

# **Appendix B**

## **Metric and Thermal Conversion Tables**

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# Metric and Thermal Conversion Tables

### **Metric Conversions**

Table B1 presents Summary Statistics for Natural Gas in the United States for 2002 through 2006 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 2002 through 2006. 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 2004 conversion factor has been applied to volumes reported through 2006. 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 consumption in the Electric Power Sector is obtained from EIA's Form EIA-906, "Power Plant Report."
- *Deliveries at U.S. Borders.* The 2004 conversion factor has been applied to volumes reported through 2006. 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, 2002-2006**

	2002	2003	2004	2005	2006
<b>Number of Gas and Gas Condensate Wells</b>					
Producing at End of Year .....	387,772	393,327	406,147	<sup>R</sup> 425,887	448,641
<b>Production (million cubic meters)</b>					
Gross Withdrawals					
From Gas Wells .....	503,894	506,356	506,454	<sup>R</sup> 494,748	508,075
From Oil Wells .....	174,047	176,617	172,292	<sup>R</sup> 169,476	157,583
<b>Total .....</b>	<b>677,942</b>	<b>682,973</b>	<b>678,746</b>	<b><sup>R</sup>664,223</b>	<b>665,657</b>
Repressuring .....	97,839	100,462	104,819	<sup>R</sup> 104,759	92,453
Vented and Flared .....	2,808	2,778	2,730	3,372	3,673
Wet After Lease Separation .....	577,294	579,733	571,196	<sup>R</sup> 556,092	569,532
Nonhydrocarbon Gases Removed .....	14,220	14,122	18,523	20,136	20,698
Marketed Production .....	563,074	565,611	552,674	<sup>R</sup> 535,956	548,834
Extraction Loss .....	27,099	24,800	26,238	24,820	25,657
<b>Total Dry Production .....</b>	<b>535,975</b>	<b>540,811</b>	<b>526,435</b>	<b><sup>R</sup>511,136</b>	<b>523,177</b>
<b>Supply (million cubic meters)</b>					
Dry Production .....	535,975	540,811	526,435	<sup>R</sup> 511,136	523,177
Receipts at U.S. Borders					
Imports .....	113,705	111,675	120,589	122,924	118,542
Intransit Receipts .....	16,670	20,682	16,693	<sup>R</sup> 15,776	14,568
Withdrawals from Storage					
Underground Storage .....	88,849	87,746	85,986	86,553	70,590
LNG Storage .....	1,212	1,754	1,448	<sup>R</sup> 1,417	956
Supplemental Gas Supplies .....	1,925	1,917	1,709	1,804	1,871
Balancing Item .....	-378	-1,090	10,108	<sup>R</sup> 3,803	1,632
<b>Total Supply .....</b>	<b>757,959</b>	<b>763,495</b>	<b>762,968</b>	<b><sup>R</sup>743,413</b>	<b>731,335</b>
<b>Disposition (million cubic meters)</b>					
Consumption .....	651,486	630,800	633,985	<sup>R</sup> 623,271	613,147
Deliveries at U.S. Borders					
Exports .....	14,618	19,253	24,186	20,632	20,500
Intransit Deliveries .....	15,021	18,357	14,127	13,002	13,786
Additions to Storage					
Underground Storage .....	75,602	93,211	89,198	84,995	82,806
LNG Storage .....	1,232	1,874	1,471	<sup>R</sup> 1,513	1,096
<b>Total Disposition .....</b>	<b>757,959</b>	<b>763,495</b>	<b>762,968</b>	<b><sup>R</sup>743,413</b>	<b>731,335</b>
<b>Consumption (million cubic meters)</b>					
Lease Fuel .....	20,688	21,475	20,716	21,417	21,659
Pipeline and Distribution Use .....	18,885	16,749	16,033	<sup>R</sup> 16,538	16,551
Plant Fuel .....	10,831	10,305	10,374	10,058	10,165
Delivered to Consumers					
Residential .....	138,436	143,831	137,869	<sup>R</sup> 136,679	123,698
Commercial .....	89,033	90,033	88,603	<sup>R</sup> 84,920	80,272
Industrial .....	212,580	202,477	205,094	<sup>R</sup> 186,816	183,905
Vehicle Fuel .....	423	517	581	<sup>R</sup> 648	706
Electric Power .....	160,610	145,413	154,717	166,196	176,190
<b>Total Delivered to Consumers .....</b>	<b>601,082</b>	<b>582,272</b>	<b>586,863</b>	<b><sup>R</sup>575,258</b>	<b>564,772</b>
<b>Total Consumption .....</b>	<b>651,486</b>	<b>630,800</b>	<b>633,985</b>	<b><sup>R</sup>623,271</b>	<b>613,147</b>
<b>Delivered for the Account of Others (million cubic meters)</b>					
Residential .....	11,999	13,374	12,333	<sup>R</sup> 11,925	10,731
Commercial .....	32,407	31,422	31,834	<sup>R</sup> 29,732	29,200
Industrial .....	164,316	157,689	156,563	<sup>R</sup> 141,884	140,662

