

Appendix B

Metric and Thermal Conversion Tables

Metric Conversions

Table B1 presents Summary Statistics for Natural Gas in the United States for 2009 through 2013 in metric units of measure. Volumes are shown in cubic meters instead of cubic feet. Prices are shown in nominal dollars per thousand cubic meters instead of dollars per thousand cubic feet. The data in this table have been converted from the data that appear in Table 1 of this report.

Thermal Conversions

Table B2 presents the thermal (Btu) conversion factors and the converted data for natural gas supply and disposition from 2009 through 2013. A brief documentation for the thermal conversion factors follows:

- *Marketed Production.* The conversion factor is calculated by adding the total heat content of dry production to the total heat content of natural gas plant liquids (NGPL) production and dividing the resulting sum by the total quantity of dry production and NGPL Production (see below).
- *Natural Gas Plant Liquids Production.* The conversion factor is obtained from Appendix A of this publication.
- *Dry Production.* The conversion factor is assumed to be the same as the thermal conversion factors for consumption (see below).
- *Withdrawals from Storage.* Both underground and LNG storage withdrawals are assumed to have the same heat content as consumption (see below).
- *Supplemental Gas Supplies.* This conversion factor is assumed to be the same as that for consumption (see below).
- *Balancing Item.* This conversion factor is calculated by subtracting the total heat content of all other items of supply from the heat content of total disposition (from Table B2) and dividing the difference by the balancing item quantity.
- *Consumption.* The thermal conversion factor for total consumption (lease fuel, plant fuel, pipeline fuel, and deliveries to consumers) is the average heat content for deliveries to end users as reported on the Energy Information Administration's (EIA) Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Average heat content of consumption in the Electric Power Sector is obtained from Form EIA-923, "Power Plant Operations Report."
- *Additions to Storage.* Additions to both underground and LNG storage are assumed to have the same heat content as consumption (see above).

Table B1. Summary statistics for natural gas in the United States, metric equivalents, 2009-2013

	2009	2010	2011	2012	2013
Number of Wells Producing at End of Year	493,100	487,627	514,637	482,822	487,286
Production (million cubic meters)					
Gross Withdrawals					
From Gas Wells	408,167	375,127	348,044	R354,080	318,724
From Oil Wells	160,673	165,220	167,294	R140,617	153,695
From Coalbed Wells	56,922	54,277	50,377	43,591	40,373
From Shale Gas Wells	112,087	164,723	240,721	R298,257	336,863
Total	737,849	759,347	806,436	836,545	849,654
Repressuring	99,734	97,172	95,295	R92,811	94,336
Vented and Flared	4,682	4,699	5,931	6,027	7,374
Nonhydrocarbon Gases Removed	20,431	23,693	24,577	R21,764	20,460
Marketed Production	613,001	633,784	680,634	R715,943	727,485
NGPL Production	28,999	30,196	32,125	R35,396	38,431
Total Dry Production	584,003	603,588	648,509	R680,546	689,054
Supply (million cubic meters)					
Dry Production	584,003	603,588	648,509	R680,546	689,054
Receipts at U.S. Borders					
Imports	106,227	105,926	98,222	88,852	81,648
Intransit Receipts	8,348	8,959	3,136	1,701	2,686
Withdrawals from Storage					
Underground Storage	83,996	92,720	87,053	79,801	104,815
LNG Storage	1,169	1,033	951	R763	1,197
Supplemental Gas Supplies	1,848	1,829	1,702	1,738	1,548
Balancing Item	-2,531	3,521	-3,684	R-3,484	-4,767
Total Supply	783,058	817,577	835,888	R849,917	876,180
Disposition (million cubic meters)					
Consumption	648,741	682,062	693,123	R723,169	739,938
Deliveries at U.S. Borders					
Exports	30,366	32,190	42,635	45,840	44,526
Intransit Deliveries	8,748	9,211	2,102	95	1,170
Additions to Storage					
Underground Storage	93,870	93,202	96,895	80,007	89,358
LNG Storage	1,334	912	1,133	805	1,188
Total Disposition	783,058	817,577	835,888	R849,917	876,180
Consumption (million cubic meters)					
Lease Fuel	25,860	25,961	26,571	27,976	30,251
Pipeline and Distribution Use ^a	18,977	19,089	19,476	R20,694	24,397
Plant Fuel	10,251	10,444	10,881	11,562	11,519
Delivered to Consumers					
Residential	135,324	135,423	133,479	R117,501	139,158
Commercial	88,309	87,856	89,349	R81,975	92,847
Industrial	174,641	193,296	198,051	R204,624	209,939
Vehicle Fuel	772	812	849	R849	952
Electric Power	194,608	209,182	214,468	257,989	230,875
Total Delivered to Consumers	593,653	626,568	636,196	R662,938	673,771
Total Consumption	648,741	682,062	693,123	R723,169	739,938
Delivered for the Account of Others (million cubic meters)					
Residential	14,710	15,634	15,587	R15,130	19,587
Commercial	36,049	37,297	39,479	R38,363	42,657
Industrial	141,818	160,020	165,827	R171,481	175,115

