs.
Product efficiency regulations and standards	The EPA regulations over existing fossil fuel-fired units under Section	Increased operational cost	3 to 6 years	Direct	Likely	Medium-high	Being required to substantially increase efficiency at existing	This risk is currently being managed through participati	The Company spends \$200k/yr on participating in policy and

Risk driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	111(d) of the Clean Air Act is dependent on a state run program. These programs will require increases in generation efficiency, artificial changes in dispatch order, additional capital investment in renewable energy sources and a likely increase in energy efficiency activities. In February 2016, the Supreme Court of the United States issued a judicial stay of these regulations. Furthermore, the Trump Administration is presently reconsidering these rules. Consumers Energy is closely tracking these ongoing developments.						plants could result in significant costs.	on in both legislative and regulatory policy development, by strategy development, and by monitoring the development of control options through participation with industry research affiliations such as the Edison Electric Institute (EEI) and the IHS Markit. Another risk mitigant is related to our ability to mothball or retire select generating units and provide generation with new technology that meets any new requirements. This option is subject to regulatory approval.	strategy development. The cost associated with mothballing or retiring units and replacement with lower carbon emitting generation is highly dependent upon the timing, the technology, the allowed cost recovery and the extent of any retirement plan. Consumers Energy retired seven coal fired units in 2016. The Company spent about \$45.9 million on coal-fired plant decommissioning costs.
Product efficiency regulations and	Federal Regulations such as the New Source	Increased capital cost	1 to 3 years	Direct	Likely	Medium-high	Greenhouse Gas NSPS regulation	This risk is currently being managed	The Company spends \$200k/yr on

Risk driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
standards	Performance Standard (NSPS) for new Electric Generating Units require a minimum performance standard for new electric generation facilities. Future capacity planning must account for costs associated with the accompanying design/performance requirements.						s will have a significant impact on our operations . The cost of new electric generation from fossil fuels will increase. Costs of cleaner generating units or costs of advanced and commercially unproven controls such as carbon capture and sequestration are estimated to exceed \$1B/unit in equipment costs as well as a parasitic load which may reach 30% of the generated electricity.	through participation in both legislative and regulatory policy development, by strategy development, by business forecasting and by monitoring the development of control options through participation with industry research affiliations such as the Edison Electric Institute (EEL) and the IHS Markit. Another risk mitigant is related to our ability to mothball or retire select generating units and provide generation with new technology that meets any new requirements. This option is subject to regulatory approval.	participating in policy and strategy development. The cost associated with mothballing or retiring units and replacement with lower carbon emitting generation is highly dependent upon the timing, the technology, the allowed cost recovery and the extent of any retirement plan. Consumers Energy retired seven coal fired units in 2016. The Company spent about \$45.9 million on coal-fired plant decommissioning costs.

Risk driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
General environmental regulations, including planning	Modifications at our existing facilities required to meet GHG regulations will likely trigger additional permitting requirements. The permitting process can be a very lengthy, litigious and cost intensive process.	Increased capital cost	3 to 6 years	Direct	Likely	High	Based on the EPA's GHG performance standards for existing electric generating units, Consumers Energy may be forced to make costly upgrades on the existing fleet and or retire certain units. These costs would vary depending on the timeline for compliance and the facility. These costs are estimated to be in excess of \$1 billion.	A method to manage this risk may be retiring and replacing plants with lower carbon alternatives. Additionally, we manage this risk through participation in both legislative and regulatory policy development, by strategy development, and by monitoring the development of control options through participation with industry research affiliations such as the Edison Electric Institute (EEI) and the IHS Markit.	The Company spends \$200k/yr on participating in policy and strategy development. The cost associated with mothballing or retiring units and replacement with lower carbon emitting generation is highly dependent upon the timing, the technology, the allowed cost recovery and the extent of any retirement plan. Consumers Energy retired seven coal fired units in 2016. The Company spent about \$45.9 million on coal-fired plant decommissioning costs.

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Snow and ice	Snow and ice accumulation	Increased operational cost	Up to 1 year	Direct	About as likely as not	Low	Damages to our infrastructure	This risk can partly be managed	Consumers Energy's Smart Energy

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	n, coupled with strong winds from more frequent or severe storms may compromise infrastructure by damaging our distribution system equipment.						re due to more frequent and severe storms may increase the Company's service restoration operations and maintenance costs. For 2016, Consumers Energy spent \$35.5 million on service restoration operating and maintenance activities. We estimate that in 2017 we will spend about \$39.5 million in service restoration activities.	by smart electric systems that have self-healing designs. This risk is also mitigated by maintaining our infrastructure in good working order.	program, kicked off in 2007, is in the implementation stage. The Company spent \$634M on the program in 2016. Consumers Energy spent over \$3.1 million on our reliability operations and maintenance program, \$50.9 million on our line clearing operations and maintenance program, and \$134.6 million on our reliability capital program..
Other physical climate drivers	Variations in Great Lakes water level may result in increased dredging activities as well as more frequent unloading of coal due to reduced cargo capacity.	Increased operational cost	>6 years	Direct	About as likely as not	Low	Changes in the level of the Great Lakes and its tributaries could have a significant financial impact on our generating fleet due to increased dredging or greater fuel costs due to operation of coal barges at less than capacity to	The Company is currently managing this risk by monitoring lake levels at our generating plants and also relies on the United States Army Corps of Engineers Detroit District's water level reports and forecasts.	There is virtually no cost (\$0) associated with the monitoring of lake levels at our generating plants. The Company utilizes the United States Army Corps of Engineers Detroit District's water level reports and forecasts at no cost..

