

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, 2022

Disclaimer: Data included herein is based on information available as of April 25, 2023, and is subject to change without notice should new or additional information be obtained.

	Last Year	Current Year		
Refer to the "Definitions" column for more information on each metric.	2021	2022	% Change	Definitions
Natural Gas Distribution				
All methane leak sources per 98.232 (i) (1-6) are included for Distribution. Combustion sources are excluded. CO2 is excluded.				
METHANE EMISSIONS AND MITIGATION FROM DISTRIBUTION MAINS				
Number of Gas Distribution Customers	959,309	968,121	0.9 %	
Distribution Mains in Service	15,115	15,385	1.8 %	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)	9,392	9,713	3.4 %	
Cathodically Protected Steel - Bare & Coated (miles)	5,578	5,529	(0.9)%	
Unprotected Steel - Bare & Coated (miles)	145	143	(1.4)%	
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) ⁽¹⁾	—	—	—	Optional: # yrs by pipe type.
Cast Iron / Wrought Iron (# years to complete)	—	—	—	Optional: # yrs by pipe type.
Distribution CO2e Fugitive Emissions ⁽²⁾				
CO2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	92,725	103,352	11.5 %	Fugitive methane emissions (not CO2 combustion emissions) stated as CO2e, as reported to EPA under 40 CFR 98, Subpart W, sections 98.236(a)(3)(ix)(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)	3,709	4,134	11.5 %	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	215	11.5 %	
Annual Natural Gas Throughput from Gas Distribution Operations in thousands of standard cubic feet (Mscf/year)	184,012,611	202,478,918	10.0 %	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)	174,812	192,355	10.0 %	
Fugitive Methane Emissions Rate (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.1105%	0.1119%	1.3 %	Calculated annual metric: (MMSFC methane emissions/MMSCF methane throughput)
Liquefied Natural Gas Import/Export				
Below current year natural gas LNG Import/Export methane emissions metrics include methane from combustion and have been calculated using GHGRP Part 98 methodologies unless otherwise indicated.				
LNG Import/Export Methane Emissions				
Total LNG Import/Export Methane Emissions (metric tons/year)	194	186	(4.0)%	
Total LNG Import/Export Methane Emissions (CO2e/year)	4,838	4,646	(4.0)%	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total LNG Import/Export Methane Emissions (MSCF/year)	10,079	9,679	(4.0)%	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ, W-36
Summary and Metics				
Total LNG Import/Export Methane Emissions (MMSCF/year)	10	10	(4.0)%	
Annual Natural Gas Throughput for LNG Import/Export Operations (MSCF/year)	258,893,448	270,326,271	4.4 %	
Annual Methane Throughput for LNG Import/Export Operations (MMSCF/year)	245,949	256,810	4.4 %	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0041%	0.0038 %	(8.0)%	

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Natural Gas Transmission and Storage ^[A]

<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>				
Onshore Natural Gas Transmission Compression Methane Emissions				
Total Natural Gas Transmission Compression Methane Emissions (metric tons/year)	12,294	12,174	(1.0)%	
Total Natural Gas Transmission Compression Methane Emissions (CO ₂ e/year)	307,345	304,349	(1.0)%	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)	640,302	634,061	(1.0)%	Density of Methane = 0.0192 kg/ft ³ per 40 CFR Sub W EQ. W-36
Natural Gas Storage Methane Emissions				
Total Natural Gas Storage Methane Emissions (metric tons/year)	6,037	5,439	(9.9)%	
Total Natural Gas Storage Methane Emissions (CO ₂ e/year)	150,922	135,986	(9.9)%	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)	314,420	283,305	(9.9)%	Density of Methane = 0.0192 kg/ft ³ 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)	9,809	4,690	(52.2)%	
Total Natural Gas Transmission Pipeline Methane Emissions (CO ₂ e/year)	245,233	117,255	(52.2)%	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)	510,901	244,281	(52.2)%	Density of Methane = 0.0192 kg/ft ³ per 40 CFR Sub W EQ. W-36
Summary and Metrics				
Total Transmission and Storage Methane Emissions (MMSCF/year)	1,466	1,162	(20.7)%	
Annual Natural Gas Throughput from Gas Transmission and Storage Operations (MSCF/year)	4,396,801,859	4,643,528,661	5.6 %	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)	4,176,962	4,411,352	5.6 %	Refer to BHE GT&S, Northern Natural Gas Company and Kern River Gas Company's Gas Company ESG/Sustainability Quantitative Information for the specific CH ₄ content factor used by each company.
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0351 %	0.0263 %	(25.0)%	