See footnotes at end of table.

Table B1. Summary statistics for natural gas in the United states, metric equivalents, 2009-2013 – continued

	2009	2010	2011	2012	2013
Number of Consumers					
Residential	65,329,582	65,542,345	65,940,522	^R 66,375,134	66,723,049
Commercial	5,322,332	5,301,576	5,319,817	^R 5,356,397	5,361,937
Industrial	207,624	192,730	189,301	^R 189,372	191,877
Average Annual Consumption per Consumer (thousand cubic meters)					
Commercial	17	17	17	15	17
Industrial	841	1,003	1,046	^R 1,081	1,094
Average Price for Natural Gas (dollars per thousand cubic meters)					
Imports	147.92	159.59	149.91	101.56	135.38
Exports	157.71	177.23	163.91	114.80	143.95
Citygate	228.91	218.26	198.99	167.04	172.40
Delivered to Consumers					
Residential	428.78	402.38	389.52	^R 375.98	364.47
Commercial	355.37	334.39	314.83	^R 286.14	285.49
Industrial	188.18	193.99	181.05	^R 137.08	163.98
Vehicle Fuel	287.00	220.70	264.23	^R 283.87	344.59
Electric Power	174.10	186.11	172.69	125.01	158.56

^R Revised data.

^a Beginning in 2009, Pipeline and Distribution Use volumes now include Line Loss, defined as known volumes of natural gas that were the result of leaks, damage, accidents, migration, and/or blow down.

Notes: The United States equals the 50 states and District of Columbia. Totals may not add due to independent rounding. Prices are in nominal dollars.

Sources: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"; Form EIA-895, "Annual Quantity and Value of Natural Gas Production Report"; Form EIA-914, "Monthly Natural Gas Production Report"; Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"; Form EIA-910, "Monthly Natural Gas Marketer Survey"; Form EIA-816, "Monthly Natural Gas Liquids Report"; Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"; FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants"; Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report"; Form EIA-191M, "Monthly Underground Gas Storage Report"; Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports; the Bureau of Safety and Environmental Enforcement, and predecessor agencies; Form EIA-906, "Power Plant Report"; Form EIA-920, "Combined Heat and Power Plant Report"; Form EIA-923, "Power Plant Operations Report"; Form EIA-886, "Annual Survey of Alternative Fueled Vehicles"; state agencies; Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves"; LCI; DI; Ventyx; BENTEK Energy; and EIA estimates based on historical data.

