

	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ			
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2	ve methane										Entity emissions from combustion, venting, flaring, and fugitive methane																															
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7	Gazprom, Russian Federation										Gazprom, Russian Federation																															
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10						1930s					1930s					1940s					1950s					1960s																
11	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964			
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48	3,606	3,891	3,906	4,195	3,855	3,441	3,104	3,276	3,565	3,759	4,141	4,430	4,188	4,364	4,760	4,884	4,914	5,097	5,068	4,254	4,536	5,104	5,383	5,199	5,976	6,475	6,577	6,742	6,834	7,490	7,977	8,318	8,538	8,986	9,407	9,453	9,842	10,376	10,974			
49	984	1,062	1,066	1,145	1,052	939	847	894	973	1,026	1,130	1,209	1,143	1,191	1,299	1,333	1,341	1,391	1,383	1,161	1,238	1,393	1,469	1,419	1,631	1,767	1,795	1,840	1,865	2,044	2,177	2,270	2,330	2,452	2,567	2,580	2,686	2,832	2,995			
50	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
51	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
53	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
54	21.2	23.0	22.8	24.4	22.3	19.9	17.9	18.8	20.4	21.0	23.3	24.8	23.4	24.8	26.2	27.0	27.0	27.4	26.9	23.5	24.7	27.6	29.2	28.1	30.4	32.2	32.7	33.1	33.1	35.9	37.7	39.7	40.9	42.7	44.6	44.3	45.1	47.1	49.4			
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	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD
1	Entity emissions from combustion, venting, flaring, and fugitive methane																												Entity emissions from combustion										
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10	1960s					1970s					1980s					1990s																							
11	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
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47																																							
48	11,467	12,046	12,435	13,064	13,847	14,847	15,411	16,028	16,898	16,928	16,827	17,806	18,356	18,563	19,595	19,385	18,788	18,629	18,550	19,222	19,794	20,397	20,910	21,682	22,155	22,183	22,431	22,193	22,154	22,539	23,012	23,528	23,917	23,983	23,932	24,560	25,139	25,492	26,861
49	3,129	3,288	3,394	3,565	3,779	4,052	4,206	4,374	4,612	4,620	4,592	4,859	5,010	5,066	5,348	5,291	5,127	5,084	5,063	5,246	5,402	5,567	5,707	5,917	6,046	6,054	6,122	6,057	6,046	6,151	6,280	6,421	6,527	6,545	6,531	6,703	6,861	6,957	7,331
50																																							
51	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.12%	6.26%	6.15%	5.97%	5.77%	5.57%	5.43%	5.06%	4.79%	4.98%	4.99%	4.69%	4.53%	4.62%	4.59%
52																																							
53																																							
54	51.3	53.4	54.7	57.2	60.6	60.3	60.6	62.7	66.6	66.2	65.5	69.8	70.3	72.0	73.3	72.0	68.1	69.1	69.2	70.4	72.9	74.2	75.8	78.6	79.9	80.7	81.2	80.4	78.7	79.1	81.1	83.2	83.7	83.0	82.6	85.4	86.9	88.8	94.5
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Richard Heede
Climate Accountability Institute
22-Jul-19

