

CMS Energy Corporation - Climate Change 2018

C0. Introduction

C0.1

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

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

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

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

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

Consumers Energy took its sustainability commitment to the next level in 2017 by conducting a thorough stakeholder engagement process to inform its new Corporate Planet Breakthrough Goal. Consumers Energy adopted a goal to cut carbon emissions by 80 percent and eliminate coal for generating electricity by 2040.

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, 2017 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 the date hereof.

C0.2

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

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	Yes	Please select
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

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

United States of America

C0.4

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

USD

C0.5

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

Financial control

C-EU0.7

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

Row 1

Electric utilities value chain

Electricity generation
Transmission
Distribution

Other divisions

Gas storage, transmission and distribution
Smart grids / demand response

C-OG0.7

(C-OG0.7) Which part of the oil and gas value chain and other areas does your organization operate in?

Row 1

Oil and gas value chain

Please select

Other divisions

Grid electricity supply from gas

Grid electricity supply from coal

Grid electricity supply from renewables

C1. Governance

C1.1

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

Yes

C1.1a

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

Position of individual(s)	Please explain
Director on board	The Boards of Directors ("Board"), made up of a number of directors with experience and knowledge of environmental issues, have the highest level of oversight of our public responsibility and sustainability practices. Review of these practices occur primarily at the Board level with the Governance, Sustainability and Public Responsibility Committee ("GS&PR Committee") also being responsible for advising and assisting the Board with respect to our public responsibility and sustainability matters. In addition to Board oversight, management of CMS and Consumers has implemented an Environmental Advisory Committee ("EAC") in order to create a group of critical internal leaders who will work together to ensure our actions meet our environmental goals.

C1.1b

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

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Sporadic - as important matters arise	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Governance, Sustainability and Public Responsibility Committee reviews sustainability items, as needed, and at least annually. Management and our board consider sustainability regularly in its decision making. Our board reviews the Corporation's sustainability programs, practices and strategies, including our reporting as it relates to engagement with shareholders.

C1.2

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

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	As important matters arise
President	Both assessing and managing climate-related risks and opportunities	As important matters arise
Risk committee	Both assessing and managing climate-related risks and opportunities	As important matters arise
Environment/ Sustainability manager	Both assessing and managing climate-related risks and opportunities	As important matters arise

C1.2a

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

The Governance, Sustainability and Public Responsibility committee (a Committee of the Board of Directors) reviews sustainability items, as needed, and at least annually. Management and our board consider sustainability regularly in its decision making. Our board reviews the Corporation's sustainability programs, practices and strategies, including our reporting as it relates to engagement with shareholders.

In addition to Board oversight, in 2018 management has implemented an Environmental Advisory Committee ("EAC") in order to create a group of critical internal leaders who will work together to ensure our actions match our environmental goals.

A risk committee also exists that works with our Environmental Department to assess risks associated with climate related issues. Additionally, the Company has personnel responsible for sustainability that work across the company to identify and address climate related issues.

C1.3

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

Yes

C1.3a

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

Who is entitled to benefit from these incentives?

All employees

Types of incentives

Recognition (non-monetary)

Activity incentivized

Other, please specify (All environmental enhancing activities)

Comment

The Company holds an annual sustainability awards ceremony where employees who have had a positive impact on the environmental are recognized for their efforts at our annual Sustainability Summit. This includes efforts around air, water, waste and land.

C2. Risks and opportunities

C2.1

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

	From (years)	To (years)	Comment
Short-term	1	5	
Medium-term	6	10	
Long-term	11	20	

C2.2

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

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

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

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Annually	>6 years	

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related 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, fuel prices, state and federal mandates, carbon emission reduction scenarios 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 operations. Risks from potential future environmental laws, rules and regulations are also evaluated.

C2.2c

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

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	Regulations that address GHG emissions are always taken into consideration when evaluating current risks related to generation.
Emerging regulation	Relevant, always included	Regulations that address GHG emissions are always taken into consideration when evaluating future risks related to generation.
Technology	Relevant, always included	Changes in technology and availability of technology can impact current and future operational plans and therefor are always assessed for risk and impact.
Legal	Relevant, always included	The Company always strives to maintain compliance with all laws and regulations. This is taken into consideration when evaluating risks associated with GHG generation.
Market	Relevant, always included	Understanding the market changes and new demands is critical for managing future and current risks to business success and sustainability.
Reputation	Relevant, always included	How the Company is perceived by its stakeholders can have a large impact on its ability to operate.
Acute physical	Relevant, always included	Acute risks that are event-driven, including increased severity of extreme weather events can increase operational and maintenance costs and therefor are included when assessing Company risks.
Chronic physical	Relevant, always included	Chronic risks including longer-term shifts in climate patterns can have impacts on current and future capacity planning and infrastructure.
Upstream	Relevant, always included	Risks associated with our supply chain such as fuel supply have the potential to be very disruptive to our business operations and therefor are always evaluated when assessing risks.
Downstream	Relevant, always included	Downstream risks that can be derived from our business operational such as risks associated with the use of our goods and services can impact the Company's ability to operate and are always evaluated when assessing risks.

C2.2d

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

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.

C2.3

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

Yes

C2.3a

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

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

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

Type of financial impact driver

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

Future policy to reduce greenhouse gas emissions through cap and trade scheme with an aggressive schedule may result in unreasonable emission allowance costs.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

Medium

Potential financial impact

1000000000

Explanation of financial impact

Future cap and trade programs could have an impact on our operations and the cost of 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 (costs would include capture of emissions and transportation to an appropriate sequestration site).

Management method

This risk is currently being managed 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. 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.

Cost of management

474000000

Comment

Company anticipates spending about \$474 million to decommission its remaining coal-fired plant.

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

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

Type of financial impact driver

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

Company- specific description

The EPA regulations over existing fossil fuel- fired units under Section 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.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

Explanation of financial impact

Being required to substantially increase efficiency at existing plants could result in significant costs.

Management method

This risk is currently being managed 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. 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.

