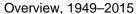
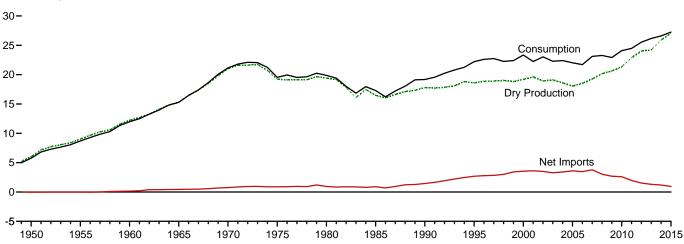
# 4. Natural Gas

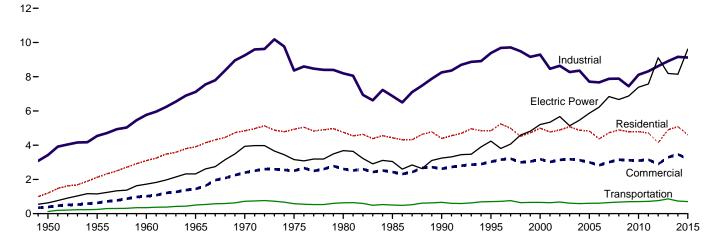
Figure 4.1 Natural Gas

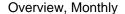
(Trillion Cubic Feet)

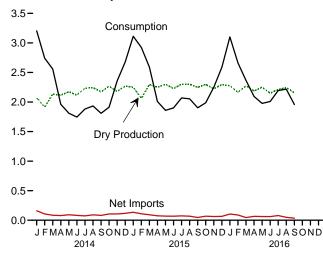




# Consumption by Sector, 1949-2015

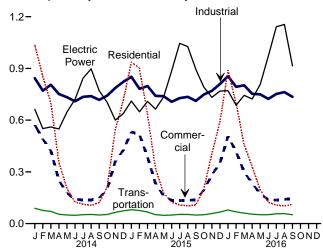






Web Page: http://www.eia.gov/totalenergy/data/monthly/#naturalgas. Sources: Tables 4.1 and 4.3.

# Consumption by Sector, Monthly



**Table 4.1 Natural Gas Overview** 

(Billion Cubic Feet)

	Gross	Marketed			Supple- mental		Trade		Net Storage		
	With- drawals <sup>a</sup>	Production (Wet) <sup>b</sup>	NGPL Production <sup>c</sup>	Dry Gas Production <sup>d</sup>	Gaseous Fuels <sup>e</sup>	Imports	Exports	Net Imports	With- drawals <sup>f</sup>	Balancing Item <sup>9</sup>	Consump- tion <sup>h</sup>
1950 Total	8,480	i 6,282	260	i 6,022	NA	0	26	-26	-54	-175	5,767
1955 Total	11,720	i 9,405	377	i 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	<sup>1</sup> 20,109	872	<sup>i</sup> 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 21,523	17,270 18,594	816 784	16,454 17,810	126 123	950 1,532	55 86	894 1,447	235 -513	-428 307	17,281 <sup>j</sup> 19,174
1990 Total 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
2001 Total	24,501	20,570	954	19,616	86	3,977	373	3,604	-1.166	99	22,239
2002 Total	23,941	19,885	957	18,928	68	4,015	516	3,499	467	65	23,027
2003 Total	24,119	19,974	876	19,099	68	3,944	680	3,264	-197	44	22,277
2004 Total	23,970	19,517	927	18,591	60	4,259	854	3,404	-114	461	22,403
2005 Total	23,457	18,927	876	18,051	64	4,341	729	3,612	52	236	22,014
2006 Total	23,535	19,410	906	18,504	66	4,186	724	3,462	-436	103	21,699
2007 Total	24,664	20,196	930	19,266	63	4,608	822	3,785	192	-203	23,104
2008 Total	25,636	21,112	953	20,159	61	3,984	963	3,021	34	2	23,277
2009 Total	26,057	21,648	1,024	20,624	65	3,751	1,072	2,679	-355	-103	22,910
2010 Total	26,816	22,382	1,066	21,316	65	3,741	1,137	2,604	-13	115	24,087
2011 Total 2012 Total	28,479 29.542	24,036 25,283	1,134 1,250	22,902 24.033	60 61	3,469 3.138	1,506 1.619	1,963 1,519	-354 -9	-94 -66	24,477 25.538
2013 Total	29,523	25,263	1,357	24,033 24,206	55	2,883	1,572	1,319	546	38	26,155
2014 January	2,580	2,199	129	2,070	5	295	135	161	992	-23	3,204
February	2.357	2.033	119	1.914	4	245	139	107	745	-29	2.741
March	2,624	2,267	133	2,135	5	234	150	85	363	-30	2,558
April	2,584	2.248	131	2,116	5	201	122	79	-224	-14	1,962
May	2,633	2,310	135	2,175	5	207	114	93	-488	26	1,810
June	2,560	2,247	131	2,116	5	202	120	82	-473	16	1,745
July	2,629	2,371	139	2,233	5	201	127	74	-409	-22	1,881
August	2,645	2,384	139	2,245	5	207	115	91	-383	-26	1,933
September	2,626	2,307	135	2,172	5	202	120	82	-431	-18	1,809
October	2,736	2,407	141	2,266	5	221	115	106	-409	-55	1,913
November	2,662	2,315	135	2,179	5	227	121	107	168	-102	2,358
December	2,770	2,410	141 <b>1,608</b>	2,269 <b>25,890</b>	5 <b>60</b>	254 <b>2,695</b>	137	117 <b>1,181</b>	295 <b>-254</b>	-7 <b>-283</b>	2,679 <b>26,593</b>
Total	31,405	27,498	1,606	•		•	1,514	1,101			•
2015 January	2,771 2,516	2,391 2,193	141 129	2,250 2.063	5 4	279 254	145 145	135 109	741 757	<sup>R</sup> -18 <sup>R</sup> -10	<sup>R</sup> 3,113 <sup>R</sup> 2,924
February March	2,824	2,193	144	2,003	5	257	164	93	201	R -3	2,592
April	2,750	2,391	141	2,251	5	205	130	75	-329	R 8	R 2,009
May	2,791	2,444	144	2,300	5	204	134	73 70	-508	R -8	R 1,859
June	2,669	2,368	139	2.229	5	206	138	68	-370	R -30	R 1,901
July	2,758	2,448	144	2,304	5	217	144	73	-291	R -23	R 2.069
August	2,742	2,446	144	2,302	5	214	145	69	-317	R -6	R 2,053
September	2,727	2,390	141	2,249	5	209	163	46	-381	R-17	R 1.903
October	2,801	2,441	144	2,298	5	226	159	68	-339	R -44	R 1,988
November	2,731	2,362	139	2,223	5	218	156	63	17	R -57	R 2,250
December	2,814 <b>32,895</b>	2,438 <b>28,753</b>	144 <b>1,693</b>	2,295 <b>27,060</b>	5 <b>59</b>	227 <b>2,718</b>	162 <b>1,784</b>	66 <b>935</b>	272 <b>-546</b>	R -49 R <b>-258</b>	R 2,588 R <b>27,249</b>
Total	,		1,093	•		•	1,704		-340		
2016 January	E 2,819	E 2,424	148	E 2,275	5	274	169	105	728	R -13	R 3,101
February	E 2,668	E 2,304	140	E 2,164	5	252	163	89	403	R (s)	R 2,661
March	E 2,823 E 2,682	E 2,431 E 2,340	157	E 2,274 E 2,188	5	241 241	195 176	46	59 164	R -20 R (s)	R 2,364 R 2,094
April May	E 2,779	E 2,340	151 160	E 2,188	5 5	241	176	66 62	-164 -327	R -14	1,976
June	E 2,635	E 2,304	156	E 2.148	2	240	181	61	-327 -224	R 22	R 2,009
July	RE 2,710	RE 2.372	160	RE 2,213	5	265	R 186	R 79	-133	R 31	R 2,195
August	RE 2.742	RE 2.394	152	RE 2.242	5	261	212	49	-124	R 46	R 2,218
September	E 2,644	E 2,307	147	E 2,159	5	237	202	35	-263	20	1.957
9-Month Total	E 24,503	E 21,286	1,372	E 19,914	43	2,261	1,668	592	-45	72	20,576

