



AGA Voluntary Sustainability Metrics: Quantitative Information

National Fuel Gas Distribution Corporation is participating in a voluntary American Gas Association (AGA) Environmental, Social, Governance (ESG) and Sustainability reporting template for investors. This information is being provided in response to the interest of investors and other stakeholders in ESG/Sustainability information that is consistent across the utility sector. Additional information on National Fuel's sustainability goals, progress and performance is available at <https://responsibility.natfuel.com/>

Parent Company: *National Fuel Gas Company*
Operating Company(s): *National Fuel Gas Distribution Corporation (NFGDC)*
Business Type(s): *Natural Gas Utility*
State(s) of Operation: *New York and Pennsylvania*
Regulatory Environment: *Regulated*
Report Date: *November 6, 2018*

NATURAL GAS DISTRIBUTION				
Ref. No.	Refer to the "Definitions" column for more information on each metric.	Year 2017	Definitions	Comments, Additional Information
1	Methane Emissions and Mitigation from Distribution Mains			
1.1	Number of Gas Distribution Customers	743,595		
1.2	Distribution Mains in Service		<i>These metrics should include all local distribution companies (LDCs) held by the Parent Company that are above the LDC Facility reporting threshold for EPA's 40 C.F.R. 98, Subpart W reporting rule.</i>	
1.2.1	Plastic (<i>miles</i>)	8,691		
1.2.2	Cathodically Protected Steel - Bare & Coated (<i>miles</i>)	3,176		
1.2.3	Unprotected Steel - Bare & Coated (<i>miles</i>)	2,273		
1.2.4	Cast Iron / Wrought Iron - without upgrades (<i>miles</i>)	415		NFGDC has no cast iron mains remaining in its Pennsylvania operating territory and 46 miles of cast iron overall as of November 15, 2018.
1.3	Plan/Commitment to Replace / Upgrade Remaining Miles of Distribution Mains (# years to complete)		These metrics should provide the number of years remaining to take out of service, replace or upgrade cathodically unprotected steel mains, and cast iron/wrought iron mains, consistent with applicable state utility commission authorizations.	As a participant in the EPA's Methane Challenge, NFGDC has committed to a minimum annual replacement rate of 3% for unprotected steel and cast/wrought iron mains along with associated service lines. Since 2012 NFGDC has retired 528 miles of unprotected steel and 124 miles of cast / wrought iron mains along with 21,275 associated service lines.
1.3.1	Unprotected Steel (Bare & Coated)	25 years		
1.3.2	Cast Iron / Wrought Iron	Cast Iron: 5 Years		Wrought Iron is included in the Unprotected Steel replacement rate.
2	Distribution CO2e Fugitive Emissions			

2.1	CO2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	271,942	<i>Fugitive methane emissions (not CO2 combustion emissions) stated as CO2e, as reported to EPA under 40 CFR 98, Subpart W, sections 98.236(q)(3)(ix)(C) and (D), 98.236(r)(1)(iv) and (v), and 98.236(r)(2)(v)(A) and (B). This metric should include fugitive methane emissions above the reporting threshold for all natural gas local distribution companies (LDCs) held by the Parent Company that are above the LDC Facility reporting threshold for EPA's 40 C.F.R. 98, Subpart W reporting rule.</i>	
2.2	Natural Gas Throughput from Gas Distribution Operations in thousands of scf	138,056,110	This metric provides gas distribution throughput reported under Subpart W, 40 C.F.R. 98.236(aa)(9)(i) through (iii), as reported on the Subpart W e-GRRT integrated reporting form in the "Facility Overview" worksheet Excel form, gas received (column 1) plus the gas withdrawn (column 2) minus the gas injected into storage (column 3). See screenshot of e-GRRT report provided in template instructions.	
2.3	CO2e Fugitive Methane Emissions Rate (metric tons per thousand scf of Throughput)	0.00197	2.1 divided by 2.2	



