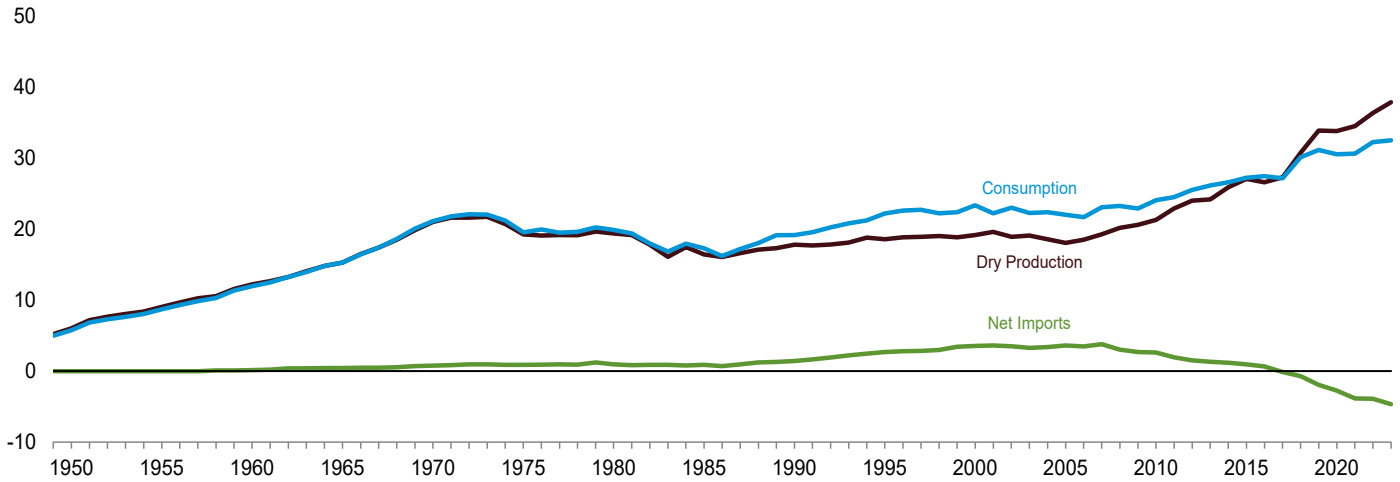


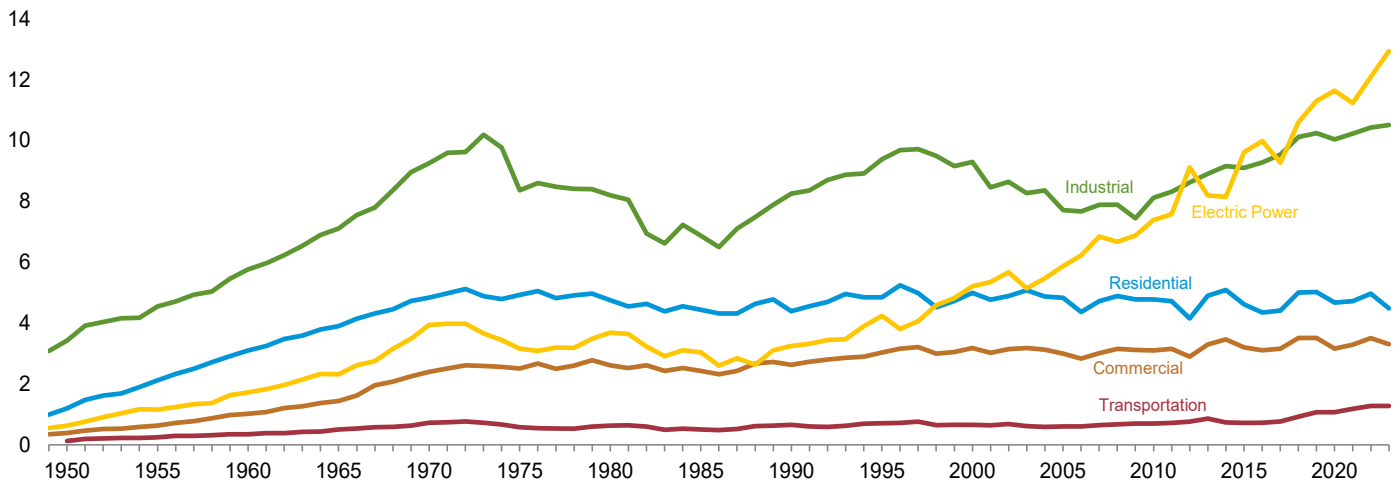
4. Natural Gas

Figure 4.1 Natural Gas
(Trillion Cubic Feet)

