CONSUMERS ENERGY SUSTAINABILITY INFORMATION

Parent Company: CMS Energy Corporation
Operating Company(s): Consumers Energy Company
Business Type(s): Vertically Integrated
State(s) of Operation: Michigan
State(s) with RPS Programs: Michigan

Regulatory Environment: Regulated
Report Date: October 1, 2020
CMS Energy Website: CMSEnergy.com
Consumers Energy Website: ConsumersEnergy.com
Sustainability Report: ConsumersEnergy.com/sustainability-report-2019

The following quantitative information is Consumers Energy data only.

TREND KEY: Not Rated | No Change | Better | Worse

ELECTRIC PORTFOLIO

	Baseline 2005	2017	2018	2019	Trend
Owned Nameplate Generation Capacity at end of year (MW)					
Coal	3,015	2,043	2,043	2,043	
Natural Gas	207	1,617	1,617	1,617	
Nuclear	812	N/A	N/A	N/A	
Oil/Natural Gas Peaking Units	1,817	1,590	1,402	1,402	
Total Renewable Energy Resources	1,141	1,357	1,401	1,477	
Biomass/Biogas	N/A	N/A	N/A	N/A	
Geothermal	N/A	N/A	N/A	N/A	
Hydroelectric	1,141	1,141	1,141	1,141	
Solar	N/A	4	4	4	
Wind	N/A	212	256	332	
Other	N/A	N/A	1	1	
Owned Net Generation for the data year (MWh)					
Coal	19,711,000	10,098,000	9,804,000	9,776,000	
Natural Gas	356,000	5,105,000	5,232,000	6,252,000	
Nuclear	6,636,000	N/A	N/A	N/A	
Oil/Natural Gas Peaking Units	225,000	42,000	45,000	97,000	
Total Renewable Energy Resources	129,000	788,000	862,000	950,000	
Biomass/Biogas	N/A	N/A	N/A	N/A	
Geothermal	N/A	N/A	N/A	N/A	
Hydroelectric	129,000	189,000	120,000	204,000	
Solar	N/A	6,000	6,000	5,000	
Wind	N/A	593,000	736,000	741,000	
Other	N/A	N/A	N/A	N/A	
Purchased Net Generation for the data year (MWh)					
Coal	482,000	491,000	511,000	462,000	
Natural Gas	7,061,000	5,521,000	6,712,000	6,812,000	
Nuclear	N/A	6,780,000	6,749,000	6,946,000	
Oil/Natural Gas Peaking Units	N/A	N/A	N/A	N/A	
Total Renewable Energy Resources	1,236,000	2,288,000	2,379,000	2,387,000	
Biomass/Biogas	1,200,000	1,242,000	1,237,000	1,164,000	
Geothermal	N/A	N/A	N/A	N/A	
Hydroelectric	34,000	88,000	79,000	60,000	
Solar	NA	6,900	6,700	7,400	
Wind	2,600	951,000	1,006,000	1,156,000	
Other	1,991,000	4,384,000	4,953,000	2,059,000	
Investing in the Future: Capital Expenditures, Energy Efficiency (EE), and Smart Meters					
Total Annual Capital Expenditures (nominal dollars)	$593,000,000	$1,880,000,000	$1,975,000,000	$2,298,000,000	
Incremental Annual Electricity Savings from EE Measures (MWh)	N/A	562,121	586,784	566,183	
Incremental Annual Investment in Electric EE Programs (nominal dollars)	N/A	$113,500,000	$117,800,000	$115,900,000	
Cumulative Bill Savings from EE Programs	N/A	$2,046,130,000	$2,584,833,000	$3,176,205,000	
Cumulative CO2 Emissions Avoided by EE Programs Since 2009 (metric tons)	N/A	6,517,785	7,982,342	9,660,238	
Percent of Total Electric Customers with Smart Meters (at end of year)	N/A	99	99	99	
Retail Electric Customer Count (at end of year)					
Commercial	214,025	220,734	219,869	221,892	
Industrial[1]	8,595	1,433	1,312	1,329	
Residential	1,565,601	1,601,688	1,603,125	1,611,320	

1. Since 2005, Consumers Energy corrected an error in its coding of customers as industrial or commercial. This resulted in a large number of customers' classification changing from industrial to commercial.