Cost of management

200000

Comment

The Company spends \$200k/yr on participating in policy and strategy development.

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

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

Type of financial impact driver

Technology: Capital investments in technology development

Company- specific description

Federal Regulations such as the New Source 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.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

1000000000

Explanation of financial impact

Greenhouse Gas NSPS regulations 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.

Management method

This risk is currently being managed 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 (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.

Cost of management

474200000

Comment

The Company spends \$200k/yr on participating in policy and strategy development. Company anticipates spending about \$474 million to decommission its remaining coal-fired plant.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

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

Type of financial impact driver

Technology: Capital investments in technology development

Company- specific description

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.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

High

Potential financial impact

1000000000

Explanation of financial impact

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.

Management method

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.

Cost of management

474200000

Comment

The Company spends \$200k/yr on participating in policy and strategy development. Company anticipates spending about \$474 million to decommission its remaining coal-fired plant.

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver

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

Company- specific description

Snow and ice accumulation, coupled with strong winds from more frequent or severe storms may compromise infrastructure by damaging our distribution system equipment.

Time horizon

Current

Likelihood

About as likely as not

Magnitude of impact

Low

Potential financial impact

35500000

Explanation of financial impact

Damages to our infrastructure 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.

Management method

This risk can partly be managed by smart electric systems that have self-healing designs. This risk is also mitigated by maintaining our infrastructure in good working order.

Cost of management

878900000

Comment

Consumers Energy's Smart Energy program, kicked off in 2007, is in the implementation stage. The Company spent \$711M on the program in 2017. Also in 2017, the Company spent over \$3.2 million on our reliability operations and maintenance program, \$50.3 million on our line clearing operations and maintenance program, and \$114.4 million on our reliability capital program.

Identifier

Risk 6

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Other

Type of financial impact driver

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

Company- specific description

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.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Low

Potential financial impact

2000000

Explanation of financial impact

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 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.

Management method

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.

Cost of management

0

Comment

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.

Identifier

Risk 7

Where in the value chain does the risk driver occur?

Customer

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver

Reputation: Reduction in capital availability

Company- specific description

Consumers 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.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

Low

Potential financial impact

4000000000

Explanation of financial impact

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 Company that investors are confident in our business now and in the future.

Management method

To manage 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.

Cost of management

975

Comment

There are 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 cost associated with personnel hours worked to achieve these disclosures has not been calculated. The Carbon Disclosure Project submittal fee is \$975.

Identifier

Risk 8

Where in the value chain does the risk driver occur?

Customer

Risk type

Transition risk

Primary climate-related risk driver

Market: Changing customer behavior

Type of financial impact driver

Market: Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment)

Company-specific description

Regulatory, physical, and other risks driven by climate change have the potential to impact the economy driving costs up for our business and our customers and consequently driving the demand for our goods and services down.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

Low

Potential financial impact

30400000

Explanation of financial impact

Higher energy costs could result in more households not being able to afford their energy bills. In 2017, the Company's uncollectible expense was \$28M.

Management method

To help reduce the amount of uncollectible payments the Company provided funds to non-profit agencies and secured grants and other energy assistance from its customers through the MPSC. Additionally, the Company offers different payment plan options to its customers.

Cost of management

14600000

Comment

In 2017, the Company provided \$1.4M to the Salvation Army PeopleCare Program partnership for energy assistance and \$13.2M to the Michigan Energy Assistance Program. Overall, Consumers Energy customers received nearly \$64M of energy assistance from different government and non-profit agencies together with Company contributions. In collaboration with community stakeholder, Consumers Energy promotes the availability and customer connections to access energy assistance the Company provided.

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Participation in carbon market

Type of financial impact driver

Returns on investment in low-emission technology

Company- specific description

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.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Potential financial impact**Explanation of financial impact**

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.

Strategy to realize opportunity

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.

Cost to realize opportunity**Comment**

The capital invested depends upon the stringency of the policy.

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact driver

Returns on investment in low-emission technology

Company- specific description

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.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Potential financial impact**Explanation of financial impact**

The potential impact of product efficiency opportunities is dependent upon the stringency of the federal policy. Because these are case specific applications for our generating assets, it is not possible to determine a monetary value without assessing each application.

Strategy to realize opportunity

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.

Cost to realize opportunity

0

Comment

Changes in carbon regulation will not result in any additional costs (\$0) to our strategic modelling processes.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Type of financial impact driver

Returns on investment in low-emission technology

Company- specific description

There are potential opportunities for our natural gas utility business. EPA regulations could 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.

Time horizon

Short-term

Likelihood

Very likely

Magnitude of impact

Medium

Potential financial impact

1000000

Explanation of financial impact

Investments in the existing natural gas distribution system could increase the Company'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 2017, the Company increased revenues an estimated \$1M from new customers for natural gas distribution.

Strategy to realize opportunity

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.

Cost to realize opportunity

41100000

Comment

In 2017, \$41,100,000 was spent on the Company's customer attachment program on new main extensions.

Identifier

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Increased revenue through demand for lower emissions products and services

Company- specific description

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 electricity.

Time horizon

Current

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Potential financial impact

1000000000

Explanation of financial impact

An increase in electricity or natural gas demand allows us to expand our supply and distribution systems. Our investment opportunity is dependent upon the magnitude of the change in temperature and could be as much as \$1B.

Strategy to realize opportunity

We are supportive of revenue decoupling on both the electric and gas sides of the business, which effectively mitigate weather risk by truing up projected sales with actual sales 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.

Cost to realize opportunity

0

Comment

There is no additional cost (\$0) to manage this opportunity through our current business processes.

Identifier

Opp5

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of climate adaptation and insurance risk solutions

Type of financial impact driver

Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)

Company- specific description

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.

Time horizon

Short-term

Likelihood

About as likely as not

Magnitude of impact

Medium-high

Potential financial impact

31500000000

Explanation of financial impact

The deployment of a complete electric underground distribution system would roughly cost around \$31.5 Billion. This is based on an adjusted line mileage of 56,676 miles of electric underground lines at a rough cost of \$561,000 per mile.