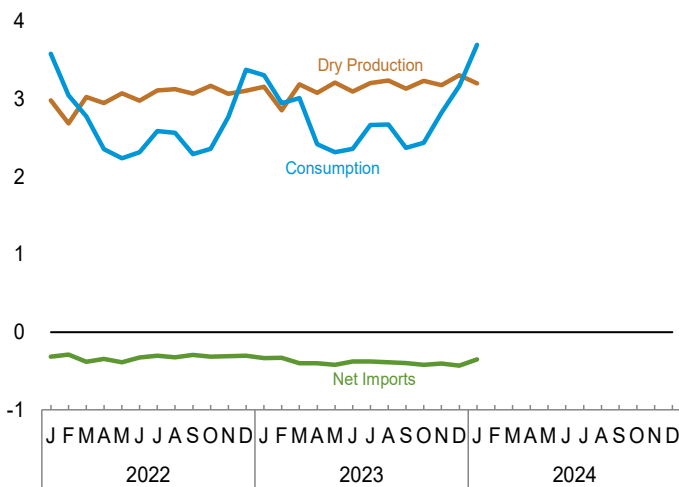
Overview, 1949–2023



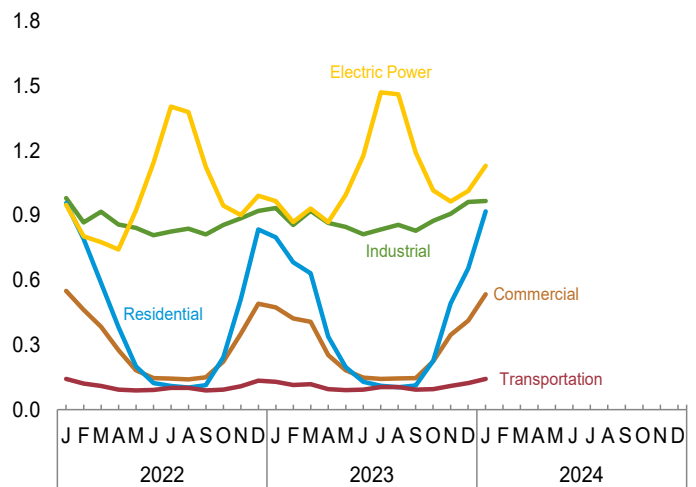
Consumption by Sector, 1949–2023



Overview, Monthly



Consumption by Sector, Monthly



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#naturalgas>.

Sources: Tables 4.1 and 4.3.

Table 4.1 Natural Gas Overview
(Billion Cubic Feet)

	Gross Withdrawals ^a	Marketed Production (Wet) ^b	NGPL Production ^c	Dry Gas Production ^d	Supplemental Gaseous Fuels ^e	Trade			Net Storage Withdrawals ^f	Balancing Item ^g	Consumption ^h
						Imports	Exports	Net Imports			
1950 Total	8,480	6,282	260	6,022	NA	0	26	-26	-54	-175	5,767
1955 Total	11,720	9,405	377	9,029	NA	11	31	-20	-68	-247	8,694
1960 Total	15,088	12,771	543	12,228	NA	156	11	144	-132	-274	11,967
1965 Total	17,963	16,040	753	15,286	NA	456	26	430	-118	-319	15,280
1970 Total	23,786	21,921	906	21,014	NA	821	70	751	-398	-228	21,139
1975 Total	21,104	20,109	872	19,236	NA	953	73	880	-344	-235	19,538
1980 Total	21,870	20,180	777	19,403	155	985	49	936	23	-640	19,877
1985 Total	19,607	17,270	816	16,454	126	950	55	894	235	-428	17,281
1990 Total	21,523	18,594	784	17,810	123	1,532	86	1,447	-513	307	19,174
1995 Total	23,744	19,506	908	18,599	110	2,841	154	2,687	415	396	22,207
2000 Total	24,174	20,198	1,016	19,182	90	3,782	244	3,538	829	-306	23,333
2005 Total	23,457	18,927	876	18,051	64	4,341	729	3,612	52	236	22,014
2010 Total	26,816	22,382	1,066	21,316	65	3,741	1,137	2,604	-13	115	24,087
2011 Total	28,479	24,036	1,134	22,902	60	3,469	1,506	1,963	-354	-94	24,477
2012 Total	29,542	25,283	1,250	24,033	61	3,138	1,619	1,519	-9	-66	25,538
2013 Total	29,523	25,562	1,357	24,206	55	2,883	1,572	1,311	546	38	26,155
2014 Total	31,405	27,498	1,608	25,890	60	2,695	1,514	1,181	-254	-283	26,593
2015 Total	32,915	28,772	1,707	27,065	59	2,718	1,784	935	-547	-268	27,244
2016 Total	32,592	28,400	1,808	26,592	57	3,006	2,335	671	340	-216	27,444
2017 Total	33,292	29,204	1,897	27,306	66	3,033	3,154	-121	254	-360	27,146
2018 Total	37,326	33,009	2,235	30,774	69	2,889	3,608	-719	314	-290	30,149
2019 Total	40,780	36,447	2,548	33,899	61	2,742	4,658	-1,916	-503	-397	31,143
2020 Total	40,730	36,521	2,710	33,811	63	2,551	5,285	-2,734	-180	-387	30,574
2021 Total	41,677	37,338	2,809	34,529	66	2,808	6,653	-3,845	83	-188	30,646
2022 January	3,628	3,235	252	2,983	6	296	611	-315	1,013	-107	3,581
February	3,266	2,914	227	2,687	5	258	546	-288	673	-28	3,048
March	3,663	3,282	256	3,026	6	259	639	-380	171	-45	2,778
April	3,568	3,199	250	2,950	6	245	587	-342	-220	-38	2,355
May	3,695	3,332	260	3,072	6	231	617	-386	-412	-42	2,239
June	3,565	3,232	252	2,980	6	229	554	-325	-332	-14	2,315
July	3,736	3,375	263	3,112	6	257	560	-303	-187	-41	2,588
August	3,730	3,392	265	3,128	6	236	558	-322	-213	-34	2,564
September	3,669	3,330	260	3,071	6	234	526	-293	-446	-47	2,291
October	3,814	3,438	268	3,170	6	240	554	-315	-432	-69	2,360
November	3,712	3,327	259	3,067	6	246	554	-308	78	-78	2,766
December	3,755	3,370	263	3,107	6	293	597	-304	588	-22	3,375
Total	43,802	39,428	3,075	36,353	73	3,024	6,904	-3,880	281	-565	32,262
2023 January	E 3,820	E 3,429	270	E 3,159	7	275	609	-333	456	17	3,305
February	E 3,456	E 3,103	247	E 2,856	6	244	575	-331	399	18	2,947
March	E 3,858	E 3,475	286	E 3,189	6	250	651	-401	224	-6	3,012
April	E 3,729	E 3,362	283	E 3,079	5	220	621	-400	-269	5	2,421
May	E 3,869	E 3,500	289	E 3,210	6	216	638	-422	-452	-27	2,315
June	E 3,720	E 3,375	278	E 3,098	4	232	607	-376	-344	-22	2,360
July	E 3,827	E 3,495	290	E 3,205	6	256	634	-378	-134	-34	2,666
August	E 3,850	E 3,534	294	E 3,240	5	246	634	-388	-133	-50	2,674
September	E 3,761	E 3,426	291	E 3,135	3	230	626	-396	-323	-46	2,373
October	E 3,909	E 3,537	302	E 3,235	3	231	652	-421	-321	-58	2,438
November	E 3,841	E 3,469	292	E 3,177	5	252	655	-403	65	R -20	2,823
December	RE 3,998	RE 3,597	292	RE 3,305	6	277	709	-432	284	R 7	3,169
Total	E 45,637	E 41,300	3,413	E 37,887	63	2,929	7,611	-4,682	-548	R -217	32,504
2024 January	E 3,862	E 3,471	269	E 3,202	6	323	674	-350	844	-5	3,696

^a Gases withdrawn from natural gas, crude oil, coalbed, and shale gas wells. Includes natural gas, natural gas plant liquids, and nonhydrocarbon gases; but excludes lease condensate.