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							meet requirements of shallower channels. Dredging would result in significant costs (~\$2M per site/yr.). Water level changes are predicted to occur over a very long period and existing generating assets could likely be mothballed, retired or replaced by that time. Additionally, recent, and upcoming changes in other EPA regulations are expected to require changes to be made at our existing water structures. Any changes would evaluate the best data on expected lake levels.		

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Consumers	Reduced	>6 years	Direct	Unlikely	Low	There is a	To manage	There are

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
n	Energy's efforts to mitigate climate change through policies and practices can affect the perception of our Company. If our reputation is damaged due to inadequate efforts surrounding climate change this may reduce our appeal in the investment community.	stock price (market valuation)					growing concern for investing in companies that address environmental issues such as climate change. Over 40% of our common stock is owned by signatories of the United Nation's Principles for Responsible Investing which represents over \$4B dollars. It is important for our Company that investors are confident in our business now and in the future.	this risk the Company communicates its efforts surrounding climate change through public reporting. The Company uses its Corporate Social Responsibility website as a tool to inform the public about its environmental efforts regarding climate change. Additionally, the Company discloses climate change information through its Form 10-K annual report as well as this response to the Carbon Disclosure Project (CDP) and our annual Sustainability Report.	no additional costs (\$0) associated with disclosing our efforts on climate change on the Company website or in its SEC Form 10-K annual report. The Carbon Disclosure Project submittal fee is \$975.
Fluctuating socio-economic conditions	Regulatory, physical, and other risks driven by climate change have the potential to impact the	Reduced demand for goods/services	>6 years	Direct	More likely than not	Low	Higher energy costs could result in more households not being able to afford their energy bills. In	To help reduce the amount of uncollectible payments the Company provided funds to non-profit agencies	In 2016, the Company provided \$1.5M to the Salvation Army PeopleCare Program partnership

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	economy driving costs up for our business and our customers and consequently driving the demand for our goods and services down.						2016, the Company's uncollectible expense was \$30.4M.	and secured grants and other energy assistance from its customers through the MPSC. Additionally, the Company offers different payment plan options to its customers.	for energy assistance. Additionally, Consumers Energy secured a \$13.2M grant from the State of Michigan's Agency for Energy (MAE) to implement the 14,000 customers Consumers Affordable Resource for Energy CARE program. Overall, Consumers Energy customers received nearly \$60M of energy assistance from different government and non-profit agencies together with Company contributions. In collaboration with community stakeholders, Consumers Energy promotes the availability and customer connections to access energy

Risk driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
									assistance.

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation

Opportunities driven by changes in physical climate parameters

Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Cap and trade schemes	The Company has participated in an EPA acid rain cap and trade program by selling emission allowances accrued from operational changes which reduced emissions. The Company has profited from these sales. There may be opportunities to capitalize on emission allowance sales from future cap and trade schemes targeting GHG emissions.	Reduced operational costs	3 to 6 years	Direct	About as likely as not	Low-medium	Astute management of cap and trade schemes delivers good customer value and can increase our competitive position in the market. At this time, it is not possible to quantify the scope of financial implications due to the lack of known operating parameters of a yet to be developed trading program.	We have identified opportunities to be competitive in a cap and trade schedule including negative cost of abatement opportunities such as plant efficiency, electric transmission line loss reductions and energy efficiency for our customers.	The capital invested depends upon the stringency of the policy.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Product efficiency regulations and standards	Efficiency standards for electric generation provide an opportunity to invest in our current generating fleet or to retire and build new low to zero carbon emitting sources. As a regulated utility, we recover a rate of return on investments in infrastructure which includes required emission control equipment or new generation equipment. The 2016 state energy policy builds on the existing energy efficiency programs.	Investment opportunities	Unknown	Direct	Very likely	Low-medium	The potential impact of product efficiency opportunities is dependent upon the stringency of the federal policy. Moderate efficiency standards will promote investment in current assets (~\$5M/yr) while stringent efficiency standards will require new generating units at a much higher investment.	Our Clean Energy Plan is a living process that looks at policy, load, technology and fuel prices to name a few variables, several times per year, providing a picture of the most cost effective way to serve load.	Changes in carbon regulation will not result in any additional costs (\$0) to our strategic modelling processes.
General environmental regulations, including planning	There are potential opportunities for our natural gas utility business. EPA regulations could	Investment opportunities	3 to 6 years	Direct	Very likely	Medium	Investments in the existing natural gas distribution system could increase the Company's	We manage this opportunity through our Customer Attachment Program (CAP) and	In 2016, we spent \$30.7 million on gas capital new business which includes the

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	drive the need for new natural gas infrastructure to support more gas fired EGUs. Investments in our natural gas distribution network may realize profit if infrastructure is needed.						s assets. If new natural gas-fired electrical generation facilities come on-line in our service territory we will have the opportunity to invest in new natural gas infrastructure. In 2016, the Company increased revenues an estimated \$1M from new customers for natural gas distribution.	through our Gas Asset Management Department.	Company's efforts to connect new customers with mains, meters, services and augment mains. This includes both traditional and proactive recruitment through our CAP program.