Strategy to realize opportunity

At the current time, we are investing in our infrastructure to assure the reliable supply of electricity and natural gas.

Cost to realize opportunity

167900000

Comment

In 2017, the Company spent over \$3.2 million on our reliability operations and maintenance program, \$50.3 million on our line clearing operations and maintenance program, and \$114.4 million on our reliability capital program.

Identifier

Opp6

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Other

Type of financial impact driver

Other, please specify (Additional access to capital)

Company- specific description

Positive perceptions driven Shortby our response to climate change may increase the appeal of our business in the investment community.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Low

Potential financial impact

4000000000

Explanation of financial impact

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 Company that investors are confident in our business now and in the future.

Strategy to realize opportunity

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, 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.

Cost to realize opportunity

975

Comment

There are 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 cost associated with personnel hours worked to achieve these disclosures has not been calculated. The Carbon Disclosure Project submittal fee is \$975.

Identifier

Opp7

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Increased revenue through demand for lower emissions products and services

Company- specific description

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 contributor to climate change. This perception may cause our customers to demand new lower carbon products and services.

Time horizon

Current

Likelihood

More likely than not

Magnitude of impact

Low

Potential financial impact

877205

Explanation of financial impact

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 end of 2017, the Green Generation® program generated about \$877,205 in revenue.

Strategy to realize opportunity

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 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.

Cost to realize opportunity

725218

Comment

Company spent about \$725,218 on marketing, administration and supply for this program in 2017.

C2.5

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

	Impact	Description
Products and services	Impacted	Products and services including electricity and natural gas along with energy infrastructure have been impacted by climate driven risks and opportunities. Our energy investments are shifting and the Company is providing new products and services related to energy efficiency and renewable generation.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	The shift in energy sources used by the Company has a direct impact on our value chain. Additionally, the Company surveys our larger suppliers to assess their environmental impacts.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	The Company's operations are impacted by weather patterns. The company responds to current weather related impacts and is working towards increased system reliability.
Investment in R&D	Impacted for some suppliers, facilities, or product lines	The Company is pursuing R & D in a variety of areas including new technology related to battery storage and microgrids.
Operations	Impacted	Financial implications associated from risks and opportunities, especially those driven by regulation, have impacts on Company operations.
Other, please specify	Please select	

C2.6

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

	Relevance	Description
Revenues	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Operating costs	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Capital expenditures / capital allocation	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Acquisitions and divestments	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Access to capital	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Assets	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Liabilities	Impacted	As an Investor owned utility subject to regulation, we are required to submit our financial planning for review by the Public Service Commission. Relevant risks and opportunities are modeled in various permutations to develop the best path forward balancing the needs of all stakeholders.
Other	Please select	

C3. Business Strategy

C3.1

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

Yes

C3.1a

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

Yes, qualitative and quantitative

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

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

Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

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

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 President and 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 develop 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 sustainability goal, Consumers Energy further developed the existing corporate GHG reduction target, which was met in 2016 with the retirement of 950 MW of coal generation. In 2017, the Company began extensive stakeholder outreach to best determine how to meet the customer needs with a Corporate Planet Breakthrough Goal which was developed in 2017 and announced in early 2018. The Company also received an investor request in November of 2017 to publish a climate assessment report. The Company is currently working to finalize this report.

The President and 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, our website, 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 of 2016. 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 1,820,000 smart meters have been installed by the end of 2017. In 2016, we completed all new systems functionality associated with the meters which includes electronic meter reads which will eliminate estimated reads, enhance 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 and an updated state legislative package was signed in December 2016. While the 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 electricity use by at least 1.5% annually and gas use by 1% annually.

In 2015, EPA finalized the Clean Power Plan (CPP), a suite of regulations targeting carbon dioxide emissions from existing fossil fuel plants. In 2017 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 technology. 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 commitment to the triple bottom line; people, planet and prosperity.

C3.1d

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

Climate-related scenarios	Details

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

In 2017 Consumers Energy developed a Corporate Planet Breakthrough Goal. Under this goal, Consumers Energy further developed the existing corporate GHG reduction target, which was met in 2016 with the retirement of 950 MW of coal generation. In 2017, the Company began extensive stakeholder outreach to best determine how to meet the customer needs. This outreach included surveys of customers as well as interviews with key stakeholders. The results clearly indicated a preference for a lower carbon future with an emphasis on renewable energy generation. In 2018 the Company announced a goal to reduce carbon dioxide emissions 80 percent and eliminate all remaining coal generation by 2040. Our plans to meet this goal are outlined in our Integrated Resource Plan.

C4. Targets and performance

C4.1

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

Both absolute and intensity targets

C4.1a

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

Target reference number

Abs 1

Scope

Scope 3 (downstream)

% emissions in Scope

100

% reduction from base year

8.7

Base year

2009

Start year

2009

Base year emissions covered by target (metric tons CO2e)

10876457

Target year

2017

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% achieved (emissions)

100

Target status

Underway

Please explain

This target represents our annual energy efficiency programs results for 2017. Natural gas reductions due to efficiency efforts

exceeded our targets by 44%.

Target reference number

Abs 2

Scope

Scope 1

% emissions in Scope

100

% reduction from base year

13.9

Base year

2009

Start year

2009

Base year emissions covered by target (metric tons CO₂e)

18196261

Target year

2017

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% achieved (emissions)

100

Target status

Underway

Please explain

This target represents our annual energy efficiency programs results for 2017. Electricity usage reductions due to efficiency efforts exceeded our targets by 69%.

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Scope

Scope 1

% emissions in Scope

100

% reduction from baseline year

36.5

Metric

Metric tons CO2e per megawatt hour (MWh)*

Base year

2008

Start year

2012

Normalized baseline year emissions covered by target (metric tons CO2e)

1.06

Target year

2025

Is this a science-based target?

No, but we anticipate setting one in the next 2 years

% achieved (emissions)

100

Target status

Underway

Please explain

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.

