Appendix B. Thermal Conversion Factors

Table B1. Approximate Heat Content of Petroleum and Heat Rates for Electricity, Selected Years, 1960-2015

Year	Petroleum Consumption					Electricity Net Generation	
	Distillate Fuel Oil, All Sectors (DFTCKUS)	Liquefied Petroleum Gases, Industrial Sector (LGICKUS)	Liquefied Petroleum Gases, All Sectors (LGTCKUS)	Motor Gasoline, All Sectors (MGTCKUS)	Total Petroleum Products, All Sectors [a] (PATCKUS)	Fossil-Fueled Steam-Electric Plants [b] (FFETKUS)	Nuclear Steam-Electric Plants (NUETKUS)
	Million Btu per Barrel					Btu per Kilowatthour	
1960	5.825	4.163	4.011	5.253	5.555	10,760	11,629
1965	5.825	4.149	4.011	5.253	5.532	10,453	11,804
1970	5.825	3.736	3.779	5.253	5.503	10,494	10,977
1975	5.825	3.645	3.715	5.253	5.494	10,406	11,013
1976	5.825	3.640	3.711	5.253	5.504	10,373	11,047
1977	5.825	3.590	3.677	5.253	5.518	10,435	10,769
1978	5.825	3.579	3.669	5.253	5.519	10,361	10,941
1979	5.825	3.640	3.680	5.253	5.494	10,353	10,879
1980	5.825	3.633	3.674	5.253	5.479	10,388	10,908
1981	5.825	3.594	3.643	5.253	5.448	10,453	11,030
1982	5.825	3.562	3.615	5.253	5.415	10,454	11,073
1983	5.825	3.549	3.614	5.253	5.406	10,520	10,905
1984	5.825	3.546	3.599	5.253	5.395	10,440	10,843
1985	5.825	3.546	3.603	5.253	5.387	10,447	10,622
1986	5.825	3.591	3.640	5.253	5.418	10,446	10,579
1987	5.825	3.613	3.659	5.253	5.403	10,419	10,442
1988	5.825	3.606	3.652	5.253	5.410	10,324	10,602
1989	5.825	3.640	3.683	5.253	5.410	10,432	10,583
1990	5.825	3.566	3.625	5.253	5.411	10,402	10,582
1991	5.825	3.554	3.614	5.253	5.384	10,436	10,484
1992	5.825	3.571	3.624	5.253	5.378	10,342	10,471
1993	5.825	3.543	3.606	5.232	5.370	10,309	10,504
1994	5.820	3.585	3.635	5.231	5.360	10,316	10,452
1995	5.820	3.571	3.623	5.218	5.342	10,312	10,507
1996	5.820	3.552	3.613	5.218	5.336	10,340	10,503
1997	5.820	3.559	3.616	5.215	5.336	10,213	10,494
1998	5.819	3.557	3.614	5.215	5.349	10,197	10,491
1999	5.819	3.553	3.616	5.213	5.328	10,226	10,450
2000	5.819	3.539	3.607	5.214	5.326	10,201	10,429
2001	5.819	3.544	3.614	5.214	5.346	10,333	10,443
2002	5.819	3.547	3.613	5.211	5.324	10,173	10,442
2003	5.819	3.561	3.629	5.203	5.338	10,125	10,422
2004	5.818	3.554	3.618	5.201	5.341	10,016	10,428
2005	5.818	3.553	3.620	5.198	5.354	9,999	10,436
2006	5.803	3.544	3.605	5.191	5.336	9,919	10,435
2007	R 5.784	3.524	3.591	5.155	5.309	9,884	10,489
2008	5.780	3.511	3.600	5.126	5.287	9,854	10,452
2009	5.781	3.466	3.558	5.101	5.236	9,760	10,459
2010	R 5.777	3.473	3.557	5.078	R 5.222	9,756	10,452
2011	R 5.774	3.445	3.528	5.068	5.212	9,716	10,464
2012	R 5.771	3.467	3.534	5.063	R 5.191	9,516	10,479
2013	R 5.769	3.488	3.556	5.062	R 5.175	9,541	10,449
2014	R 5.768	3.460	3.534	5.060	R 5.177	9,510	10,459
2015	5.768	NA	NA	5.060	NA	NA	NA

[a] This factor is not actually applied in SEDS but is displayed here for information.