CC6.1b

Please describe your inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in mean (average) temperature	Change in weather can affect electric or gas load. Warmer winters result in a decreased demand for gas and conversely warmer summers mean an increase in demand for	Increased demand for existing products/services	Up to 1 year	Direct	About as likely as not	Low-medium	An increase in electricity or natural gas demand allows us to expand our supply and distribution systems. Our investment opportunity is dependent	We are supportive of revenue decoupling on both the electric and gas sides of the business, which effectively mitigate weather risk by trueing up projected sales with actual sales	There is no additional cost (\$0) to manage this opportunity through our current business processes.

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	electricity.						upon the magnitude of the change in temperature and could be as much as \$1B	and giving customers refunds or collecting more revenue accordingly. We are authorized to do this on the gas side only, decoupling on the electric side is not currently authorized.	
Snow and ice	Snow and ice from more frequent or severe storms may compromise infrastructure by damaging our distribution system equipment. There may be new investment opportunities associated with the solutions to these problems.	New products/business services	>6 years	Direct	About as likely as not	Medium-high	More frequent and severe storms may provide investment opportunities including the deployment of underground distribution lines and self-healing electric systems. Costs are estimated to be up to \$30B for a complete electric underground distribution system and \$1B for a self-healing electric system. Costs are	At the current time, we are investing in our infrastructure to assure the reliable supply of electricity and natural gas.	Consumers Energy spent over \$3.1 million on our reliability operations and maintenance program, \$50.9 million on our line clearing operations and maintenance program, and \$134.6 million on our reliability capital program.

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							estimated using ~ 57,000 miles of electric underground lines. Investment in an underground distribution system of any magnitude would be cost-prohibitive.		

CC6.1c

Please describe your inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	Positive perceptions driven by our response to climate change may increase the appeal of our business in the investment community.	Increase in capital availability	Unknown	Direct	Likely	Low	There is a growing concern for investing in companies that address environmental issues such as climate change. Over 40% of our common stock is owned by signatories of the United Nation's Principles for Responsible Investing which represents over \$4B dollars. It is important for our	The Company manages this risk with its efforts around reducing its carbon through building efficiency, electric vehicle incentives, transitioning our generation fleet to a lower carbon intensity rating, behavioral change support, and energy efficiency processes. Additionally	There are no additional costs (\$0) associated with disclosing our efforts on climate change on the Company's website. Additionally, we do not pay to disclose information through the CDP. The carbon reducing initiatives for CY 2015 included Energy efficiency facility projects,

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							Company that investors are confident in our business now and in the future.	y, the Company reports out on these efforts through our Corporate Social Responsibility Webpage, SEC Form 10K Annual Report, and the CDP to communicate them to the investment community.	upgrading alternative fleet vehicles, the installation of low carbon energy generation, and reduction of natural gas losses in our infrastructure. Lifetime costs associated with these projects exceed \$580 million.
Changing consumer behavior	Positive perceptions driven by our response to climate change may increase the appeal of our business in the investment community. Customers may perceive their energy usage as a contribution to climate change. This perception may cause our	Increased demand for existing products/services	Up to 1 year	Direct	More likely than not	Low	Our Green Generation® program offers our customers the opportunity to make contributions towards the purchases of renewable energy. Customers can either make purchases that match their kilowatt-hour usage at the 100% level, or can purchase in blocks of 150 kilowatt-hours. At	The Company manages this opportunity by marketing the program to our customers. We communicate with these customers through a number of different methods, including direct mail, email, radio and television, and web banner ads. The Green Generation® direct mail marketing	Company spent about \$794,225 on marketing, administration and supply for this program.

Opportunity driver	Description	Potential impact	Timeframe	Direct / Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	customers to demand new lower carbon products and services.						the end of 2016, the Green Generation® program generated about \$826,581,000 in revenue.	efforts are generally focused on residential customers – particularly those whom demonstrate an interest in renewable energy and the environment – as these customers are more likely to sign up for the Green Generation® program.	