^b Gross withdrawals minus repressuring, nonhydrocarbon gases removed, and vented and flared. See Note 1, "Natural Gas Production," at end of section.

^c Natural gas plant liquids (NGPL) production, gaseous equivalent. This data series was previously called "Extraction Loss." See Note 2, "Natural Gas Plant Liquids Production," at end of section.

^d Marketed production (wet) minus NGPL production.

^e See Note 3, "Supplemental Gaseous Fuels," at end of section.

^f Net withdrawals from underground storage. For 1980–2017, also includes net withdrawals of liquefied natural gas in above-ground tanks. See Note 4, "Natural Gas Storage," at end of section.

^g See Note 5, "Natural Gas Balancing Item," at end of section. Beginning in 1980, excludes transit shipments that cross the U.S.-Canada border (i.e., natural gas delivered to its destination via the other country).

^h See Note 6, "Natural Gas Consumption," at end of section.

ⁱ Through 1979, may include unknown quantities of nonhydrocarbon gases.

^j For 1989–1992, a small amount of consumption at independent power

producers may be counted in both "Other Industrial" and "Electric Power Sector" in Table 4.3. See Note 7, "Natural Gas Consumption, 1989–1992," at end of section.

R=Revised. E=Estimate. NA=Not available.

Notes: • See Note 8, "Natural Gas Data Adjustments, 1993–2000," at end of section. • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia (except Alaska, for which underground storage is excluded from "Net Storage Withdrawals" through 2012).

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Imports and Exports:** Tables 4.2a and 4.2b. • **Consumption:** Table 4.3. • **Balancing Item:** Calculated as consumption minus dry gas production, supplemental gaseous fuels, net imports, and net storage withdrawals.

• **All Other Data: 1949–2021**—U.S. Energy Information Administration (EIA), *Natural Gas Annual*, annual reports. **2022 forward**—EIA, *Natural Gas Monthly*, March 2024, Table 1.

Table 4.2a Natural Gas Imports by Country
(Billion Cubic Feet)

	Algeria ^a	Australia ^a	Canada ^b	Egypt ^c	Mexico ^b	Nigeria ^a	Norway ^a	Oman ^a	Qatar ^a	Trinidad and Tobago ^a	United Arab Emirates ^a	Yemen ^a	Other ^a	Total
1950 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955 Total	0	0	11	0	(s)	0	0	0	0	0	0	0	0	11
1960 Total	0	0	109	0	47	0	0	0	0	0	0	0	0	156
1965 Total	0	0	405	0	52	0	0	0	0	0	0	0	0	456
1970 Total	1	0	779	0	(s)	0	0	0	0	0	0	0	0	821
1975 Total	5	0	948	0	0	0	0	0	0	0	0	0	0	953
1980 Total	86	0	797	0	102	0	0	0	0	0	0	0	0	985
1985 Total	24	0	926	0	0	0	0	0	0	0	0	0	0	950
1990 Total	84	0	1,448	0	0	0	0	0	0	0	0	0	0	1,532
1995 Total	18	0	2,816	0	7	0	0	0	0	0	0	0	0	2,841
2000 Total	47	6	3,544	0	12	13	0	10	46	99	3	0	21	3,782
2005 Total	97	0	3,700	73	9	8	0	2	3	439	0	0	11	4,341
2010 Total	0	0	3,280	73	30	42	26	0	46	190	0	39	81	3,741
2011 Total	0	0	3,117	35	3	2	15	0	91	129	0	60	92	3,469
2012 Total	0	0	2,963	3	(s)	0	6	0	34	112	0	20	26	3,138
2013 Total	0	0	2,786	0	1	3	6	0	7	70	0	11	0	2,883
2014 Total	0	0	2,635	0	1	0	6	0	0	43	0	8	3	2,695
2015 Total	0	0	2,626	0	1	0	12	0	0	71	0	7	0	2,718
2016 Total	0	0	2,918	0	1	0	3	0	0	84	0	0	0	3,006
2017 Total	0	0	2,955	0	1	6	0	0	0	70	0	0	0	3,033
2018 Total	0	0	2,811	0	3	3	0	0	0	66	0	0	6	2,889
2019 Total	0	0	2,687	0	2	3	0	0	0	47	0	0	3	2,742
2020 Total	0	0	2,500	0	2	7	3	0	0	39	0	0	0	2,551
2021 Total	0	0	2,785	0	2	0	0	0	0	21	0	0	0	2,808
2022 January	0	0	290	0	(s)	0	0	0	0	6	0	0	(s)	296
February	0	0	253	0	(s)	0	0	0	0	4	0	0	(s)	258
March	0	0	257	0	(s)	0	0	0	0	3	0	0	(s)	259
April	0	0	245	0	(s)	0	0	0	0	0	0	0	(s)	245
May	0	0	230	0	(s)	0	0	0	0	(s)	0	0	(s)	231
June	0	0	229	0	(s)	0	0	0	0	0	0	0	(s)	229
July	0	0	254	0	(s)	0	0	0	0	3	0	0	0	257
August	0	0	233	0	(s)	0	0	0	0	3	0	0	(s)	236
September	0	0	234	0	(s)	0	0	0	0	0	0	0	(s)	234
October	0	0	239	0	(s)	0	0	0	0	0	0	0	0	240
November	0	0	245	0	(s)	0	0	0	0	1	0	0	0	246
December	0	0	290	0	(s)	0	0	0	0	3	0	0	0	293
Total	0	0	3,000	0	1	0	0	0	0	24	0	0	0	3,024
2023 January	0	0	272	0	(s)	0	0	0	0	1	0	0	1	275
February	0	0	239	0	1	0	0	0	0	4	0	0	(s)	244
March	0	0	248	0	(s)	0	0	0	0	1	0	0	(s)	250
April	0	0	220	0	(s)	0	0	0	0	0	0	0	(s)	220
May	0	0	215	0	(s)	0	0	0	0	1	0	0	(s)	216
June	0	0	232	0	(s)	0	0	0	0	0	0	0	0	232
July	0	0	255	0	(s)	0	0	0	0	1	0	0	0	256
August	0	0	246	0	(s)	0	0	0	0	0	0	0	0	246
September	0	0	230	0	(s)	0	0	0	0	0	0	0	0	230
October	0	0	231	0	(s)	0	0	0	0	0	0	0	0	231
November	0	0	252	0	(s)	0	0	0	0	0	0	0	0	252
December	0	0	275	0	(s)	0	0	0	0	3	0	0	0	277
Total	0	0	2,915	0	1	0	0	0	0	12	0	0	1	2,929
2024 January	0	0	319	0	(s)	0	3	0	0	1	0	0	0	323