Natural Gas Processing

<u>Below current year natural gas processing 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>				
Processing Methane Emissions				
Total Natural Gas Processing Methane Emissions (metric tons/year)	115	118	2.2 %	
Total Natural Gas Processing Methane Emissions (CO ₂ e/year)	2,880	2,943	2.2 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Processing Methane Emissions (MSCF/year)	5,999	6,131	2.2 %	Density of Methane = 0.0192 kg/ft ³ per 40 CFR Sub W EQ. W-36
Summary and Metrics				
Total Gas Processing Methane Emissions (MMSCF/year)	6	6	2.2 %	
Annual Natural Gas Throughput from Gas Processing Operations (MSCF/year)	48,853,445	48,025,487	(1.7)%	
Annual Methane Throughput from Gas Processing Operations (MMSCF/year)	39,038	39,381	0.9 %	
Annual Natural Gas Liquids Processed from Natural Gas Processing Operations (bbl)	2,625,484	2,166,489	(17.5)%	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0143%	0.0146%	2.1 %	

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Natural Gas Gathering and Boosting				
Below current year natural gas gathering and boosting 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.				
Gathering and Boosting Methane Emissions				
Total Natural Gas Gathering and Boosting Methane Emissions (metric tons/year)	339	356	4.8 %	
Total Natural Gas Gathering and Boosting Methane Emissions (CO2e/year)	8,484	8,893	4.8 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Gathering and Boosting Methane Emissions (MSCF/year)	17,675	18,526	4.8 %	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ. W-36
Summary and Metrics				
Total Natural Gas Gathering and Boosting Methane Emissions (MMSCF/year)	18	19	4.8 %	
Annual Natural Gas Transported by Natural Gas Gathering and Boosting Operations (MSCF/year)	10,021,907	10,771,548	7.5 %	
Annual Methane Throughput from Natural Gas Gathering and Boosting Operations (MMSCF/year)	8,201	8,800	7.3 %	
Annual Hydrocarbon Liquids Transported by Natural Gas Gathering and Boosting Operations (bbl)	2,666,023	2,143,661	(19.6)%	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0136%	0.1091%	704.8 %	
Natural Gas Production				
Below current year natural gas production 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.				
Production Methane Emissions				
Total Natural Gas Production Methane Emissions (metric tons/year)	517	524	1.3 %	
Total Natural Gas Production Methane Emissions (CO2e/year)	12,927	13,094	1.3 %	Global Warming Potential (GWP) = 25 per 40 CFR Table A-1 To Subpart A Of Part 98
Total Natural Gas Production Methane Emissions (MSCF/year)	26,931	27,278	1.3 %	Density of Methane = 0.0192 kg/ft3 per 40 CFR Sub W EQ. W-36
Summary and Metrics				
Total Natural Gas Production Methane Emissions (MMSCF/year)	27	27	1.3 %	
Annual Natural Gas Throughput from Gas Production Operations (MSCF/year)	963,435	887,764	(7.9)%	
Annual Methane Throughput from Gas Production Operations (MMSCF/year)	791	729	(7.9)%	
Annual Produced Oil and Condensate Throughput from Natural Gas Production Operations (bbl)	11,835	9,598	(18.9)%	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	3.2191%	3.6691%	14.0 %	
Comments				
(1) Replacement is targeted under the MidAmerican Energy Company distribution integrity management plan which is a priority-based program focusing on relative risk				
(2) 2021 natural gas distribution emissions do not include the Sierra Pacific Power Company distribution system				