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EMISSIONS

	Baseline 2005	2017	2018	2019	Trend
GHG Emissions: Carbon Dioxide (CO_2) and Carbon Dioxide Equivalent (CO_2e)					
Owned Generation					
Carbon Dioxide (CO_2)					
Total Owned Generation CO_2 Emissions (MT)	20,219,000	12,465,000	12,682,000	12,604,000	
Total Owned Generation CO_2 Emissions Intensity (MT/Net MWh)	0.754	0.775	0.795	0.741	
Carbon Dioxide Equivalent (CO_2e)					
Total Owned Generation CO_2e Emissions (MT)	N/A	12,889,000	12,743,000	12,659,000	
Total Owned Generation CO_2e Emissions Intensity (MT/Net MWh)	N/A	0.801	0.799	0.744	
Purchased Power					
Carbon Dioxide (CO_2)					
Total Purchased Generation CO_2 Emissions (MT)	4,999,000	5,548,000	6,373,000	5,121,000	
Total Purchased Generation CO_2 Emissions Intensity (MT/Net MWh)	0.464	0.285	0.299	0.276	
Carbon Dioxide Equivalent (CO_2e)					
Total Purchased Generation CO_2e Emissions (MT)	N/A	5,587,000	6,419,000	5,150,000	
Total Purchased Generation CO_2e Emissions Intensity (MT/Net MWh)	N/A	0.287	0.301	0.276	
Owned Generation + Purchased Power					
Carbon Dioxide (CO_2)					
Total Owned + Purchased Generation CO_2 Emissions (MT)	25,218,000	18,013,000	19,055,000	17,725,000	
Total Owned + Purchased Generation CO_2 Emissions Intensity (MT/Net MWh)	0.671	0.507	0.512	0.497	
Carbon Dioxide Equivalent (CO_2e)					
Total Owned + Purchased Generation CO_2e Emissions (MT)	N/A	18,476,000	19,162,000	17,809,000	
Total Owned + Purchased Generation CO_2e Emissions Intensity (MT/Net MWh)	N/A	0.520	0.514	0.499	
Non-Generation CO_2e Emissions					
Fugitive CO_2e emissions of sulfur hexafluoride (MT)	N/A	176	2,100	2,533	
Electric & Gas Scope 1, 2 and 3 Greenhouse Gas Emissions					
Carbon Dioxide Equivalent (CO_2e)					
Scope 1 CO_2e emissions (MT)	N/A	13,046,000	13,165,000	13,509,000	
Scope 2 CO_2e emissions (MT)[1]	N/A	380,000	424,000	279,500	
Scope 3 CO_2e emissions (MT)[2]	N/A	20,216,000	22,780,000	20,574,000	
Nitrogen Oxide (NOx), Sulfur Dioxide (SO_2), Mercury (Hg)					
Generation basis for calculation		Fossil			
Nitrogen Oxide (NOx)					
Total NOx Emissions (MT)	28,400	3,900	3,900	4,100	
Total NOx Emissions Intensity (MT/Net MWh)	1.06E-03	2.44E-04	2.44E-04	2.41E-04	
Sulfur Dioxide (SO_2)					
Total SO_2 Emissions (MT)	83,600	5,100	5,200	5,700	
Total SO_2 Emissions Intensity (MT/Net MWh)	3.12E-03	3.18E-04	3.29E-04	3.35E-04	
Mercury (Hg)					
Total Hg Emissions (kg)	N/A	24	26	33	
Total Hg Emissions Intensity (kg/Net MWh)	N/A	1.47E-06	1.64E-06	1.94E-06	

1. The Scope 2 numbers shown here were recently updated to include line losses on the electric distribution system for purchased power. Scope 2 numbers in prior public reports do not reflect this additional analysis.
2. Consumers Energy reports known emissions associated with four Scope 3 categories, including emissions associated with purchased power (i.e., fuel-and-energy related activities not included in scope 1 or 2), combustion of natural gas sold (i.e., use of sold products), business travel and employee commuting.