^a As liquefied natural gas.

^b By pipeline, except for small amounts of: liquefied natural gas (LNG) imported from Canada in 1973, 1977, 1981, and 2013 forward; and compressed natural gas (CNG) imported from Canada in 2014 forward; See Note 9, "Natural Gas Imports and Exports," at end of section.

(s)=Less than 500 million cubic feet.

Notes: • See Note 9, "Natural Gas Imports and Exports," at end of section.
• Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 states and the District

of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **1949–1954:** U.S. Energy Information Administration (EIA) estimates based on Bureau of Mines, Minerals Yearbook, "Natural Gas" chapter.
• **1955–1971:** Federal Power Commission data. • **1972–1987:** EIA, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas."
• **1988–2021:** EIA, *Natural Gas Annual*, annual reports. • **2022 forward:** EIA, *Natural Gas Monthly*, March 2024, Table 4; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

Table 4.2b Natural Gas Exports by Country
(Billion Cubic Feet)

	Brazil ^a	Canada ^b	Chile ^a	China ^a	France ^a	India ^a	Japan ^a	Mexico ^b	South Korea ^a	Spain ^a	Turkey ^a	United Kingdom ^a	Other ^a	Total
1950 Total	0	3	0	0	0	0	0	23	0	0	0	0	0	26
1955 Total	0	11	0	0	0	0	0	20	0	0	0	0	0	31
1960 Total	0	6	0	0	0	0	0	6	0	0	0	0	0	11
1965 Total	0	18	0	0	0	0	0	8	0	0	0	0	0	26
1970 Total	0	11	0	0	0	0	44	15	0	0	0	0	0	70
1975 Total	0	10	0	0	0	0	53	9	0	0	0	0	0	73
1980 Total	0	(s)	0	0	0	0	45	4	0	0	0	0	0	49
1985 Total	0	(s)	0	0	0	0	53	2	0	0	0	0	0	55
1990 Total	0	17	0	0	0	0	53	16	0	0	0	0	0	86
1995 Total	0	28	0	0	0	0	65	61	0	0	0	0	0	154
2000 Total	0	73	0	0	0	0	66	106	0	0	0	0	0	244
2005 Total	0	358	0	0	0	0	65	305	0	0	0	0	0	729
2010 Total	3	739	0	0	0	3	33	333	12	4	0	10	32	1,137
2011 Total	11	937	3	7	0	13	18	499	9	6	0	3	52	1,506
2012 Total	8	971	0	0	0	3	14	620	0	0	0	0	14	1,619
2013 Total	0	911	0	0	0	0	0	661	0	0	0	0	0	1,572
2014 Total	3	770	0	0	0	0	13	729	0	0	0	0	0	1,514
2015 Total	6	701	0	0	0	0	8	1,054	0	0	3	0	11	1,784
2016 Total	11	771	29	17	0	17	11	1,405	10	3	9	0	51	2,335
2017 Total	18	917	26	103	0	21	53	1,671	130	29	25	3	157	3,154
2018 Total	36	836	41	90	18	58	126	1,871	252	10	23	51	194	3,608
2019 Total	54	973	90	7	118	91	201	2,010	270	167	31	119	527	4,658
2020 Total	112	904	81	214	90	124	288	2,026	317	200	124	160	644	5,285
2021 Total	308	937	122	453	171	196	355	2,171	453	215	189	195	887	6,653
2022 January	17	82	3	0	50	7	22	176	22	49	45	60	78	611
February	11	75	0	3	40	7	10	155	27	39	44	25	110	546
March	2	105	3	8	64	10	18	170	19	59	17	57	107	639
April	3	80	4	10	56	14	13	177	14	40	7	40	129	587
May	15	79	10	0	47	7	24	186	18	40	7	11	172	617
June	4	70	0	7	38	11	22	186	25	30	8	3	151	554
July	5	70	7	1	53	14	18	190	34	34	0	4	129	560
August	11	75	0	10	34	10	20	183	36	26	0	21	132	558
September	0	62	3	10	58	11	7	169	20	21	5	51	108	526
October	3	73	0	23	42	7	11	172	39	26	10	46	102	554
November	0	90	0	17	51	10	24	161	14	26	31	77	51	554
December	0	99	0	7	38	14	21	159	25	34	18	69	113	597
Total	72	960	30	97	571	123	209	2,084	293	427	192	464	1,382	6,904
2023 January	0	105	3	18	34	7	18	169	25	14	39	63	113	609
February	0	96	0	3	39	14	14	153	23	32	13	72	116	575
March	1	106	7	5	29	10	20	181	11	38	12	70	160	651
April	4	76	0	3	53	15	14	169	25	14	14	76	159	621
May	4	78	6	7	52	7	31	194	11	12	0	25	211	638
June	9	75	4	20	46	14	28	204	17	12	0	0	178	607
July	0	77	7	35	21	20	44	211	16	34	0	0	169	634
August	3	68	3	14	34	14	31	213	35	20	0	4	194	634
September	7	77	0	10	32	24	33	202	24	10	4	7	195	626
October	4	67	0	18	54	14	24	202	28	50	5	25	161	652
November	4	89	0	26	59	7	25	179	26	17	28	48	147	655
December	4	112	0	14	41	17	27	178	35	16	42	60	163	709
Total	39	1,026	31	173	493	164	310	2,256	276	269	156	451	1,967	7,611
2024 January	8	93	4	8	28	11	19	185	21	39	43	43	173	674

