

GAS FACTS

2017

ENERGY RESERVES NATURAL GAS SUPPLY
END USERS SALES TRANSPORTATION VOLUMES
DISTRIBUTION AND TRANSMISSION
FINANCE PERSONNEL DATA
UNDERGROUND STORAGE
ENERGY CONSUMPTION
REVENUES PRICES
HOUSING DATA
GLOSSARY
INDEX

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GAS FACTS

2017

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Statistics and Survey System

The underlying data for many of the tables in *Gas Facts* can be accessed by **AGA members** via the Statistics and Survey System, a Web-based application housed on the AGA website. To access this online database system, visit the site at www.aga.org, and when prompted, enter your AGA website username and password.

For further information or assistance with the Statistics system, AGA members may contact Mr. Paul Pierson, Director, Statistical Services at (202) 824-7133 or via e-mail at ppierson@aga.org.

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INTRODUCTION

GENERAL

The American Gas Association assumed its present status as a gas utility industry trade association in 1918, after a merger of two predecessor organizations. Today it renders assistance to the gas utility industry and provides an advocacy platform for local distribution companies, so that the industry may serve its customers more efficiently. The Association recognizes the need for factual information regarding the gas industry for the use, not only of industry organizations, but also interested outside publics. Its statistical efforts are a vital part of this function, and the publication of *Gas Facts* is one result of these efforts.

This publication contains detailed statistics for 2015 and summary statistics for prior years for the gas utility industry which by definition, consists of the companies engaged in natural gas distribution and transmission. The publication also contains relevant data on the gas producing segment of the industry. Gas volumes are expressed in millions of cubic feet (at 14.73 psi and 60°F unless otherwise noted) and in British thermal units (Btu) to permit direct comparison with other energy data. A conversion table is included as Appendix B. Throughout the publication numbers may not add up to total due to independent rounding.

The user should be aware that a large transportation market has developed, which directly impacts gas utility sales quantities, revenues and number of customers. Although total pipeline throughput may remain the same, as transportation volumes to end-users increase, gas utility sales quantities to end-users will decrease.

Data presented in *Gas Facts*, broken down by company type, are not necessarily comparable from year to year. Acquisitions, mergers and corporate reorganizations continue to cause the number of companies in any given category to vary from year to year. Some of these changes are significant and can cause a dramatic shift in the data reported for a specific category from prior years.

In addition, data and resulting estimates are attributed to utility industry segments in *Gas Facts* as distribution, transmission or integrated, based not only on company operating revenues (see glossary) but also on how the company submitted information in the *Uniform Statistical Report* (USR). For example, if a company submits data under one corporate name, such as qualifying revenue, for distribution and transmission activities combined, then it is placed in the integrated category. However, if a large company submits data for its distribution companies separate from transmission companies, no effort is made to recombine the data to produce an integrated result. Distribution data in this case is attributed to the distribution segment and transmission data to the transmission segment.

SOURCES OF INFORMATION

Most of the information contained in this volume is developed from data forms contained in the *Uniform Statistical Report* and other sources such as the Energy Information Administration (EIA) and the Federal Energy Regulatory Commission (FERC). Tables presented in *Gas Facts* use data primarily from distribution companies submitting a *Uniform Statistical Report* (USR) and estimates for those companies not reporting based on recent historical experience.

Estimates of proved reserves of natural gas are taken from the U.S. Department of Energy report *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves*. Data for gas spaceheating customers were taken from the *AGA Residential Natural Gas Market Survey*. Changes in the quantity and format of data reported to AGA, the Energy Information Administration, the Federal Energy Regulatory Commission and others have influenced the quality and type of tables that can be constructed from the available sources. As a result, tables in this edition have been modified or eliminated compared with previous *Gas Facts* editions based on judgements regarding sample size and data quality.

ACKNOWLEDGEMENTS

Our thanks go to those companies participating in the *Uniform Statistical Report* data gathering effort. Their cooperation and support are the essential elements to making this publication a primary source of gas utility industry data. Also greatly appreciated is the cooperation of the public and governmental agencies credited in *Gas Facts* tables.

Key contributions to this publication have been made by the Director, Statistical Services, Paul Pierson; Statistical Consultant, Kelly Hopkins; and Specialist, Lucy Castañeda-Land.



SECTION 1

2015 IN REVIEW

Highlights from this edition of *Gas Facts*

Supply

- Estimated working gas capacity in underground storage was 4,216 Bcf, with a total deliverability of 95,233 MMcf per day.
- The United States imported 2.7 trillion cubic feet of natural gas in 2015, primarily from Canada.

Delivery

- The U.S. natural gas industry had 2.51 million miles of pipeline — including distribution, services, transmission, and gathering lines — in place in 2015.

Sales

- Gas utility sales decreased 7.8 percent in 2015 to 7,602 trillion Btu.
- Residential sales decreased 8.7 percent from 2014 levels.
- Commercial sales decreased 7.9 percent.
- Industrial sales decreased 5.8 percent.

Prices

- The average retail natural gas price decreased 11.0 percent in 2015 compared to 2014.
- The average residential price decreased 6.2 percent.
- Average commercial prices decreased 10.2 percent.
- Average industrial prices decreased 30.1 percent.

TABLE 1-1
GAS UTILITY INDUSTRY SALES CUSTOMERS, SALES VOLUMES, REVENUES AND PRICES
BY CLASS OF SERVICE
2014 and 2015

	2014	2015	Percentage Change
END-USERS—TOTAL ^a	64,893	65,612	+ 1.1
Residential	60,223	60,922	+ 1.2
Commercial	4,534	4,559	+ 0.6
Industrial	122	120	- 1.5
 SALES—TOTAL ^b	 8,247	 7,602	 - 7.8
Residential	4,471	4,080	- 8.7
Commercial	1,917	1,766	- 7.9
Industrial	1,245	1,172	- 5.8
 REVENUES —TOTAL ^c	 74,031	 60,923	 - 17.7
Residential	47,200	40,451	- 14.3
Commercial	16,985	14,057	- 17.2
Industrial	9,562	6,154	- 35.6
 PRICES—TOTAL ^d	 \$8.98	 \$7.99	 - 11.0
Residential	10.56	9.91	- 6.2
Commercial	8.86	7.96	- 10.2
Industrial	5.41	3.78	- 30.1

^aYearly averages (Thousands)

^bSales quantities (Trillion Btu)

^cRevenues (\$ Million)

^dPrices (\$/Million Btu)

SECTION 2

NATURAL GAS RESERVES AND PRODUCING GAS WELLS

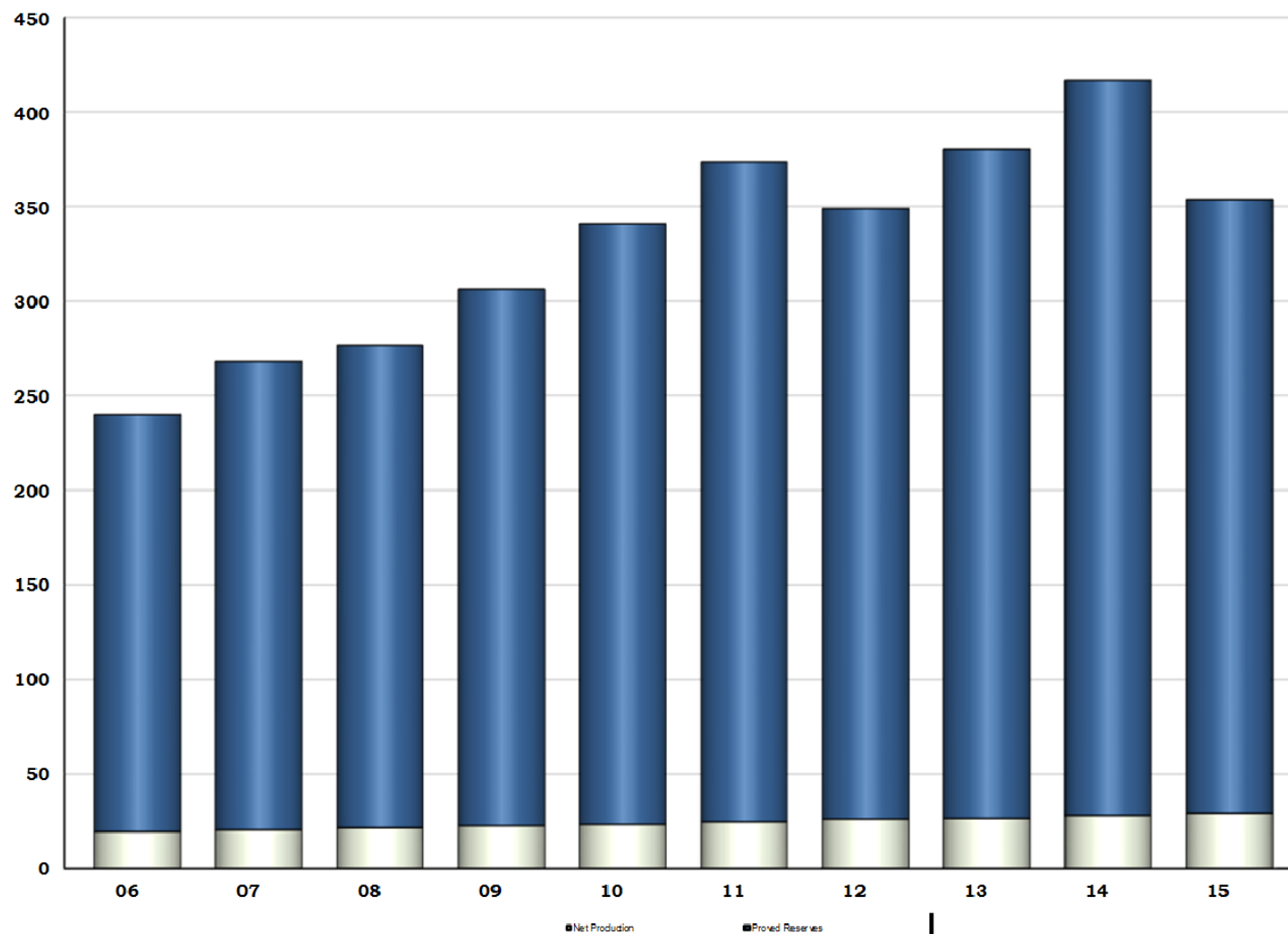
U.S. NATURAL GAS RESERVES AS OF DECEMBER 31