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Thu 01 Jan 2009 - Sat 31 Jan 2009	18196261
Scope 2 (location-based)	Thu 01 Jan 2009 - Sat 31 Jan 2009	44330
Scope 2 (market-based)	Wed 22 Feb 2017 - Wed 22 Feb 2017	

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use

The Greenhouse Gas Protocol: Public Sector Standard
US EPA Mandatory Greenhouse Gas Reporting Rule

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CH4	Other: 40 CFR Part 98, Subpart A
Other: N2O	Other: 40 CFR Part 98, Subpart A
CO2	Other: 40 CFR Part 98, Subpart A

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Natural gas	53.02	Other: kg CO ₂ / MMBtu	40 CFR Part 98 Subpart C
Natural gas	1	Other: 10 ⁻³ kg CH ₄ / MMBtu	40 CFR Part 98 Subpart C
Natural gas	1	Other: 10 ⁻⁴ kg N ₂ O / MMBtu	40 CFR Part 98 Subpart C
Distillate fuel oil No 2	73.96	Other: kg CO ₂ / MMBtu	40 CFR Part 98 Subpart C
Distillate fuel oil No 2	3	Other: 10 ⁻³ kg CH ₄ / MMBtu	40 CFR Part 98 Subpart C
Distillate fuel oil No 2	6	Other: 10 ⁻⁴ kg N ₂ O / MMBtu	40 CFR Part 98 Subpart C
Sub bituminous coal	1.1	Other: 10 ⁻² kg CH ₄ / MMBtu	40 CFR Part 98 Subpart C
Sub bituminous coal	1.6	Other: 10 ⁻³ kg N ₂ O / MMBtu	40 CFR Part 98 Subpart C
Bituminous coal	1.1	Other: 10 ⁻² kg CH ₄ / MMBtu	40 CFR Part 98 Subpart C
Bituminous coal	1.6	Other: 10 ⁻³ kg N ₂ O / MMBtu	40 CFR Part 98 Subpart C
Motor gasoline	70.22	Other: kg CO ₂ / MMBtu	40 CFR Part 98 Subpart C
Motor gasoline	3	Other: 10 ⁻³ kg CH ₄ / MMBtu	40 CFR Part 98 Subpart C
Motor gasoline	6	Other: 10 ⁻⁴ kg N ₂ O / MMBtu	40 CFR Part 98 Subpart C

Further Information

Page: CC8. Emissions Data - (1 Jan 2016 - 31 Dec 2016)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO₂e

13138559

CC8.3

Please describe your approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure	We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure	As noted in the introduction, this report is limited to owned generation assets operating under Consumers Energy. Therefore, market based Scope 2 emissions profiles are not applicable.

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
38241	0	As noted in the introduction, this report is limited to owned generation assets operating under Consumers Energy. Therefore, market based Scope 2 emissions profiles are not applicable.

CC8.4

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

CC8.4a

Please 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	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Refrigerant leaks	Emissions are not relevant	No emissions excluded		GHGs associated with refrigerant usage are contained in closed loop applications. Any leakage associated with closed loop

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
				refrigerant systems is de minimus and not required to be reported via regulation.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Other: published emission factors	The majority of Scope 1 emissions are quantified by continuous emission monitors (CEMS) which are accurate. The Scope 1 uncertainty derives from the use of EPA 40 CFR Part 98 emission factors
Scope 2 (location-based)	More than 5% but less than or equal to 10%	Data Gaps	Some building and facility energy usage is not captured by meters. Where this occurs, assumptions based on actual metered data are used to fill those gaps.
Scope 2 (market-based)			As noted in the introduction, this report is limited to owned generation assets operating under Consumers Energy. Therefore, market based Scope 2 emissions profiles are not applicable.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

No third party verification or assurance – regulatory CEMS required

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	2016 Jackson e-GGRT Hard Copy Report.pdf
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	2016 JRW e-GGRT Hard Copy Report.pdf
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	2016 Zeeland e-GGRT Hard Copy Report.pdf
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	BC Cobb 2016 e-GGRT Hard Copy Report.pdf
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	JH Campbell 2016 e-GGRT Hard Copy Report.pdf
CFR 40 Part 75	99	Fri 01 Jan 2016 - Sat 31 Dec 2016	Karn Weadock 2016 e-GGRT Hard Copy Report.pdf

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

No third party verification or assurance

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
No additional data verified	As a regulated utility, our activities are subject to scrutiny by the Michigan Public Service Commission.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

Further Information

Consumers Energy did not acquire third party verification of scope one emissions calculations as the overwhelming majority of those emissions are subject to US EPA regulations that require continuous emissions monitors (CEMs). Those CEMs regulations require Consumers Energy staff to certify compliance with specific methodology developed to ensure valid data. Failure to comply with these regulations subjects Consumers Energy to financial and legal penalties.

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

No

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By business division

By facility

By GHG type

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)
Electric Generation	13025566
Natural Gas Storage and Distribution	102236
Business Services	10756

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
JH Campbell Generating Facility	6468105	42.91	-86.20
BC Cobb Generating Facility	544356	43.26	-86.24
DE Karn/JC Weadock Generating Facility	2916861	43.64	-83.84
JR Whiting Generating Facility	466930	41.79	-83.45
Zeeland Generating Facility	1696616	42.82	-86.00
Gaylord Combustion Turbine	2223	43.06	-84.72
Morrow Combustion Turbine	0	42.28	-85.49
Patterson Avenue	0	42.90	-85.55
Straits Combustion Turbine	184	45.78	-84.77
Thetford Combustion Turbine	488	43.16	-83.63
Freedom Compressor Station	11426	42.21	-83.97
Muskegon River Compressor Station	18342	44.08	-85.02
Northville Compressor Station	3121	42.48	-83.55
Overisel Compressor Station	15000	42.70	-85.95
Ray Compressor Station	22523	42.81	-82.87
St. Clair Compressor Station	9433	42.72	-82.72
White Pigeon Compressor Station	22390	41.80	-85.59
Ludington Pumped Storage Facility	149	43.89	-86.45
Jackson Generating Station	929655	42.25	-84.38
Business Miles	3151		
Service centers' natural gas combustion	7607		

