

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, 2021*
 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.*

Refer to the "Definitions" column for more information on each metric.	Last Year	Current Year	% Change	Definitions
	2020	2021		

Natural Gas Distribution

METHANE EMISSIONS AND MITIGATION FROM DISTRIBUTION MAINS					<u>All methane leak sources per 98.232 (i) (1-6) are included for Distribution. Combustion sources are excluded. CO2 is excluded.</u>
Number of Gas Distribution Customers ⁽¹⁾	949,356	959,309	1.0 %		
Distribution Mains in Service ⁽¹⁾	14,965	15,115	1.0 %		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)	9,258	9,392	1.4 %		
Cathodically Protected Steel - Bare & Coated (miles)	5,560	5,578	0.3 %		
Unprotected Steel - Bare & Coated (miles)	147	145	(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) ⁽²⁾	-	-	-		Optional: # yrs by pipe type.
Cast Iron / Wrought Iron (# years to complete)	-	-	-		Optional: # yrs by pipe type.
Distribution CO2e Fugitive Emissions ⁽⁴⁾					
CO2e Fugitive Methane Emissions from Gas Distribution Operations (metric tons)	92,606	92,725	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)(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)	3,704	3,709	0.1 %		<u>INPUT VALUE (total mt CH4) as explained in definition above. Subpart W input is CH4 (mt).</u>
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)	179,476,132	184,012,611	2.5 %		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)	170,502	174,812	2.5 %		
Fugitive Methane Emissions Rate (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.1132%	0.1105%	(2.3)%		Calculated annual metric: (MMSFC methane emissions/MMSCF methane throughput)

Liquefied Natural Gas Import/Export

LNG Import/Export Methane Emissions					<u>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.</u>
Total LNG Import/Export Methane Emissions (metric tons/year)	[A]	194	-		
Total LNG Import/Export Methane Emissions (CO2e/year)	[A]	4,838	-		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)	[A]	10,079	-		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)	[A]	10	-		
Annual Natural Gas Throughput for LNG Import/Export Operations (MSCF/year)	[A]	258,893,448	-		
Annual Methane Throughput for LNG Import/Export Operations (MMSCF/year)	[A]	245,949	-		
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	[A]	0.0041 %	-		

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Natural Gas Transmission and Storage ^[A]

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.				
Onshore Natural Gas Transmission Compression Methane Emissions				
Total Natural Gas Transmission Compression Methane Emissions (metric tons/year)	8,202	12,294	49.9 %	
Total Natural Gas Transmission Compression Methane Emissions (CO ₂ e/year)	205,039	307,345	49.9 %	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)	427,164	640,302	49.9 %	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)	2,584	6,037	*	
Total Natural Gas Storage Methane Emissions (CO ₂ e/year)	64,591	150,922	*	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)	134,565	314,420	*	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)	6,308	9,809	55.5 %	
Total Natural Gas Transmission Pipeline Methane Emissions (CO ₂ e/year)	157,691	245,233	55.5 %	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)	328,523	510,901	55.5 %	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)	890	1,466	64.6 %	
Annual Natural Gas Throughput from Gas Transmission and Storage Operations (MSCF/year)	2,535,107,908	4,396,801,859	73.4 %	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)	2,408,353	4,176,962	73.4 %	Refer to BHE GT&S, Northern Natural Gas Company and Kern River Gas Company's Gas Company ESG/Sustainability Quantitative Information for the specific CH ₄ content factor used by each company.
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	0.0370 %	0.0351 %	(5.1)%	

Natural Gas Processing

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.				
Processing Methane Emissions				
Total Natural Gas Processing Methane Emissions (metric tons/year)	[A]	115	-	
Total Natural Gas Processing Methane Emissions (CO ₂ e/year)	[A]	2,880	-	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)	[A]	5,999	-	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)	[A]	6	-	
Annual Natural Gas Throughput from Gas Processing Operations (MSCF/year)	[A]	48,853,445	-	
Annual Methane Throughput from Gas Processing Operations (MMSCF/year)	[A]	39,038	-	
Annual Natural Gas Liquids Processed from Natural Gas Processing Operations (bbl)	[A]	2,625,484	-	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	[A]	0.0143%	-	

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Natural Gas Gathering and Boosting

<u>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.</u>				
Gathering and Boosting Methane Emissions				
Total Natural Gas Gathering and Boosting Methane Emissions (metric tons/year)	[A]	339	-	
Total Natural Gas Gathering and Boosting Methane Emissions (CO2e/year)	[A]	8,484	-	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)	[A]	17,675	-	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)	[A]	18	-	
Annual Natural Gas Transported by Natural Gas Gathering and Boosting Operations (MSCF/year)	[A]	10,021,907	-	
Annual Methane Throughput from Natural Gas Gathering and Boosting Operations (MMSCF/year)	[A]	8,201	-	
Annual Hydrocarbon Liquids Transported by Natural Gas Gathering and Boosting Operations (bbl)	[A]	2,666,023	-	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	[A]	0.0136%	-	

Natural Gas Production

<u>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.</u>				
Production Methane Emissions				
Total Natural Gas Production Methane Emissions (metric tons/year)	[A]	517	-	
Total Natural Gas Production Methane Emissions (CO2e/year)	[A]	12,927	-	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)	[A]	26,931	-	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)	[A]	27	-	
Annual Natural Gas Throughput from Gas Production Operations (MSCF/year)	[A]	963,435	-	
Annual Methane Throughput from Gas Production Operations (MMSCF/year)	[A]	791	-	
Annual Produced Oil and Condensate Throughput from Natural Gas Production Operations (bbl)	[A]	11,835	-	
Methane Emissions Intensity Metric (Percent MMscf of Methane Emissions per MMscf of Methane Throughput)	[A]	3.2191%	-	

Comments

[A] BHE GT&S assets (EGTS, CGT) were acquired on November 1, 2020. As a result, 2020 emissions only include the months of November 2020 and December 2020 for BHE GT&S. Furthermore, the 2020 BHE GT&S emissions only reflect transmission and storage assets and do not include associated LNG import/export, production, processing and gathering and boosting assets. LNG storage assets are also not included in the 2020 data.

(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.

*Percentage not meaningful