	<u>2015</u>	<u>% Change</u> <u>2015/2014</u>
Reserves (Billion Cubic Feet)		
Proved Reserves	324,303	- 16.6
Discoveries	34,706	- 31.2
Production	29,329	+ 4.4

U.S. NATURAL GAS WELLS

	<u>2015</u>	<u>% Change</u> <u>2015/2014</u>
Producing Wells	555,364	- 1.9

Chart 2-1
**PROVED RESERVES & NET PRODUCTION
 OF NATURAL GAS IN THE UNITED STATES -- 2006-2015**
 (Trillion Cubic Feet)



Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 2015 Annual Report

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-1
SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS IN THE UNITED STATES
2001 - 2015
(Billion Cubic Feet)

Year	Adjustments (1)	Net Revisions (2)	Revisions ^a and Adjustments (3)	Net of Sales ^b and Adjustments (4)	Extensions (5)	New Field Discoveries (6)	New Reservoir Discoveries In Old Fields (7)	Total ^c Discoveries (8)	Estimated Production (9)	Proved ^d Reserves 12/31 (10)	Change from Prior Year (11)
2001	1,849	-2,438	-589	2,715	17,183	3,668	2,898	23,749	20,642	191,743	5,233
2002	4,006	1,038	5,044	428	15,468	1,374	1,752	18,594	20,248	195,561	3,818
2003	2,323	-1,715	608	1,107	17,195	1,252	1,653	20,100	20,231	197,145	1,584
2004	170	825	995	1,975	19,068	790	1,244	21,102	20,017	201,200	4,055
2005	1,693	2,715	4,408	2,674	22,069	973	1,243	24,285	19,259	213,308	12,108
2006	946	-2,099	-1,153	3,178	22,834	425	1,197	24,456	19,373	220,416	7,108
2007	990	15,936	16,926	452	28,255	814	1,244	30,313	20,318	247,789	27,373
2008	271	-3,254	-2,983	937	27,800	1,229	1,678	30,707	21,415	255,035	7,246
2009	5,923	-1,899	4,024	-222	43,500	1,423	2,656	47,579	22,537	283,879	28,844
2010	1,292	4,055	5,347	2,766	46,283	895	1,701	48,879	23,224	317,647	33,768
2011	2,715	-112	2,603	3,298	47,635	987	1,260	49,882	24,621	348,809	31,162
2012	-810	-45,614	-46,424	-1,859	47,053	780	408	48,241	26,097	322,670	-26,139
2013	693	2,794	3,487	1,287	51,074	263	1,680	53,017	26,467	353,994	31,324
2014	4,905	984	5,889	6,565	47,071	671	2,745	50,487	28,094	388,841	34,847
2015	9,430	-80,762	-71,332	1,417	32,940	31	1,735	34,706	29,329	324,303	-64,538

^a Revisions and adjustments = Col. 1 + Col. 2.

^b Net of sales and acquisitions = acquisitions – sales.

^c Total discoveries = Col. 5 + Col. 6 + Col. 7.

^d Proved reserves = Col. 10 from prior year + Col. 3 + Col. 4 + Col. 8 – Col. 9.

Note: “Old” means discovered in a prior year. “New” means discovered during the report year.

Source: U.S. Energy Information Administration, Form EIA-23, “Annual Survey of Domestic Oil and Gas Proved Reserves,” 2001-2014.

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-2
SUMMARY OF ANNUAL ESTIMATES OF ESTABLISHED RESERVES OF NATURAL GAS IN CANADA^a
2001-2014
(Million Cubic Meters)

Year	Reserves Remaining at Beginning of Year	Reserves Remaining at End of Year	Change during Year
2001	1,682,919	1,693,752	---
2002	1,693,752	1,664,205	(29,547)
2003	1,664,205	1,594,001	(70,204)
2004	1,594,001	1,593,042	(959)
2005	1,593,042	1,632,560	39,518
2006	1,632,560	1,639,712	7,152
2007	1,639,712	1,633,824	(5,888)
2008	1,633,824	1,754,234	120,410
2009	1,754,234	1,727,450	(26,784)
Break in Data Series			
2010	1,785,889	1,976,977	191,088
2011	1,976,977	1,920,518	(61,985)
2012	1,920,518	1,999,454	102,099
2013	1,999,454	2,027,703	28,249
2014	2,027,703	1,987,123	(40,580)

^aVolumes are calculated at a pressure base of 101.325 kPa and at a standard temperature of 15°C.
Parentheses, (), denote a volume decrease (negative number).
Source: Canadian Association of Petroleum Producers.

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-3
MARKETABLE NATURAL GAS
REMAINING ESTABLISHED RESERVES IN CANADA
AT YEAR END
2001- 2014
(Million Cubic Meters)

	Main Terr. (S. 68° N)	British Columbia	Alberta	Sask.	Ontario	New Brunswick*	E. Coast Offshore	Canada
2001	15,026	251,451	1,272,232	81,730	11,513	105	61,695	1,693,752
2002	12,656	254,661	1,252,562	76,649	11,419	105	56,153	1,664,205
2003	12,456	259,905	1,198,748	87,877	11,586	105	23,324	1,594,001
2004	11,872	289,432	1,175,892	85,007	11,456	105	19,278	1,593,042
2005	11,260	347,833	1,153,480	91,614	13,021	105	15,247	1,632,560
2006	10,241	367,653	1,131,234	98,829	20,006	105	11,644	1,639,712
2007	9,995	375,929	1,124,930	95,060	19,842	105	7,963	1,633,824
2008	10,089	483,051	1,138,557	88,621	19,637	105	14,174	1,754,234
2009	10,000	534,208	1,072,114	81,026	19,418	105	10,579	1,727,450
<i>Break in Data Series</i>								
2010	13,006	782,049	1,092,700	58,315	19,208	3,900	7,800	1,976,977
2011	12,866	805,764	1,007,000	53,411	18,983	3,806	5,122	1,920,518
2012	12,736	948,690	972,400	52,105	6,721	3,713	3,089	1,999,454
2013	12,647	1,001,128	949,000	51,206	6,535	3,443	3,744	2,027,703
2014	12,561	997,487	913,100	51,602	6,385	3,415	2,573	1,987,123

*Note: Effective 2010 New Brunswick included. Prior years was "Other Eastern Canada"

Note: Effective 2010 CAPP Reserves are based on provincial and NEB data. Year ends vary.

Source: Canadian Association of Petroleum Producers.

TABLE 2-4
CHANGE DURING YEAR IN
MARKETABLE NATURAL GAS
REMAINING ESTABLISHED RESERVES IN CANADA
2001- 2014
(Million Cubic Meters)

	Main Terr. (S. 68° N)	British Columbia	Alberta	Sask.	Ontario	New Brunswick*	E. Coast Offshore	Canada
2001/02	(2,370)	3,210	(19,670)	(5,081)	(94)	0	(5,542)	(29,547)
2002/03	(200)	5,244	(53,814)	11,228	167	0	(32,829)	(70,204)
2003/04	(584)	29,527	(22,856)	(2,870)	(130)	0	(4,046)	(959)
2004/05	(612)	58,401	(22,412)	6,607	1,565	0	(4,031)	39,518
2005/06	(1,019)	19,820	(22,246)	7,215	6,985	0	(3,603)	7,152
2006/07	(246)	8,276	(6,304)	(3,769)	(164)	0	(3,681)	(5,888)
2007/08	94	107,122	13,627	(6,439)	(205)	0	6,211	120,410
2008/09	(89)	51,157	(66,443)	(7,595)	(219)	0	(3,595)	(26,784)
<i>Break in Data Series</i>								
2009/10	3,006	247,841	20,586	(22,711)	(210)	3,900	(2,779)	249,527
2010/11	(140)	23,715	(85,700)	(4,904)	(225)	(94)	(2,678)	(56,459)
2011/12	(130)	142,926	(34,600)	(1,306)	(12,262)	(93)	(2,033)	78,936
2012/13	(89)	52,438	(23,400)	(899)	(186)	(270)	655	28,249
2013/14	(86)	(3,641)	(35,900)	396	(150)	(28)	(1,171)	(40,580)

*Note: Effective 2010 New Brunswick included. Prior years was "Other Eastern Canada"

Note: Effective 2010 CAPP Reserves are based on provincial and NEB data. Year ends vary.