[b] This factor is the average for electricity generated at U.S. fossil-fueled steam-electric plants. In SEDS, it is applied to convert hydroelectricity, electricity generated for distribution from geothermal, wind, photovoltaic, and solar thermal energy. Through 2000, it is also used as the thermal conversion factor for wood and waste electricity net generation at electric utilities; beginning in 2001, Btu data for wood and biomass waste consumed by the electric power sector are available from surveys.

Where shown, R = Revised data, NA = Not available.
Sources: See source listing at the end of this appendix.

Table B2. Approximate Heat Content of Natural Gas Consumed by the Electric Power Sector, Selected Years, 1960-2000

(Thousand Btu per Cubic Foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	1.035	1.034	1.031	1.033	1.133	1.099	1.029	1.023	1.028	1.030	1.033	1.025	1.027
Alaska	– –	1.010	1.005	1.006	1.006	1.006	1.027	1.003	1.002	1.002	1.003	1.002	1.003
Arizona	1.035	1.076	1.059	1.071	1.057	1.059	1.031	1.021	1.015	1.014	1.014	1.013	1.016
Arkansas	1.035	1.001	1.004	1.011	1.026	1.055	1.018	1.019	1.023	1.025	1.019	1.025	1.020
California	1.035	1.073	1.054	1.063	1.052	1.051	1.032	1.028	1.026	1.020	1.023	1.022	1.020
Colorado	1.035	0.912	0.974	0.996	0.981	0.989	1.041	1.063	1.123	1.042	1.064	1.055	1.056
Connecticut	1.035	1.022	1.016	1.005	– –	1.031	1.031	1.021	1.023	1.022	1.026	1.024	1.012
Delaware	1.035	1.043	1.020	1.073	1.042	1.038	1.070	1.032	1.034	1.035	0.971	0.981	1.017
District of Columbia	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	1.035	1.037	1.041	1.009	1.015	1.011	1.013	1.014	1.011	1.043	1.049	1.041	1.036
Georgia	1.035	1.040	1.031	1.029	1.035	1.024	1.024	1.027	1.024	1.009	1.026	1.027	1.016
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	– –	– –	– –	1.053	1.037	1.049	– –	– –	1.035	1.035	1.030	1.050	1.040
Illinois	1.035	1.029	1.025	1.029	1.024	1.027	1.023	1.017	1.020	1.016	1.019	1.022	1.020
Indiana	1.035	0.999	1.006	1.000	1.004	1.005	1.003	1.020	1.020	1.020	1.016	1.019	1.017
Iowa	1.035	1.010	1.009	1.008	1.008	1.021	1.014	1.009	1.005	1.008	1.013	1.008	1.009
Kansas	1.035	0.995	0.998	0.991	0.960	0.968	0.998	0.989	0.984	0.986	1.005	1.011	1.011
Kentucky	1.035	1.028	1.017	1.017	1.024	1.024	1.023	1.020	1.019	1.020	1.022	1.019	1.020
Louisiana	1.035	1.042	1.029	1.059	1.041	1.047	1.045	1.042	1.042	1.035	1.042	1.038	1.034
Maine	– –	– –	– –	– –	– –	– –	1.010	1.009	1.008	1.007	1.037	1.001	1.021
Maryland	1.035	1.025	1.022	0.943	1.023	1.025	1.034	1.035	1.030	1.037	1.039	1.037	1.041
Massachusetts	1.035	1.013	1.012	1.002	1.000	1.039	1.047	1.026	1.030	1.028	1.043	1.015	1.035
Michigan	1.035	1.014	1.015	0.834	0.737	0.460	0.813	0.855	0.872	0.871	0.887	0.892	0.934
Minnesota	1.035	0.998	1.002	0.984	0.994	1.002	1.015	1.011	1.010	1.012	1.051	1.018	1.018
Mississippi	1.035	1.029	1.025	1.030	1.017	1.039	1.034	1.034	1.031	1.029	1.033	1.025	1.028