^a As liquefied natural gas.

^b By pipeline, except for small amounts of: liquefied natural gas (LNG) exported to Canada in 2007 and 2012 forward; compressed natural gas (CNG) exported to Canada in 2013 forward; and LNG exported to Mexico beginning in 1998. See Note 9, "Natural Gas Imports and Exports," at end of section.

(s)=Less than 500 million cubic feet.

Notes: • Exports include re-exports. • See Note 9, "Natural Gas Imports and Exports," at end of section. • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is

the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **1949–1954:** U.S. Energy Information Administration (EIA) estimates based on Bureau of Mines, Minerals Yearbook, "Natural Gas" chapter. • **1955–1971:** Federal Power Commission data. • **1972–1987:** EIA, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." • **1988–2021:** EIA, *Natural Gas Annual*, annual reports. • **2022 forward:** EIA, *Natural Gas Monthly*, March 2024, Table 5; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

Table 4.3 Natural Gas Consumption by Sector
(Billion Cubic Feet)

	End-Use Sectors										Electric Power Sector ^{f,g}	Total
	Residential	Commercial ^a	Lease and Plant Fuel	Industrial			Transportation					
				Other Industrial			Pipelines ^d and Distribution ^e	Vehicle Fuel	Total			
				CHP ^b	Non-CHP ^c	Total				Total		
1950 Total	1,198	388	928	(h)	2,498	2,498	3,426	126	NA	126	629	5,767
1955 Total	2,124	629	1,131	(h)	3,411	3,411	4,542	245	NA	245	1,153	8,694
1960 Total	3,103	1,020	1,237	(h)	4,535	4,535	5,771	347	NA	347	1,725	11,967
1965 Total	3,903	1,444	1,156	(h)	5,955	5,955	7,112	501	NA	501	2,321	15,280
1970 Total	4,837	2,399	1,399	(h)	7,851	7,851	9,249	722	NA	722	3,932	21,139
1975 Total	4,924	2,508	1,396	(h)	6,968	6,968	8,365	583	NA	583	3,158	19,538
1980 Total	4,752	2,611	1,026	(h)	7,172	7,172	8,198	635	NA	635	3,682	19,877
1985 Total	4,433	2,432	966	(h)	5,901	5,901	6,867	504	NA	504	3,044	17,281
1990 Total	4,391	2,623	1,236	1,055	5,963	7,018	8,255	660	(s)	660	3,245	19,174
1995 Total	4,850	3,031	1,220	1,258	6,906	8,164	9,384	700	5	705	4,237	22,207
2000 Total	4,996	3,182	1,151	1,386	6,757	8,142	9,293	642	13	655	5,206	23,333
2005 Total	4,827	2,999	1,112	1,084	5,518	6,601	7,713	584	23	607	5,869	22,014
2010 Total	4,782	3,103	1,286	1,029	5,797	6,826	8,112	674	29	703	7,387	24,087
2011 Total	4,714	3,155	1,323	1,063	5,931	6,994	8,317	688	30	718	7,574	24,477
2012 Total	4,150	2,895	1,396	1,149	6,077	7,226	8,622	731	30	761	9,111	25,538
2013 Total	4,897	3,295	1,483	1,170	6,255	7,425	8,909	833	30	863	8,191	26,155
2014 Total	5,087	3,466	1,512	1,145	6,501	7,646	9,158	700	35	735	8,146	26,593
2015 Total	4,613	3,202	1,576	1,222	6,300	7,522	9,098	678	39	718	9,613	27,244
2016 Total	4,347	3,110	1,545	1,209	6,519	7,729	9,274	687	42	729	9,985	27,444
2017 Total	4,412	3,164	1,584	1,257	6,693	7,949	9,533	722	48	770	9,266	27,146
2018 Total	4,998	3,514	1,694	1,314	7,103	8,417	10,112	877	50	927	10,599	30,149
2019 Total	5,019	3,515	1,823	1,374	7,042	8,417	10,240	1,018	53	1,071	11,299	31,143
2020 Total	4,674	3,163	1,825	1,458	6,755	8,213	10,038	1,018	49	1,067	11,632	30,574
2021 Total	4,717	3,289	1,851	1,379	6,995	8,375	10,225	1,131	54	1,186	11,229	30,646
2022 January	958	551	154	124	702	826	981	137	6	143	949	3,581
February	791	464	139	108	621	729	868	116	5	121	804	3,048
March	588	385	157	115	645	761	918	105	6	110	777	2,778
April	384	276	153	108	598	706	858	88	5	93	743	2,355
May	201	183	159	111	573	684	843	83	6	89	923	2,239
June	124	146	154	112	543	655	809	86	5	92	1,145	2,315
July	110	144	161	121	544	665	826	97	6	102	1,405	2,588
August	103	141	162	122	555	677	839	96	6	101	1,380	2,564
September	114	150	159	111	542	653	812	85	5	90	1,125	2,291
October	242	223	164	112	580	692	856	88	6	93	946	2,360
November	513	353	159	115	615	729	888	104	5	109	902	2,766
December	835	492	161	117	644	761	922	128	6	134	992	3,375
Total	4,964	3,509	1,883	1,375	7,161	8,537	10,420	1,212	65	1,277	12,092	32,262
2023 January	799	475	E 164	123	648	771	935	E 124	E 5	E 129	967	3,305
February	683	423	E 148	110	598	708	856	E 111	E 4	E 115	870	2,947
March	633	408	E 166	120	636	756	922	E 113	E 5	E 118	932	3,012
April	338	253	E 161	104	602	706	866	E 91	E 4	E 95	869	2,421
May	197	183	E 167	110	571	681	848	E 87	E 5	E 91	996	2,315
June	129	149	E 161	114	538	652	813	E 89	E 4	E 93	1,176	2,360
July	111	143	E 167	118	551	669	835	E 100	E 5	E 105	1,471	2,666
August	104	145	E 169	117	571	689	857	E 100	E 5	E 105	1,462	2,674
September	113	146	E 164	116	550	665	829	E 89	E 4	E 93	1,191	2,373
October	227	224	E 169	113	593	706	875	E 92	E 5	E 96	1,016	2,438
November	493	347	E 166	118	624	743	908	E 106	E 4	E 110	965	2,823
December	656	413	E 172	129	662	791	963	E 119	E 5	E 124	1,014	3,169
Total	4,482	3,309	E 1,972	1,392	7,144	8,536	10,508	E 1,220	E 53	E 1,274	12,930	32,504
2024 January	919	535	E 166	132	670	802	968	E 139	E 5	E 143	1,131	3,696