() Denotes negative number.

Source: Canadian Association of Petroleum Producers.

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-5
NUMBER OF PRODUCING GAS WELLS BY STATE
1995-2015^{a,b}

Division and State	1995	2000	2005	2010	2014	2015
UNITED STATES	298,541	341,678	425,887	487,627	565,951	555,364
New England	0	0	0	0	0	0
Middle Atlantic	37,159	41,775	52,103	51,236	75,240	76,141
New Jersey	0	0	0	0	0	0
New York	6,134	5,775	5,449	6,736	7,619	7,605
Pennsylvania	31,025	36,000	46,654	44,500	67,621	68,536
East North Central	41,497	42,747	45,272	45,701	42,237	37,462
Illinois	372	280	316	50	36	35
Indiana	1,347	1,502	2,321	620	895	899
Michigan	5,258	7,068	8,900	10,100	10,246	9,929
Ohio	34,520	33,897	33,735	34,931	31,060	26,599
Wisconsin	0	0	0	0	0	0
West North Central	22,277	15,469	19,277	22,711	25,481	N.A.
Iowa	0	0	0	0	0	0
Kansas	22,020	15,206	18,946	22,145	24,840	24,451
Minnesota	0	0	0	0	0	0
Missouri	15	0	0	0	6	N.A.
Nebraska	87	98	114	276	109	140
North Dakota	99	94	148	188	398	462
South Dakota	56	71	69	102	128	124
South Atlantic	37,822	45,533	53,474	59,975	61,126	56,056
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Maryland	7	7	7	7	5	7
North Carolina	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
Virginia	1,671	3,051	4,132	7,470	8,061	8,111
West Virginia	36,144	42,475	49,335	52,498	53,060	47,938
East South Central	17,372	19,223	21,774	26,905	N.A.	N.A.
Alabama	3,526	4,359	5,523	7026	6,117	6,044
Kentucky	13,311	13,487	14,175	17,670	N.A.	N.A.
Mississippi	535	997	1,676	1,979	1,594	1,560
Tennessee	0	380	400	230	N.A.	N.A.
West South Central	102,525	101,784	133,83^R	165,548	220,774	220,567
Arkansas	3,988	4,000	3,462 ^R	7,397	9,778	9,965
Louisiana	14,169	15,700	18,838	19,137	18,660	18,382
Oklahoma	29,733	21,507	36,704	44,000	50,044	49,852
Texas	54,635	60,577	74,827	95,014	142,292	142,368
Mountain	38,775	73,809	96,435	111,824	127,401	126,598
Arizona	7	9	6	5	6	6
Colorado	7,017	22,442	22,691	28,813	46,876	46,322
Idaho	0	0	0	0	0	0
Montana	2,918	3,321	5,751	6,059	5,682	5,655
Nevada	0	4	4	0	1	1
New Mexico	23,510	33,948	40,157	44,748	40,244	40,596
Utah	1,127	4,178	4,092	6,075	8,537	8,739
Wyoming	4,196	9,907	23,734	26,124	26,055	25,279
Pacific	1,114	1,338	1,598	1,875	4,561	4,552
Alaska	100	152	227	269	338	329
California	997	1,169	1,356	1,580	4,211	4,209
Hawaii	0	0	0	0	0	0
Oregon	17	17	15	26	12	14
Washington	0	0	0	0	0	0
Gulf of Mexico^b	n.a	n.a	2,123	1,852	1,377	1,163

^aData pertain only to dry gas and condensate wells. Data as of December 31.

^bBeginning in 2001, the number of Federal offshore Gulf of Mexico producing gas and gas condensate wells is reported separately. For previous years, the well counts for the Federal offshore Gulf of Mexico were included in the well counts for the States of Alabama, Louisiana and Texas.

n.a. – Not Available.

Source: Energy Information Administration, Form EIA-895A, "Annual Quantity and Value of Natural Gas Production Report".

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-6
U.S. ROTARY RIGS IN OPERATION, BY WEEK
2015

	U.S. Total	U.S. Offshore	Gulf Of Mexico	Total Gas	Total Oil	Gas Gulf Of Mexico	Gas – Not Gulf of Mexico	Oil – Gulf Of Mexico	Oil – Not Gulf of Mexico
Jan 02	1,811	55	54	328	1,482	12	316	42	1,440
Jan 09	1,750	54	53	329	1,421	9	320	44	1,377
Jan 16	1,676	54	53	310	1,366	9	301	44	1,322
Jan 23	1,633	54	53	315	1,317	10	305	43	1,274
Jan 30	1,543	49	47	319	1,223	10	309	37	1,186
Feb 06	1,456	50	48	314	1,140	10	304	38	1,102
Feb 13	1,358	52	50	300	1,056	12	288	38	1,018
Feb 20	1,310	54	52	289	1,019	12	277	40	979
Feb 27	1,267	51	49	280	986	9	271	40	946
Mar 06	1,192	51	49	268	922	11	257	38	884
Mar 13	1,125	48	46	257	866	11	246	35	831
Mar 20	1,069	37	35	242	825	9	233	26	799
Mar 27	1,048	34	33	233	813	9	224	24	789
Apr 02	1,028	31	29	222	802	7	215	22	780
Apr 10	988	33	31	225	760	8	217	23	737
Apr 17	954	33	32	217	734	8	209	24	710
Apr 24	932	34	33	225	703	9	216	24	679
May 01	905	34	33	222	679	10	212	23	656
May 08	894	34	33	221	668	11	210	22	646
May 15	888	34	33	223	660	12	211	21	639
May 22	885	29	28	222	659	11	211	17	642
May 29	875	29	29	225	646	12	213	17	629
Jun 05	868	27	27	222	642	10	212	17	625
Jun 12	859	29	29	221	635	10	211	19	616
Jun 19	857	27	27	223	631	8	215	19	612
Jun 26	859	28	28	228	628	8	220	20	608
Jul 02	862	29	29	219	640	8	211	21	619
Jul 10	863	31	31	217	645	9	208	22	623
Jul 17	857	31	31	218	638	10	208	21	617
Jul 24	876	31	31	216	659	8	208	23	636
Jul 31	874	34	34	209	664	8	201	26	638
Aug 07	884	38	37	213	670	9	204	28	642
Aug 14	884	35	34	211	672	9	202	25	647
Aug 21	885	32	31	211	674	11	200	20	654
Aug 28	877	30	29	202	675	10	192	29	646
Sep 04	864	33	31	202	662	11	191	20	642
Sep 11	848	31	29	196	652	9	187	20	632
Sep 18	842	31	29	198	644	9	189	20	624
Sep 25	838	33	31	197	640	9	188	22	618
Oct 02	809	30	29	195	614	7	188	22	592
Oct 09	795	32	31	189	605	7	182	24	581
Oct 16	787	33	32	192	595	8	184	24	571
Oct 23	787	35	24	193	594	8	185	26	568
Oct 30	775	33	32	197	578	7	190	25	553
Nov 06	771	32	32	199	572	8	191	24	548
Nov 13	767	33	33	193	574	8	185	25	549
Nov 20	757	30	30	193	564	5	188	25	539
Nov 25	744	30	30	189	555	4	185	26	529
Dec 04	737	25	25	192	545	3	189	22	523
Dec 11	709	23	23	185	524	4	181	19	505
Dec 18	709	24	24	168	541	3	165	21	520
Dec 23	700	24	24	162	538	3	159	21	517
Dec 31	698	25	25	162	536	5	157	20	516

Source: Baker Hughes, North America Rotary Rig Counts.