Missouri	1.035	1.020	1.007	0.977	0.979	0.992	1.018	1.008	1.015	1.015	1.017	1.013	1.014
Montana	1.035	1.001	1.032	1.149	1.049	1.204	1.159	1.038	1.040	1.029	1.035	1.031	1.018
Nebraska	1.035	0.991	1.008	0.982	0.950	0.957	0.959	1.007	1.011	1.010	1.008	1.010	1.015
Nevada	1.035	1.062	1.082	1.067	1.071	1.065	1.031	1.033	1.033	1.027	1.036	1.044	1.024
New Hampshire	– –	– –	– –	1.000	– –	– –	– –	1.018	1.024	1.017	1.023	1.021	1.069
New Jersey	1.035	1.045	1.026	1.028	1.034	1.046	1.036	1.032	1.031	1.035	1.041	1.035	1.032
New Mexico	1.035	1.108	1.083	1.033	1.029	1.013	1.034	1.019	0.998	1.001	0.996	0.996	0.992
New York	1.035	1.026	1.021	1.025	1.036	1.035	1.032	1.022	1.023	1.024	1.024	1.024	1.018
North Carolina	1.035	1.033	1.024	1.031	1.034	1.033	1.027	1.026	1.027	1.026	1.026	1.022	1.017
North Dakota	1.035	1.000	1.031	1.054	1.054	1.054	1.038	1.066	1.059	1.067	– –	– –	– –
Ohio	1.035	1.033	1.023	0.864	1.004	1.014	1.011	1.023	1.021	1.020	1.022	1.021	1.019
Oklahoma	1.035	1.026	1.032	1.038	1.048	1.044	1.042	1.034	1.028	1.032	1.030	1.028	1.029
Oregon	1.035	1.070	1.045	1.037	0.998	– –	1.027	1.011	1.019	1.016	1.020	1.016	1.018
Pennsylvania	1.035	1.038	1.033	1.000	1.020	1.000	0.935	1.030	1.032	1.027	1.029	1.036	1.034
Rhode Island	1.035	1.042	1.021	1.042	1.022	1.034	1.032	1.021	1.023	1.013	1.023	1.015	1.031
South Carolina	1.035	1.042	1.028	1.028	1.030	1.029	1.024	1.023	1.020	1.020	1.031	1.061	1.038
South Dakota	1.035	0.997	1.004	1.000	0.988	1.010	1.028	1.017	1.017	1.019	1.022	1.019	1.020
Tennessee	1.035	1.046	1.022	– –	1.016	– –	1.027	1.019	1.017	1.019	1.022	1.024	1.033
Texas	1.035	1.037	1.027	1.019	1.037	1.036	1.035	1.025	1.024	1.023	1.024	1.022	1.021
Utah	1.035	0.925	0.938	0.941	0.955	1.075	1.027	1.049	1.019	1.026	1.036	1.036	1.044
Vermont	– –	– –	– –	1.000	1.000	1.000	1.027	1.001	1.015	1.012	1.014	1.012	1.012
Virginia	1.035	1.031	1.026	1.098	1.104	1.040	1.030	1.032	1.037	1.047	1.038	1.040	1.037
Washington	– –	– –	– –	– –	1.030	1.033	1.029	1.028	1.028	1.023	1.035	1.039	1.025
West Virginia	1.035	1.071	1.029	0.575	1.000	1.000	1.000	1.028	1.014	1.037	1.004	1.006	1.006
Wisconsin	1.035	1.018	1.019	1.016	1.007	1.000	1.016	1.015	1.015	1.017	1.013	1.017	1.012
Wyoming	1.035	0.926	1.023	0.843	0.847	1.048	1.035	1.043	1.040	1.041	1.044	1.044	1.027
U.S. Average	1.035	1.038	1.029	1.023	1.033	1.037	1.027	1.021	1.020	1.020	1.024	1.022	1.021

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B3. Approximate Heat Content of Natural Gas Consumed by the Electric Power Sector, 2001-2014

(Thousand Btu per Cubic Foot)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	1.040	1.025	1.027	1.025	1.027	1.029	1.033	1.028	1.025	1.020	1.019	1.016	1.018	1.026
Alaska	1.004	1.009	1.004	1.007	1.006	1.007	1.007	1.006	1.006	1.006	1.015	1.013	1.002	1.001
Arizona	1.023	1.018	1.008	1.020	1.024	1.021	1.022	1.027	1.022	1.016	1.016	1.021	1.024	1.029