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RESOURCES

	Baseline 2005	2017	2018	2019	Trend
Human Resources					
Total Number of Employees	8,114	7,496	8,121	8,253	
Total Number on Board of Directors/Trustees	12	10	10	12	
Total Women on Board of Directors/Trustees	1	4	4	5	
Total Minorities on Board of Directors/Trustees	1	2	2	3	
Total Females in Senior Leadership	N/A	N/A	8	9	
Percent Females in Senior Leadership	N/A	N/A	30%	32%	
Total Minorities in Senior Leadership	N/A	N/A	7	6	
Percent Minorities in Senior Leadership	N/A	N/A	26%	21%	
Total Females in Management	N/A	N/A	125	132	
Percent Females in Management	N/A	N/A	30%	31%	
Total Minorities in Management	N/A	N/A	51	53	
Percent Minorities in Management	N/A	N/A	12%	12%	
Total Female Employees	N/A	N/A	2,304	2,342	
Percent Female Employees	N/A	N/A	28%	28%	
Total Minority Employees	N/A	N/A	1,162	1,180	
Percent Minority	N/A	N/A	14%	14%	
Total Veteran Employees	N/A	N/A	699	825	
Percent Veteran Employees	N/A	N/A	9%	10%	
Total Disability Status Employees	N/A	N/A	372	397	
Percent Disability Status Employees	N/A	N/A	5%	5%	
Employee Safety Metrics					
Recordable Incident Rate	7.01	0.75	1.21	1.23	
Lost-time Case Rate	2.00	0.11	0.34	0.50	
Days Away, Restricted, and Transfer (DART) Rate	3.22	0.40	0.75	0.84	
Work-related Fatalities	1.00	0.00	1.00	0.00	
Fresh Water Resources					
Water Withdrawals - Consumptive (Billions of Liters/Net MWh)	N/A	2.94E-07	3.19E-07	3.74E-07	
Water Withdrawals - Non-Consumptive (Billions of Liters/Net MWh)	N/A	7.61E-05	7.74E-05	6.88E-05	
Waste Products					
Amount of Hazardous Waste Manifested for Disposal (tons)	N/A	52.1	23.9	23.7	
Percent of Coal Combustion Products Beneficially Used	N/A	10%	13%	15%	

NATURAL GAS BUSINESS SUSTAINABILITY METRICS

Parent Company: CMS Energy
Operating Company(s): Consumers Energy Company
Business Type(s): Vertically Integrated
State(s) of Operation: Michigan
Regulatory Environment: Regulated
Report Date: October 1, 2020

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NATURAL GAS DISTRIBUTION

	2018	2019	Trend
Methane Emissions and Mitigation from Distribution Mains			
Number of Gas Distribution Customers	1,775,565	1,782,031	
Distribution Mains in Service			
Plastic (miles)	14,502	14,734	
Cathodically Protected Steel - Bare & Coated (miles)	12,339	12,387	
Unprotected Steel - Bare & Coated (miles)	485	456	
Cast Iron / Wrought Iron - without upgrades (miles)	402	382	
Plan/Commitment to Replace/Upgrade Remaining Miles of Distribution Mains (# years to complete)	In order to improve the safety and reliability of our natural gas system, Consumers Energy is investing nearly $2 billion to replace 2,600 miles of natural gas pipelines. Our Enhanced Infrastructure Replacement Program (EIRP) is a 19-year project, which began in 2011.		
Unprotected Steel (Bare & Coated) (# years to complete)	18	17	
Cast Iron / Wrought Iron (# years to complete)	18	17	
Distribution CO_2e Fugitive Emissions			
CO_2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	233,003	226,912	
CH4 Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	9,320	9,076	
CH4 Fugitive Methane Emissions from Gas Distribution Operations (MMSCF/year)	485	473	
Annual Natural Gas Throughput from Gas Distribution Operations in thousands of standard cubic feet (Mscf/year)	381,210,972	387,948,984	
Annual Methane Gas Throughput from Gas Distribution Operations in millions of standard cubic feet (MMscf/year)	362,150	368,547	
Fugitive Methane Emissions Rate (MMscf of Methane Emissions per MMscf of Methane Throughput)	0.134%	0.128%	

NATURAL GAS TRANSMISSION & STORAGE

	3 of 7 compressor stations are above Subpart W reporting threshold	Data for all 7 compressor stations, regardless of reporting threshold	
Onshore Natural Gas Transmission Compression Methane Emissions[1]			
Pneumatic Device Venting (metric tons/year)	0	0	
Blowdown Vent Stacks (metric tons/year)	40	1,240	
Transmission Storage Tanks (metric tons/year)	1	0	
Flare Stack Emissions (metric tons/year)	0	0	
Centrifugal Compressor Venting (metric tons/year)	14	21	
Reciprocating Compressor Venting (metric tons/year)	72	736	
Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters (metric tons/year)	31	148	
Other Leaks (metric tons/year)	0	0	
Total Transmission Compression Methane Emissions (metric tons/year)	158	2,145	
Total Transmission Compression Methane Emissions (CO_2e/year)	3,955	53,629	
Total Transmission Compression Methane Emissions (MSCF/year)	8,240	111,727	

