

Appendix B

Metric and Thermal Conversion Tables

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Metric Conversions

Table B1 presents Summary Statistics for Natural Gas in the United States for 1997 through 2001 in metric units of measure. Volumes are shown in cubic meters instead of cubic feet. Prices are shown in 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 1997 through 2001. 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 extraction loss and dividing the resulting sum by the total quantity of dry production and extraction loss (see below).
- *Extraction Loss.* 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).
- *Receipts at U.S. Borders.* The conversion factor for 1997 imports was obtained from the discontinued Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." The 1997 conversion factor has been applied to volumes reported through 2001. Intransit receipts are assumed to have the same average heat content as imports.
- *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 Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Average heat content of electric utility consumption is obtained from EIA's *Electric Power Annual*. The factor for nonutility consumption is calculated by subtracting the total heat content of electric utility consumption from the heat content of total consumption and dividing the difference by the quantity of nonutility consumption (total consumption less electric utility consumption).
- *Deliveries at U.S. Borders.* The conversion factor for 1997 exports was obtained from the discontinued Form FPC-14. The 1997 conversion factor has been applied to volumes reported through 2001. Intransit deliveries are assumed to have the same average heat content as exports.
- *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, 1997-2001

	1997	1998	1999	2000	2001
Number of Gas and Gas Condensate Wells					
Producing at End of Year	310,971	316,929	302,421	341,678	366,849
Production (million cubic meters)					
Gross Withdrawals					
From Gas Wells.....	505,287	502,016	498,099	501,946	515,362
From Oil Wells.....	180,340	180,650	176,485	182,582	179,321
Total	685,627	682,666	674,584	684,528	694,684
Repressuring	-98,869	-97,043	-93,235	-95,701	-94,207
Vented and Flared.....	-7,259	-2,917	-3,123	-2,583	-2,426
Wet After Lease Separation	579,498	582,706	578,226	586,243	598,050
Nonhydrocarbon Gases Removed.....	-16,953	-17,463	-17,415	-14,313	-13,127
Marketed Production	562,545	565,242	560,811	571,930	584,923
Extraction Loss.....	-27,291	-26,555	-27,541	-28,757	-27,014
Total Dry Production.....	535,255	538,687	533,270	543,173	557,909
Supply (million cubic meters)					
Dry Production.....	535,255	538,687	533,270	543,173	557,909
Receipts at U.S. Borders					
Imports	84,786	89,256	101,530	107,083	112,614
Intransit Receipts	15,518	13,637	13,775	12,781	15,267
Withdrawals from Storage					
Underground Storage.....	79,974	67,319	78,481	99,058	65,375
LNG Storage	1,969	1,539	1,024	1,459	1,004
Supplemental Gas Supplies.....	2,921	2,894	2,782	2,555	2,444
Balancing Item.....	23,746	17,936	-3,199	-6,860	-46
Total Supply	744,166	731,268	727,663	759,250	754,568
Disposition (million cubic meters)					
Consumption	643,818	629,895	634,393	660,666	628,343
Deliveries at U.S. Borders					
Exports	4,446	4,503	4,627	6,901	10,570
Intransit Deliveries.....	14,629	13,010	14,004	14,628	16,279
Additions to Storage					
Underground Storage.....	79,296	82,220	73,553	76,010	98,097
LNG Storage	1,978	1,639	1,085	1,044	1,280
Total Disposition	744,166	731,268	727,663	759,250	754,568
Consumption (million cubic meters)					
Lease Fuel.....	21,983	21,843	19,241	21,150	20,321
Pipeline Fuel.....	21,279	17,995	18,273	18,185	17,668
Plant Fuel	12,088	11,364	11,313	11,442	10,510
Delivered to Consumers					
Residential.....	141,125	128,000	133,816	141,476	135,247
Commercial	91,036	84,936	86,215	90,117	86,011
Industrial.....	241,001	235,608	228,782	230,563	208,499
Vehicle Fuel.....	204	224	279	307	349
Electric Power	115,102	129,926	136,474	147,427	149,739
Total Delivered to Consumers	588,468	578,694	585,566	609,890	579,844
Total Consumption.....	643,818	629,895	634,393	660,666	628,343
Delivered for the Account of Others (million cubic meters)					
Residential.....	1,728	2,977	6,377	10,533	10,477
Commercial	26,599	28,041	29,217	32,495	29,393
Industrial.....	197,349	197,765	185,886	184,888	168,223

See footnotes at end of table.

**Table B1. Summary Statistics for Natural Gas in the United States, Metric Equivalents, 1997-2001
(Continued)**

	1997	1998	1999	2000	2001
Number of Consumers					
Residential.....	56,186,958	57,321,746	58,223,229	59,252,728	60,252,745
Commercial.....	4,761,409	5,044,497	5,010,189	5,010,817	5,030,122
Industrial.....	234,855	226,191	228,331	220,251	216,058
Average Annual Consumption per Consumer (thousand cubic meters)					
Commercial.....	19	17	17	18	17
Industrial.....	1,026	1,042	1,002	1,047	965
Average Prices for Natural Gas (dollars per thousand cubic meters)					
Wellhead (Marketed Production).....	81.93	69.22	77.34	129.96	141.96
Imports.....	76.63	69.57	79.10	139.49	156.44
Exports.....	106.65	86.52	92.17	144.79	147.97
Pipeline Fuel.....	80.87	70.98	66.39	104.88	125.37
City Gate.....	129.25	108.42	109.48	163.15	202.00
Delivered to Consumers					
Residential.....	245.08	240.85	236.26	274.04	340.43
Commercial.....	204.83	193.52	188.23	232.72	297.70
Industrial.....	126.78	110.89	110.18	157.15	186.46
Vehicle Fuel.....	156.80	162.09	153.27	195.64	233.08
Electric Utilities.....	98.17	84.76	92.52	154.68	164.92