^a All commercial sector fuel use, including that at commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Table 7.4c for CHP fuel use.

^b Industrial combined-heat-and-power (CHP) and a small number of industrial electricity-only plants.

^c All industrial sector fuel use other than that in "Lease and Plant Fuel" and "CHP."

^d Natural gas consumed in the operation of pipelines, primarily in compressors. Beginning in 2009, includes line loss, which is known volumes of natural gas that are the result of leaks, damage, accidents, migration, and/or blow down.

^e Natural gas used as fuel in the delivery of natural gas to consumers. Beginning in 2009, includes line loss, which is known volumes of natural gas that are the result of leaks, damage, accidents, migration, and/or blow down.

^f The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

^g Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

^h Included in "Non-CHP."

ⁱ For 1989–1992, a small amount of consumption at independent power producers may be counted in both "Other Industrial" and "Electric Power Sector." See Note 7, "Natural Gas Consumption, 1989–1992," at end of section.

E=Estimate. NA=Not available. (s)=Less than 500 million cubic feet.

Notes: • Data are for natural gas, plus a small amount of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of section.

• See Note 8, "Natural Gas Data Adjustments, 1993–2000," at end of section.

• See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of

Section 7. • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Residential, Commercial, Lease and Plant Fuel, Other Industrial Total and Pipelines and Distribution: 1949–2021**—U.S. Energy Information Administration (EIA), *Natural Gas Annual (NGA)*, annual reports and unpublished revisions. **2022 forward**—EIA, *Natural Gas Monthly (NGM)*, March 2024, Table 2. • **Other Industrial CHP:** Table 7.4c. • **Other Industrial Non-CHP:** Calculated as other industrial total minus other industrial CHP. • **Industrial Total:** Calculated as lease and plant fuel plus other industrial total. • **Vehicle Fuel: 1990 and 1991**—EIA, *NGA 2000*, (November 2001), Table 95. **1992–1998**—EIA, "Alternatives to Traditional Transportation Fuels 1999" (October 1999), Table 10, and "Alternatives to Traditional Transportation Fuels 2003" (February 2004), Table 10. Data for compressed natural gas and liquefied natural gas in gasoline-equivalent gallons were converted to cubic feet by multiplying by the motor gasoline conversion factor (see Table A3) and dividing by the natural gas end-use sectors conversion factor (see Table A4). **1999–2021**—EIA, *NGA*, annual reports. **2022 forward**—EIA, *NGM*, March 2024, Table 2. • **Transportation Total:** Calculated as pipelines and distribution plus vehicle fuel. • **Electric Power Sector:** Table 7.4b. • **Total Consumption:** Calculated as the sum of residential, commercial, industrial total, transportation total, and electric power sector.

Table 4.4 Natural Gas in Underground Storage
(Volumes in Billion Cubic Feet)