Arkansas	1.037	1.016	1.032	1.030	1.029	1.028	1.026	1.032	1.025	1.020	1.020	1.021	1.025	1.033
California	1.027	1.022	1.023	1.029	1.029	1.032	1.031	1.029	1.027	1.026	1.022	1.025	1.029	1.033
Colorado	1.047	1.017	1.034	1.041	1.035	1.039	1.038	1.037	1.034	1.028	1.036	1.044	1.050	1.054
Connecticut	1.014	1.021	1.008	1.015	1.011	1.010	1.012	1.013	1.012	1.017	1.024	1.031	1.029	1.026
Delaware	1.037	1.017	1.043	1.032	1.037	1.037	1.036	1.034	1.024	1.021	1.021	1.026	1.052	1.057
District of Columbia	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	1.020	– –	– –	– –
Florida	1.042	1.025	1.034	1.031	1.034	1.028	1.028	1.029	1.024	1.018	1.015	1.014	1.016	1.021
Georgia	1.019	1.022	1.024	1.030	1.046	1.040	1.040	1.035	1.035	1.023	1.017	1.015	1.017	1.024
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	1.029	0.979	1.002	1.028	1.021	1.027	1.025	1.016	1.014	1.017	1.011	1.012	1.011	1.014
Illinois	1.022	1.012	1.015	1.025	1.020	1.022	1.023	1.019	1.019	1.015	1.018	1.012	1.014	1.014
Indiana	1.020	1.026	1.021	1.015	1.018	1.015	1.014	1.014	1.013	1.008	1.011	1.011	1.019	1.030
Iowa	1.014	1.007	1.011	0.999	1.003	1.004	1.008	1.010	1.008	1.010	1.011	1.022	1.024	1.047
Kansas	1.010	1.001	1.003	1.005	1.009	1.015	1.020	1.016	1.014	1.017	1.018	1.020	1.019	1.020
Kentucky	1.025	1.024	1.023	1.026	1.032	1.028	1.027	1.025	1.024	1.022	1.018	1.022	1.030	1.032
Louisiana	1.041	1.027	1.032	1.029	1.030	1.037	1.033	1.032	1.030	1.023	1.022	1.018	1.021	1.031
Maine	1.034	1.038	1.037	1.039	1.052	1.056	1.058	1.058	1.049	1.049	1.053	1.036	1.022	1.023
Maryland	1.033	1.043	1.038	1.040	1.049	1.047	1.045	1.032	1.048	1.034	1.021	1.034	1.057	1.048
Massachusetts	1.037	1.017	1.028	1.032	1.033	1.032	1.037	1.034	1.034	1.037	1.039	1.036	1.036	1.030
Michigan	0.990	1.008	1.013	1.017	1.016	1.011	1.015	1.015	1.016	1.014	1.015	1.017	1.021	1.022
Minnesota	1.022	1.005	1.004	1.006	1.009	1.007	1.008	1.013	1.011	1.010	1.009	1.019	1.026	1.041
Mississippi	1.029	1.025	1.033	1.032	1.032	1.032	1.031	1.024	1.016	1.009	1.005	1.010	1.017	1.028
Missouri	1.099	1.009	1.016	1.022	1.021	1.025	1.023	1.018	1.018	1.017	1.022	1.027	1.028	1.027
Montana	1.015	1.004	0.961	1.018	1.013	1.011	1.045	1.021	1.019	1.019	1.016	1.025	1.022	1.020
Nebraska	1.022	0.976	0.997	0.987	0.998	1.005	1.016	1.006	0.998	1.003	1.009	1.022	1.026	1.036
Nevada	1.026	1.020	1.024	1.030	1.037	1.029	1.030	1.042	1.032	1.031	1.024	1.026	1.034	1.034
New Hampshire	1.074	1.047	1.046	1.046	1.044	1.043	1.055	1.049	1.036	1.040	1.041	1.032	1.030	1.031
New Jersey	1.032	1.031	1.035	1.038	1.035	1.035	1.035	1.032	1.029	1.026	1.026	1.031	1.036	1.036
New Mexico	0.982	1.002	1.000	1.021	1.005	1.008	1.018	1.017	1.028	1.022	1.022	1.027	1.029	1.033
New York	1.019	1.019	1.025	1.022	1.021	1.019	1.021	1.020	1.020	1.019	1.022	1.029	1.030	1.029
North Carolina	1.024	1.010	1.007	1.009	1.014	1.013	1.013	1.011	1.007	1.007	1.005	1.006	1.007	1.016