NATURAL GAS RESERVES, PRODUCING GAS WELLS

TABLE 2-7
AVERAGE WEEKLY ROTARY RIGS
DRILLING DIRECTION
1991-2015

Year	Directional	Horizontal	Vertical	TOTAL
1991	107	75	678	860
1992	85	54	582	720
1993	99	50	605	754
1994	137	50	588	775
1995	145	52	526	723
1996	169	58	552	779
1997	207	69	668	943
1998	210	46	571	827
1999	159	39	427	625
2000	217	55	646	918
2001	281	77	799	1,156
2002	226	60	543	830
2003	262	81	689	1,032
2004	311	119	761	1,192
2005	341	181	862	1,383
2006	384	285	980	1,649
2007	376	393	999	1,768
2008	372	553	954	1,879
2009	201	456	433	1,089
2010	222	822	501	1,546
2011	230	1,074	574	1,878
2012	216	1,151	552	1,919
2013	224	1,102	435	1,761
2014	211	1,275	376	1,862
2015	95	744	139	978

Source: Baker Hughes, North America Rotary Rig Counts

SECTION 3

NATURAL GAS IMPORTS, EXPORTS AND SUPPLEMENTALS

	<u>2015</u>	<u>% Change</u> <u>2015/2014</u>
Imports (Billion cubic feet)	2,718	+ 3.1
Exports (Billion cubic feet)	1,784	+ 17.8

SUPPLY

TABLE 3-1
EXPORTS OF NATURAL GAS FROM THE UNITED STATES – 1986-2015
(Million Cubic Feet)

Year	TOTAL	Canada	Mexico	Japan ^a	Other ^b
1986	61,271	9,203	1,896	50,172	0
1987	54,020	3,297	2,125	48,599	-1
1988	73,638	19,738	2,327	51,573	0
1989	106,871	38,443	17,004	51,424	0
1990	85,565	17,359	15,659	52,546	0
1991	129,244	14,791	60,448	54,005	0
1992	216,282	67,777	95,973	52,532	0
1993	140,183	44,518	39,676	55,989	0
1994	161,738	52,556	46,500	62,682	0
1995	154,119	27,554	61,283	65,283	0
1996	153,393	51,905	33,840	67,648	0
1997	157,006	56,447	38,372	62,187	0
1998	159,007	39,891	53,133	65,951	33
1999	163,415	38,508	61,025	63,607	275
2000	243,716	72,586	105,102	65,610	418
2001	373,278	166,690	140,370	65,753	465
2002	516,233	189,313	263,078	63,439	403
2003	679,922	270,988	342,859	65,698	376
2004	854,138	394,585	397,086	62,099	368
2005	728,601	358,280	304,954	65,124	242
2006	723,958	341,065	321,955	60,765	173
2007	822,454	482,196	291,773	46,501	1,984
2008	963,263	558,650	365,396	39,164	53
2009	1,072,357	700,596	338,406	30,536	2,819
2010	1,136,789	738,745	333,251	32,922	31,871
2011	1,505,650	936,993	498,657	18,012	51,989
2012	1,618,828	970,729	619,802	14,379	13,919
2013	1,572,413	911,007	658,368	0	3,038
2014	1,514,242	769,258	728,513	0	16,471
2015	1,783,512	700,647	1,054,271	8,262	20,332

^aLNG exports from Alaska

^bIncludes all other LNG Exports

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly*, November 2016

TABLE 3-2
PIPELINE IMPORTS OF NATURAL GAS TO THE UNITED STATES – 1986-2015
(Million Cubic Feet)

Year	TOTAL	Canada	Mexico
1986	748,780	748,780	0
1987	992,532	992,532	0
1988	1,276,322	1,276,322	0
1989	1,339,357	1,339,357	0
1990	1,448,065	1,448,065	0
1991	1,709,716	1,709,716	0
1992	2,094,387	2,094,387	0
1993	2,268,429	2,266,751	1,678
1994	2,573,061	2,566,049	7,013
1995	2,823,130	2,816,408	6,722
1996	2,897,138	2,883,277	13,862
1997	2,916,394	2,899,152	17,243
1998	3,066,605	3,052,073	14,532
1999	3,422,075	3,367,545	54,530
2000	3,555,567	3,543,966	11,601
2001	3,738,814	3,728,537	10,276
2002	3,786,733	3,784,978	1,755
2003	3,437,230	3,437,230	0
2004	3,606,543	3,606,543	0
2005	3,709,774	3,700,454	9,320
2006	3,602,744	3,589,995	12,749
2007	3,836,770	3,782,708	54,062
2008	3,632,403	3,589,089	43,314
2009	3,299,402	3,271,107	28,296
2010	3,309,747	3,279,752	29,995
2011	3,119,753	3,117,081	2,672
2012	2,963,140	2,962,827	314
2013	2,786,496	2,785,427	1,069
2014	2,635,801	2,634,375	1,426
2015	2,718,094	2,625,359	933

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly*, November 2016.

SUPPLY

TABLE 3-3
LNG IMPORTS AND EXPORTS
1986-2015
(Million Cubic Feet)

Year	IMPORTS					EXPORTS		TOTAL NET
	Algeria	Egypt	Nigeria	Trinidad	Other ^a	Japan	Other ^b	
1986	0	0	0	0	1,669	50,172	0	-48,503
1987	0	0	0	0	0	48,599	0	-48,599
1988	17,490	0	0	0	0	51,573	0	-34,083
1989	42,163	0	0	0	0	51,424	0	-9,261
1990	84,193	0	0	0	0	52,546	0	31,647
1991	63,596	0	0	0	0	54,005	0	9,591
1992	43,116	0	0	0	0	52,532	0	-9,416
1993	81,685	0	0	0	0	55,989	0	25,696
1994	50,778	0	0	0	0	62,682	0	-11,904
1995	17,918	0	0	0	0	65,283	0	-47,365
1996	35,325	0	0	0	4,949	67,648	0	-27,374
1997	65,675	0	0	0	12,103	62,187	0	15,591
1998	68,567	0	0	0	16,886	65,951	33	19,469
1999	75,763	0	0	50,777	36,890	63,607	275	99,548
2000	46,947	0	12,654	98,949	67,485	65,610	418	160,007
2001	64,945	0	37,966	98,009	37,207	65,753	465	171,909
2002	26,584	0	8,123	151,104	42,919	63,439	403	164,888
2003	53,423	0	50,067	378,069	24,959	65,698	376	440,444
2004	120,343	0	11,818	462,100	57,754	62,099	368	589,548
2005	97,157	72,540	8,149	439,246	14,168	65,124	242	565,894
2006	17,449	119,528	57,292	389,268	0	60,765	173	522,599
2007	77,299	114,580	95,028	447,758	36,146	46,501	1,984	722,326
2008	0	54,839	12,049	266,821	17,989	39,164	53	312,481
2009	0	160,435	13,306	236,202	42,014	30,536	2,819	418,602
2010	0	72,990	41,733	189,748	126,539	32,922	31,871	366,217
2011	0	35,120	2,362	128,620	182,837	18,012	51,989	278,938
2012	0	2,811	0	112,207	59,631	14,379	11,301	148,969
2013	0	0	2,590	69,744	24,525	0	71	96,788
2014	0	0	0	42,818	16,457	0	2,944	56,331
2015	0	0	0	71,439	20,072	8,262	20,119	63,130

^aOther includes imports from Australia, Brunei, Equatorial Guinea, Indonesia, Malaysia, Oman, Qatar and United Arab Emirates.

^bOther includes exports to Brazil, India, Mexico, South Korea, Spain and United Kingdom.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly*, November 2016.

SUPPLY

TABLE 3-4
SUPPLEMENTAL GAS SUPPLIES BY STATE
2015
(Million Cubic Feet)

Division and State	TOTAL	Synthetic Natural Gas	Propane- Air	Biomass Gas	Other ^a
UNITED STATES	58,625	51,320	1,386	1,425	4,494
New England	93	0	93	0	0
Connecticut	0	0	0	0	0
Maine	0	0	0	0	0
Massachusetts	90	0	90	0	0
New Hampshire	0	0	0	0	0
Rhode Island	0	0	0	0	0
Vermont	3	0	3	0	0
Middle Atlantic	491	0	28	0	463
New Jersey	463	0	0	0	463
New York	0	0	0	0	0
Pennsylvania	28	0	28	0	0
East North Central	546	0	159	387	0
Illinois	1	0	1	0	0
Indiana	78	0	78	0	0
Michigan	0	0	0	0	0
Ohio	467	0	80	387	0
Wisconsin	0	0	0	0	0
West North Central	48,640	48,601	33	6	0
Iowa	*	0	*	0	0
Kansas	0	0	0	0	0
Minnesota	10	0	10	0	0
Missouri	*	*	0	0	0
Nebraska	29	0	23	6	0
North Dakota	48,601	48,601	0	0	0
South Dakota	0	0	0	0	0
South Atlantic	1,569	0	1,015	554	0
Delaware	8	0	8	0	0
District of Columbia	0	0	0	0	0
Florida	0	0	0	0	0
Georgia	554	0	0	554	0
Maryland	818	0	818	0	0
North Carolina	0	0	0	0	0
South Carolina	9	0	9	0	0
Virginia	180	0	180	0	0
West Virginia	0	0	0	0	0
East South Central	51	0	51	0	0
Alabama	0	0	0	0	0
Kentucky	51	0	51	0	0
Mississippi	0	0	0	0	0
Tennessee	0	0	0	0	0
West South Central	478	0	0	478	0
Arkansas	0	0	0	0	0
Louisiana	478	0	0	478	0
Oklahoma	0	0	0	0	0
Texas	0	0	0	0	0
Mountain	4,082	0	2	0	4,080
Arizona	0	0	0	0	0
Colorado	4,082	0	2	0	4,080
Idaho	0	0	0	0	0
Montana	0	0	0	0	0
Nevada	0	0	0	0	0
New Mexico	0	0	0	0	0
Utah	0	0	0	0	0
Wyoming	0	0	0	0	0
Pacific	2,724	2,719	4	0	1
Alaska	0	0	0	0	0
California	0	0	0	0	0
Hawaii	2,724	2,719	4	0	1
Oregon	0	0	0	0	0
Washington	0	0	0	0	0

^aIncludes coke oven gas, manufactured gas, biomass gas, and air injection for Btu stabilization.