a Gases withdrawn from natural gas, crude oil, coalbed, and shale gas wells.

 <sup>&</sup>lt;sup>a</sup> 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.
 <sup>b</sup> Gross withdrawals minus repressuring, nonhydrocarbon gases removed, and vented and flared. See Note 1, "Natural Gas Production," at end of section.
 <sup>c</sup> 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.
 <sup>d</sup> Marketed production (wet) minus NGPL production.
 <sup>e</sup> See Note 3, "Supplemental Gaseous Fuels," at end of section.
 <sup>f</sup> Net withdrawals from underground storage. For 1980–2014, also includes net withdrawals of liquefied natural gas in above-ground tanks. See Note 4, "Natural

T Net withdrawals from underground storage. For 1980–2014, also includes net withdrawals of liquefied natural gas in above-ground tanks. See Note 4, "Natural Gas Storage," at end of section.

9 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" on

Table 4.3. See Note 7, "Natural Gas Consumption, 1989–1992," at end of section.

Table 4.3. See Note 7, "Natural Gas Consumption, 1989–1992," at end of section. R=Revised. E=Estimate. (s)=Less than 0.5 billion cubic feet and greater than -0.5 billion cubic feet. 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.

and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • Imports and Exports: Table 4.2. • 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: 1949–2013—U.S. Energy Information Administration (EIA), Natural Gas Annual, annual reports.

2014 forward—EIA, Natural Gas Monthly, November 2016, Table 1.

### Table 4.2 Natural Gas Trade by Country

(Billion Cubic Feet)

	Imports									Exportsa	ts <sup>a</sup>			
	Algeriab	Canada <sup>c</sup>	Egypt <sup>b</sup>	Mexico <sup>c</sup>	Nigeria <sup>b</sup>	Qatar <sup>b</sup>	Trinidad and Tobago <sup>b</sup>	Other <sup>b,d</sup>	Total	Canada <sup>ç</sup>	Japan <sup>b</sup>	Mexico <sup>c</sup>	Other <sup>b,e</sup>	Total
1950 Total 1955 Total 1960 Total 1960 Total 1965 Total 1975 Total 1975 Total 1975 Total 1980 Total 1985 Total 1990 Total 1990 Total 1990 Total 2001 Total 2001 Total 2002 Total 2002 Total 2003 Total 2004 Total 2005 Total 2006 Total 2007 Total 2008 Total 2008 Total 2009 Total 2009 Total 2007 Total 2008 Total 2009 Total 2010 Total 2011 Total 2011 Total 2011 Total 2011 Total 2012 Total 2012 Total	0 0 0 1 5 86 84 47 65 27 53 129 7 77 7 0 0 0 0	0 11 109 948 797 926 1,448 2,816 3,544 3,785 3,437 3,607 3,700 3,590 3,783 3,783 3,783 3,281 3,281 2,963 2,786	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 (s) 47 22 (s) 102 0 0 7 12 10 2 0 0 9 13 4 43 288 30 3 0 1	0 0 0 0 0 0 0 0 0 0 0 0 13 38 8 50 12 8 75 12 13 42 2 0 3	0 0 0 0 0 0 0 0 0 0 0 46 23 35 14 12 3 3 18 3 46 91 46 91	0 0 0 0 0 0 0 0 0 0 0 0 0 99 98 151 378 443 439 389 448 267 236 129 129 129 127 127 127 127 127 127 127 127 127 127	0 0 0 0 0 0 0 0 0 0 0 0 21 14 8 8 11 46 11 11 18 15 29 81 92 81	0 116 456 821 953 985 950 1,532 2,841 3,977 4,341 4,186 3,984 4,254 1,341 4,186 3,771 3,741 3,438 3,138 2,883	3 11 6 18 11 10 (s) (s) 17 28 73 167 189 271 395 358 341 42 559 701 739 937 971	0 0 0 444 543 445 543 545 545 666 663 666 665 647 47 39 133 184 14	23 20 6 8 15 9 4 2 16 61 106 141 263 343 395 322 292 365 333 499 620 661	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26 31 11 26 70 73 49 55 86 154 373 516 680 854 729 724 822 963 1,072 1,137 1,561 1,572
2014 January February March April July June July August September October November December Total	0 0 0 0 0 0 0 0 0	287 242 231 198 204 192 195 205 196 214 227 246 <b>2,635</b>	0 0 0 0 0 0 0 0 0	(s) (s) (s) (s) (s) (s) (s) (s) (s) (s)	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	6 4 3 3 0 7 6 2 3 4 0 5 <b>43</b>	2 0 0 0 3 3 0 0 3 3 0 0 3 3 1 6	295 245 234 201 207 202 201 207 202 221 227 254 <b>2,695</b>	82 85 91 65 50 55 47 52 52 62 73	0 0 0 0 2 0 3 3 3 3 0 0 0	53 51 58 57 62 65 69 66 65 60 59 64 <b>729</b>	0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	135 139 150 122 114 120 127 115 120 115 121 137 <b>1,514</b>
Pebruary February March April May June July August September October November December Total	0 0 0 0 0 0 0 0 0	268 242 243 202 203 204 210 203 203 218 211 222 <b>2,626</b>	0 0 0 0 0 0 0 0	(s) (s) (s) (s) (s) (s) (s) (s) (s)	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	9 10 12 3 2 3 7 11 6 3 4 2 <b>71</b>	2 3 0 0 0 0 0 0 6 3 3 20	279 254 257 205 204 206 217 214 209 226 218 227 <b>2,718</b>	73 78 90 53 45 45 40 41 60 57 61 59	0 0 0 0 0 0 3 3 3 0 0 8	69 65 74 77 87 91 101 100 98 92 100 <b>1,054</b>	3 3 0 0 3 3 0 0 3 0 0 3 3 0 0 3 3 2 0	145 145 164 130 134 138 144 145 163 159 156 162 1,784
2016 January February March April May June July August September 9-Month Total	0 0 0 0 0 0 0	262 242 232 237 243 234 259 253 234 <b>2,196</b>	0 0 0 0 0 0 0	(s) (s) (s) (s) (s) (s) (s) (s)	0 0 0 0 0 0 0	0 0 0 0 0 0 0	12 10 9 5 5 8 6 8 3 <b>64</b>	0 0 0 0 0 0 0	274 252 241 241 248 242 265 261 237 <b>2,261</b>	70 62 81 63 63 51 50 55 61 <b>556</b>	0 0 0 0 0 0 0	99 97 103 103 113 114 120 134 127 <b>1,010</b>	0 3 10 10 10 16 16 23 13	169 163 195 176 186 181 R 186 212 202 <b>1,668</b>
2015 9-Month Total 2014 9-Month Total	0 0	1,976 1,948	0 0	1 1	0 0	0 0	62 34	7 11	2,046 1,993	524 582	6 10	765 546	14 3	1,308 1,141