% change anticipated in absolute Scope 1+2 emissions

20

% change anticipated in absolute Scope 3 emissions

0

C4.2

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

Target

Renewable energy consumption

KPI – Metric numerator

Renewable energy production

KPI – Metric denominator (intensity targets only)

N/A

Base year

2009

Start year

2009

Target year

2021

KPI in baseline year

0

KPI in target year

15

% achieved in reporting year

10.4

Target Status

Underway

Please explain

In 2016 the State of Michigan revised its renewable energy goal. The new program establishes a 15% statewide target by 2021.

Part of emissions target

N/A

Is this target part of an overarching initiative?

Other, please specify (State mandate)

Target

Methane reduction target

KPI – Metric numerator

Miles of vintage distribution mains replaced

KPI – Metric denominator (intensity targets only)

Year

Base year

2015

Start year

2016

Target year

2017

KPI in baseline year

3

KPI in target year

3

% achieved in reporting year

6

Target Status

Underway

Please explain

Our Enhanced Infrastructure Replacement Program (EIRP) targets higher risk distribution mains and services to be replaced. Through this effort, in 2017 we reduced potential methane emissions by 9,765 Mcf, which equals ~ 6,600 metric tons of CO2e. 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. Our methane challenge commitment is to reduce cast iron and unprotected steel mains at a minimum rate of 3% per year, for a 5-year period. This is a voluntary initiative that reduces Scope 2 emissions.

Part of emissions target

This is not a part of an emissions target because it is an infrastructure replacement target.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

C-OG4.2a

(C-OG4.2a) Explain, for your oil and gas production activities, why you do not have a methane-specific emissions reduction target or do not incorporate methane into your targets reported in C4.2; and forecast how your methane emissions will change over the next five years.

Methane reduction target identified above.

C4.3

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

Yes

C4.3a

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

	Number of projects	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*	3	1543195
Implemented*		
Not to be implemented		

C4.3b

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

Activity type

Low-carbon energy purchase

Description of activity

Other, please specify (Includes multiple renewable sources)

Estimated annual CO₂e savings (metric tonnes CO₂e)

1466916

Scope

Scope 1

Scope 3

Voluntary/Mandatory

Mandatory

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

0

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

1590000000

Payback period

>25 years

Estimated lifetime of the initiative

Ongoing

Comment

Through 2017 Consumer Energy has contracted for the purchase of approximately 656.5 MW of nameplate capacity from renewable energy suppliers. In 2017, these renewable energy sources contributed to a reduction of 1,466,916 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. 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

Fugitive emissions reductions

Description of activity

Oil/natural gas methane leak capture/prevention

Estimated annual CO₂e savings (metric tonnes CO₂e)

71592

Scope

Scope 3

Voluntary/Mandatory

Voluntary

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

447450

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

448608

Payback period

<1 year

Estimated lifetime of the initiative

Ongoing

Comment

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 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 2017, these efforts helped reduce methane emissions by 149,150 Mcf. This is a voluntary initiative that reduces Scope 1 and Scope 3 emissions. 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

Fugitive emissions reductions

Description of activity

Oil/natural gas methane leak capture/prevention

Estimated annual CO₂e savings (metric tonnes CO₂e)

4687

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

29295

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

85050761

Payback period

21-25 years

Estimated lifetime of the initiative

Ongoing

Comment

Our Enhanced Infrastructure Replacement Program (EIRP) targets higher risk distribution mains and services to be replaced. Through this effort, in 2017 we reduced potential methane emissions by 9,765 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. 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.

C4.3c**(C4.3c) 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.

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

Yes

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

Product

Description of product/Group of products

Net metering

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

Avoided emissions

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

Other, please specify (This is a direct GHG offset calculation)

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

0

Comment**Level of aggregation**

Product

Description of product/Group of products

Solar Gardens

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

Avoided emissions

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

Other, please specify (This is a direct GHG offset calculation)

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

0

Comment

Level of aggregation

Product

Description of product/Group of products

Continuous energy monitoring for identifying and reducing waste

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

Avoided emissions

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

Other, please specify (This is a direct GHG offset calculation)

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

0

Comment

The Virtual Energy Engineer service gives customers insights into their energy consumption that allow for the identification and reduction of waste, which minimizes their carbon footprint and improves their bottom line.

Level of aggregation

Product

Description of product/Group of products

Experimental Advanced Renewable Energy Program

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

Avoided emissions

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

Other, please specify (This is a direct GHG offset calculation)

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

0

Comment

The Company does not receive any revenue from this program. The Company pays customers for their distributed renewable generation. This program represents 6.4MW installed through over 379 Contracts.

Level of aggregation

Product

Description of product/Group of products

Industrial Demand Response

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

Avoided emissions

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

Other, please specify (This is a direct GHG offset calculation)

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

0

Comment

The C&I Demand 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

C-EU4.6

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

The Company focuses on optimizing combustion processes as well as eliminating leaks occurring from infrastructure that delivers natural gas to the combustion facilities.

C-OG4.6

(C-OG4.6) Describe your organization's efforts to reduce methane emissions from oil and gas production activities.

Consumers Energy does not operate any oil and gas production sites. Our natural gas utility has storage and distribution assets. The Company prioritizes efforts to reduce fugitive methane losses from these assets. We quantify and report these fugitive loses pursuant to the EPA GHG reporting rule Subpart W.

COG4.7

(C-OG4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from oil and gas production activities?

No, this is not relevant to our operations

C-OG4.7b

(C-OG4.7b) Explain why you do not conduct LDAR or use other methods to find and fix fugitive methane emissions, and whether you have a plan to do so from your oil and gas production activities.

Consumers Energy does not operate any oil and gas production sites. Our natural gas utility has storage and distribution assets. The Company prioritizes efforts to reduce fugitive methane losses from these assets. We quantify and report these fugitive loses pursuant to the EPA GHG reporting rule Subpart W.