Numbers may not add up to totals due to independent rounding.

*Volume is less than 500,000 cubic feet.

Source: U.S. Department of Energy, Energy Information Administration, *Annual Report of Natural and Supplemental Gas Supply and Disposition*, November 2016.

SECTION 4 UNDERGROUND GAS STORAGE

2015 WORKING GAS IN STORAGE

<u>Region</u>	<u>Minimum</u>	<u>Maximum</u>
East	242 Bcf	935 Bcf
Midwest	256 Bcf	1,127 Bcf
Mountain	111 Bcf	217 Bcf
Pacific	260 Bcf	382 Bcf
South Central	522 Bcf	1,352 Bcf
Total	1,461 Bcf	4,009 Bcf

2012

Number of Sites	397
Est. Total Capacity (Billion cubic feet)	8,549
Est. Base Gas Capacity (Billion cubic feet)	4,333
Est. Working Gas Capacity (Billion cubic feet)	4,216
Maximum Deliverability (Billion cubic feet/day)	95

Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*, January 2014. Next update: Spring, 2017

TABLE 4-1
**UNDERGROUND STORAGE SITES AND WORKING GAS CAPACITY
 IN THE UNITED STATES
 2012**

Year	Sites	States	Est. Working Gas Capacity (Billion Cubic Feet)	Maximum Deliverability (Million Cubic Feet/Day)
2012	397	30	4,216	95,233

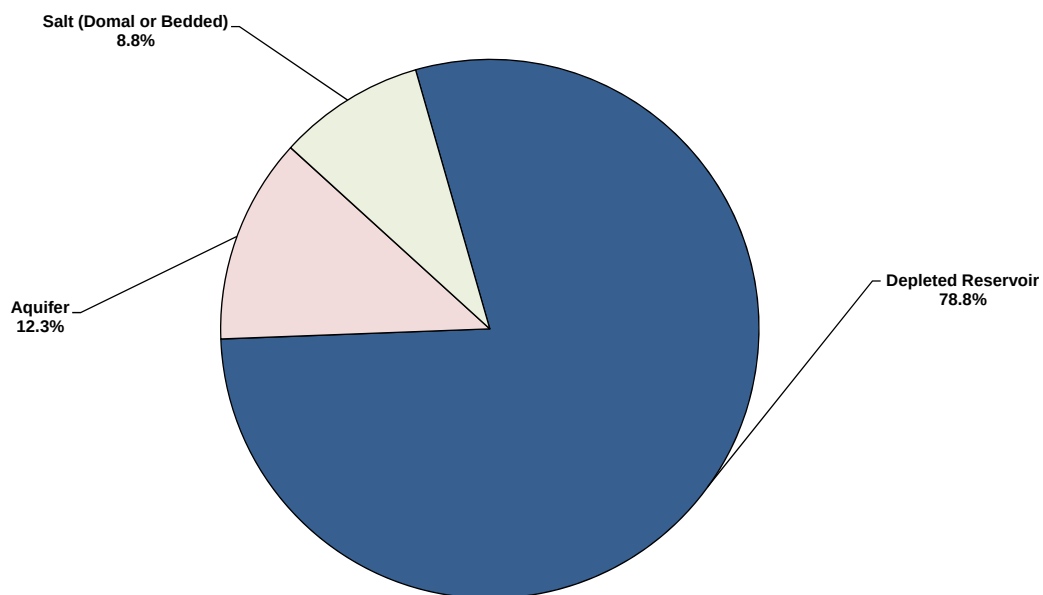
Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*,
 January 2014. Next update: Spring, 2017

TABLE 4-2
**UNDERGROUND STORAGE BY RESERVOIR TYPE AND WORKING CAPACITY
 2012**

	Sites	States	Est. Working Gas Capacity (Billion Cubic Feet)	Est. Base Gas Capacity (Billion Cubic Feet)	Total Underground Storage Capacity (Billion Cubic Feet)
Depleted Reservoir	313	25	3,631	3,307	6,939
Aquifer	49	10	353	920	1,273
Salt (Domal or Bedded)	35	8	232	105	338
TOTAL	397	30	4,216	4,333	8,549

Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*,
 January 2014. Next update: Spring, 2017

Chart 4-1
Distribution of Underground Storage by Reservoir Type



Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*, January 2014. Next update: Spring, 2017

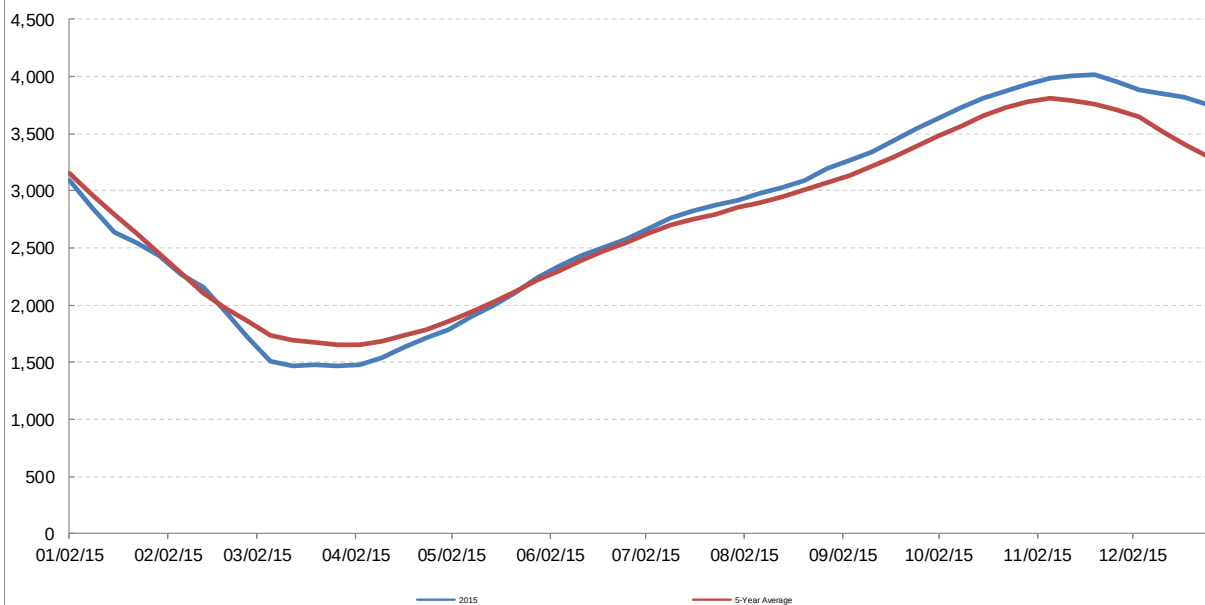
TABLE 4-3
**DISTRIBUTION OF UNDERGROUND STORAGE BY RESERVOIR TYPE
 IN THE UNITED STATES**
 2012

	Sites (%)	Working Gas (%)	Base Gas (%)
Depleted Reservoir	78.8	86.1	76.3
Aquifer	12.3	8.4	21.2
Salt (Domal or Bedded)	8.8	5.5	2.4
TOTAL	100	100	100

Numbers may not add up due to independent rounding.

Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*,
 January 2014. Next update: Spring, 2017

Chart 4-2
Total Working Gas in Storage
 Comparison of 2015 to Prior 5-Year Average



Source: U.S. Department of Energy, Energy Information Administration, *Weekly Natural Gas Storage Report*.