Includes re-exports

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."

• 1988–2013: EIA, Natural Gas Annual, annual reports. • 2014 forward: EIA, Natural Gas Monthly, November 2016, Tables 4 and 5; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

Includes re-exports.
 As liquefied natural gas.
 By pipeline, except for small amounts of: liquefied natural gas (LNG) imported from Canada in 1973, 1977, 1981, and 2013 forward; LNG exported to Canada in 2007 and 2012 forward; compressed natural gas (CNG) imported from Canada in 2014 forward; 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

Mexico beginning in 1998. See Note 9, "Natural Gas Imports and Exports," at end of section.

d Australia in 1997–2001 and 2004; Brunei in 2002; Equatorial Guinea in 2007; Indonesia in 1986 and 2000; Malaysia in 1999 and 2002–2005; Norway in 2008–2015; Oman in 2000–2005; Peru in 2010 and 2011; United Arab Emirates in 1996–2000; Yemen in 2010–2015; and Other (unassigned) in 2004–2015.

e Argentina in 2016; Barbados in 2016; Brazil in 2010–2012, and 2014 forward; Chile in 2011 and 2016; China in 2011 and 2016; Dominican Republic in 2016; Egypt in 2015; India in 2010–2012, and 2016; Jordan in 2016; Kuwait in 2016; Portugal in 2010 and 2016; Russia in 2007; South Korea in 2009–2011; Spain in 2010–2011 and 2016; Taiwan in 2015; Turkey in 2015 and 2016; United Arab Emirates in 2016; and United Kingdom in 2010 and 2011.

R=Revised. (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 psis (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 of Columbia.

Table 4.3 Natural Gas Consumption by Sector

(Billion Cubic Feet)

	End-Use Sectors											
					Industrial			Tr	ansportatio	n	1	
	<b>5</b>	B			Other Industri	al		Pipelinesd			Electric	
	Resi- dential	Com- mercial <sup>a</sup>	Lease and Plant Fuel	CHPb	Non-CHP <sup>C</sup>	Total	Total	and Dis- tribution <sup>e</sup>	Vehicle Fuel	Total	Power Sector <sup>f,g</sup>	Total
1950 Total 1955 Total 1965 Total 1960 Total 1965 Total 1970 Total 1977 Total 1975 Total 1980 Total 1980 Total 1990 Total 1990 Total 1995 Total 2000 Total 2001 Total 2002 Total 2003 Total 2004 Total 2005 Total 2007 Total 2007 Total 2008 Total 2009 Total 2009 Total 2010 Total 2011 Total 2011 Total 2012 Total 2013 Total 2014 Total 2015 Total 2017 Total 2018 Total 2019 Total	1,198 2,124 3,103 3,903 4,837 4,924 4,4752 4,433 4,391 4,850 4,996 4,869 4,869 4,827 4,369 4,827 4,369 4,722 4,892 4,779 4,782 4,779 4,782 4,150 4,897	388 629 1,020 1,444 2,399 2,561 2,432 2,623 3,031 3,182 3,023 3,144 3,179 2,999 2,832 3,013 3,153 3,119 3,103 3,119 3,103 3,15	928 1,131 1,237 1,156 1,399 1,396 1,026 966 1,236 1,220 1,151 1,119 1,113 1,122 1,142 1,226 1,220 1,220 1,220 1,151 1,113 1,122 1,142 1,226 1,220 1,22	(h) (h) (h) (h) (h) (h) (h) (h) (h) (h)	2,498 3,411 4,535 5,955 7,851 6,968 7,57 6,906 6,757 6,906 6,757 6,007 6,007 6,007 6,112 5,604 5,715 5,797 5,931 6,255	2,498 3,411 4,535 5,851 6,968 7,851 5,901 8,164 8,164 8,144 7,527 7,150 6,601 6,655 6,670 6,826 6,924 7,425	3,426 4,542 5,771 7,112 9,249 8,365 8,198 6,867 8,255 9,384 9,293 8,463 8,640 8,273 8,354 7,713 7,669 7,481 7,890 7,443 8,112 8,317 8,622 8,909	126 245 347 501 722 583 504 660 700 642 667 591 566 584 584 621 648 670 674 688 731 833	NA NA NA NA NA NA NA (s) 5 13 15 15 12 23 24 25 26 27 29 30 30	126 245 347 501 722 583 504 660 705 655 640 682 610 587 607 608 646 674 674 677 703 718 761 863	629 1,153 1,725 2,321 3,932 3,158 3,682 3,044 4,237 5,342 5,672 5,135 5,464 5,869 6,841 6,668 6,873 7,387 7,587 7,587	5,767 8,694 11,967 15,280 21,139 19,538 19,877 17,281 19,174 22,207 23,333 22,239 23,027 22,277 22,403 22,014 21,699 23,104 23,277 24,087 24,477 25,538 26,155
Page 1 Page 1 Page 1 Page 2 Pa	1,037 853 700 356 203 126 113 105 122 212 544 717 <b>5,087</b>	572 490 421 251 177 141 138 137 149 202 362 427 <b>3,466</b>	121 112 125 124 127 124 130 131 127 132 127 133 <b>1,512</b>	106 89 94 89 92 91 99 101 95 95 94 100 <b>1,145</b>	617 570 586 538 514 495 506 508 496 515 565 590 <b>6,501</b>	722 659 681 628 606 586 605 609 591 610 660 690 <b>7,646</b>	843 771 805 751 733 709 735 740 718 742 787 823 <b>9,158</b>	86 73 68 51 47 45 49 50 47 50 62 71	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	89 76 71 54 50 48 52 53 50 53 65 74 <b>735</b>	663 551 561 549 647 721 843 898 771 703 600 639 <b>8,146</b>	3,204 2,741 2,558 1,962 1,810 1,745 1,881 1,933 1,809 1,913 2,358 2,679 <b>26,593</b>
Page 1 September 2 Cotober November 2 Cotober Total	937 902 633 319 177 124 108 103 108 201 406 591 <b>4,610</b>	532 517 385 232 160 135 134 135 138 195 283 352 <b>3,199</b>	132 121 135 132 135 131 135 135 135 135 135 135 135 135	R 103 R 92 R 99 R 93 R 95 R 101 R 109 R 110 R 102 R 103 R 103 R 110 R 1,222	R 616 R 569 R 564 R 516 R 509 R 475 R 483 R 490 R 477 R 512 R 536 R 6,313	720 661 663 609 604 576 593 601 580 614 639 675 <b>7,535</b>	852 782 798 741 739 706 728 735 712 749 770 810 <b>9,121</b>	77 73 64 49 45 46 50 50 46 48 55 64	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	81 76 67 52 48 49 54 53 49 52 58 67 <b>706</b>	R 711 R 648 709 R 664 R 734 R 886 R 1,046 R 1,027 R 895 R 792 R 732 R 769 R 9,613	R 3,113 R 2,924 2,592 R 2,009 R 1,859 R 1,901 R 2,069 R 2,053 R 1,903 R 1,988 R 2,250 R 2,588 R 2,7,249
2016 January	889 R 697 457 330 196 123 108 102 111 <b>3,014</b>	507 416 299 234 172 139 136 R 141 145 <b>2,189</b>	E 134 E 127 E 134 E 129 E 133 E 127 E 131 E 132 E 127	R 108 R 100 R 103 R 101 R 102 R 104 R 109 R 110 104 <b>942</b>	R 614 R 566 R 565 R 523 R 515 R 492 R 512 R 520 503 <b>4,810</b>	R 721 666 R 668 R 624 617 R 596 R 621 R 631 608 <b>5,752</b>	R 855 793 R 802 R 753 750 723 R 752 R 763 735 <b>6,926</b>	E 76 E 65 E 58 E 51 E 48 E 49 E 54 E 54 E 54 E 54	E 3 E 3 E 3 E 3 E 4 E 4 E 4	E 79 E 68 E 61 E 54 E 52 E 52 E 57 E 58 E 51 E 532	R 771 R 686 R 744 R 723 R 808 R 971 R 1,142 R 1,155 915 <b>7,915</b>	R 3,101 R 2,661 R 2,364 R 2,094 I,976 R 2,009 R 2,195 R 2,218 I,957 <b>20,576</b>
2015 9-Month Total 2014 9-Month Total	3,411 3,615	2,369 2,476	1,187 1,120	906 856	4,700 4,830	5,606 5,686	6,793 6,806	499 517	29 26	529 543	7,321 6,203	20,423 19,644