C-OG4.8

(C-OG4.8) If flaring is relevant to your oil and gas production activities, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

Consumers Energy does not operate any oil and gas production sites. Our natural gas utility has storage and distribution assets. The Company prioritizes efforts to reduce fugitive methane losses from these assets. We quantify and report these fugitive loses pursuant to the EPA GHG reporting rule Subpart W.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

January 1 2009

Base year end

December 31 2009

Base year emissions (metric tons CO2e)

18196261

Comment

Scope 2 (location-based)

Base year start

January 1 2009

Base year end

December 31 2009

Base year emissions (metric tons CO2e)

44330

Comment

Scope 2 (market-based)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.2

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

The Greenhouse Gas Protocol: Public Sector Standard

US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

C6.1

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

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

13046393

End-year of reporting period

<Not Applicable>

Comment

C6.2

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

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

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.

C6.3

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

Row 1

Scope 2, location-based

56659

Scope 2, market-based (if applicable)

<Not Applicable>

End-year of reporting period

<Not Applicable>

Comment

Prior to 2017 natural gas usage at Consumers Energy facilities were reported under scope 1 emissions. For the 2017 report we determined that they are better represented under scope 2 emissions. This accounting change shows up as a portion of the increase of 2017 scope 2 emissions.

C6.4

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

Yes

C6.4a

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

Source

Refrigerant leaks

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

No emissions from this source

Relevance of market-based Scope 2 emissions from this source (if applicable)

No emissions from this source

Explain why the source is excluded

GHGs associated with refrigerant usage are contained in closed loop applications. Any leakage associated with closed loop refrigerant systems is de minimus and not required to be reported via regulation.

C6.5

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

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

13936695

Emissions calculation methodology

Emissions are calculated based on the distribution and sale of natural gas to customers. Calculations were based on 40 CFR Part 98 emission factors.

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

0

Explanation

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

242510

Emissions calculation methodology

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.

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

0

Explanation

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)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Relevant, not yet calculated

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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.

Waste generated in operations

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Relevant, calculated

Metric tonnes CO₂e

7044

Emissions calculation methodology

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.

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

0

Explanation

Data was gathered from actual mileage recorded on fleet vehicles, as well as those miles submitted for reimbursement due to business travel.

Employee commuting

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Employee commuting is currently outside of the Company's influence.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Not applicable to our business model.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Captured in disclosed scope 3 emissions from Capital Goods.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

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

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Not applicable to our business model.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

The franchise business model is not applicable to a regulated utility.

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Not applicable to our business model.

Other (upstream)

Evaluation status

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

Other (downstream)

Evaluation status

Metric tonnes CO₂e

Emissions calculation methodology

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

Explanation

C6.7

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

No

C6.10

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

Intensity figure

0.00211

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

13103053

Metric denominator

unit total revenue

Metric denominator: Unit total

6222000000

Scope 2 figure used

Location-based

% change from previous year

2.22

Direction of change

Increased

Reason for change

One reason for the slight increase observed is that the 2016 revenue totals inadvertently used the parent company's total revenue and not Consumers Energy's revenue.

Intensity figure

1748

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

13103053

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

7496

Scope 2 figure used

Location-based

% change from previous year

2.34

Direction of change

Decreased

Reason for change

There were more FTEs reported for 2017 than 2016.

Intensity figure

0.814

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

13103053

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

16088000

Scope 2 figure used

Location-based

% change from previous year

1.33

Direction of change

Increased

Reason for change

The observed change was so close to 2016 values that there are not reasons identified.

C-OG6.12

(C-OG6.12) Provide the intensity figures for Scope 1 emissions (metric tons CO₂e) per unit of hydrocarbon category.**Unit of hydrocarbon category (denominator)**

Please select

Metric tons CO₂e from hydrocarbon category per unit specified**% change from previous year****Direction of change**

<Not Applicable>

Reason for change**Comment**

C-OG6.13

(C-OG6.13) Report your methane emissions as percentages of natural gas and hydrocarbon production or throughput.

C7. Emissions breakdowns

C7.1

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

Yes

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	12986901	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	4001	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	55491	IPCC Fourth Assessment Report (AR4 - 100 year)

C-EU7.1b

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

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives				242510	
Combustion (Electric utilities)	12831770	156	0	12890968	SF6 emissions data from EPA's GHG Reporting Rule, Subpart DD was included in Scope 3 emission calculations. That value was 0.01 tons of SF6.
Combustion (Gas utilities)	101645	1.91	0	101645	
Combustion (Other)					
Emissions not elsewhere classified					

C-OG7.1b

(C-OG7.1b) Break down your total gross global Scope 1 emissions from oil and gas value chain production activities by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives (Oil:Total)				
Fugitives (Oil: Venting)				
Fugitives (Oil: Flaring)				
Fugitives (Oil: E&P, excluding venting and flaring)				
Fugitives (Oil: All Other)				
Fugitives (Gas: Total)				
Fugitives (Gas: Venting)				
Fugitives (Gas: Flaring)				
Fugitives (Gas: E&P, excluding venting and flaring)				
Fugitives (Gas: Midstream)				
Fugitives (Gas: All other)				
Combustion (Oil: Upstream, excluding flaring)				
Combustion (Gas: Upstream, excluding flaring)				
Combustion (Refining)				
Combustion (Chemicals production)				
Combustion (Electricity generation)				
Combustion (Other)				
Process emissions				
Emission not elsewhere classified				

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	13046393

C7.3

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

By facility

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
JH Campbell Generating Facility	7775982	42.91	-86.2
DE Karn/JC Wedock Generating Facility	2945463	43.64	-83.84
Zeeland Generating Facility	1342660	42.82	-86
Gaylord Combustion Turbine	1393	43.06	-84.72
Morrow Combustion Turbine	0	42.28	-85.49
Patterson Avenue	0	42.9	-85.55
Straits Combustion Turbine	84	45.78	-84.77
Thetford Combustion Turbine	565	43.16	-83.63
Freedom Compressor Station	11702	42.21	-83.97
Muskegon River Compressor Station	18476	44.08	-85.02
Northville Compressor Station	4431	42.48	-83.55
Overisel Compressor Station	14363	42.7	-85.95
Ray Compressor Station	20656	42.81	-82.87
St. Clair Compressor Station	12209	42.72	-82.72
White Pigeon Compressor Station	19808	41.8	-85.59
Jackson Generating Station	824821	42.25	-84.38
Business Miles	53781		