UNDERGROUND STORAGE
TABLE 4-4
WORKING GAS STORAGE SURVEY WEEKLY DATA
2015

Regions						
Date	East ^a	Midwest ^b	Mountain ^c	Pacific ^d	South Central ^e	TOTAL U.S.
Jan 02	737	849	152	312	1,040	3,089
Jan 09	685	774	142	292	960	2,854
Jan 16	631	711	136	281	878	2,637
Jan 23	595	677	134	275	862	2,543
Jan 30	553	632	133	273	838	2,428
Feb 06	501	572	130	275	791	2,268
Feb 13	458	518	132	278	771	2,158
Feb 20	401	435	127	279	696	1,938
Feb 27	353	361	118	271	606	1,709
Mar 06	309	303	111	260	528	1,511
Mar 13	290	285	111	261	522	1,468
Mar 20	275	279	113	264	548	1,479
Mar 27	255	261	114	269	562	1,461
Apr 03	242	256	117	273	588	1,476
Apr 10	250	263	117	273	637	1,539
Apr 17	271	282	118	276	681	1,628
Apr 24	294	296	118	281	721	1,711
May 01	310	311	119	287	758	1,785
May 08	341	339	123	292	802	1,897
May 15	371	364	125	298	832	1,989
May 22	404	396	129	307	866	2,101
May 29	440	431	136	316	910	2,233
Jun 05	470	464	142	322	946	2,344
Jun 12	499	493	147	327	968	2,433
Jun 19	524	517	150	333	982	2,506
Jun 26	552	546	155	333	993	2,579
Jul 03	584	582	158	329	1,013	2,666
Jul 10	609	612	164	334	1,045	2,764
Jul 17	627	636	167	337	1,056	2,823
Jul 24	643	659	171	340	1,059	2,872
Jul 31	658	683	174	341	1,054	2,910
Aug 07	681	713	176	344	1,061	2,975
Aug 14	704	740	179	345	1,059	3,027
Aug 21	725	770	183	345	1,071	3,094
Aug 28	751	815	188	345	1,091	3,190
Sep 04	769	848	191	349	1,105	3,262
Sep 11	787	883	194	347	1,125	3,336
Sep 18	812	918	197	352	1,162	3,441
Sep 25	837	952	201	355	1,192	3,537
Oct 02	863	984	206	359	1,222	3,634
Oct 09	880	1,016	210	367	1,258	3,731
Oct 16	899	1,046	213	367	1,288	3,813
Oct 23	905	1,072	216	373	1,309	3,875
Oct 30	916	1,097	216	377	1,325	3,931
Nov 06	929	1,117	217	382	1,340	3,985
Nov 13	934	1,124	214	381	1,347	4,000
Nov 20	935	1,127	214	381	1,352	4,009
Nov 27	919	1,109	211	375	1,342	3,956
Dec 04	910	1,083	203	361	1,323	3,880
Dec 11	894	1,066	203	361	1,322	3,846
Dec 18	894	1,051	198	346	1,325	3,814
Dec 25	876	1,025	195	338	1,322	3,756

- ^a**East Region** Connecticut, Delaware, District of Columbia, Florida, Georgia, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia
- ^b**Midwest Region** Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Tennessee, and Wisconsin
- ^c**Mountain Region** Arizona, Colorado, Idaho, Montana, Nebraska, New Mexico, Nevada, North Dakota, South Dakota, Utah, and Wyoming
- ^d**Pacific Region** California, Oregon, and Washington
- ^e**South Central Region** Alabama, Arkansas, Kansas, Louisiana, Mississippi, Oklahoma, and Texas

Source: U.S. Department of Energy, Energy Information Administration, *Weekly Natural Gas Storage Report*.

TABLE 4-5
CANADIAN UNDERGROUND NATURAL GAS STORAGE STATISTICS
2012

	TOTAL CANADA	Alberta	British Columbia	Ontario	Quebec	Saskatchewan
Number of Facilities						
Depleted Reservoir	46	5	1	35	2	3
Salt Cavern	8	1	0	0	0	7
TOTAL	54	6	1	35	2	10
Working Gas Capacity (Bcf)						
Depleted Reservoir	608.4	260.4	48.0	267.5	5.0	27.4
Salt Cavern	17.0	2.8	0.0	0.0	0.0	14.2
TOTAL	625.4	263.2	48.0	267.5	5.0	41.7
Maximum Deliverability (Bcf/d)						
Depleted Reservoir	4.7*	3.8	0.7	n.a.	0.1	0.1
Salt Cavern	1.1	0.6	0.0	0.0	0.0	0.5
TOTAL	5.8*	4.4	0.7	n.a.	0.1	0.6

*Does Not Include Ontario

n.a. – Not Available

Source: American Gas Association, *Survey of Underground Storage of Natural Gas in the United States and Canada*,
January 2014. Next update: Spring, 2017

UNDERGROUND STORAGE

SECTION 5

DISTRIBUTION AND TRANSMISSION

MILES OF PIPELINE

	<u>2015</u>	<u>% Change</u> <u>2015/2014</u>
MILES OF PIPELINE (Thousands)	2,506.2	+ 0.9
Gathering	17.6	+ 0.1
Transmission	300.7	- 0.3
Distribution	1,275.7	+ 0.9
Services	912.2	+ 1.5

Source: Tables in the section are compiled from U.S. Department of Transportation data.

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TABLE 5-1
GAS INDUSTRY MILES OF PIPELINE AND MAIN BY TYPE
1990-2015^a
 (Thousands)

Year	TOTAL ^a	Gathering	Transmission Pipeline	Distribution Main
1990	1,189.2	32.4	292.2	864.6
1991	1,208.2	32.7	294.1	891.4
1992	1,216.1	32.6	291.5	892.0
1993	1,277.2	32.1	293.3	951.8
1994	1,288.4	31.3	301.5	955.6
1995	1,277.6	30.9	296.9	949.8
1996	1,323.6	29.6	292.2	1,001.8
1997	1,331.8	34.7	294.0	1,003.1
1998	1,351.2	29.0	300.1	1,022.1
1999	1,340.3	31.8	301.0	1,007.5
2000	1,369.3	27.1	296.6	1,045.6
2001	1,373.5	20.1	287.1	1,066.3
2002	1,411.4	22.3	309.5	1,079.6
2003	1,424.2	22.3	304.0	1,097.9
2004	1,462.3	23.7	298.9	1,139.8
2005	1,437.5	23.3	296.4	1,117.8
2006	1,534.3	19.9	300.4	1,214.0
2007	1,520.2	19.1	300.0	1,201.1
2008	1,525.0	20.0	299.0	1,206.0
2009	1,526.4	19.7	297.2	1,209.5
2010	1,530.7	18.7	307.6	1,204.4
2011	1,557.1	20.4	304.5	1,232.3
2012	1,563.0	17.7	299.0	1,246.3
2013	1,573.8	17.4	302.8	1,253.6
2014	1,583.9	17.6	301.7	1,264.6
2015	1,5894.1	17.6	300.7	1,275.7
Steel	855.9	16.6	299.0	540.3
Plastic	708.2	0.8	1.5	705.8
Other	30.0	0.2	0.1	29.6

^a Excludes service pipe and underground storage.
 Numbers may not add up to totals due to independent rounding.

DISTRIBUTION AND TRANSMISSION

TABLE 5-2
GAS INDUSTRY MILES OF MAIN BY STATE
2000-2015

Division and State	2000	2005	2010	2014	2015
UNITED STATES	1,045,641	1,117,784	1,204,432	1,264,609	1,275,713
New England	32,281	35,768	35,218	36,386	36,650
Connecticut	7,084	7,465	7,666	7,889	7,984
Maine	452	602	748	1,118	1,171
Massachusetts	19,650	20,792	21,133	21,526	21,576
New Hampshire	1,609	3,066	1,863	1,908	1,920
Rhode Island	3,024	3,095	3,132	3,188	3,210
Vermont	462	748	678	757	789
Middle Atlantic	117,877	125,092	128,337	130,432	131,309
New Jersey	30,486	32,301	33,455	34,436	34,792
New York	44,681	46,444	47,591	48,422	48,679
Pennsylvania	42,710	46,348	47,290	47,574	47,839
East North Central	221,379	226,084	250,000	254,694	256,518
Illinois	52,801	45,647	60,991	61,353	61,629
Indiana	34,988	38,003	39,541	40,174	40,600
Michigan	50,434	54,054	55,917	57,367	57,867
Ohio	50,897	54,775	56,318	57,381	57,423
Wisconsin	32,259	33,605	37,233	38,419	38,999
West North Central	103,804	111,339	102,035	119,800	121,825
Iowa	16,679	20,343	17,533	17,998	18,152
Kansas	20,570	18,435	21,770	22,384	22,445
Minnesota	24,986	28,039	15,923	31,188	31,891
Missouri	23,781	25,721	26,912	27,315	27,325
Nebraska	10,861	11,930	12,422	12,746	12,777
North Dakota	2,461	2,723	2,992	3,434	3,591
South Dakota	4,466	4,149	4,483	4,736	5,645
South Atlantic	124,090	137,647	166,074	173,587	174,903
Delaware	2,144	2,422	2,809	3,034	3,105
District of Columbia	1,202	1,188	1,190	1,212	1,214
Florida	7,202	22,479	26,587	27,591	28,003
Georgia	37,113	39,583	43,065	43,934	44,472
Maryland	12,116	13,531	14,275	14,734	14,806
North Carolina	21,426	11,602	28,379	29,983	30,355
South Carolina	15,978	18,010	18,725	21,225	20,799
Virginia	17,435	19,242	20,602	21,143	21,298
West Virginia	9,474	9,590	10,441	10,732	10,850
East South Central	83,517	88,192	97,389	102,396	105,198
Alabama	23,811	26,964	29,659	29,142	30,954
Kentucky	14,848	15,779	16,565	17,896	18,421
Mississippi	13,581	14,124	14,659	16,596	16,794
Tennessee	31,277	31,325	36,506	38,761	39,029
West South Central	148,195	163,086	163,880	178,950	179,276
Arkansas	16,374	18,980	19,964	20,464	20,184
Louisiana	24,185	24,425	24,909	27,019	26,841
Oklahoma	21,520	23,992	25,100	26,188	26,240
Texas	86,116	95,690	93,906	105,279	106,011
Mountain	91,457	105,467	117,021	121,351	122,347
Arizona	17,838	21,488	23,852	24,331	24,548
Colorado	25,566	31,561	34,147	35,583	35,859
Idaho	5,986	7,033	7,945	8,178	8,257
Montana	5,645	6,494	6,713	7,105	7,147
Nevada	8,837	8,476	9,736	9,833	9,904
New Mexico	11,612	12,513	13,276	13,614	13,882
Utah	12,250	14,204	16,450	17,235	17,492
Wyoming	3,723	3,697	4,901	5,473	5,259
Pacific	123,041	125,108	144,479	147,013	147,687
Alaska	2,550	2,732	2,957	3,147	3,405
California	90,164	99,052	104,043	105,458	105,353
Hawaii	597	609	613	609	610
Oregon	11,906	14,199	15,289	15,522	15,615
Washington	17,824	8,516	21,577	22,276	22,704

Data not adjusted to common diameter equivalent. Mileage shown is as of end of year.