<sup>&</sup>lt;sup>a</sup> 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

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

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: 1949–2013—U.S. Energy Information Administration (EIA), Natural Gas Annual (NGA), annual reports and unpublished revisions. 2014 forward—EIA, Natural Gas Monthly (NGM), November 2016, Table 2. • Other Industrial CHP: Table 7.4c. • Other Industrial Non-CHP: Calculated as other industrial total minus 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. 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). 1999–2013—EIA, NGA, annual reports. 2014 forward—EIA, NGM, November 2016, 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.

electricity-only plants.

<sup>c</sup> All industrial sector fuel use other than that in "Lease and Plant Fuel" and

C All industrial sector fuel use other than that the Lease Composition 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.

A 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.

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, on electricity and heat, to the public.

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

for electric utilities and independent power producers.

Included in "Non-CHP."

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.

R=Revised. 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.

Table 4.4 Natural Gas in Underground Storage

(Volumes in Billion Cubic Feet)

So Total		Natural Gas in Underground Storage, End of Period			From Sar	Vorking Gas ne Period us Year		Storage Activity			
1.5 Total		Base Gas	Working Gas	Totala	Volume	Percent	Withdrawals	Injections	Net <sup>b,c</sup>		
1.5 Total	950 Total	NA	NA	NA	NA	NA	175	230	-54		
So Total	955 Total	863	505	1,368		8.7	437	505	-68		
15 Total	60 Total	NA	NA		NA	NA	713	844	-132		
70 Total	65 Total								-118		
75 Total	70 Total								-398		
80 Total	75 Total										
STORIS    3.842   2.607   6.448   -270   -9.4   2.359   2.128   233   233   233   233   234   235   233   234   235   233   234   235	80 Total								14		
93 Total	85 Total										
15 Total	90 Total										
10 Total	95 Total										
10 Total	00 Total										
12 Total	00 Total			7.204							
13 Total	01 10tal			7,204 6.74 F							
14 Total	02 Total										
15 Iotal	03   Otal						3,099				
16 Total	04 <u>lotai</u>						3,037				
17 Total	US TOTAL										
17 Total	06 Iotal										
18 Total	07 Total								192		
19 Total	08 Total						3,374		34		
10 Total	09 Total					10.2	2,966		-349		
11 Total	10 Total	4,301	3,111	7,412	-19	6	3,274	3,291	-17		
12 Total	11 Total	4.302	3,462	7.764	351	11.3			-348		
13 Total	12 Total	4,372	3,413		-49	-1.4		2,825	-7		
14 January	13 Total	4,365	2,890	7,255	-523	-15.3	3,702	3,156	546		
February 4,360 1,200 5,560 899 42.8 833 104 722 March 4,350 857 5,207 863 50.2 488 134 355 April 4,357 1,066 5,423 789 42.5 105 323 2-11 May 4,353 1,548 5,901 722 31.8 51 529 477 June 4,358 2,005 6,364 637 -24.1 44 506 46. July 4,361 2,400 6,761 -537 -18.3 63 463 463 400 August 4,366 2,768 7,135 444 -13.8 73 447 377 September 4,369 3,187 7,556 -377 -10.6 47 469 42.2 Cotober 4,367 3,587 7,955 -230 -6.0 52 452 450 November 4,367 3,587 7,955 -230 -6.0 52 452 450 November 4,365 3,141 7,506 251 8.7 429 143 286 Total 4,365 3,141 7,506 251 8.7 429 143 286 Total 4,365 3,141 7,506 251 8.7 3,566 3,899 -255  15 January 4,361 2,415 6,776 490 25,5 795 70 72 February 4,360 1,674 6,034 474 33.5 803 62 742 March 4,361 1,460 5,841 6,23 72.6 376 132 132 May 4,362 1,862 6,669 7,623 660 22 46 8 430 44 44 43 30.5 803 62 742 May 4,365 3,141 7,506 584 173 660 384 44 452 339 May 4,363 1,862 7,789 6,669 7,789 660 384 44 452 339 June 4,367 3,587 7,955 6,699 488 3 44 452 339 June 4,367 3,567 7,967 490 25,5 795 70 72 February 4,360 1,674 6,034 474 33.5 803 62 742 March 4,361 3,460 5,841 6,22 736 60 8 8 430 84 405 339 June 4,367 3,566 3,899 -265  July 4,367 2,293 7,305 650 322 2,2 88 430 362 July 4,367 2,293 7,305 650 322 2,2 88 430 366 July 4,367 3,257 7,987 435 13,7 63 343 344 344 344 345 325 344 344 345 325 344 344 325 344 344 325 344 344 325 344 325 344 344 325 344 344 325 344 344 325 344 344 345 345 345 345 345 345 345 34											
February 4,360 1,200 5,560 899 42.8 833 104 722 March 4,350 857 5,207 863 50.2 488 134 355 April 4,357 1,066 5,423 789 42.5 105 323 2-11 May 4,353 1,548 5,901 722 31.8 51 529 477 June 4,358 2,005 6,364 637 -24.1 44 506 46. July 4,361 2,400 6,761 -537 -18.3 63 463 463 400 August 4,366 2,768 7,135 444 -13.8 73 447 377 September 4,369 3,187 7,556 -377 -10.6 47 469 42.2 Cotober 4,367 3,587 7,955 -230 -6.0 52 452 450 November 4,367 3,587 7,955 -230 -6.0 52 452 450 November 4,365 3,141 7,506 251 8.7 429 143 286 Total 4,365 3,141 7,506 251 8.7 429 143 286 Total 4,365 3,141 7,506 251 8.7 3,566 3,899 -255  15 January 4,361 2,415 6,776 490 25,5 795 70 72 February 4,360 1,674 6,034 474 33.5 803 62 742 March 4,361 1,460 5,841 6,23 72.6 376 132 132 May 4,362 1,862 6,669 7,623 660 22 46 8 430 44 44 43 30.5 803 62 742 May 4,365 3,141 7,506 584 173 660 384 44 452 339 May 4,363 1,862 7,789 6,669 7,789 660 384 44 452 339 June 4,367 3,587 7,955 6,699 488 3 44 452 339 June 4,367 3,567 7,967 490 25,5 795 70 72 February 4,360 1,674 6,034 474 33.5 803 62 742 March 4,361 3,460 5,841 6,22 736 60 8 8 430 84 405 339 June 4,367 3,566 3,899 -265  July 4,367 2,293 7,305 650 322 2,2 88 430 362 July 4,367 2,293 7,305 650 322 2,2 88 430 366 July 4,367 3,257 7,987 435 13,7 63 343 344 344 344 345 325 344 344 345 325 344 344 325 344 344 325 344 344 325 344 325 344 344 325 344 344 325 344 344 325 344 344 345 345 345 345 345 345 345 34	14 January										
April 4,357 1,066 5,423 -789 42.5 105 323 -21.7 May 4,353 1,548 5,901 -722 -31.8 51 52.9 4.77 June 4,358 2,005 6,364 -637 -24.1 44 506 46.5 July 4,361 2,400 6,761 -537 -18.3 63 63 463 463 400 August 4,366 2,768 7,135 -444 13.8 73 447 -37. September 4,369 3,187 7,556 -377 -10.6 47 469 42.2 October 4,367 3,587 7,955 -230 -6.0 52 452 -400 November 4,367 3,587 7,955 -230 -6.0 52 452 -400 November 4,367 3,427 7,794 -17.506 251 8.7 429 143 288 Total 4,365 3,141 7,506 251 8.7 429 143 288 Total 4,365 3,141 7,506 251 8.7 429 143 288 Total 4,365 3,141 7,506 251 8.7 3,586 3,839 -255 15 January 4,360 1,674 6,034 474 39.5 803 62 74.4 March 4,361 1,480 5,841 623 72.6 376 89.0 84 405 -322 May 4,363 2,296 6,669 748 48.3 44 542 -49.1 June 4,367 2,656 7,025 669 748 48.3 44 542 -49.1 June 4,367 2,2656 7,025 7,967 435 13.7 63 435 -37.0 Cotober 4,365 3,622 7,967 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 3.0 September 4,365 3,622 7,967 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,364 3,365 3,622 7,967 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,361 2,446 6,697 7,867 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,360 3,675 8,338 534 17.0 3,101 3,639 -531 16 January 4,361 2,446 6,697 7,87 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,363 3,675 8,338 534 17.0 3,101 3,639 -531 16 January 4,361 2,446 6,697 7,87 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,363 2,246 6,697 7,87 435 13.7 63 435 -37.0 November 4,368 3,355 8,303 508 14.8 214 201 17.0 March 4,366 3,675 8,038 534 17.0 3,101 3,639 -531 14 January 4,360 3,269 7,689 396 13.5 150 284 -13.0 March 4,356 2,254 7,007 8,007 9,26 47.3 130 294 16.6 May 4,360 3,297 7,557 541 20.4 94 318 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.	February										
April 4,357 1,066 5,423 -789 42.5 105 323 -217 May 4,353 1,548 5,901 -722 -31.8 51 529 -477 June 4,358 2,005 6,364 -637 -24.1 44 506 -465 July 4,361 2,400 6,761 -537 -18.3 63 463 -400 August 4,366 2,768 7,135 -444 13.8 73 447 -37. September 4,369 3,187 7,556 -377 -10.6 47 469 -422 October 4,367 3,587 7,955 -230 -6.0 52 452 -400 November 4,367 3,587 7,955 -230 -6.0 52 452 -400 November 4,367 3,427 7,794 -178 -5.0 361 200 16	March	4,350	857	5,207	-863	-50.2	488	134	353		
May         4,353         1,548         5,901         -722         -31.8         51         529         -475           June         4,358         2,005         6,364         -637         -24.1         44         506         -466           July         4,361         2,400         6,761         -537         -18.3         63         463         -400           August         4,366         2,768         7,135         -444         -13.8         73         447         -499         -422           October         4,369         3,187         7,556         -377         -10.6         47         -499         -422           October         4,367         3,427         7,794         -178         -5.0         361         200         16*           December         4,365         3,141         7,506         251         8.7         3,586         3,839         -25*           15 January         4,361         2,415         6,776         490         25.5         795         70         72*           February         4,360         1,674         6,034         474         39.5         803         62         744           March <td< td=""><td>April</td><td>4,357</td><td>1,066</td><td>5,423</td><td>-789</td><td>-42.5</td><td>105</td><td>323</td><td>-217</td></td<>	April	4,357	1,066	5,423	-789	-42.5	105	323	-217		