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

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

	Gross Scope 1 emissions, metric tons CO ₂ e	Net Scope 1 emissions , metric tons CO ₂ e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	12890968	<Not Applicable>	At this time, Consumers Energy is unable to provide net CO ₂ e emissions data. Gross emissions are calculated via heat input values going into our electric generating units (EGUs), which require electricity to operate. For 2017 reporting we do not have an accurate accounting of on-site electric usage associated with the EGUs.
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)		<Not Applicable>	
Oil and gas production activities (downstream)	101645	<Not Applicable>	Downstream activities are compressor station operations and the distribution network. Compressor station emissions are fuel combusted to provide pressure for movement into and out of storage fields and pipelines. Due to the nature of this operation, gross and net emissions are assumed to be equal.
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO ₂ e)	Scope 2, market-based (metric tons CO ₂ e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	56659		99864	76895

C7.6

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

By business division

C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Office facilities	56659	

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)			
Oil and gas production activities (downstream)			
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

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

Remained the same overall

C7.9a

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

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption		<Not Applicable>		
Other emissions reduction activities		<Not Applicable>		
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output	75566	Decreased	0.58	This calculation is virtually identical to 2016.
Change in methodology		<Not Applicable>		
Change in boundary		<Not Applicable>		
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

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

Location-based

C8. Energy

C8.1

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

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

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	788000	15300000	16088000
Consumption of purchased or acquired electricity	<Not Applicable>	0	0	0
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	788000	15300000	16088000

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

99864

MWh fuel consumed for the self-generation of electricity

22967

MWh fuel consumed for self-generation of heat

22967

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Natural Gas

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

99864

MWh fuel consumed for the self-generation of electricity

39946

MWh fuel consumed for self-generation of heat

39946

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Distillate Oil

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

99864

MWh fuel consumed for the self-generation of electricity

9986

MWh fuel consumed for self-generation of heat

9986

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

C8.2d

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

Coal

Emission factor

Unit

Please select

Emission factor source

Consumers Energy primarily utilizes EPA Part 75 Continuous Emissions Monitoring regulations for CO₂ emissions data; Part 75 relies on the use of Continuous Emissions Monitoring Systems (CEMS) for exhaust flow and CO₂ concentration (i.e., a direct measurement) at our coal fired units.

Comment

CO₂ emissions for all coal-fired units and DE Karn Units 3, 4, A and B are determined according to 40 CFR 75.10(a)(3), which relies on the use of Continuous Emissions Monitoring Systems (CEMS) for exhaust flow and CO₂ concentration (i.e., a direct measurement). CO₂ emissions from the natural gas-fired utility units at the Jackson and Zeeland Generating Stations are based upon heat input determinations in accordance with 40 CFR Part 75, Appendix D and procedures in Section 2.3 of 40 CFR Part 75, Appendix G. For all other peaking units, CO₂ emissions are based upon fuel usage data and the fuel heating values/CO₂ emission factors in Table C-1 of 40 CFR Part 98, Subpart C. As applicable, CH₄ and N₂O emissions are calculated based upon heat input and emission factors from Table C-2 of 40 CFR Part 98, Subpart C. For the fossil fuel fired unit, expression of total greenhouse gas emissions as CO₂ equivalents are based upon the global warming potentials in Table A-1 of 40 CFR Part 98, Subpart A.

Distillate Oil

Emission factor

Unit

Please select

Emission factor source

Consumers Energy primarily utilizes EPA Part 75 Continuous Emissions Monitoring regulations for CO₂ emissions data; Part 75 relies on the use of Continuous Emissions Monitoring Systems (CEMS) for exhaust flow and CO₂ concentration (i.e., a direct measurement) at our combined oil and gas fired units. For peaking units utilizing distillate oil, emissions data is based upon fuel usage data and the fuel heating values/CO₂ emission factors in Table C-1 of 40 CFR Part 98, Subpart C.

Comment

CO₂ emissions for all coal-fired units and DE Karn Units 3, 4, A and B are determined according to 40 CFR 75.10(a)(3), which relies on the use of Continuous Emissions Monitoring Systems (CEMS) for exhaust flow and CO₂ concentration (i.e., a direct measurement). CO₂ emissions from the natural gas-fired utility units at the Jackson and Zeeland Generating Stations are based upon heat input determinations in accordance with 40 CFR Part 75, Appendix D and procedures in Section 2.3 of 40 CFR Part 75, Appendix G. For all other peaking units, CO₂ emissions are based upon fuel usage data and the fuel heating values/CO₂ emission factors in Table C-1 of 40 CFR Part 98, Subpart C. As applicable, CH₄ and N₂O emissions are calculated based upon heat input and emission factors from Table C-2 of 40 CFR Part 98, Subpart C. For the fossil fuel fired unit, expression of total greenhouse gas emissions as CO₂ equivalents are based upon the global warming potentials in Table A-1 of 40 CFR Part 98, Subpart A.

Natural Gas

Emission factor

Unit

Please select

Emission factor source

Consumers Energy primarily utilizes EPA Part 75 Continuous Emissions Monitoring regulations for CO₂ emissions data; Part 75 relies on the use of heat input determinations at our natural gas fired utility units.