See footnotes at end of table.

**Table B1. Summary Statistics for Natural Gas in the United States, Metric Equivalents, 2002-2006 —**  
Continued

	2002	2003	2004	2005	2006
<b>Number of Consumers</b>					
Residential .....	61,107,254	61,871,450	62,496,134	<sup>R</sup> 63,616,827	64,385,971
Commercial .....	5,064,384	5,152,177	5,139,949	<sup>R</sup> 5,198,028	5,274,854
Industrial .....	205,915	205,514	209,058	<sup>R</sup> 206,223	199,791
<b>Average Annual Consumption per Consumer (thousand cubic meters)</b>					
Commercial .....	18	17	17	<sup>R</sup> 16	15
Industrial .....	1,032	985	981	<sup>R</sup> 906	920
<b>Average Price for Natural Gas (dollars per thousand cubic meters)</b>					
Wellhead (Marketed Production) .....	104.07	172.48	192.74	<sup>R</sup> 258.88	225.92
Imports .....	111.06	182.64	205.02	286.87	242.50
Exports .....	120.48	195.62	215.13	268.15	246.07
Pipeline and Distribution Use .....	--	--	--	--	--
City Gate .....	146.51	206.67	234.76	<sup>R</sup> 306.12	303.93
<b>Delivered to Consumers</b>					
Residential .....	278.75	340.21	379.66	<sup>R</sup> 448.45	485.54
Commercial .....	234.11	296.75	333.02	<sup>R</sup> 400.55	423.56
Industrial .....	141.96	208.11	230.65	<sup>R</sup> 302.34	277.63
Vehicle Fuel .....	180.03	218.45	252.78	<sup>R</sup> 322.80	310.18
Electric Power .....	129.96	196.70	215.77	<sup>R</sup> 299.18	251.09

<sup>R</sup> Revised data.

-- Not applicable.

**Notes:** The United States equals the 50 States and District of Columbia. Totals may not add due to independent rounding.

**Sources:** Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition"; Form EIA-895A, "Annual Quantity and Value of 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 U.S. Minerals Management Service; Form EIA-906, "Power Plant Report"; Form EIA-886, "Annual Survey of Alternative Fueled Vehicle Suppliers and Users"; and EIA estimates.