	Natural Gas in Underground Storage, End of Period			Change in Working Gas From Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^a	Volume	Percent	Withdrawals	Injections	Net ^{b,c}
1950 Total	NA	NA	NA	NA	NA	175	230	-54
1955 Total	863	505	1,368	40	8.7	437	505	-68
1960 Total	NA	NA	2,184	NA	NA	713	844	-132
1965 Total	1,848	1,242	3,090	83	7.2	960	1,078	-118
1970 Total	2,326	1,678	4,004	257	18.1	1,459	1,857	-398
1975 Total	3,162	2,212	5,374	162	7.9	1,760	2,104	-344
1980 Total	3,642	2,655	6,297	-99	-3.6	1,910	1,896	14
1985 Total	3,842	2,607	6,448	-270	-9.4	2,359	2,128	231
1990 Total	3,868	3,068	6,936	555	22.1	1,934	2,433	-499
1995 Total	4,349	2,153	6,503	-453	-17.4	2,974	2,566	408
2000 Total	4,352	1,719	6,071	-806	-31.9	3,498	2,684	814
2005 Total	4,200	2,635	6,835	-61	-2.3	3,057	3,002	55
2010 Total	4,301	3,111	7,412	-19	-6	3,274	3,291	-17
2011 Total	4,302	3,462	7,764	351	11.3	3,074	3,422	-348
2012 Total	4,372	3,413	7,785	-49	-1.4	2,818	2,825	-7
2013 Total	4,365	2,890	7,255	-523	-15.3	3,702	3,156	546
2014 Total	4,365	3,141	7,506	251	8.7	3,586	3,839	-253
2015 Total	4,372	3,667	8,038	525	16.7	3,100	3,638	-539
2016 Total	4,380	3,297	7,677	-370	-10.1	3,325	2,977	348
2017 Total	4,360	3,033	7,392	-264	-8.0	3,590	3,337	254
2018 Total	4,361	2,708	7,069	-324	-10.7	3,999	3,676	324
2019 Total	4,380	3,188	7,568	480	17.7	3,653	4,153	-500
2020 Total	4,394	3,341	7,735	153	4.8	3,412	3,590	-178
2021 Total	4,438	3,210	7,648	-131	-3.9	3,761	3,678	83
2022 January	4,437	2,216	6,653	-419	-15.9	1,069	76	994
February	4,434	1,562	5,997	-297	-16.0	761	102	658
March	4,434	1,401	5,835	-400	-22.2	394	231	163
April	4,440	1,612	6,052	-363	-18.4	140	354	-214
May	4,442	2,002	6,444	-388	-16.2	81	485	-403
June	4,443	2,325	6,768	-260	-10.0	114	438	-324
July	4,444	2,505	6,950	-250	-9.1	182	362	-180
August	4,446	2,709	7,155	-208	-7.1	176	382	-206
September	4,445	3,146	7,590	-160	-4.8	100	536	-436
October	4,443	3,569	8,012	-96	-2.6	89	511	-422
November	4,442	3,501	7,943	-32	-9	333	261	72
December	4,451	2,925	7,376	-285	-8.9	735	160	574
Total	4,451	2,925	7,376	-285	-8.9	4,175	3,898	277
2023 January	4,452	2,470	6,922	254	11.5	609	153	456
February	4,451	2,072	6,523	510	32.7	529	130	399
March	4,450	1,850	6,300	448	32.0	395	171	224
April	4,452	2,116	6,569	505	31.3	126	395	-269
May	4,466	2,576	7,042	575	28.7	82	534	-452
June	4,464	2,902	7,365	576	24.8	105	448	-344
July	4,465	3,035	7,500	530	21.2	186	320	-134
August	4,464	3,168	7,632	459	16.9	233	365	-133
September	4,463	3,490	7,952	344	10.9	155	478	-323
October	4,463	3,809	8,273	240	6.7	121	442	-321
November	4,464	3,742	8,206	241	6.9	298	233	65
December	4,468	3,457	7,925	532	18.2	454	170	284
Total	4,468	3,457	7,925	532	18.2	3,292	3,840	-548
2024 January	4,468	2,613	7,081	143	5.8	950	107	844

^a For total underground storage capacity at the end of each calendar year, see Note 4, "Natural Gas Storage," at end of section.

^b For 1980–2018, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

^c Positive numbers indicate that withdrawals are greater than injections. Negative numbers indicate that injections are greater than withdrawals. Net withdrawals or injections may not equal the difference between applicable ending stocks. See Note 4, "Natural Gas Storage," at end of section.

NA=Not available.

Notes: • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia (except Alaska, which is excluded through 2012).

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data

beginning in 1973.

Sources: • **Storage Activity: 1949–1975**—U.S. Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 2*, Table 9. **1976–1979**—EIA, *Natural Gas Production and Consumption 1979*, Table 1. **1980–1995**—EIA, *Historical Natural Gas Annual 1930 Through 2000*, Table 11. **1996–2014**—EIA, *Natural Gas Monthly (NGM)*, monthly issues. **2015–2021**—EIA, NGA, annual reports. **2022 forward**—EIA, NGM, March 2024, Table 8. • **All Other Data: 1954–1974**—American Gas Association, *Gas Facts*, annual issues. **1975 and 1976**—Federal Energy Administration (FEA), Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report." **1977 and 1978**—EIA, Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report." **1979–1995**—EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report." **1996–2021**—EIA, NGA, annual reports. **2022 forward**—EIA, NGM, March 2024, Table 8.

Note 1. Natural Gas Production. Final annual data are from the U.S. Energy Information Administration's (EIA) *Natural Gas Annual (NGA)*.

Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see EIA's *Natural Gas Monthly (NGM)*.

Monthly data are considered preliminary until after publication of the NGA. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard pressure base of 14.73 psia (pounds per square inch absolute) at 60° Fahrenheit. Unless there are major changes, data are not revised until after publication of the NGA.

Differences between annual data in the NGA and the sum of preliminary monthly data (January–December) are allocated proportionally to the months to create final monthly data.

Note 2. Natural Gas Plant Liquids Production. Natural gas plant liquids (NGPL) production is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants—these natural gas plant liquids are transferred to petroleum supply.

Annual data are from EIA's *Natural Gas Annual (NGA)*, where they are estimated on the basis of the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated NGPL production, see the NGA.

Through 2006, preliminary monthly data are estimated on the basis of NGPL production as an annual percentage of marketed production. Beginning in 2007, preliminary monthly data are estimated on the basis of NGPL production reported on Form EIA-816, "Monthly Natural Gas Liquids Report."

Monthly data are revised and considered final after publication of the NGA. Final monthly data are estimated by allocating annual NGPL production data to the months on the basis of total natural gas marketed production data from the NGA.

Note 3. Supplemental Gaseous Fuels. Supplemental gaseous fuels are any substances that, introduced into or commingled with natural gas, increase the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, and air or inert gases added for Btu stabilization.

Annual data beginning with 1980 are from EIA's *Natural Gas Annual (NGA)*. Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years. Monthly data are considered preliminary until after publication of the NGA. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. The ratio is applied to the monthly sum of the three elements to compute a monthly supplemental gaseous fuels figure.