Comment

CO₂ emissions for all coal-fired units and DE Karn Units 3, 4, A and B are determined according to 40 CFR 75.10(a)(3), which relies on the use of Continuous Emissions Monitoring Systems (CEMS) for exhaust flow and CO₂ concentration (i.e., a direct measurement). CO₂ emissions from the natural gas-fired utility units at the Jackson and Zeeland Generating Stations are based upon heat input determinations in accordance with 40 CFR Part 75, Appendix D and procedures in Section 2.3 of 40 CFR Part 75, Appendix G. For all other peaking units, CO₂ emissions are based upon fuel usage data and the fuel heating values/CO₂ emission factors in Table C-1 of 40 CFR Part 98, Subpart C. As applicable, CH₄ and N₂O emissions are calculated based upon heat input and emission factors from Table C-2 of 40 CFR Part 98, Subpart C. For the fossil fuel fired unit, expression of total greenhouse gas emissions as CO₂ equivalents are based upon the global warming potentials in Table A-1 of 40 CFR Part 98, Subpart A.

C8.2e

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

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	16088000	99864	788000	4993
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C-EU8.2e

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

Coal – hard

Nameplate capacity (MW)

1902

Gross electricity generation (GWh)

10098

Net electricity generation (GWh)

10098

Absolute scope 1 emissions (metric tons CO2e)

10580537

Scope 1 emissions intensity (metric tons CO2e per GWh)

1.04

Comment

Lignite

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Oil

Nameplate capacity (MW)

1576

Gross electricity generation (GWh)

261

Net electricity generation (GWh)

261

Absolute scope 1 emissions (metric tons CO2e)

247113

Scope 1 emissions intensity (metric tons CO2e per GWh)

0.94

Comment

This column includes combined fuel oil and gas boilers.

Gas

Nameplate capacity (MW)

1069

Gross electricity generation (GWh)

4941

Net electricity generation (GWh)

4941

Absolute scope 1 emissions (metric tons CO2e)

2057017

Scope 1 emissions intensity (metric tons CO2e per GWh)

0.41

Comment

Biomass

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Waste (non-biomass)**Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment**Nuclear****Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment**Geothermal****Nameplate capacity (MW)**

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Hydroelectric

Nameplate capacity (MW)

1175

Gross electricity generation (GWh)

189

Net electricity generation (GWh)

189

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Wind

Nameplate capacity (MW)

212

Gross electricity generation (GWh)

593

Net electricity generation (GWh)

593

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Solar

Nameplate capacity (MW)

2

Gross electricity generation (GWh)

6

Net electricity generation (GWh)

6

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Other renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Other non-renewable

Nameplate capacity (MW)

0

Gross electricity generation (GWh)

0

Net electricity generation (GWh)

0

Absolute scope 1 emissions (metric tons CO₂e)

0

Scope 1 emissions intensity (metric tons CO₂e per GWh)

0

Comment

Total

Nameplate capacity (MW)

5936

Gross electricity generation (GWh)

16088

Net electricity generation (GWh)

16088

Absolute scope 1 emissions (metric tons CO₂e)

12884667

Scope 1 emissions intensity (metric tons CO₂e per GWh)

2.41

Comment

C8.2f

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

Basis for applying a low-carbon emission factor

No purchases or generation of low-carbon electricity, heat, steam or cooling accounted with a low-carbon emission factor

Low-carbon technology type

<Not Applicable>

MWh consumed associated with low-carbon electricity, heat, steam or cooling

<Not Applicable>

Emission factor (in units of metric tons CO₂e per MWh)

<Not Applicable>

Comment

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.

C-EU8.4

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

No

C9. Additional metrics

C9.1

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

C-EU9.5a

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

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
---------------------------------	---	--	------------------------	---------

C-EU9.5b

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

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

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

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

C-OG9.7

(C-OG9.7) Disclose the breakeven price (US\$/BOE) required for cash neutrality during the reporting year, i.e. where cash flow from operations covers CAPEX and dividends paid/ share buybacks.

C10. Verification

C10.1

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

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

C10.1a

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

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance

Moderate assurance

Attach the statement

Page/ section reference

Relevant standard

A1000AS

Proportion of reported emissions verified (%)

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Underway but not complete for current reporting year – first year it has taken place

Type of verification or assurance

Moderate assurance

Attach the statement

Page/ section reference

Relevant standard

A1000AS

Proportion of reported emissions verified (%)

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we do not verify any other climate-related information reported in our CDP disclosure

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Ada Dam

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO₂e)

5841.26

Number of credits (metric tonnes CO₂e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Adrian Energy Associates

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO₂e)

17283.44

Number of credits (metric tonnes CO₂e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Alcona Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

39808.61

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Alverno Hydro Plant

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

3605.44

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Beaverton Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

2991.38

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Beebe

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

195700.68

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Byron Center - BC #1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

20656.68

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

C&C Electric-1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

13810.43

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Cadillac Renewable Energy LLC - Unit 2

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

147728.79

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Calkins Bridge Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

17117.46

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Cascade Dam

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

7644.44

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Cooke Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

42429.93

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Croton Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

43774.14

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Wind

Project identification

CWEP - Cross Winds Energy Park

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

1098.41

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 2

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

249.43

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 3

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

790.02

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 4

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

366.43

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 5

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

618.59

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 6

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

909.75

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 7

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

316.55

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 8

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

124.26

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 9

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

54

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Solar

Project identification

EARP Agg 10

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

35

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Elk Rapids Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

1917.46

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Fallasburg Dam

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

4590.47

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Five Channels Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

33328.79

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Foote Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

40142.4

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Foote Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

40142.4

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Fremont Community Digester

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

3928.34

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Garden Wind Farm - 20.0 MW

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

56546.93

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Genesee Power Station

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

97630.83

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Grand Blanc - Grand Blanc Facility #1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

27142.85

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Grayling Generating Station

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

137846.71

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Grenfell-Belding hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

1658.04

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Hardy Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

134616.78

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Harvest II - Wind Farm

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

183812.24

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Hillman Power Co

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

113059.41

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Hodenpyl Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

69328.79

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Irving hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

2195.01

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Other, please specify (Municipal Solid Waste)

Project identification

Kent County Plant - Mass Burn

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

96583.21

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

LaBarge Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

3438.54

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Lennon Generating - Lennon Generating

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

13122.9

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Loud Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

23485.71

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Wind

Project identification

LWEP – Lake Winds Energy Park

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Michiana Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