Table B2. Thermal conversion factors and data, 2009-2013

	2009	2010	2011	2012	2013
Conversion Factor (Btu per cubic foot)					
Production					
Marketed	1,101	1,098	1,142	^R 1,091	1,100
NGPL Production	2,627	2,598	2,550	2,383	2,417
Total Dry Production	1,025	1,023	1,022	1,024	1,027
Supply					
Dry Production	1,025	1,023	1,022	1,024	1,027
Receipts at U.S. Borders					
Imports	1,025	1,025	1,025	1,025	1,025
Intransit Receipts	1,025	1,025	1,025	1,025	1,025
Withdrawals from Storage					
Underground Storage	1,025	1,023	1,022	1,024	1,027
LNG Storage	1,025	1,023	1,022	1,024	1,027
Supplemental Gas Supplies	1,025	1,023	1,022	1,024	1,027
Balancing Item	1,272	793	1,046	^R 1,248	1,387
Total Supply	NA	NA	NA	NA	NA
Disposition					
Consumption	1,025	1,023	1,022	1,024	1,027
(Electric Power)	1,025	1,022	1,021	1,022	1,025
(Other Sectors)	1,025	1,023	1,022	1,025	1,028
Deliveries at U.S. Borders					
Exports	1,009	1,009	1,009	1,009	1,009
Intransit Deliveries	1,009	1,009	1,009	1,009	1,009
Additions to Storage					
Underground Storage	1,025	1,023	1,022	1,024	1,027
LNG Storage	1,025	1,023	1,022	1,024	1,027
Total Disposition	NA	NA	NA	NA	NA
Summary Data (billion Btu)					
Production					
Marketed	23,829,534	24,576,620	27,458,532	^R 27,589,307	28,270,511
NGPL Production	2,690,084	2,770,856	2,893,381	2,979,242	3,279,792
Total Dry Production	21,139,450	21,805,763	24,565,151	^R24,610,065	24,990,719
Supply					
Dry Production	21,139,450	21,805,763	24,565,151	^R 24,610,065	24,990,719
Receipts at U.S. Borders					
Imports	3,845,144	3,834,276	3,555,410	3,216,234	2,955,439
Intransit Receipts	302,160	324,310	113,509	61,555	97,212
Withdrawals from Storage					
Underground Storage	3,040,434	3,349,696	3,141,885	2,885,783	3,801,450
LNG Storage	42,331	37,327	34,314	^R 27,601	43,412
Supplemental Gas Supplies	66,890	66,061	61,410	62,839	56,161
Balancing Item	-113,727	98,635	-1,322,257	^R -153,537	-195,991
Total Supply	28,322,682	29,516,068	30,149,422	^R30,710,541	31,748,402
Disposition					
Consumption	23,482,830	24,640,793	25,015,928	^R 26,151,410	26,836,194
(Electric Power)	7,043,659	7,550,441	7,733,672	9,313,053	8,357,118
(Other Sectors)	16,439,171	17,090,352	17,282,257	^R 16,838,356	18,479,076
Deliveries at U.S. Borders					
Exports	1,082,008	1,147,020	1,520,622	1,633,398	1,586,565
Intransit Deliveries	311,699	328,211	74,900	3,369	41,685
Additions to Storage					
Underground Storage	3,397,872	3,367,097	3,497,093	2,893,237	3,240,864
LNG Storage	48,273	32,946	40,879	29,128	43,094
Total Disposition	28,322,682	29,516,068	30,149,422	^R30,710,541	31,748,402

^{NA} Not available.

^R Revised data.

^a Beginning in 2009, Pipeline and Distribution Use volumes now include Line Loss, defined as known volumes of natural gas that were the result of leaks, damage, accidents, migration, and/or blow down.

Notes: See accompanying text for conversion factor documentation. Items appearing in parentheses are subsets of other items for which data are shown in this table and are not involved in the summing of supply and disposition. Totals may not equal sum of components due to independent rounding.

Sources: Energy Information Administration (EIA), Form EIA-895, "Annual Quantity and Value of Natural Gas Production Report"; Form EIA-914, "Monthly Natural Gas Production Report"; Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"; Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"; Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports; Form EIA-191M, "Monthly Underground Gas Storage Report"; Form EIA-906, "Power Plant Report"; Form EIA-920, "Combined Heat and Power Plant Report"; Form EIA-923, "Power Plant Operations Report"; the Bureau of Safety and Environmental Enforcement; Form EIA-886, "Annual Survey of Alternative Fueled Vehicles"; state agencies; Form EIA-23, "Annual Survey of Domestic Oil and Gas Reserves"; LCI; DI; Ventyx; BENTEK Energy; and EIA estimates based on historical data.