DISTRIBUTION AND TRANSMISSION

TABLE 5-3
GAS INDUSTRY MILES OF PIPELINE AND MAIN BY STATE AND TYPE OF MAIN
2015a,b,c

Division and State	TOTAL	Field and Gathering	Transmission	Distribution
UNITED STATES	1,594,027	17,636	300,678	1,275,713
New England	50,652	0	14,002	36,650
Connecticut	8,774	0	790	7,984
Maine	1,255	0	84	1,171
Massachusetts	21,611	0	35	21,576
New Hampshire	2,025	0	105	1,920
Rhode Island	16,124	0	12,914	3,210
Vermont	862	0	74	789
Middle Atlantic	138,123	716	6,098	131,309
New Jersey	35,255	0	463	34,792
New York	51,907	91	3,138	48,679
Pennsylvania	50,961	625	2,497	47,839
East North Central	281,061	1,294	23,249	256,518
Illinois	65,100	10	3,461	61,629
Indiana	42,394	0	1,793	40,600
Michigan	73,199	232	15,100	57,867
Ohio	60,505	1,052	2,030	57,423
Wisconsin	39,863	0	864	38,999
West North Central	150,504	23	28,655	121,825
Iowa	19,127	4	970	18,152
Kansas	25,454	10	2,999	22,445
Minnesota	33,458	0	1,567	31,891
Missouri	28,649	0	1,324	27,325
Nebraska	28,290	0	15,514	12,777
North Dakota	7,512	9	3,912	3,591
South Dakota	8,014	0	2,369	5,645
South Atlantic	202,923	282	27,738	174,903
Delaware	3,558	0	453	3,105
District of Columbia	1,395	0	181	1,214
Florida	29,341	0	1,338	28,003
Georgia	45,926	0	1,454	44,472
Maryland	14,981	0	175	14,806
North Carolina	34,105	0	3,750	30,355
South Carolina	23,001	0	2,201	20,799
Virginia	25,306	29	3,980	21,298
West Virginia	25,310	253	14,206	10,850
East South Central	124,339	942	18,199	105,198
Alabama	41,073	636	9,484	30,954
Kentucky	25,896	283	7,192	18,421
Mississippi	17,976	24	1,158	16,794
Tennessee	39,394	0	364	39,029
West South Central	333,030	12,029	141,724	179,276
Arkansas	21,403	138	1,082	20,184
Louisiana	38,854	2,183	9,830	26,841
Oklahoma	41,066	895	13,930	26,240
Texas	231,707	8,814	116,882	106,011
Mountain	152,429	2,047	28,035	122,347
Arizona	24,850	0	302	24,548
Colorado	51,177	1,607	13,711	35,859
Idaho	8,558	11	290	8,257
Montana	7,291	27	117	7,147
Nevada	11,457	0	1,554	9,904
New Mexico	15,910	13	2,015	13,882
Utah	26,345	4	8,850	17,492
Wyoming	6,841	385	1,198	5,259
Pacific	160,967	302	12,978	147,687
Alaska	4,302	73	823	3,405
California	116,531	228	10,950	105,353
Hawaii	632	0	22	610
Oregon	16,385	0	770	15,615
Washington	23,117	0	413	22,704

^a Includes field and gathering, transmission and distribution main but excludes service pipe and underground storage.

^b Data not adjusted to common diameter equivalent. Mileage shown as of end of year.

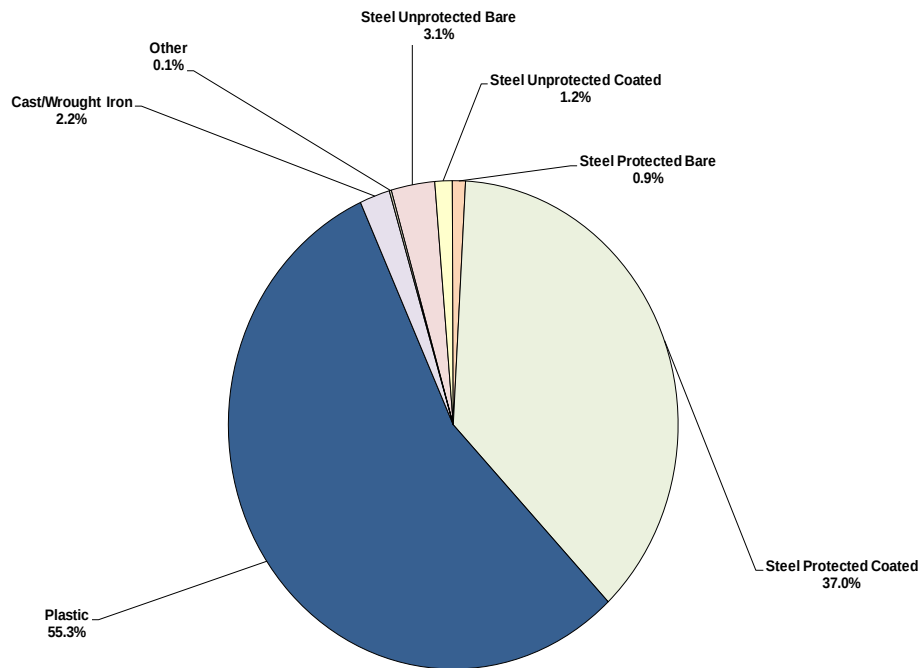
^c Transmission data is reported under state of company headquarters reporting if reporting for multiple states within a single DOT report.

DISTRIBUTION AND TRANSMISSION

TABLE 5-4
MILES OF MAIN BY MATERIAL BY STATE
2015

Division and States	Steel Unprotected		Steel Cathodically Protected		Plastic	Cast Wrought Iron	Ductile Iron	Copper	Other	Total Miles of Main All Material
	Bare	Coated	Bare	Coated						
UNITED STATES	39,920	15,910	12,019	472,433	705,803	27,726	575	17	1,311	1,275,713
New England	1,857	1,382	149	10,764	16,872	5,590	28	0	7	36,650
Connecticut	156	48	0	3,267	3,153	1,349	10	0	0	7,984
Maine	1	19	0	208	897	45	0	0	1	1,171
Massachusetts	1,418	1,113	149	5,790	9,784	3,315	2	0	6	21,576
New Hampshire	17	16	0	725	1,050	112	0	0	0	1,920
Rhode Island	266	186	0	595	1,378	769	16	0	0	3,210
Vermont	0	0	0	178	611	0	0	0	0	789
Middle Atlantic	13,617	3,632	1,055	37,132	64,138	11,447	213	3	71	131,309
New Jersey	1,252	761	81	10,535	17,540	4,586	29	1	7	34,792
New York	5,745	1,381	393	14,048	23,136	3,960	0	0	15	48,679
Pennsylvania	6,620	1,490	582	12,549	23,462	2,901	184	2	49	47,839
East North Central	8,198	3,276	1,657	109,921	127,934	4,767	229	2	534	256,518
Illinois	70	4	206	38,868	20,825	1,431	225	0	0	61,629
Indiana	381	472	273	16,793	22,472	209	0	0	0	40,600
Michigan	460	1,602	791	20,886	31,287	2,812	2	1	25	57,867
Ohio	7,287	1,198	386	20,712	27,077	315	2	1	445	57,423
Wisconsin	0	0	0	12,663	26,272	0	0	0	64	38,999
West North Central	1,021	311	4,410	43,108	71,517	1,372	7	1	78	121,825
Iowa	52	107	120	7,476	10,397	0	0	0	0	18,152
Kansas	532	1	2,725	7,331	11,798	58	1	0	0	22,445
Minnesota	327	201	18	6,901	24,371	10	0	0	62	31,891
Missouri	0	0	1,120	11,569	13,720	916	0	1	0	27,325
Nebraska	110	2	391	6,616	5,250	388	6	0	14	12,777
North Dakota	0	0	8	1,174	2,406	0	0	0	2	3,591
South Dakota	0	0	28	2,042	3,575	0	0	0	0	5,645
South Atlantic	4,015	1,204	515	60,008	106,772	2,257	85	12	35	174,903
Delaware	6	26	6	606	2,384	76	1	0	0	3,105
District of Columbia	25	61	0	326	386	412	0	0	4	1,214
Florida	776	397	29	10,547	16,078	168	0	0	8	28,003
Georgia	14	60	53	17,265	27,075	5	0	0	0	44,472
Maryland	257	74	1	5,318	7,837	1,318	1	0	0	14,806
North Carolina	0	0	0	10,379	19,966	0	0	0	10	30,355
South Carolina	0	0	6	8,124	12,664	0	0	0	5	20,799
Virginia	264	378	233	5,613	14,446	264	84	12	5	21,298
West Virginia	2,673	209	188	1,829	5,935	14	0	0	4	10,850
East South Central	937	507	860	43,549	58,070	1,216	12	0	47	105,198
Alabama	297	424	271	12,563	16,287	1,076	5	0	30	30,954
Kentucky	627	63	68	7,981	9,610	56	0	0	16	18,421
Mississippi	0	20	490	8,054	8,185	44	1	0	0	16,794
Tennessee	13	0	31	14,951	23,988	39	6	0	1	39,029
West South Central	6,447	336	2,449	71,043	97,924	1,017	0	0	60	179,276
Arkansas	688	23	557	7,112	11,754	50	0	0	0	20,184
Louisiana	0	51	616	14,383	11,481	310	0	0	0	26,841
Oklahoma	900	85	286	9,641	15,329	0	0	0	0	26,240
Texas	4,859	178	990	39,908	59,360	657	0	0	60	106,011
Mountain	133	717	707	36,574	83,891	0	0	0	325	122,347
Arizona	0	0	539	6,994	17,015	0	0	0	0	24,548
Colorado	106	702	77	11,615	23,042	0	0	0	317	35,859
Idaho	0	0	0	2,884	5,373	0	0	0	0	8,257
Montana	3	0	5	2,231	4,908	0	0	0	0	7,147
Nevada	0	0	0	1,364	8,539	0	0	0	0	9,904
New Mexico	5	15	80	5,565	8,217	0	0	0	0	13,882
Utah	0	0	0	3,862	13,630	0	0	0	0	17,492
Wyoming	19	0	6	2,059	3,167	0	0	0	8	5,259
Pacific	3,695	4,544	218	60,334	78,685	60	0	0	152	147,687
Alaska	8	0	0	532	2,864	0	0	0	0	3,405
California	3,586	4,544	211	42,957	53,994	60	0	0	1	105,353
Hawaii	102	0	0	163	346	0	0	0	0	610
Oregon	0	0	3	7,842	7,747	0	0	0	23	15,615
Washington	0	0	3	8,839	13,734	0	0	0	128	22,704