259.41

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Michigan Wind 1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

123542.85

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Michigan Wind 2

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

260554.19

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Middleville Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO₂e)

981.4

Number of credits (metric tonnes CO₂e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Mio Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO₂e)

20551.47

Number of credits (metric tonnes CO₂e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

Morrow Dam

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO₂e)

4075.28

Number of credits (metric tonnes CO₂e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Northern Oaks - Northern Oaks Landfill Plant

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

11433.1

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Ottawa - #2

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

1981.85

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Ottawa - OT #1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

33520.18

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Peoples Generating

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

14888.88

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Pinconning - PI #1

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

11805.89

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Pine Tree Acres

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

85387.75

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Rathbun Generating

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

11119.27

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Rogers Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

28793.65

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Stoney Corners Wind Farm 12.25 MW

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

31029.47

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Wind

Project identification

Stoney Corners Wind Farm 8.35 MW

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

20553.28

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

SVD-Fenv

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

2470.74

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

SVD-Frpt

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

4097.05

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

TES Filer City Station

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

23783.21

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Tippy Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

80852.6

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Venice Park -NANR Generating

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

19249.88

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Venice Resources Gas Recovery

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

11049.43

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Viking Energy of Lincoln

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

117395.91

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Biomass energy

Project identification

Viking Energy of McBain

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

93275.28

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit origination

Project type

Hydro

Project identification

Webber Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

13748.75

Number of credits (metric tonnes CO2e): Risk adjusted volume**Credits cancelled**

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Hydro

Project identification

White's Bridge Hydro

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

3714.28

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

Credit origination or credit purchase

Credit purchase

Project type

Landfill gas

Project identification

Zeeland Farm Services - Plant 2

Verified to which standard

Other, please specify (Pursuant to State Specific Program)

Number of credits (metric tonnes CO2e)

11310.65

Number of credits (metric tonnes CO2e): Risk adjusted volume

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

C11.3

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

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

C12. Engagement

C12.1

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

Yes, our customers

C12.1b

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

Type of engagement

Collaboration & innovation

Details of engagement

Run a campaign to encourage innovation to reduce climate change impacts

Size of engagement

10.6

% Scope 3 emissions as reported in C6.5

6.67

Please explain the rationale for selecting this group of customers and scope of engagement

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.

Impact of engagement, including measures of success

Ultimately, our engagement efforts are evaluated by the achievement of savings goals for both electricity and natural gas. In 2017, the lifetime GHG reductions associated with customers adoption of the gas utility energy optimization plans resulted in a lifetime reduction of 945,000 metric tons of CO₂e emissions. The value reported represents the ratio of lifetime reductions (through 2017) to total Scope 3 emissions for 2017.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers

Trade associations

Funding research organizations

C12.3a

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

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (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 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 became effective in April 2017. Consumers Energy staff participated in this research process via roundtable discussions, workgroups, and public presentations. Staff now are in the implementation phase of those new programs.	Consumers Energy supports the 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.

C12.3b

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

Yes

C12.3c

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

Trade association

American Gas Association (AGA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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.

How have you, or are you attempting to, influence the position?

Consumers Energy participates in policy development activities as well as technical support activities initiated through AGA.

Trade association

Edison Electric Institute (EEI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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.

How have you, or are you attempting to, influence the position?

Consumers Energy participates in policy development activities as well as technical support activities initiated through EEI.

Trade association

Electric Power Research Institute (EPRI)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

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.

How have you, or are you attempting to, influence the position?

Consumers Energy participates in policy development activities as well as technical support activities initiated through EPRI.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

No

C12.3f

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

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 to discuss Company activities that may impact our climate change strategy. Additionally, we have governmental affairs staff that regularly engages with policy makers.

C12.4

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

Publication

In voluntary sustainability report

Status

Complete

Attach the document

sustainability-report-2018.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Publication

In voluntary communications

Status

Underway – previous year attached

Attach the document

AirWebpage.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Publication

In mainstream reports

Status

Complete

Attach the document

2018CMSEnergy10K.rtf

Content elements

Governance

Strategy

Risks & opportunities

C14. Signoff

C-FI

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

C14.1

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

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

SC. Supply chain module

SC0.0

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

SC0.1

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

	Annual Revenue
Row 1	6222000

SC0.2

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

Yes

SC0.2a

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

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	US	US12589610

SC1.1

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

Requesting member

General Motors Company

Scope of emissions

Scope 1

Emissions in metric tonnes of CO₂e

382848

Uncertainty (±%)

90

Major sources of emissions

The major source of the Scope 1 emissions attributed to General Motors is from the generation of electricity supplied to their facilities.

Verified

No

Allocation method

Allocation based on the energy content of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

This value was calculated from the metered electricity usage for the GM customer accounts and a Consumers Energy specific emission factor for out delivered electricity.

Requesting member

General Motors Company

Scope of emissions

Scope 3

Emissions in metric tonnes of CO₂e

3943

Uncertainty (±%)

90

Major sources of emissions

The major source of the Scope 3 emissions attributed to General Motors is from the combustion of Consumers Energy supplied natural gas at their facilities.

Verified

No

Allocation method

Allocation based on the energy content of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

This value was calculated from the metered natural gas delivered to the GM customer accounts. Emission factors are from EPA Part 98 GHG reporting rule.

SC1.2

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

SC1.3

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

Allocation challenges	Please explain what would help you overcome these challenges
Other, please specify	The nature of supplying energy to a regional base prevents Consumers Energy from being able to calculate customer specific emission factors. We can provide Consumers Energy specific emission factors, which is an average of all our generation sources emission profiles for our entire service territory.

SC1.4

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

No

SC1.4b

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

We currently provide this information on request basis to our customers. We do not have current plans to expand upon our capabilities.

SC2.1

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

SC2.2

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

No

SC3.1

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

No

SC3.2

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

No

SC4.1

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

Please select

SC4.2d

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

Please select

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

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

Please confirm below

I have read and accept the applicable Terms