

Gas Company ESG/Sustainability Quantitative Information



Parent Company: *Berkshire Hathaway Energy Company*
Operating Company(s): *BHE GT&S, LLC, Northern Natural Gas Company, Kern River Gas Transmission Company, MidAmerican Energy Company and Sierra Pacific Power Company*
Report Date: *As of and for the year ended December 31, 2020*
Disclaimer: *Data included herein is based on information available as of April 29, 2021, and is subject to change without notice should new or additional information be obtained.*

Refer to the "Definitions" column for more information on each metric.	Last Year	Current Year	% Change	Definitions
	2019	2020		

Natural Gas Distribution				
METHANE EMISSIONS AND MITIGATION FROM DISTRIBUTION MAINS				
Number of Gas Distribution Customers ⁽¹⁾	935,704	949,356	1.5 %	
Distribution Mains in Service ⁽¹⁾	14,900	14,965	0.4 %	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.
Plastic (miles)	9,124	9,258	1.5 %	
Cathodically Protected Steel - Bare & Coated (miles)	5,628	5,560	(1.2)%	
Unprotected Steel - Bare & Coated (miles)	148	147	(0.7)%	
Cast Iron / Wrought Iron - without upgrades (miles)	-	-	-	
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.
Unprotected Steel (Bare & Coated) (# years to complete) ⁽²⁾	-	-	-	Optional: # yrs by pipe type.
Cast Iron / Wrought Iron (# years to complete)	-	-	-	Optional: # yrs by pipe type.
Distribution CO2e Fugitive Emissions⁽³⁾				
CO2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	92,560	92,606	0.1 %	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)(iv)(D), 98.236(r)(1)(v), and 98.236(r)(2)(v)(B) - i.e., this is Subpart W methane emissions as input in row 2.2 below and converted to CO2e here. 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. Calculated value based on mt CH4 input in the 2.2 (below).
CH4 Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	3,702	3,704	0.1 %	INPUT VALUE (total mt CH4) as explained in definition above. Subpart W input is CH4 (mt).
CH4 Fugitive Methane Emissions from Gas Distribution Operations (MMSCF/year)	193	193	0.1 %	
Annual Natural Gas Throughput from Gas Distribution Operations in thousands of standard cubic feet (Mscf/year)	189,269,160	179,476,132	(5.2)%	This metric provides gas throughput from distribution (quantity of natural gas delivered to end users) reported under Subpart W, 40 C.F.R. 98.236(aa)(9)(iv), as reported on the Subpart W e-GRRT integrated reporting form in the "Facility Overview" worksheet. Excel form, Quantity of natural gas delivered to end users (column 4).
Annual Methane Gas Throughput from Gas Distribution Operations in millions of standard cubic feet (MMscf/year)	179,806	170,502	(5.2)%	
Fugitive Methane Emissions Rate (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.1072%	0.1132%	5.5%	Calculated annual metric: (MMSFC methane emissions/MMSCF methane throughput)

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Natural Gas Transmission and Storage ⁽⁴⁾				
<i><u>Below current year natural gas transmission and storage methane emissions metrics include methane from combustion and have been calculated using the Natural Gas Sustainability Initiative (NGSI) Methane Emissions Intensity Protocol v 1.0 unless otherwise indicated.</u></i>				
Onshore Natural Gas Transmission Compression Methane Emissions				
Total Natural Gas Transmission Compression Methane Emissions (metric tons/year)	6,347	8,202	29.2 %	
Total Natural Gas Transmission Compression Methane Emissions (CO2e/year)	158,664	205,039	29.2 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Transmission Compression Methane Emissions (MSCF/year)	330,549	427,164	29.2 %	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ. W-36
Natural Gas Storage Methane Emissions				
Total Natural Gas Storage Methane Emissions (metric tons/year)	2,027	2,584	27.5 %	
Total Natural Gas Storage Methane Emissions (CO2e/year)	50,663	64,591	27.5 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Storage Methane Emissions (MSCF/year)	105,547	134,565	27.5 %	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ. W-36
Onshore Natural Gas Transmission Pipeline Methane Emissions				
Total Natural Gas Transmission Pipeline Methane Emissions (metric tons/year)	3,884	6,308	62.4 %	
Total Natural Gas Transmission Pipeline Methane Emissions (CO2e/year)	97,106	157,691	62.4 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Transmission Pipeline Methane Emissions (MSCF/year)	202,305	328,523	62.4 %	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ. W-36
Summary and Metrics				
Total Transmission and Storage Methane Emissions (MMSCF/year)	638	890	39.5 %	
Annual Natural Gas Throughput from Gas Transmission and Storage Operations (MSCF/year)	2,427,662,940	2,535,107,908	4.4 %	U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) in Form F 7100.2-1 Part C of the Annual Report for Natural Gas and Other Gas Transmission and Gathering Pipeline Systems
Annual Methane Throughput from Gas Transmission and Storage Operations (MMSCF/year)	2,306,280	2,408,353	4.4 %	Refer to BHE GT&S, Northern Natural Gas Company and Kern River Gas Company's Gas Company ESG/Sustainability Quantitative Information for the specific CH4 content factor used by each company.
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0277 %	0.0370 %	33.5 %	

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Natural Gas Gathering and Boosting				
METHANE EMISSIONS				
Gathering and Boosting Pipelines, Blow Down Volumes, and Emissions	NA	NA	-	
Total Miles of Gathering Pipeline Operated by gas utility (miles)	NA	NA	-	
Volume of Gathering Pipeline Blow Down Emissions (scf)	NA	NA	-	This metric is collected to support calculations under EPA 40 CFR 98, Subpart W.
Gathering Pipeline Blow-Down Emissions outside storage and compression facilities (metric tons CO2e)	NA	NA	-	
CO2e COMBUSTION EMISSIONS FOR GATHERING & BOOSTING COMPRESSION				
CO2e Emissions for Gathering & Boosting Compression Stations (metric tons)	NA	NA	-	CO2 combustion emissionsas reported to EPA under 40 CFR 98, Subpart C, as directed in Subpart W, 98.232(k).
CONVENTIONAL COMBUSTION EMISSIONS FROM GATHERING & BOOSTING COMPRESSION				
Emissions reported for all permitted sources (minor or major)	NA	NA	-	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.
NOx (metric tons per year)	NA	NA	-	
VOC (metric tons per year)	NA	NA	-	
Comments				
(1) Natural gas distribution customers and distribution mains include MidAmerican Energy Company and Sierra Pacific Power Company.				
(2) Replacement is targeted under the MidAmerican Energy Company distribution integrity management plan which is a priority-based program focusing on relative risk.				
(3) Natural gas distribution emissions do not include the Sierra Pacific Power Company distribution system as it is below the reporting threshold for the USEPA GHG Subpart W.				
(4) Current year natural gas transmission and storage methane emissions metrics include methane from combustion and have been calculated using the Natural Gas Sustainability Initiative (NGSI) Methane Emissions Intensity Protocol v 1.0 unless otherwise indicated. Prior year natural gas transmission and storage methane emissions metrics were reported using the calculations in 40 CFR 98 Sub W.				