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	13081749
CH4	164
N2O	183

Further Information

Consumers Energy did not acquire third party verification of scope one emissions calculations as the overwhelming majority of those emissions are subject to US EPA regulations that require continuous emissions monitors (CEMs). Those CEMs regulations require Consumers Energy staff to certify compliance with specific methodology developed to ensure valid data. Failure to comply with these regulations subjects Consumers Energy to financial and legal penalties.

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2016 - 31 Dec 2016)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

No

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By business division

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Consumers Energy Office Facilities	38241	

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Heat	0
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year
101490

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	41980
Sub bituminous coal	49592
Other:	9918

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0	0	Consumers Energy does not specifically spend money on low carbon resources to run its own operations. Rather, the Company's energy consumption is characterized by that which is supplied to the grid.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
49592	0	16397000	767000	0	The majority of Consumers Energy's

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
					facilities use energy directly from the grid so our usage would reflect the grid's current fuel mix. The usage number presented is reflective of our office building and does not contain electricity consumed during energy production.

Further Information

The energy consumed reported in this section includes the electricity and natural gas usage from our building facilities. Energy used to generate electricity or for natural gas compression is not quantified. For purposes of this section it was assumed that the grid electric portfolio was 68% coal/oil, 9% natural gas, 7% renewable/hydro and 13% nuclear (these are actual performance ratios, not nameplate capacity, for the MISO region in 2012). "Sub bituminous coal" response in 12.3 is calculated from an assumed percentage of coal in the generating portfolio. This would include the small amount of bituminous coal still used. There was no option for coal blends in the drop down box.

Page: CC12. Emissions Performance

CC12.1

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

Decreased

CC12.1a

Please 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

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities			
Divestment			
Acquisitions			
Mergers			
Change in output	28	Decrease	Consumers Energy retired seven coal fired units in 2016. The Company also increased utilization of our lower carbon generating assets. These actions reduced Scope 1 emissions. NOTE: Retirement of these assets could qualify under a number of these emission reduction activities. To ensure no double counting of reduction occurs, it was only noted in this category.
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00206	metric tonnes CO2e	6399000000	Location-based	27	Decrease	Our revenue numbers were consistent with 2015, however, our emissions decreased by 28% from 2015 due to the permanent retirement of seven coal-fired power plants.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
1789	metric tonnes CO2e	full time equivalent (FTE) employee	7366		23.2	Decrease	Total CO2e emissions decreased by 28% in 2016. This drove the large decreases observed here.
0.804	metric tonnes CO2e	megawatt hour (MWh)	16397000		11	Decrease	Total CO2e emissions decreased by 28% in 2016. This drove the large decreases observed here.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