North Dakota	1.028	1.010	1.025	1.050	1.116	1.080	1.082	1.077	1.039	1.178	1.107	1.127	1.112	1.109
Ohio	1.019	1.024	1.034	1.029	1.029	1.031	1.032	1.034	1.033	1.029	1.028	1.025	1.035	1.041
Oklahoma	1.031	1.025	1.029	1.031	1.030	1.030	1.029	1.033	1.033	1.034	1.036	1.027	1.037	1.041
Oregon	1.021	1.017	1.021	1.020	1.020	1.025	1.033	1.021	1.022	1.024	1.018	1.021	1.026	1.030
Pennsylvania	1.033	1.028	1.039	1.037	1.036	1.034	1.030	1.034	1.029	1.027	1.028	1.033	1.043	1.042
Rhode Island	1.032	1.018	1.022	1.021	1.021	1.017	1.026	1.020	1.022	1.013	1.018	1.031	1.033	1.027
South Carolina	1.037	1.028	1.028	1.034	1.035	1.049	1.038	1.036	1.038	1.031	1.032	1.027	1.023	1.025
South Dakota	1.027	0.980	0.960	0.983	1.009	1.005	1.010	1.006	0.994	1.007	1.001	1.025	1.030	1.040
Tennessee	1.040	1.023	1.032	1.026	1.023	1.028	1.026	1.028	1.029	1.020	1.005	1.010	1.019	1.020
Texas	1.030	1.019	1.021	1.023	1.028	1.026	1.023	1.023	1.020	1.020	1.020	1.022	1.023	1.026
Utah	1.046	1.005	1.004	1.000	1.044	1.050	1.041	1.049	1.035	1.038	1.032	1.034	1.032	1.028
Vermont	1.012	1.018	1.019	1.020	0.890	1.016	1.018	1.000	1.005	1.007	1.008	1.020	1.015	1.016
Virginia	1.030	1.024	1.028	1.027	1.032	1.029	1.030	1.040	1.038	1.032	1.028	1.033	1.035	1.040
Washington	1.028	1.026	1.021	1.024	1.023	1.026	1.024	1.030	1.030	1.030	1.028	1.021	1.022	1.043
West Virginia	1.026	1.036	1.057	1.060	1.039	1.046	1.040	1.043	1.050	1.047	1.036	1.039	1.042	1.041
Wisconsin	1.016	0.975	0.986	0.998	1.010	1.012	1.017	1.014	1.015	1.010	1.012	1.016	1.018	1.022
Wyoming	1.031	0.923	0.935	0.946	0.925	0.991	0.977	0.976	0.987	0.990	0.983	0.977	0.966	1.004
U.S. Average	1.029	1.021	1.024	1.027	1.028	1.028	1.027	1.027	1.025	1.022	1.021	1.022	1.025	1.029

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B4. Approximate Heat Content of Natural Gas Consumed by All Sectors Except Electric Power, Selected Years, 1960-2000

(Thousand Btu per Cubic Foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	1.035	1.034	1.031	1.029	1.033	1.038	1.029	1.029	1.033	1.041	1.040	1.036	1.044
Alaska	1.035	1.010	1.005	1.005	1.002	1.006	0.946	1.006	0.989	1.000	0.999	1.000	1.027
Arizona	1.035	1.076	1.059	1.050	1.046	1.046	1.032	1.038	1.010	1.023	1.017	1.016	1.010
Arkansas	1.035	1.001	1.004	0.995	0.994	1.017	1.008	1.084	1.026	1.014	1.025	1.018	1.019
California	1.035	1.073	1.054	1.056	1.044	1.038	1.032	1.011	1.034	1.017	1.056	1.015	0.956
Colorado	1.035	0.912	0.974	0.896	0.995	0.999	1.003	1.014	1.015	1.009	1.006	1.000	0.998
Connecticut	1.035	1.022	1.016	1.005	1.022	1.030	1.033	1.030	1.029	1.028	1.026	1.024	1.028
Delaware	1.035	1.043	1.020	1.015	1.033	1.022	1.009	1.036	1.036	1.035	1.062	1.068	1.041
District of Columbia	1.035	1.024	1.016	1.012	1.003	1.015	1.008	1.006	1.009	1.021	1.027	1.021	1.027
Florida	1.035	1.037	1.041	1.078	1.070	1.109	1.084	1.070	1.116	1.058	1.054	1.046	1.108
Georgia	1.035	1.040	1.031	1.027	1.032	1.028	1.027	1.026	1.023	1.028	1.027	1.027	1.018