Although the total amount of supplemental gaseous fuels consumed is known for 1980 forward, the amount consumed by each energy-use sector is estimated by EIA. These estimates are used to create natural gas (without supplemental gaseous fuels) data for Tables 1.3, 2.2, 2.3, 2.4, and 2.6 (note: to avoid double-counting in these tables, supplemental gaseous fuels are accounted for in their primary energy category: "Coal," "Petroleum," or "Biomass"). It is assumed that supplemental gaseous fuels are commingled with natural gas consumed by the residential, commercial, other industrial, and electric power sectors, but are not commingled with natural gas used for lease and plant fuel, pipelines and distribution, or vehicle fuel. The estimated consumption of supplemental gaseous fuels by each sector (residential, commercial, other industrial, and electric power) is calculated as that sector's natural gas consumption (see Table 4.3) divided by the sum of natural gas consumption by the residential, commercial, other industrial, and electric power sectors (see Table 4.3), and then multiplied by total supplemental gaseous fuels consumption (see Table 4.1). For estimated sectoral consumption of supplemental gaseous fuels in Btu, the residential, commercial, and other industrial values in cubic feet are multiplied by the "End-Use Sectors" conversion factors (see Table A4), and the electric power

values in cubic feet are multiplied by the "Electric Power Sector" conversion factors (see Table A4). Total supplemental gaseous fuels consumption in Btu is calculated as the sum of the Btu values for the sectors.

Note 4. Natural Gas Storage. Natural gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. Injection and withdrawal data from the FERC-8/EIA-191 survey may be adjusted to correspond to data from Form EIA-176 for publication of EIA's *Natural Gas Annual (NGA)*.

Total underground storage capacity, which includes both active and inactive fields, at the end of each calendar year since 1975 (first year data were available), in billion cubic feet, was:

Total underground storage capacity, including active and inactive fields (billion cubic feet)

Decade	Year-0	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9
1970s						6,280	6,544	6,678	6,890	6,929
1980s	7,434	7,805	7,915	7,985	8,043	8,087	8,145	8,124	8,124	8,120
1990s	7,794	7,993	7,932	7,989	8,043	7,953	7,980	8,332	8,179	8,229
2000s	8,241	8,182	8,207	8,206	8,255	8,268	8,330	8,402	8,499	8,656
2010s	8,764	8,849	8,991	9,173	9,233	9,231	9,239	9,261	9,241	9,231
2020s	9,259	9,265	9,269	9,278 ^P						

P=Preliminary

Through 1990, monthly underground storage data are collected from the Federal Energy Regulatory Commission Form FERC-8 (interstate data) and EIA Form EIA-191 (intrastate data). Beginning in 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the EIA-191 survey may be adjusted to correspond to data from Form EIA-176 following publication of EIA's NGA.

The final monthly and annual storage and withdrawal data for 1980–2017 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

Note 5. Natural Gas Balancing Item. The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems that vary in scope, format, definitions, and type of respondents.

Note 6. Natural Gas Consumption. Natural gas consumption statistics include data for the following: "Residential Sector": residential deliveries; "Commercial Sector": commercial deliveries, including to commercial combined-heat-and-power (CHP) and commercial electricity-only plants; "Industrial Sector": lease and plant fuel use, and other industrial deliveries, including to industrial CHP and industrial electricity-only plants also includes the relatively small amount of natural gas consumption for non-combustion use (see Tables 1.12a and 1.12b); "Transportation Sector": pipelines and distribution use, and vehicle fuel use; and "Electric Power Sector": electric utility and independent power producer use.

Final data for series other than "Other Industrial CHP" and "Electric Power Sector" are from EIA's *Natural Gas Annual (NGA)*. Monthly data are considered preliminary until after publication of the NGA. For more detailed information on the methods of estimating preliminary and final monthly data, see EIA's *Natural Gas Monthly*.

Note 7. Natural Gas Consumption, 1989–1992. Prior to 1993, deliveries to nonutility generators were not separately collected from natural gas companies on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." As a result, for 1989–1992, those volumes are probably included in both the industrial and electric power

sectors and double-counted in total consumption. In 1993, 0.28 trillion cubic feet was reported as delivered to nonutility generators.

Note 8. Natural Gas Data Adjustments, 1993–2000. For 1993–2000, the original data for natural gas delivered to industrial consumers (now "Other Industrial" in Table 4.3) included deliveries to both industrial users and independent power producers (IPPs). These data were adjusted to remove the estimated consumption at IPPs from "Other Industrial" and include it with electric utilities under "Electric Power Sector." (To estimate the monthly IPP consumption, the monthly pattern for Other Industrial CHP in Table 4.3 was used.)

For 1996–2000, monthly data for several natural gas series shown in EIA's Natural Gas Navigator (see http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_m.htm) were not reconciled and updated to be consistent with the final annual data in EIA's *Natural Gas Annual*. In the *Monthly Energy Review*, monthly data for these series were adjusted so that the monthly data sum to the final annual values. The Table 4.1 data series (and years) that were adjusted are: Gross Withdrawals (1996, 1997), Marketed Production (1997), NGPL Production (1997, 1998, and 2000), Dry Gas Production (1996, 1997), Supplemental Gaseous Fuels (1997–2000), Balancing Item (1997–2000), and Total Consumption (1997–2000). The Table 4.3 data series (and years) that were adjusted are: Lease and Plant Fuel (1997–2000), Total Industrial (1997–2000), Pipelines and Distribution (2000), Total Transportation (2000), and Total Consumption (1997–2000).

Note 9. Natural Gas Imports and Exports. The United States imports natural gas via pipeline from Canada and Mexico; and imports liquefied natural gas (LNG) via vessel from other countries. In addition, small amounts of LNG arrived from Canada via truck in 1973, 1977, 1981, and 2013 forward. Also, small amounts of compressed natural gas (CNG) were imported from Canada in 2014 forward. The United States exports natural gas via pipeline to Canada and Mexico; and exports LNG via vessel to other countries. Also, small amounts of LNG have gone to Mexico via truck since 1998 and via vessel since 2016, and to Canada via truck in 2007 and 2012 forward. Small amounts of CNG have been exported to Canada since 2013. Natural gas exports include re-exports.

Annual and final monthly data are from the annual EIA Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and FE-746R, "Import and Export of Natural Gas."

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see EIA's *Natural Gas Monthly*. Preliminary data are revised after publication of EIA's *Natural Gas Annual*.