1. Emissions appear to be higher in 2019 because we included emissions not previously reported. Prior year data includes only those required to be reported under 40 CFR Part 98, Subpart W. The 2019 data includes information reported under Subpart W and also additional emissions not required to be reported under Subpart W.

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NATURAL GAS TRANSMISSION AND STORAGE

	2018	2019	Trend
Underground Natural Gas Storage Methane Emissions[1]			
	Below reporting threshold for Subpart W		
Pneumatic Device Venting (metric tons/year)		N/A	
Flare Stack Emissions (metric tons/year)		N/A	
Centrifugal Compressor Venting (metric tons/year)		N/A	
Reciprocating Compressor Venting (metric tons/year)		N/A	
Equipment leaks from valves, connectors, open ended lines, pressure relief valves, and meters (metric tons/year)		N/A	
Other Equipment Leaks (metric tons/year)		N/A	
Equipment leaks from valves, connectors, open-ended lines, and pressure relief valves associated with storage wellheads (metric tons/year)		77.4	
Other equipment leaks from components associated with storage wellheads (metric tons/year)		N/A	
Total Storage Compression Methane Emissions (metric tons/year)		77.4	
Total Storage Compression Methane Emissions (CO_2e/year)		1,935.0	
Total Storage Compression Methane Emissions (MSCF/year)		4,031.3	
Onshore Natural Gas Transmission Pipeline Blowdowns[1]			
	Below reporting threshold for Subpart W		
Transmission Pipeline Blowdown Vent Stacks (metric tons/year)		863	
Transmission Pipeline Blowdown Vent Stacks (CO_2e/year)		21,574	
Transmission Pipeline Blowdown Vent Stacks (MSCF/year)		44,946	
Other Non-Sub W Emissions Data			
Total Methane Emissions from additional sources not recognized by 40 CFR 98 Subpart W (metric tons/year)	N/A	1,287	
Total Methane Emissions from additional sources not recognized by 40 CFR 98 Subpart W (CO_2e/year)	N/A	32,172	
Total Methane Emissions from additional sources not recognized by 40 CFR 98 Subpart W (MSCF/year)	N/A	67,024	
Summary and Metrics[1]			
Total Transmission and Storage Methane Emissions (MMSCF/year)	8	228	
Annual Natural Gas Throughput from Gas Transmission and Storage Operations (MSCF/year)	293,722,672	543,706,132	
Annual Methane Gas Throughput from Gas Transmission and Storage Operations (MMSCF/year)	279,037	516,521	
Fugitive Methane Emissions Rate (MMscf of Methane Emissions per MMscf of Methane Throughput)	0.003%	0.044%	

NATURAL GAS GATHERING AND BOOSTING[2]

Methane Emissions			
Gathering and Boosting Pipelines, Blow Down Volumes, and Emissions	N/A	N/A	
Total Miles of Gathering Pipeline Operated by gas utility (miles)	N/A	N/A	
Volume of Gathering Pipeline Blow Down Emissions (scf)	N/A	N/A	
Gathering Pipeline Blow-Down Emissions outside storage and compression facilities (metric tons CO_2e)	N/A	N/A	
CO_2e Combustion Emissions for Gathering and Boosting Compression			
CO_2e Emissions for Gathering & Boosting Compression Stations (metric tons)	N/A	N/A	
Conventional Combustion Emissions From Gathering and Boosting Compression	N/A	N/A	
Emissions reported for all permitted sources (minor or major)			
NOx (metric tons per year)	N/A	N/A	
VOC (metric tons per year)	N/A	N/A	

1. Emissions appear to be higher in 2019 because we included emissions not previously reported. Prior year data includes only those required to be reported under 40 CFR Part 98, Subpart W. The 2019 data includes information reported under Subpart W and also additional emissions not required to be reported under Subpart W.
2. Consumers Energy does not own such facilities, but is including this section in our report to be consistent with other utilities using the same reporting template.