Hawaii	– –	– –	– –	– –	0.963	1.082	1.070	1.048	1.057	1.030	1.056	1.055	1.047
Idaho	1.035	1.065	1.061	1.055	1.053	1.049	1.028	1.030	1.030	1.031	1.038	1.038	1.025
Illinois	1.035	1.029	1.025	1.026	1.022	1.040	1.022	1.020	1.019	1.021	1.022	1.022	1.022
Indiana	1.035	0.999	1.006	0.990	0.989	1.008	1.018	1.012	1.011	1.011	1.017	1.018	1.025
Iowa	1.035	1.010	1.009	1.008	1.003	1.011	1.007	1.005	1.006	1.009	1.011	1.019	1.005
Kansas	1.035	0.995	0.998	0.982	0.994	1.000	0.999	1.003	0.997	1.002	0.994	0.995	1.008
Kentucky	1.035	1.028	1.017	1.008	1.009	1.030	1.040	1.096	1.049	1.050	1.034	1.032	1.040
Louisiana	1.035	1.042	1.029	1.032	1.037	1.038	1.041	1.033	1.044	1.135	1.077	1.043	1.064
Maine	– –	– –	1.012	1.024	1.024	1.035	1.005	1.016	1.016	1.014	1.017	1.019	1.153
Maryland	1.035	1.025	1.022	1.013	1.020	1.034	1.027	1.025	1.029	1.034	1.037	1.034	1.033
Massachusetts	1.035	1.013	1.012	1.004	1.016	1.024	1.035	1.026	1.026	1.019	1.015	1.060	1.044
Michigan	1.035	1.014	1.015	1.024	1.020	1.023	1.044	1.040	1.034	1.040	1.047	1.042	1.036
Minnesota	1.035	0.998	1.002	1.002	0.997	1.004	1.004	1.013	1.018	1.018	1.019	1.019	1.015
Mississippi	1.035	1.029	1.025	1.022	1.034	1.025	1.033	1.021	1.029	1.036	1.052	1.042	1.043
Missouri	1.035	1.020	1.007	1.008	1.016	1.017	1.011	1.007	1.011	1.010	1.011	1.013	1.015
Montana	1.035	1.001	1.032	1.019	1.009	0.999	1.027	1.030	1.030	1.031	1.026	1.024	1.024
Nebraska	1.035	0.991	1.008	0.997	0.980	0.982	0.984	0.979	1.007	0.998	1.003	0.999	1.005
Nevada	1.035	1.062	1.082	1.067	1.052	1.061	1.031	1.033	1.040	1.027	1.048	1.020	1.030
New Hampshire	1.035	1.012	1.010	1.010	1.020	1.027	1.014	1.010	1.019	1.011	1.011	1.009	1.058
New Jersey	1.035	1.045	1.026	1.031	1.033	1.022	1.024	1.035	1.037	1.035	1.037	1.040	1.036
New Mexico	1.035	1.108	1.083	1.076	1.048	1.088	1.056	1.020	1.035	1.022	0.979	0.975	0.968
New York	1.035	1.026	1.021	1.015	1.023	1.027	1.029	1.031	1.027	1.027	1.030	1.028	1.032
North Carolina	1.035	1.033	1.024	1.018	1.012	1.034	1.032	1.033	1.036	1.036	1.041	1.036	1.031
North Dakota	1.035	1.000	1.031	1.001	1.052	1.062	1.032	1.050	1.051	1.050	1.038	1.045	1.035
Ohio	1.035	1.033	1.023	1.024	1.016	1.044	1.040	1.038	1.038	1.045	1.040	1.037	1.042
Oklahoma	1.035	1.026	1.032	0.996	1.002	1.020	1.021	1.015	1.023	1.006	1.007	1.021	1.008
Oregon	1.035	1.070	1.045	1.039	1.046	1.030	1.023	1.045	1.044	1.051	1.050	1.060	1.031
Pennsylvania	1.035	1.038	1.033	1.025	1.022	1.034	1.039	1.035	1.034	1.035	1.036	1.036	1.035
Rhode Island	1.035	1.042	1.021	1.014	1.021	1.033	1.027	1.029	1.100	1.036	1.027	1.030	1.047
South Carolina	1.035	1.042	1.028	1.023	1.033	1.028	1.028	1.027	1.030	1.031	1.034	1.029	1.029
South Dakota	1.035	0.997	1.004	1.000	0.998	1.010	1.016	1.014	1.014	1.018	1.009	1.005	1.003
Tennessee	1.035	1.046	1.022	1.031	1.016	1.034	1.035	1.031	1.032	1.031	1.030	1.027	1.037