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NATURAL GAS UTILITY TRANSMISSION & STORAGE			
Ref. No.	Refer to the "Definitions" column for more information on each metric.	Definitions	Comments, Additional Information
1.2	Transmission Pipelines, Blow Down Volumes, and Fugitive Emissions		<i>Emissions for NFGDC are below the</i>
1.2.1	Total Miles of Transmission Pipeline Operated by gas utility (<i>miles</i>)		<i>25,000 MT/yr reporting threshold</i>
1.2.2	Volume of Transmission Pipeline Blow Down Emissions - outside storage and compression facilities:	<i>As reported to EPA under 40 CFR 98, Subpart W.</i>	
1.2.2.1	scf natural gas		
1.2.2.3	metric tons CO ₂ e		
1.3	Underground Natural Gas Storage Emissions		
1.3.2	Storage Compressor Station Emissions (<i>metric tons CO₂e</i>)	<i>As reported to EPA under 40 CFR 98, Subpart W.</i>	
1.3.3	Storage Facility Wellhead Component Fugitive Emissions (<i>metric tons of CO₂e</i>)	<i>Utilizing EPA emissions factors, as reported to EPA under Subpart W, 40 CFR 98.236, on the e-GRRT integrated reporting form, "Equipment Leaks Surveys and Population Counts [98.236 (q, r)]" tab.</i>	
2	CO₂e EMISSIONS FOR TRANSMISSION AND STORAGE COMPRESSION		
2.1	CO₂e Emissions for Transmission Pipelines (<i>metric tons</i>)	<i>CO₂ combustion emissions as reported to EPA under 40 CFR 98, Subpart C and methane emissions stated as CO₂e as reported under Subpart W.</i>	
2.2	CO₂e Emissions for Storage Facilities (<i>metric tons</i>)	<i>CO₂ combustion emissions as reported to EPA under 40 CFR 98, Subpart C and methane emissions stated as CO₂e as reported under Subpart W.</i>	
3	CONVENTIONAL AIR EMISSIONS FROM TRANSMISSION AND STORAGE COMPRESSION		
3.1	Emissions reported for all permitted sources (minor or major)	The number of permitted sources for conventional emissions may not be the same number of sources reporting under the EPA GHG reporting rule. Companies may wish to describe which, or how many, sources are included in the conventional pollutants data and whether the CO ₂ e data reported includes all of these sources.	
3.1.1	NO _x (<i>metric tons per year</i>)		
3.1.2	VOC (<i>metric tons per year</i>)		



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NATURAL GAS UTILITY GATHERING & BOOSTING			
Ref. No.	Refer to the "Definitions" column for more information on each metric.	Definitions	Comments, Additional Information
1	METHANE EMISSIONS		
1.1	Gathering and Boosting Pipelines, Blow Down Volumes, and Emissions		<i>Emissions for NFGDC are below the</i>
1.1.1	Total Miles of Gathering Pipeline Operated by gas utility (<i>miles</i>)		<i>25,000 MT/yr reporting threshold</i>
1.1.2	Volume of Gathering Pipeline Blow Down Emissions (<i>scf</i>)	<i>This metric is collected to support calculations under EPA 40 CFR 98, Subpart W.</i>	
1.1.4	Gathering Pipeline Blow-Down Emissions outside storage and compression facilities (<i>metric tons CO2e</i>)		
2	CO2e COMBUSTION EMISSIONS FOR GATHERING & BOOSTING COMPRESSION		
2.1	CO2e Emissions for Gathering & Boosting Compression Stations (<i>metric tons</i>)	<i>CO2 combustion emissions as reported to EPA under 40 CFR 98, Subpart C, as directed in Subpart W, 98.232(k).</i>	
3	CONVENTIONAL COMBUSTION EMISSIONS FROM GATHERING & BOOSTING COMPRESSION		
3.1	Emissions reported for all permitted sources (minor or major)	The number of permitted sources for conventional emissions may not be the same number of sources reporting under the EPA GHG reporting rule. Companies may wish to describe which, or how many, sources are included in the conventional pollutants data and whether the CO2e data reported includes all of these sources.	
3.1.1	<i>NOx (metric tons per year)</i>		
3.1.2	<i>VOC (metric tons per year)</i>		