**Table B2. Thermal Conversion Factors and Data, 2002-2006**

	2002	2003	2004	2005	2006
<b>Conversion Factor (Btu per cubic foot)</b>					
<b>Production</b>					
Marketed.....	1,106	1,106	1,105	<sup>R</sup> 1,105	1,103
Extraction Loss .....	2,671	2,747	2,666	2,660	2,639
<b>Total Dry Production.....</b>	<b>1,027</b>	<b>1,031</b>	<b>1,027</b>	<b>1,029</b>	<b>1,028</b>
<b>Supply</b>					
Dry Production .....	1,027	1,031	1,027	1,029	1,028
Receipts at U.S. Borders					
Imports.....	1,022	1,025	1,025	1,025	1,025
Intransit Receipts .....	1,022	1,025	1,025	1,025	1,025
Withdrawals from Storage					
Underground Storage.....	1,027	1,031	1,027	1,029	1,028
LNG Storage.....	1,027	1,031	1,027	1,029	1,028
Supplemental Gas Supplies.....	1,027	1,031	1,027	1,029	1,028
Balancing Item .....	792	1,062	986	<sup>R</sup> 998	874
<b>Total Supply .....</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Disposition</b>					
Consumption.....	1,027	1,031	1,027	1,029	1,028
(Electric Power).....	1,020	1,025	1,027	<sup>R</sup> 1,028	1,028
(Other Sectors) .....	1,029	1,033	1,027	1,029	1,028
Deliveries at U.S. Borders					
Exports.....	1,008	1,009	1,009	1,009	1,009
Intransit Deliveries .....	1,008	1,009	1,009	1,009	1,009
Additions to Storage					
Underground Storage.....	1,027	1,031	1,027	1,029	1,028
LNG Storage.....	1,027	1,031	1,027	1,029	1,028
<b>Total Disposition.....</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Summary Data (billion Btu)</b>					
<b>Production</b>					
Marketed.....	21,994,760	22,096,437	21,563,252	<sup>R</sup> 20,905,283	21,383,930
Extraction Loss .....	2,555,921	2,405,837	2,470,407	2,331,218	2,390,781
<b>Total Dry Production.....</b>	<b>19,438,839</b>	<b>19,690,599</b>	<b>19,092,845</b>	<b><sup>R</sup>18,574,065</b>	<b>18,993,149</b>
<b>Supply</b>					
Dry Production .....	19,438,839	19,690,599	19,092,845	<sup>R</sup> 18,574,065	18,993,149
Receipts at U.S. Borders					
Imports.....	4,103,803	4,042,343	4,365,022	4,449,560	4,290,938
Intransit Receipts .....	601,654	748,637	604,255	<sup>R</sup> 571,044	527,312
Withdrawals from Storage					
Underground Storage.....	3,222,383	3,194,794	3,118,553	3,145,239	2,562,662
LNG Storage.....	43,953	63,870	52,503	<sup>R</sup> 51,490	34,688
Supplemental Gas Supplies.....	69,815	69,805	61,995	65,538	67,907
Balancing Item .....	-10,566	-40,864	351,936	<sup>R</sup> 134,025	50,346
<b>Total Supply .....</b>	<b>27,469,881</b>	<b>27,769,185</b>	<b>27,647,108</b>	<b><sup>R</sup>26,990,961</b>	<b>26,527,003</b>
<b>Disposition</b>					
Consumption.....	23,628,203	22,967,073	22,993,478	<sup>R</sup> 22,648,904	22,259,373
(Electric Power).....	5,786,470	5,263,596	5,611,284	<sup>R</sup> 6,035,829	6,393,830
(Other Sectors) .....	17,841,734	17,703,478	17,382,193	<sup>R</sup> 16,613,075	15,865,543
Deliveries at U.S. Borders					
Exports.....	520,363	686,042	861,825	735,158	730,474
Intransit Deliveries .....	534,706	654,099	503,394	<sup>R</sup> 463,278	491,238
Additions to Storage					
Underground Storage.....	2,741,930	3,393,758	3,235,053	3,088,628	3,006,128
LNG Storage.....	44,679	68,213	53,359	<sup>R</sup> 54,993	39,790
<b>Total Disposition.....</b>	<b>27,469,881</b>	<b>27,769,185</b>	<b>27,647,108</b>	<b><sup>R</sup>26,990,961</b>	<b>26,527,003</b>

<sup>R</sup> Revised data.

<sup>NA</sup> 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-895A, "Annual

Quantity and Value of 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-886, "Annual Survey of Alternative Fueled Vehicle Suppliers and Users"; and EIA estimates.