Texas	1.035	1.037	1.027	1.030	1.031	1.039	1.042	1.042	1.037	1.030	1.050	1.038	1.033
Utah	1.035	0.925	0.938	0.950	1.092	1.075	1.088	1.064	1.043	1.042	1.046	1.056	1.051
Vermont	– –	– –	1.006	1.009	0.989	0.992	0.982	0.996	1.015	1.012	1.012	1.012	1.012
Virginia	1.035	1.031	1.026	1.019	1.015	1.039	1.043	1.031	1.039	1.044	1.044	1.038	1.035
Washington	1.035	1.075	1.055	1.042	1.052	1.040	1.030	1.042	1.039	1.049	1.047	1.054	1.042
West Virginia	1.035	1.071	1.029	1.038	1.032	1.067	1.071	1.061	1.061	1.068	1.063	1.055	1.068
Wisconsin	1.035	1.018	1.019	1.020	1.008	1.010	1.006	1.011	1.013	1.011	1.011	1.012	1.010
Wyoming	1.035	0.926	1.023	0.935	1.061	1.051	1.099	1.063	1.061	1.069	1.067	1.051	1.046
U.S. Average	1.035	1.032	1.025	1.022	1.024	1.032	1.031	1.030	1.031	1.035	1.037	1.029	1.026

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B5. Approximate Heat Content of Natural Gas Consumed by All Sectors Except Electric Power, 2001-2014

(Thousand Btu per Cubic Foot)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	1.032	1.029	1.030	1.025	1.030	1.027	1.026	1.023	1.027	1.016	1.016	1.016	1.016	1.024
Alaska	1.011	1.004	1.004	1.004	1.004	1.005	1.006	1.006	1.005	1.005	1.013	1.012	R 1.002	1.002
Arizona	1.006	1.017	1.013	1.017	1.023	1.019	1.026	1.026	1.018	1.017	1.013	1.021	1.026	1.029
Arkansas	1.013	1.024	1.031	1.009	1.010	1.031	1.009	1.009	1.012	1.007	1.015	1.010	R 1.010	1.021
California	1.015	1.019	1.020	1.020	1.023	1.023	1.029	1.028	1.027	1.022	1.019	1.020	R 1.028	1.025
Colorado	1.005	1.007	1.010	1.006	1.028	1.030	1.028	1.015	1.015	1.017	1.031	1.038	R 1.040	1.040
Connecticut	1.023	1.024	1.026	1.024	1.025	1.026	1.024	1.020	1.023	1.025	1.028	1.031	R 1.031	1.016
Delaware	1.033	1.037	1.038	1.036	1.037	1.037	1.038	1.033	1.032	1.025	1.029	1.028	R 1.036	1.052
District of Columbia	1.026	1.024	1.027	1.027	1.052	1.025	1.027	1.028	1.035	1.014	1.016	1.029	R 1.048	1.037
Florida	1.065	1.036	1.042	1.036	1.038	1.032	1.036	1.032	1.031	1.024	1.015	1.019	1.018	1.023
Georgia	1.035	1.026	1.029	1.029	1.035	1.030	1.029	1.023	1.023	1.022	1.018	1.015	1.015	1.020
Hawaii	1.036	1.060	1.047	1.048	1.037	1.047	1.037	1.043	1.040	1.040	1.048	1.046	R 0.983	0.958
Idaho	1.018	1.030	1.031	1.041	1.053	1.047	1.024	1.024	1.023	1.022	1.018	1.016	R 1.016	1.028
Illinois	1.020	1.013	1.015	1.014	1.015	1.016	1.014	1.014	1.013	1.008	1.011	1.011	1.016	1.021
Indiana	1.024	1.007	1.091	1.009	1.018	1.017	1.023	1.013	1.015	1.012	1.012	1.012	1.014	1.020
Iowa	1.004	1.003	1.003	1.003	1.006	1.013	1.010	1.010	1.007	1.006	1.009	1.014	R 1.016	1.038
Kansas	1.005	1.009	1.012	1.013	1.014	1.019	1.018	1.036	1.020	1.019	1.020	1.022	R 1.020	1.021
Kentucky	1.037	1.037	1.037	1.035	1.029	1.029	1.027	1.035	1.037	1.031	1.028	1.031	R 1.028	1.028
Louisiana	1.024	1.032	1.032	1.033	1.044	1.038	1.034	1.036	1.029	1.024	1.018	1.014	R 1.012	1.030
Maine	1.177	1.042	1.046	1.042	1.047	1.054	1.071	1.067	1.043	1.039	1.042	1.029	R 1.034	1.031