Climate A

Gazprom, Russian Federation

	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK											
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2	1, venting, flaring, and fugitive methane																																											
3	Richard Heede																																											
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9																																												
10	Gazprom, Russian Federation																		to 2015				to 2016				to 2017				to 2018													
11	2000s						2010s												Cumulative		Entity emissions		Cumulative		Cumulative		Cumulative		Cumulative															
12	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e	MtCO2e									
13	(except where noted) (V = verified)																																											
14																																												
15	127	112	124	123	117	114	118	121	126	155	158	162	172	176	162	2,937	30,498	Oil & NGLs	MtCO2	3.83	9	10	11	11	47	39	41	44	47	47	47	47	47	47	47	47								
16	1,046	1,049	1,049	1,035	1,037	871	960	968	919	922	840	792	793	891	992	30,498	30,498	Natural Gas	MtCO2	15.94	27,823	28,616	29,507	30,498	27,823	28,616	29,507	30,498	27,823	28,616	29,507	30,498	27,823	28,616	29,507	30,498								
17																																												
18	1,173	1,161	1,173	1,158	1,154	984	1,078	1,089	1,045	1,077	997	953	964	1,067	1,154	-	-	Coal	MtCO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
19																																												
20	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	33,435	33,435	Combustion total	MtCO2	3.83	30,250	31,215	32,281	33,435	27,823	28,616	29,507	30,498	27,823	28,616	29,507	30,498	27,823	28,616	29,507	30,498								
21	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	11	47	Oil & NGLs: Venting	MtCO2	3.83	9	10	11	11	47	39	41	44	47	47	47	47	47	47	47	47	47	47						
22	60	60	60	59	59	50	55	55	53	53	48	45	45	51	57	1,746	1,746	Oil & NGLs: Flaring	MtCO2	15.94	1,593	1,639	1,690	1,746	1,593	1,639	1,690	1,746	1,593	1,639	1,690	1,746	1,593	1,639	1,690	1,746	1,593	1,639	1,690	1,746				
23	30	30	30	30	30	25	27	28	26	26	24	23	23	25	28	870	870	Own fuel use	MtCO2	57.26	794	817	842	870	794	817	842	870	794	817	842	870	794	817	842	870	794	817	842	870				
24	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	53	53	Natural Gas: Venting	MtCO2	28.53	48	50	51	53	48	50	51	53	48	50	51	53	48	50	51	53	48	50	51	53	48	50	51	53
25	94	94	94	93	93	78	86	87	83	84	77	72	73	81	90	2,728	2,728	Natural Gas: Flaring	MtCO2	1.74	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728				
26																																												
27																																												
28																																												
29	1,267	1,256	1,267	1,251	1,247	1,063	1,164	1,176	1,128	1,161	1,074	1,026	1,037	1,148	1,244	-	-	Venting & Flaring total	MtCO2	-	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728	2,483	2,556	2,638	2,728				
30																																												
31																																												
32																																												
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	301	Cement	MtCO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
34	10	10	10	10	10	9	9	10	9	9	8	8	8	9	10	-	-	Total CO2 emissions	MtCO2	36,163	32,734	33,771	34,919	36,163	32,734	33,771	34,919	36,163	32,734	33,771	34,919	36,163	32,734	33,771	34,919	36,163	32,734	33,771	34,919	36,163				
35																																												
36	11	11	11	10	10	9	10	10	9	9	9	8	8	9	10	307	307	Entity methane emissions	MtCH4	307	280	288	297	307	280	288	297	307	280	288	297	307	280	288	297	307	280	288	297	307				
37																																												
38	7	6	7	7	6	6	6	7	7	8	9	9	9	9	158	8,436	Methane: Oil & NGLs	MtCO2e	28	131	140	149	158	131	140	149	158	131	140	149	158	131	140	149	158	131	140	149	158					
39	289	290	290	286	287	241	265	268	254	255	232	219	219	246	274	8,436	8,436	Methane: Natural Gas	MtCO2e	28	7,696	7,915	8,161	8,436	7,696	7,915	8,161	8,436	7,696	7,915	8,161	8,436	7,696	7,915	8,161	8,436	7,696	7,915	8,161	8,436				
40																																												
41																																												
42	296	296	297	293	293	247	272	274	261	263	241	228	229	256	283	8,594	8,594	Methane: Coal	MtCO2e	28	7,826	8,055	8,311	8,594	7,826	8,055	8,311	8,594	7,826	8,055	8,311	8,594	7,826	8,055	8,311	8,594	7,826	8,055	8,311	8,594				
43																																												
44																																												
45	1,563	1,552	1,564	1,544	1,540	1,310	1,436	1,451	1,389	1,424	1,315	1,253	1,266	1,404	1,527	44,757	44,757	Total methane emissions	MtCH4	307	280	288	297	307	280	288	297	307	280	288	297	307	280	288	297	307	280	288	297	307				
46																																												
47																																												
48	28,193	29,253	30,288	30,882	31,881	31,525	33,068	34,359	34,921	35,213	35,511	35,465	35,677	36,155	37,131	1,611,433	1,611,433	Entity attributed emissions	MtCO2e	44,757	40,560	41,826	43,230	44,757	40,560	41,826	43,230	44,757	40,560	41,826	43,230	44,757	40,560	41,826	43,230	44,757	40,560	41,826	43,230	44,757				
49	7,694	7,983	8,266	8,428	8,701	8,603	9,025	9,377	9,530	9,610	9,691	9,679	9,737	9,867	10,134	439,779	439,779	CDIAC CO2 emissions	MtCO2	439,779	1,502,470	1,538,147	1,574,302	1,611,433	1,502,470	1,538,147	1,574,302	1,611,433	1,502,470	1,538,147	1,574,302	1,611,433	1,502,470	1,538,147	1,574,302	1,611,433	1,502,470	1,538,147	1,574,302	1,611,433				
50																																												
51	4.49%	4.29%	4.18%	4.05%	3.91%	3.73%	3.52%	2.24%	Entity percent of total CO2 emissions	Percent	2.18%	2.20%	2.22%	2.24%																														
52																																												
53																																												
54	99.3	103.4	107.4	110.2	115.4	113.2	120.9	5,459	CDIAC/EDGAR methane	Tg CH4	5,459	5,459	5,459	5,459																														
55																																												
56	0.11	0.10	0.10	0.09	0.09	0.08	0.08	5.62%	Entity percent of total CH4 emissions	Percent																																		
57																																												
58																																												
59																																												
60																																												
61																																												