June	May	4,353	1,548	5,901	-722	-31.8	51	529	-478		
July 4,361 2,400 6,761 537 -18.3 63 463 -400 August 4,366 2,768 7,135 -444 -13.8 73 447 37.7 September 4,369 3,187 7,556 377 -10.6 47 469 -42. October 4,367 3,587 7,955 -230 -6.0 52 452 -400 November 4,367 3,427 7,794 -178 -5.0 361 200 16. December 4,365 3,141 7,506 251 8.7 429 143 288 Total 4,365 3,141 7,506 251 8.7 3,586 3,839 -25.  15 January 4,361 2,415 6,776 490 25.5 795 70 72. February 4,360 1,674 6,034 474 39.5 803 62 74. March 4,361 1,480 5,841 623 72.6 376 182 193. April 4,360 1,802 6,162 736 69.0 84 405 -32. May 4,363 2,296 6,659 748 88.3 44 552 -49. June 4,367 2,656 7,023 650 32.4 68 430 -36. July 4,372 2,933 7,305 533 22.2 96 6 379 -28. August 4,364 3,250 7,614 482 17.4 85 394 -30. September 4,365 3,622 7,987 435 13.7 63 3435 -37. October 4,365 3,651 8,365 8,038 534 17.0 401 -33. November 4,368 3,935 8,038 534 17.0 403 138 26. February 4,361 2,949 7,311 534 22.1 795 66 722 July 4,363 2,546 6,907 872 52.1 515 111 40. March 4,358 2,949 6,848 1,016 68 6 274 215 50. May 4,363 3,675 8,038 534 17.0 403 138 26. Total 4,360 3,297 7,555 7,333 679 29.6 58 32.4 94 363 2.4 201 12. December 4,368 3,935 8,038 534 17.0 403 138 26. Total 4,361 2,949 7,311 534 22.1 795 66 722 July 4,363 3,675 8,038 534 17.0 403 138 26. May 4,358 2,949 7,331 534 22.1 795 66 724 215 50. March 4,358 2,949 7,331 534 22.1 795 66 724 215 50. May 4,360 3,297 7,535 7,333 679 29.6 75 402 3.2 July 4,360 3,299 7,899 396 13.5 150 284 -13. August 4,364 3,550 7,764 204 94 318 -22. July 4,360 3,297 7,597 7,333 679 29.6 75 402 3.2 July 4,360 3,299 7,899 396 13.5 150 284 -13. August 4,364 3,550 3,717 8,077 94 2.6 88 351 -26. September 4,360 3,177 7,56 89 396 13.5 150 284 -13. August 4,360 3,453 7,781 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.4 94 318 -22. July 4,360 3,379 7,557 541 20.		4.358	2.005	6.364	-637	-24.1	44	506	-463		
August         4,366         2,768         7,135         -444         -13.8         73         447         327           September         4,367         3,587         7,556         -377         -10.6         47         469         -422           October         4,367         3,587         7,955         -230         -6.0         52         452         -400           November         4,365         3,427         7,794         -178         -5.0         361         200         16           December         4,365         3,141         7,506         251         8.7         429         143         286           Total         4,365         3,141         7,506         251         8.7         3,586         3,839         -255           15 January         4,361         2,415         6,776         490         25.5         795         70         725           February         4,3661         1,480         5,841         623         72.6         376         182         193           April         4,3663         2,296         6,659         748         483         44         542         499           June         4,367 <t< td=""><td></td><td></td><td></td><td>6.761</td><td></td><td></td><td></td><td></td><td></td></t<>				6.761							
September         4,369         3,187         7,556         -377         -10.6         47         469         422           October         4,367         3,587         7,955         -230         -6.0         52         452         -400           November         4,367         3,427         7,794         -178         -5.0         361         200         16           December         4,365         3,141         7,506         251         8.7         429         143         288           Total         4,365         3,141         7,506         251         8.7         3,586         3,839         -25           15 January         4,360         1,674         6,034         474         39.5         803         62         742           February         4,360         1,674         6,034         474         39.5         803         62         742           March         4,366         1,802         6,162         736         69.0         84         405         -322           May         4,367         2,656         7,023         650         32.4         68         430         -362           July         4,372         2,933	August										
October         4 367         3 587         7 955         -230         -6.0         52         452         -406           November         4 365         3 141         7,506         251         8.7         429         143         288           Total         4,365         3,141         7,506         251         8.7         429         143         288           Total         4,365         3,141         7,506         251         8.7         429         143         288           Total         4,365         3,141         7,506         251         8.7         3,586         3,839         -253           15 January         4,361         2,415         6,776         490         25.5         795         70         725           February         4,360         1,674         6,034         474         39.5         803         62         744           March         4,361         1,480         5,841         623         72.6         376         182         199           April         4,3663         2,296         6,659         748         48.3         44         542         499           Juhe         4,367         2,656	Sentember										
November         4,367         3,427         7,794         -178         -5.0         361         200         166           December         4,365         3,141         7,506         251         8.7         429         143         28           Total         4,365         3,141         7,506         251         8.7         3,586         3,839         -253           15 January         4,361         2,415         6,776         490         25.5         795         70         725           February         4,360         1,674         6,034         474         39.5         803         62         744           March         4,361         1,480         5,841         623         72.6         376         182         193           April         4,360         1,802         6,162         736         69.0         84         405         -32           May         4,363         2,296         6,659         748         48.3         44         542         499           July         4,367         2,656         7,023         650         32.4         68         430         -36           August         4,364         3,250	Octobor										
December         4,365         3,141         7,506         251         8,7         429         143         286           Total         4,365         3,141         7,506         251         8,7         3,586         3,839         -257           15 January         4,361         2,415         6,776         490         25.5         795         70         72           February         4,360         1,674         6,034         474         39.5         803         62         744           March         4,361         1,480         5,841         623         72.6         376         182         199           April         4,363         2,296         6,659         748         48.3         44         542         499           May         4,363         2,296         6,659         748         48.3         44         542         499           July         4,372         2,933         7,305         533         22.2         96         379         -28           August         4,364         3,250         7,614         482         17.4         85         394         -30           September         4,365         3,622	October										
Total         4,365         3,141         7,506         251         8.7         3,586         3,839         -255           15 January         4,361         2,415         6,776         490         25.5         795         70         725           February         4,360         1,674         6,034         474         39.5         803         62         742           March         4,361         1,480         5,841         623         72.6         376         182         199           April         4,360         1,802         6,162         736         69.0         84         405         322           May         4,363         2,296         6,659         748         48.3         44         542         -499           Jule         4,367         2,656         7,023         650         32.4         68         430         -362           July         4,372         2,933         7,305         533         22.2         96         379         -28           August         4,364         3,250         7,614         482         17.4         85         394         -30           September         4,365         3,951	November										