Chart 5 - 1
2015 U.S. Miles of Main By Material



DISTRIBUTION AND TRANSMISSION

TABLE 5-5
NUMBER OF SERVICES BY MATERIAL BY STATE
2015

Division and States	Steel Unprotected		Steel Cathodically Protected		Plastic	Cast Wrought Iron	Ductile Iron	Copper	Other	Total Number of Services All Material
	Bare	Coated	Bare	Coated						
UNITED STATES	1,757,034	1,538,394	362,391	13,964,300	47,505,959	9,533	282	893,840	1,561,511	67,593,244
New England	267,860	69,965	16	251,660	1,404,675	1,718	15	12,219	104,065	2,112,193
Connecticut	50,816	7,867	0	67,779	310,569	37	0	1,206	5,220	443,494
Maine	138	145	0	286	33,392	30	0	0	11	34,002
Massachusetts	172,605	51,749	16	153,922	821,281	1,492	0	10,537	97,872	1,309,474
New Hampshire	6,309	1,092	0	15,371	68,520	22	0	273	77	91,664
Rhode Island	37,992	9,112	0	9,800	136,700	137	15	202	885	194,843
Vermont	0	0	0	4,502	34,213	0	0	1	0	38,716
Middle Atlantic	767,058	199,868	14,967	961,480	6,155,564	6,453	0	258,160	49,125	8,412,675
New Jersey	216,648	3,037	0	390,115	1,683,430	0	0	64,774	0	2,358,004
New York	278,360	131,004	13,106	288,082	2,312,308	6,375	0	174,604	6,836	3,210,675
Pennsylvania	272,050	65,827	1,861	283,283	2,159,826	78	0	18,782	42,289	2,843,996
East North Central	198,173	210,357	66,377	2,476,106	9,538,369	90	257	428,595	1,237,629	14,155,953
Illinois	8,767	1,161	14,893	780,267	2,164,879	65	257	34,132	696,041	3,700,462
Indiana	27,526	12,231	21,271	445,628	1,492,441	0	0	174	280	1,999,551
Michigan	32,878	179,266	12,597	500,017	2,210,337	15	0	292,224	35,313	3,262,647
Ohio	129,000	17,669	17,616	492,510	2,312,013	10	0	88,768	481,363	3,538,949
Wisconsin	2	30	0	257,684	1,358,699	0	0	13,297	24,632	1,654,344
West North Central	71,763	24,044	55,580	998,182	4,602,792	0	0	84,664	80,891	5,917,916
Iowa	966	9,722	6,285	273,925	639,293	0	0	355	17,624	948,170
Kansas	58,677	5,732	42,716	92,956	754,952	0	0	300	0	955,333
Minnesota	1,830	5,906	56	119,175	1,367,124	0	0	10,292	18,654	1,523,037
Missouri	7,151	1,353	3,636	222,114	1,219,012	0	0	64,630	66	1,517,962
Nebraska	3,006	898	1,117	201,088	327,227	0	0	9,028	38,453	580,817
North Dakota	7	0	68	40,952	116,210	0	0	24	4,760	162,021
South Dakota	126	433	1,702	47,972	178,974	0	0	35	1,334	230,576
South Atlantic	208,913	69,177	15,197	1,411,589	6,335,007	131	10	87,695	12,781	8,140,500
Delaware	692	11,835	0	16,269	145,757	0	0	4,587	1,441	180,581
District of Columbia	7,039	12,056	0	4,494	89,825	0	0	10,814	0	124,228
Florida	25,445	9,412	4,699	182,422	647,602	0	0	262	2,045	871,887
Georgia	5,556	422	5,052	427,664	1,610,798	0	0	10	0	2,049,502
Maryland	83,939	8,178	32	137,151	751,494	31	0	46,208	0	1,027,033
North Carolina	0	0	0	273,131	1,160,790	0	0	0	0	1,433,921
South Carolina	0	0	386	173,257	598,302	0	0	0	0	771,945
Virginia	13,041	25,491	23	130,152	1,056,773	77	10	25,806	5,520	1,256,893
West Virginia	73,201	1,783	5,005	67,049	273,666	23	0	8	3,775	424,510
East South Central	67,076	4,719	107,811	1,156,122	2,551,442	674	0	10,986	2,984	3,901,814
Alabama	50,260	2,947	99,598	246,403	683,815	219	0	1,093	2,420	1,086,755
Kentucky	15,618	967	6,741	242,314	578,113	454	0	7,317	564	852,088
Mississippi	12	674	820	262,503	342,886	1	0	184	0	607,080
Tennessee	1,186	131	652	404,902	946,628	0	0	2,392	0	1,355,891
West South Central	152,434	70,260	61,576	2,665,732	5,076,084	467	0	5,204	5,571	8,037,328
Arkansas	12,432	26,091	9,588	221,986	412,280	0	0	0	4	682,381
Louisiana	4,960	26,364	20,220	569,562	505,139	467	0	2,110	1,773	1,130,595
Oklahoma	27,239	3,544	18,359	439,900	829,019	0	0	0	0	1,318,061
Texas	107,803	14,261	13,409	1,434,284	3,329,646	0	0	3,094	3,794	4,906,291
Mountain	16,478	21,515	24,543	1,272,090	4,592,920	0	0	3	60,803	5,988,352
Arizona	0	0	10,639	184,108	1,084,151	0	0	0	0	1,278,898
Colorado	13,739	21,468	3,256	412,618	1,010,357	0	0	3	56,620	1,518,061
Idaho	0	0	0	92,627	335,582	0	0	0	22	428,231
Montana	47	5	54	104,684	193,904	0	0	0	0	298,694
Nevada	0	0	1	37,268	718,257	0	0	0	211	755,737
New Mexico	53	42	10,204	227,585	405,990	0	0	0	0	643,874
Utah	0	0	0	140,121	734,330	0	0	0	3,942	878,393
Wyoming	2,639	0	389	73,079	110,349	0	0	0	8	186,464
Pacific	7,279	868,489	16,324	2,771,339	7,249,106	0	0	6,314	7,662	10,926,513
Alaska	0	9	0	14,411	113,444	0	0	1,430	0	129,294
California	496	868,480	16,222	2,235,858	5,611,306	0	0	4,855	885	8,738,102
Hawaii	6,764	0	0	4,887	19,962	0	0	29	2,853	34,495
Oregon	18	0	17	232,439	556,196	0	0	0	1,946	790,616
Washington	1	0	85	283,744	948,198	0	0	0	1,978	1,234,006

Chart 5 - 2
2015 U.S. Number of Services By Material