Notes: Beginning in 1987, prices for gas delivered to consumers are calculated using only onsystem sales data. No imputations are made for prices of gas delivered for the account of others. In previous years, prices were calculated using reported values and values imputed for gas delivered for the account of others. The United States includes the 50 States and the District of Columbia. Totals may not equal sum of components due to independent rounding. Beginning in 1997, consumption of natural gas for agricultural use was classified as industrial use. In 1995, agricultural use was classified as commercial use.

Sources: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"; Form EIA-895, "Monthly Quantity and Value of Natural Gas Report"; Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers"; Form EIA-816, "Monthly Natural Gas Liquids Report"; Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production"; Form EIA-759, "Monthly Power Plant Report"; Form FERC-423, "Underground Gas Storage Report"; Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports; and the U.S. Minerals Management Service.

Table B2. Thermal Conversion Factors and Data, 1997-2001

	1997	1998	1999	2000	2001
Conversion Factor (Btu per cubic foot)					
Production					
Marketed	1,107	1,109	1,107	1,107	1,105
Extraction Loss.....	2,704	2,694	2,653	2,662	2,687
Total Dry Production.....	1,026	1,031	1,027	1,025	1,028
Supply					
Dry Production.....	1,026	1,031	1,027	1,025	1,028
Receipts at U.S. Borders					
Imports	1,023	1,023	1,022	1,023	1,023
Intransit Receipts	1,023	1,023	1,022	1,023	1,023
Withdrawals from Storage					
Underground Storage.....	1,026	1,031	1,027	1,025	1,028
LNG Storage	1,026	1,031	1,027	1,025	1,028
Supplemental Gas Supplies.....	1,026	1,031	1,027	1,025	1,028
Balancing Item.....	1,026	1,309	992	1,051	NA
Total Supply.....	NA	NA	NA	NA	NA
Disposition					
Consumption	1,026	1,031	1,027	1,025	1,028
(Electric Power).....	(1,021)	(1,025)	(1,022)	(1,021)	(1,026)
(Other Sectors).....	(1,027)	(1,033)	(1,028)	(1,026)	(1,029)
Deliveries at U.S. Borders					
Exports	1,011	1,011	1,006	1,006	1,010
Intransit Deliveries.....	1,011	1,011	1,006	1,006	1,010
Additions to Storage					
Underground Storage.....	1,026	1,031	1,027	1,025	1,028
LNG Storage	1,026	1,031	1,027	1,025	1,028
Total Disposition	NA	NA	NA	NA	NA
Summary Data (billion Btu)					
Production					
Marketed	21,999,810	22,139,605	21,921,395	22,364,843	22,817,012
Extraction Loss.....	-2,606,015	-2,526,324	-2,580,690	-2,703,325	-2,562,971
Total Dry Production.....	19,393,794	19,613,281	19,340,705	19,661,518	20,254,041
Supply					
Dry Production.....	19,393,794	19,613,281	19,340,705	19,661,518	20,254,041
Receipts at U.S. Borders					
Imports	3,063,489	3,063,489	3,664,386	3,868,580	4,068,409
Intransit Receipts	560,686	492,657	497,171	461,755	551,557
Withdrawals from Storage					
Underground Storage.....	2,897,675	2,451,042	2,846,366	3,585,660	2,373,330
LNG Storage	71,324	56,050	37,156	52,801	36,463
Supplemental Gas Supplies.....	105,835	105,357	100,901	92,491	88,729
Balancing Item.....	860,576	828,820	-109,497	-246,210	3,859
Total Supply.....	26,953,380	26,610,696	26,377,188	27,476,595	27,376,387
Disposition					
Consumption	23,327,344	22,934,120	23,008,272	23,922,569	22,811,020
(Electric Power).....	(4,150,164)	(4,702,991)	(4,925,561)	(5,315,657)	(5,425,461)
(Other Sectors).....	(19,177,180)	(18,231,129)	(18,082,711)	(18,606,912)	(17,385,559)
Deliveries at U.S. Borders					
Exports	158,783	158,783	164,395	245,178	377,011
Intransit Deliveries.....	522,469	464,515	497,511	519,665	580,619
Additions to Storage					
Underground Storage.....	2,873,102	2,993,596	2,667,642	2,751,392	3,561,261
LNG Storage	71,681	59,681	39,368	37,791	46,476
Total Disposition	26,953,380	26,610,696	26,377,188	27,476,595	27,376,387

NA = Not available.

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, "Monthly Quantity and Value of Natural Gas 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-191, "Underground Gas Storage Report"; Form EIA-767, "Steam-Electric Plant Operating and Design Report," EIA-906, "Power Plant Report"; EIA-886, "Annual Survey of Alternative Fueled Vehicle Suppliers and Users"; and EIA estimates.