15 January	December										
February 4,360 1,674 6,034 474 39.5 80.3 62 74.5 March 4,361 1,480 5,841 623 72.6 376 182 192 193	l otal	4,365	3,141	7,506	251	8.7	3,586	3,839	-253		
February 4,360 1,674 6,034 474 39.5 803 62 74.6 March 4,361 1,480 5,841 623 72.6 376 182 199.  April 4,360 1,802 6,162 736 69.0 84 405 32.  May 4,363 2,296 6,659 748 48.3 44 542 49.  June 4,367 2,656 7,023 650 32.4 68 430 -36.  July 4,372 2,933 7,305 533 22.2 96 379 -28.  August 4,364 3,250 7,614 482 17.4 85 394 -30.  September 4,365 3,951 8,316 363 10.1 70 401 -33.  November 4,368 3,935 8,303 508 14.8 214 201 12.  December 4,368 3,935 8,038 534 17.0 403 138 26.  Total 4,363 3,675 8,038 534 17.0 403 138 26.  Total 4,361 2,949 7,311 534 22.1 795 66 728.  February 4,361 2,949 7,311 534 22.1 795 66 728.  February 4,361 2,949 7,311 534 22.1 795 66 728.  February 4,361 2,949 7,311 534 22.1 795 66 728.  February 4,361 2,949 7,311 534 22.1 795 66 728.  March 4,352 2,496 6,848 1,016 68.6 274 215 55.  April 4,358 2,975 7,333 679 29.6 75 402 -32.  June 4,360 3,197 7,557 541 20.4 94 318 -22.  June 4,360 3,197 7,557 541 20.4 94 318 -22.  June 4,360 3,329 7,689 396 13.5 150 284 -13.  August 4,361 3,453 7,814 203 6.2 162 286 -12.  September 4,360 3,717 8,077 94 2.6 88 351 -26.  9-Month Total ————————————————————————————————————	15 January	4 361	2 415	6 776	490	25.5	795	70	725		
March         4,361         1,480         5,841         623         72.6         376         182         193           April         4,360         1,802         6,162         736         69.0         84         405         -32°           May         4,363         2,296         6,669         748         48.3         44         542         499           June         4,367         2,656         7,023         650         32.4         68         430         -36           July         4,372         2,933         7,305         533         22.2         96         379         -28           August         4,364         3,250         7,614         482         17.4         85         394         -30           September         4,365         3,622         7,987         435         13.7         63         435         -37           October         4,368         3,935         8,316         363         10.1         70         401         -33°           November         4,368         3,935         8,038         534         17.0         403         138         26           Total         4,363         3,675         8	February								742		
April         4,360         1,802         6,162         736         69.0         84         405         -32*           May         4,363         2,296         6,659         748         48.3         44         542         -49*           June         4,367         2,656         7,023         650         32.4         68         430         -36*           July         4,372         2,933         7,305         533         22.2         96         379         -28*           August         4,364         3,250         7,614         482         17.4         85         394         -30*           September         4,365         3,622         7,987         435         13.7         63         435         -37*           October         4,368         3,935         8,303         508         14.8         214         201         11*           December         4,363         3,675         8,038         534         17.0         403         138         26*           Total         4,363         3,675         8,038         534         17.0         3,101         3,639         -536*           16 January         4,361         2,949 </td <td>March</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	March										
May         4 363         2 296         6 659         748         48.3         44         542         -497           June         4 367         2 656         7,023         650         32.4         68         430         -362           July         4,372         2,933         7,305         533         22.2         96         379         -288           August         4,364         3,250         7,614         482         17.4         85         394         -303           September         4,365         3,622         7,987         435         13.7         63         435         -377           October         4,365         3,951         8,316         363         10.1         70         401         -337           November         4,368         3,935         8,303         508         14.8         214         201         11           December         4,363         3,675         8,038         534         17.0         431         138         266           Total         4,361         2,949         7,311         534         22.1         795         66         725           February         4,361         2,949	Δnril										
Jurie         4,367         2,656         7,023         650         32.4         68         430         -36.           July         4,372         2,933         7,305         533         22.2         96         379         -28.           August         4,364         3,250         7,614         482         17.4         85         394         -30.           September         4,365         3,622         7,987         435         13.7         63         435         -37.           October         4,365         3,951         8,316         363         10.1         70         401         -33.           November         4,368         3,935         8,303         508         14.8         214         201         11.2           December         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         403         138         26           February         4,361         2,949         7,311         534         22.1         795         66         72           Barriary         4,362         2,496 <td>May</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0<del>4</del></td> <td></td> <td></td>	May						0 <del>4</del>				
July         4 372         2,933         7,305         533         22.2         96         379         -283           August         4,364         3,250         7,614         482         17.4         85         394         -305           September         4,365         3,622         7,987         435         13.7         63         435         -377           October         4,368         3,935         8,303         508         14.8         214         201         11           December         4,368         3,935         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,361         2,949         7,311         534         22.1         795         66         725           February         4,361         2,949         7,311         534         22.1         795         66         725           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654	luno										
August       4,364       3,250       7,614       482       17.4       85       394       -305         September       4,365       3,622       7,987       435       13.7       63       435       -372         October       4,365       3,951       8,316       363       10.1       70       401       -333         November       4,368       3,935       8,038       534       17.0       403       138       266         Total       4,363       3,675       8,038       534       17.0       403       138       266         Total       4,363       3,675       8,038       534       17.0       403       138       266         Total       4,363       3,675       8,038       534       17.0       403       138       266         January       4,361       2,949       7,311       534       22.1       795       66       725         February       4,361       2,949       7,311       534       22.1       795       66       725         February       4,361       2,949       6,848       1,016       68.6       274       215       55         April <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
September         4,365         3,622         7,987         435         13,7         63         435         -37;           October         4,365         3,951         8,316         363         10.1         70         401         -33;           November         4,368         3,935         8,303         508         14.8         214         201         11           December         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,361         2,949         7,311         534         22.1         795         66         728           February         4,361         2,949         7,311         534         22.1         795         66         728           April         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,358         2,975	July										