Yes

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit purchase	Hydro	Ada Dam	Other: Pursuant to State Specific Program	4705		Yes	Compliance
Credit	Landfill gas	Adrian Energy	Other:	12134		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
purchase		Associates	Pursuant to State Specific Program				
Credit origination	Hydro	Alcona Hydro	Other: Pursuant to State Specific Program	30426		Yes	Compliance
Credit purchase	Hydro	Alverno Hydro Plant	Other: Pursuant to State Specific Program	2834		Yes	Compliance
Credit purchase	Hydro	Beaverton Hydro	Other: Pursuant to State Specific Program	2031		Yes	Compliance
Credit purchase	Wind	Beebe	Other: Pursuant to State Specific Program	117439		Yes	Compliance
Credit purchase	Landfill gas	Byron Center - BC #1	Other: Pursuant to State Specific Program	16081		Yes	Compliance
Credit purchase	Landfill gas	C&C Electric-1	Other: Pursuant to State Specific Program	5675		Yes	Compliance
Credit purchase	Biomass energy	Cadillac Renewable Energy LLC - Unit 2	Other: Pursuant to State Specific Program	117904		Yes	Compliance
Credit purchase	Hydro	Calkins Bridge Hydro	Other: Pursuant to State Specific Program	11986		Yes	Compliance
Credit purchase	Hydro	Cascade Dam	Other: Pursuant to State Specific Program	6351		Yes	Compliance
Credit origination	Hydro	Cooke Hydro	Other: Pursuant to State Specific Program	27986		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit origination	Hydro	Croton Hydro	Other: Pursuant to State Specific Program	26268		Yes	Compliance
Credit origination	Wind	CWEP - Cross Winds Energy Park	Other: Pursuant to State Specific Program	355483		Yes	Compliance
Credit purchase	Solar	EARP Agg 1	Other: Pursuant to State Specific Program	459		Yes	Compliance
Credit purchase	Solar	EARP Agg 2	Other: Pursuant to State Specific Program	121		Yes	Compliance
Credit purchase	Solar	EARP Agg 3	Other: Pursuant to State Specific Program	329		Yes	Compliance
Credit purchase	Solar	EARP Agg 4	Other: Pursuant to State Specific Program	177		Yes	Compliance
Credit purchase	Solar	EARP Agg 5	Other: Pursuant to State Specific Program	285		Yes	Compliance
Credit purchase	Solar	EARP Agg 6	Other: Pursuant to State Specific Program	128		Yes	Compliance
Credit purchase	Solar	EARP Agg 7	Other: Pursuant to State Specific Program	3		Yes	Compliance
Credit purchase	Hydro	Elk Rapids Hydro	Other: Pursuant to State Specific Program	2122		Yes	Compliance
Credit purchase	Hydro	Fallasburg Dam	Other: Pursuant to State Specific	4261		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
			Program				
Credit origination	Hydro	Five Channels Hydro	Other: Pursuant to State Specific Program	25771		Yes	Compliance
Credit origination	Hydro	Foote Hydro	Other: Pursuant to State Specific Program	31821		Yes	Compliance
Credit purchase	Biomass energy	Fremont Community Digester	Other: Pursuant to State Specific Program	6594		Yes	Compliance
Credit purchase	Wind	Garden Wind Farm - 20.0 MW	Other: Pursuant to State Specific Program	40678		Yes	Compliance
Credit purchase	Biomass energy	Genesee Power Station	Other: Pursuant to State Specific Program	82316		Yes	Compliance
Credit purchase	Landfill gas	Grand Blanc - Grand Blanc Facility #1	Other: Pursuant to State Specific Program	19537		Yes	Compliance
Credit purchase	Biomass energy	Grayling Generating Station	Other: Pursuant to State Specific Program	127150		Yes	Compliance
Credit purchase	Hydro	Grenfell-Belding hydro	Other: Pursuant to State Specific Program	1448		Yes	Compliance
Credit origination	Hydro	Hardy Hydro	Other: Pursuant to State Specific Program	124357		Yes	Compliance
Credit purchase	Wind	Harvest II - Wind Farm	Other: Pursuant to State Specific Program	111570		Yes	Compliance
Credit purchase	Biomass energy	Hillman Power Co	Other: Pursuant to State	91976		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
			Specific Program				
Credit origination	Hydro	Hodenpyl Hydro	Other: Pursuant to State Specific Program	55297		Yes	Compliance
Credit purchase	Hydro	Irving hydro	Other: Pursuant to State Specific Program	1741		Yes	Compliance
Credit purchase	Other: Municipal Solid Waste	Kent County Plant - Mass Burn	Other: Pursuant to State Specific Program	76269		Yes	Compliance
Credit purchase	Hydro	LaBarge Hydro	Other: Pursuant to State Specific Program	3092		Yes	Compliance
Credit purchase	Landfill gas	Lennon Generating - Lennon Generating	Other: Pursuant to State Specific Program	8212		Yes	Compliance
Credit origination	Hydro	Loud Hydro	Other: Pursuant to State Specific Program	18012		Yes	Compliance
Credit origination	Wind	LWEP – Lake Winds Energy Park	Other: Pursuant to State Specific Program	230282		Yes	Compliance
Credit purchase	Hydro	Michiana Hydro	Other: Pursuant to State Specific Program	218		Yes	Compliance
Credit purchase	Wind	Michigan Wind 1	Other: Pursuant to State Specific Program	137957		Yes	Compliance
Credit purchase	Wind	Michigan Wind 2	Other: Pursuant to State Specific Program	187639		Yes	Compliance
Credit origination	Hydro	Middleville Hydro	Other: Pursuant to	1083		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
			State Specific Program				
Credit purchase	Hydro	Mio Hydro	Other: Pursuant to State Specific Program	16366		Yes	Compliance
Credit purchase	Hydro	Morrow Dam	Other: Pursuant to State Specific Program	3112		Yes	Compliance
Credit purchase	Landfill gas	Northern Oaks - Northern Oaks Landfill Plant	Other: Pursuant to State Specific Program	8532		Yes	Compliance
Credit purchase	Landfill gas	Ottawa - #2	Other: Pursuant to State Specific Program	3622		Yes	Compliance
Credit purchase	Landfill gas	Ottawa - OT #1	Other: Pursuant to State Specific Program	27189		Yes	Compliance
Credit purchase	Landfill gas	Peoples Generating	Other: Pursuant to State Specific Program	15127		Yes	Compliance
Credit purchase	Landfill gas	Pinconning - PI #1	Other: Pursuant to State Specific Program	15433		Yes	Compliance
Credit purchase	Landfill gas	Pine Tree Acres	Other: Pursuant to State Specific Program	57396		Yes	Compliance
Credit purchase	Landfill gas	Rathbun Generating	Other: Pursuant to State Specific Program	13754		Yes	Compliance
Credit origination	Hydro	Rogers Hydro	Other: Pursuant to State Specific Program	28901		Yes	Compliance
Credit	Wind	Stoney Corners	Other:	20902		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
purchase		Wind Farm 12.25 MW	Pursuant to State Specific Program				
Credit purchase	Wind	Stoney Corners Wind Farm 8.35 MW	Other: Pursuant to State Specific Program	14417		Yes	Compliance
Credit purchase	Biomass energy	SVD-Fenv	Other: Pursuant to State Specific Program	1658		Yes	Compliance
Credit purchase	Biomass energy	SVD-Frpt	Other: Pursuant to State Specific Program	4397		Yes	Compliance
Credit purchase	Biomass energy	TES Filer City Station	Other: Pursuant to State Specific Program	15950		Yes	Compliance
Credit origination	Hydro	Tippy Hydro	Other: Pursuant to State Specific Program	71669		Yes	Compliance
Credit purchase	Landfill gas	Venice Park - NANR Generating	Other: Pursuant to State Specific Program	22524		Yes	Compliance
Credit purchase	Landfill gas	Venice Resources Gas Recovery	Other: Pursuant to State Specific Program	8325		Yes	Compliance
Credit purchase	Biomass energy	Viking Energy of Lincoln	Other: Pursuant to State Specific Program	77947		Yes	Compliance
Credit purchase	Biomass energy	Viking Energy of McBain	Other: Pursuant to State Specific Program	72583		Yes	Compliance
Credit origination	Hydro	Webber Hydro	Other: Pursuant to State Specific Program	9131		Yes	Compliance