October         4,365         3,951         8,316         363         10.1         70         401         -33°           November         4,368         3,935         8,303         508         14.8         214         201         12           December         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         3,101         3,639         -536           16 January         4,361         2,949         7,311         534         22.1         795         66         726           February         4,361         2,546         6,907         872         52.1         515         111         400           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -16           May         4,358         2,975         7,333         679         29.6         75         402         -327           July         4,360         3,329 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
November         4,368         3,935         8,303         508         14.8         214         201         11           December         4,363         3,675         8,038         534         17.0         403         138         264           Total         4,363         3,675         8,038         534         17.0         403         138         264           I6 January         4,361         2,949         7,311         534         22.1         795         66         725           February         4,361         2,546         6,907         872         52.1         515         111         403           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -16           May         4,358         2,975         7,333         679         29.6         75         402         -32           July         4,360         3,197         7,557         541         20.4         94         318         -224           July         4,361         3,453											
November         4,368         3,935         8,303         508         14.8         214         201         12           December         4,363         3,675         8,038         534         17.0         403         138         26           Total         4,363         3,675         8,038         534         17.0         403         138         26           February         4,361         2,949         7,311         534         22.1         795         66         72           February         4,361         2,546         6,907         872         52.1         515         111         400           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -16           May         4,358         2,975         7,333         679         29.6         75         402         -32           July         4,360         3,197         7,557         541         20.4         94         318         -22           July         4,360         3,453 <td< td=""><td>October</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	October										
Total         4,363         3,675         8,038         534         17.0         3,101         3,639         -538           16 January         4,361         2,949         7,311         534         22.1         795         66         728           February         4,361         2,546         6,907         872         52.1         515         111         400           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -164           May         4,358         2,975         7,333         679         29.6         75         402         -327           June         4,360         3,197         7,557         541         20.4         94         318         -224           July         4,360         3,329         7,689         396         13.5         150         284         -133           August         4,361         3,453         7,814         203         6.2         162         286         -124           September         4,360         3,717 <td>November</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>12</td>	November								12		
Total         4,363         3,675         8,038         534         17.0         3,101         3,639         -538           16 January         4,361         2,949         7,311         534         22.1         795         66         728           February         4,361         2,546         6,907         872         52.1         515         111         400           March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -164           May         4,358         2,975         7,333         679         29.6         75         402         -327           June         4,360         3,197         7,557         541         20.4         94         318         -224           July         4,360         3,329         7,689         396         13.5         150         284         -133           August         4,361         3,453         7,814         203         6.2         162         286         -124           September         4,360         3,717 <td>December</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>264</td>	December								264		
February	Total	4,363	3,675	8,038	534	17.0	3,101	3,639	-538		
February	6 Ionuani	1 261	2.040	7 211	E24	22.1	705	66	700		
March         4,352         2,496         6,848         1,016         68.6         274         215         55           April         4,356         2,654         7,010         852         47.3         130         294         -16           May         4,358         2,975         7,333         679         29.6         75         402         -32           June         4,360         3,197         7,557         541         20.4         94         318         -224           July         4,360         3,329         7,689         396         13.5         150         284         -13           August         4,361         3,453         7,814         203         6.2         162         286         -124           September         4,360         3,717         8,077         94         2.6         88         351         -266           9-Month Total                 2,283         2,328         -48	Echruon/										
April     4,356     2,654     7,010     852     47.3     130     294     -16.       May     4,358     2,975     7,333     679     29.6     75     402     -327       June     4,360     3,197     7,557     541     20.4     94     318     -22*       July     4,360     3,329     7,689     396     13.5     150     284     -13*       August     4,361     3,453     7,814     203     6.2     162     286     -12*       September     4,360     3,717     8,077     94     2.6     88     351     -26*       9-Month Total     -     -     -     -     -     -     -     -     -       15 9-Month Total     -     -     -     -     -     -     -     -     -     48											
May     4,358     2,975     7,333     679     29.6     75     402     -327       June     4,360     3,197     7,557     541     20.4     94     318     -224       July     4,360     3,329     7,689     396     13.5     150     284     -133       August     4,361     3,453     7,814     203     6.2     162     286     -124       September     4,360     3,717     8,077     94     2.6     88     351     -266       9-Month Total           2,283     2,328     -48       15 9-Month Total             489     -484	iviarcn										
June       4,360       3,197       7,557       541       20.4       94       318       -224         July       4,360       3,329       7,689       396       13.5       150       284       -133         August       4,361       3,453       7,814       203       6.2       162       286       -123         September       4,360       3,717       8,077       94       2.6       88       351       -263         9-Month Total              2,283       2,328       -48         15 9-Month Total                 484											
July     4,360     3,329     7,689     396     13.5     150     284     -133       August     4,361     3,453     7,814     203     6.2     162     286     -124       September     4,360     3,717     8,077     94     2.6     88     351     -266       9-Month Total     -     -     -     -     -     -     -     2,328     -45       15 9-Month Total     -     -     -     -     -     -     -     -     -     4899     -484											
July     4,360     3,329     7,689     396     13.5     150     284     -133       August     4,361     3,453     7,814     203     6.2     162     286     -124       September     4,360     3,717     8,077     94     2.6     88     351     -266       9-Month Total           2,283     2,328     -45       15 9-Month Total            2,414     2,899     -484									-224		
August     4,361     3,453     7,814     203     6.2     162     286     -124       September     4,360     3,717     8,077     94     2.6     88     351     -26       9-Month Total          2,283     2,328     -48       15 9-Month Total           2,414     2,899     -48	July			7,689			150		-133		
September	August				203				-124		
9-Month Total 2,283 2,328 -45	September								-263		
15 9-Month Total 2,414 2,899 -484	9-Month Total		,						-45		
							_,	_,	•••		
4 9-Month Total 2,743 3,043 -300									-484 -300		