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance
Credit purchase	Hydro	White's Bridge Hydro	Other: Pursuant to State Specific Program	2445		Yes	Compliance
Credit purchase	Landfill gas	Zeeland Farm Services - Plant 2	Other: Pursuant to State Specific Program	7785		Yes	Compliance

Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	15283066	Emissions are calculated based on the distribution and sale of natural gas to customers. Calculations were based on 40 CFR Part 98 emission factors.	0.00%	Because the calculated carbon emissions resulting from customers' use of delivered natural gas will make up the overwhelming majority of total carbon emissions, it was deemed not prudent to audit all of the Company's natural gas suppliers for their value chain impact.
Capital goods	Relevant, calculated	13866	Emission associated with calculated leaks in our natural gas distribution network. Emissions calculations are taken from the Company's 40 CFR Part 98 subpart W greenhouse gas report.	0.00%	Because the calculated carbon emissions resulting from customers' use of delivered natural gas will make up the overwhelming majority of total carbon emissions, it was deemed not prudent to audit all of the Company's natural gas suppliers for their value chain impact.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Not relevant, explanation provided			0.00%	All fuel and energy related activities are either captured as purchased goods and services, capital goods or upstream transportation and distribution.
Upstream transportation and distribution	Relevant, not yet calculated			0.00%	Because the calculated carbon emissions resulting from customers' use of delivered natural gas will make up the overwhelming majority of total carbon emissions, it was deemed not prudent to audit all of the Company's natural gas

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					suppliers for their value chain impact.
Waste generated in operations	Not relevant, explanation provided			0.00%	Our energy customers do not accumulate waste as a result of the use of our product (use of electricity or combustion of natural gas).
Business travel	Relevant, calculated	6221	Emissions are calculated based on business mileage associated with employees driving vehicles for work related purposes. Calculations were based on 40 CFR Part 98 emission factors.	0.00%	Data was gathered from actual mileage recorded on fleet vehicles, as well as those miles submitted for reimbursement due to business travel.
Employee commuting	Not relevant, explanation provided			0.00%	Employee commuting is currently outside of the Company's influence.
Upstream leased assets	Not relevant, explanation provided			0.00%	Not applicable to our business model.
Downstream transportation and distribution	Not relevant, explanation provided			0.00%	Captured in disclosed scope 3 emissions from Capital Goods.
Processing of sold products	Not relevant, explanation provided			0.00%	The life cycle of GHG emissions associated with the use of our sold products are captured in the purchased goods and services category.
Use of sold products	Not relevant, explanation provided			0.00%	The life cycle of GHG emissions associated with the use of our sold products are captured in the purchased goods and services category.
End of life treatment of sold products	Not relevant, explanation provided			0.00%	The life cycle of GHG emissions associated with the use of our sold products are captured in the purchased goods and services category.
Downstream leased assets	Not relevant, explanation provided			0.00%	Not applicable to our business model.
Franchises	Not relevant, explanation provided			0.00%	The franchise business model is not applicable to a regulated utility.
Investments	Not relevant, explanation provided			0.00%	Not applicable to our business model.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

No third party verification or assurance

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Other: Less natural gas used	6	Decrease	Consumers Energy purchases natural gas from producers (we are not a natural gas production company) and sells/distributes to our customers. These Scope 3 emissions represent less gas used by our customers in 2016 versus 2015.
Capital goods	Emissions reduction activities	51	Increase	This increase in Scope 3 emissions resulted from increased investments in our natural gas infrastructure. More work on the infrastructure resulted in more pipeline “blow-downs”, which increases fugitive emission losses.
Business travel	Other: Less business traveling	11	Decrease	Consumers Energy business travels decreased from 2015 to 2016.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

Consumers Energy uses an integrated marketing approach to engage customers in our Energy Efficiency Programs. We have prioritized customer engagement due to its inherent business and societal value. This engagement reduces carbon emissions while creating business value through new products and services. Additionally, our energy efficiency programs save our customers money.

Radio and television ads build broad awareness of our energy efficiency programs, and are evaluated via both proprietary awareness surveys and JD Power awareness scores. Print, online, and outdoor ads are used to promote efficiency program offers, and to engage customers to visit our website. Those efforts are evaluated by tracking unique web visits to the Company’s energy efficiency web pages. Direct mail and email are used to promote specific energy efficiency offers to specific customers, and are evaluated by the response rates to those offers. Additional engagement efforts include participation in community events, newsletters, and earned media via public relations activities. Consumers Energy is also increasing its use of social media to engage customers.

Ultimately, our engagement efforts are evaluated by the achievement of savings goals for both electricity and natural gas. In 2016, the goals were 329,730 MWh and 1,908,671 MCF.

Renewable Energy- Consumers Energy offers the Solar Gardens Program, Green Generation® program, and Net Metering program. These are voluntary programs promoting customer usage of renewable energy at three different levels. We have prioritized engaging with our customers because of the business and societal value it brings.

The Solar Gardens Program, first launched in 2015, offers customers the ability to subscribe to solar energy from solar power plants built and managed by Consumers Energy. Participants subscribe to SolarBlocks of energy and are credited for the energy produced by the power plant. The first two solar facilities began generating energy in 2016 and total 4 MW.

The Green Generation Program offers customers the opportunity to support renewable energy through participation. Customers can participate at 100% level, or can subscribe to blocks of renewable energy in increments of 150 kilowatt-hours.

Net Metering Program allows customers to use renewable resources and offset their energy usage. Excess energy is credited by the Company to apply on a customer bill towards future electricity charges. Since 2009, approximately 600 customers have enrolled in net metering installing ~7.8 MW of renewable energy.

The Consumers Energy Smart Energy program kicked off in 2007 with the purpose of improving energy efficiency via the installation of intelligent metering and communication devices throughout the distribution system. Smart meters will be able to provide near real-time updates to inform customers on energy usage, day-a-head changes in electric costs, and the availability of money-saving programs. This near real-time data will allow customers to make informed decisions on their usage. We have prioritized customer engagement due to its inherent business and societal value.

Our Smart Energy Program includes years of testing and assessing equipment. The success of the program will initially be measured by a better meter read accuracy and less estimated bills. As the program matures, customers will be able to better understand individual energy usage patterns and make wise energy choices.

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Linda Hilbert	Executive Director of Environmental and Laboratory Services	Environment/Sustainability manager

Further Information

Module: Electric utilities

Page: EU0. Reference Dates

EU0.1

Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2021 if possible).

Year ending	Date range
2015	Thu 01 Jan 2015 - Thu 31 Dec 2015
2016	Fri 01 Jan 2016 - Sat 31 Dec 2016

Further Information

Page: EU1. Global Totals by Year

EU1.1

In each column, please give a total figure for all the countries for which you will be providing data for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2015	6261	20092	18327265	0.91
2016	5821	16397	13001487	0.793

Further Information

Page: EU2. Individual Country Profiles - United States of America

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

Coal - hard
Oil & gas (excluding CCGT)
CCGT
Hydro
Other renewables

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2015	2771	15833	16454104	1.04
2016	1859	9739	10256553	1.05

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2015	1682	1	22337	0.91
2016	1570	81	118688	1.47

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2015	527	3388	1850824	0.41
2016	1069	5810	2626247	0.45

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2015	1069	241
2016	1110	136

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2015	212	629
2016	213	631

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2015	4980	19222	18327265	0.95
2016	4498	15630	13001487	0.83

EU2.1l

Total figures for this country

Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2015	6261	20092	18327265	0.91

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2016	5821	16397	13001487	0.793

Further Information

Page: EU3. Renewable Electricity Sourcing Regulations

EU3.1

In certain countries, e.g. Italy, the UK, the USA, electricity suppliers are required by regulation to incorporate a certain amount of renewable electricity in their energy mix. Is your organization subject to such regulatory requirements?

Yes

EU3.1a

Please provide the scheme name, the regulatory obligation in terms of the percentage of renewable electricity sourced (both current and future obligations) and give your position in relation to meeting the required percentages

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
USA state scheme – Michigan	10%	15%	2021	The State of Michigan had a renewable energy standard mature in 2015. In December of 2016, Michigan enacted new energy legislation that, among other things, increased the renewable energy target to 15% by 2021.

Further Information

Page: EU4. Renewable Electricity Development

EU4.1

Please give the contribution of renewable electricity to your organization's EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) in the current reporting year in either monetary terms or as a percentage

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA	80000000	3.9%	

EU4.2

Please give the projected contribution of renewable electricity to your organization's EBITDA at a given point in the future in either monetary terms or as a percentage

Please give:	Monetary figure	%	Year ending	Comment
Renewable electricity's contribution to EBITDA	59000000	2.3%	2019	

EU4.3

Please give the capital expenditure (capex) planned for the development of renewable electricity capacity in monetary terms and as a percentage of total capex planned for power generation in the current capex plan

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development	80000000	5.7%	2020	