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 1980–2015, 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 withdrawals 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. − − ≡Not applicable.
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. 1996–2013—EIA, NGM, November 2016, 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," and Federal Energy Regulatory Commission (FERC), Form FEC-8, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FEC-8, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FEC-8, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report," and FERC, Form FERC

# **Natural Gas**

**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:

<b>1975</b> 6,280	<b>1989</b> 8,120	2003	8,206
<b>1976</b> 6,544	<b>1990</b> 7,794	2004	8,255
<b>1977</b> 6,678	<b>1991</b> 7,993	2005	8,268
<b>1978</b> 6,890	<b>1992</b> 7,932	2006	8,330
<b>1979</b> 6,929	<b>1993</b> 7,989	2007	8,402
<b>1980</b> 7,434	<b>1994</b> 8,043	2008	8,499
<b>1981</b> 7,805	<b>1995</b> 7,953	2009	8,656
<b>1982</b> 7,915	<b>1996</b> 7,980	2010	8,764
<b>1983</b> 7,985	<b>1997</b> 8,332	2011	8,849
<b>1984</b> 8,043	<b>1998</b> 8,179	2012	8,991
<b>1985</b> 8,087	<b>1999</b> 8,229	2013	9,173
<b>1986</b> 8,145	<b>2000</b> 8,241	2014	9,233
<b>1987</b> 8,124	<b>2001</b> 8,182	2015	9,231
<b>1988</b> 8,124	<b>2002</b> 8,207		

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 1980–2015 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; "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 in EIA's Natural Gas Navigator 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, 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 tanker from Algeria, Australia, Brunei, Egypt, Equatorial Guinea, Indonesia, Malaysia, Nigeria, Norway, Oman, Peru, Qatar, Trinidad and Tobago, the United Arab Emirates, and Yemen. In addition, small amounts of LNG arrived from Canada in 1973 (667 million cubic feet), 1977 (572 million cubic feet), 1981 (6 million cubic feet), 2013 (555 million cubic feet), 2014 (132 million cubic feet), 2015 (437 million cubic feet), and 2016 (810 million cubic feet). 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 tanker to Argentina, Barbados, Brazil, Chile, China, Dominican Republic, Egypt, India, Japan, Jordan, Kuwait, Portugal, Russia, South Korea, Spain, Taiwan, Turkey, United Arab Emirates, and United Kingdom. Also, small amounts of LNG have gone to Mexico since 1998 and to Canada in 2007 and 2012 forward. Small amounts of CNG have been exported to Canada since 2013.

Annual and final monthly data are from the annual EIA Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," which requires data to be reported by month for the calendar year.

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 *U.S. Imports and Exports of Natural Gas*.