Maryland	1.037	1.036	1.038	1.037	1.048	1.037	1.037	1.035	1.036	1.026	1.028	1.038	R 1.050	1.050
Massachusetts	1.045	1.035	1.028	1.028	1.015	1.010	1.016	1.013	1.031	1.034	1.029	1.034	R 1.031	1.031
Michigan	1.031	1.021	1.030	1.025	1.015	1.018	1.022	1.024	1.022	1.016	1.014	1.017	R 1.016	1.021
Minnesota	1.012	1.007	1.008	1.007	1.012	1.017	1.020	1.024	1.030	1.010	1.010	1.019	R 1.014	1.032
Mississippi	1.022	1.036	1.036	1.029	1.029	1.024	1.029	1.027	1.022	1.020	1.017	1.016	R 1.015	1.030
Missouri	1.006	1.012	1.014	1.020	1.020	1.020	1.019	1.006	1.006	1.005	1.008	1.008	R 1.012	1.013
Montana	1.022	1.021	1.023	1.026	1.040	1.017	1.017	1.016	1.011	1.012	1.016	1.025	R 1.029	1.026
Nebraska	1.017	1.008	1.007	1.010	1.010	1.012	1.018	1.011	1.012	1.004	1.011	1.019	R 1.031	1.039
Nevada	1.023	1.033	1.035	1.032	1.044	1.037	1.036	1.033	1.030	1.037	1.024	1.036	R 1.032	1.033
New Hampshire	1.062	1.050	1.040	1.043	1.020	1.019	1.025	1.020	1.034	1.032	1.037	1.032	1.030	1.033
New Jersey	1.038	1.039	1.039	1.039	1.040	1.036	1.035	1.033	1.029	1.026	1.026	1.028	R 1.049	1.045
New Mexico	0.973	0.972	1.023	1.026	1.025	1.021	1.026	1.028	1.028	1.021	1.022	1.023	1.030	1.036
New ork	1.033	1.025	1.028	1.027	1.026	1.022	1.024	1.022	1.022	1.023	1.027	1.032	1.035	1.032
North Carolina	1.042	1.037	1.042	1.036	1.037	1.035	1.033	1.030	1.026	1.018	1.014	1.014	R 1.018	1.019
North Dakota	1.029	1.003	1.009	1.021	1.036	1.044	1.046	1.042	1.055	1.055	1.073	1.065	R 1.082	1.063
hio	1.042	1.038	1.036	1.045	1.043	1.039	1.037	1.040	1.041	1.034	1.031	1.034	R 1.048	1.046
klahoma	1.027	1.030	1.030	1.031	1.030	1.033	1.029	1.035	1.033	1.031	1.029	1.032	1.035	1.040
regon	1.029	1.025	1.007	1.009	1.036	1.036	1.033	1.025	1.026	1.008	1.022	1.022	R 1.007	1.022
ennsylvania	1.055	1.038	1.040	1.039	1.041	1.039	1.039	1.039	1.040	1.037	1.040	1.044	R 1.052	1.049
Rhode Island	1.029	1.030	1.026	1.027	1.021	1.017	1.027	1.024	1.024	1.023	1.024	1.030	1.031	1.031
outh Carolina	1.038	1.033	1.037	1.035	1.038	1.038	1.036	1.033	1.031	1.023	1.021	1.020	R 1.016	1.023
outh Dakota	0.995	1.000	1.003	1.003	1.007	1.003	1.002	1.003	1.002	1.005	1.005	1.018	R 1.023	1.035
Tennessee	1.037	1.032	1.033	1.033	1.035	1.038	1.038	1.037	1.028	1.023	1.015	1.015	R 1.021	1.027
Texas	1.024	1.033	1.029	1.031	1.028	1.026	1.026	1.027	1.025	1.033	1.028	1.029	R 1.029	1.032
tah	1.053	1.060	1.067	1.056	1.054	1.057	1.056	1.062	1.047	1.047	1.039	1.045	R 1.051	1.045
ermont	1.012	1.004	1.006	1.004	1.004	1.001	1.001	1.005	1.005	1.007	1.008	1.012	1.015	1.016
irginia	1.038	1.036	1.037	1.031	1.042	1.035	1.037	1.037	1.035	1.026	1.026	1.035	R 1.044	1.042
ashington	1.035	1.030	1.026	1.028	1.030	1.030	1.025	1.030	1.030	1.033	1.029	1.029	1.033	1.043
est irginia	1.068	1.062	1.066	1.058	1.068	1.119	1.075	1.074	1.082	1.076	1.084	1.081	R 1.084	1.075
isconsin	1.009	1.009	1.009	1.008	1.013	1.011	1.014	1.014	1.014	1.010	1.014	1.020	R 1.026	1.034
yoming	1.056	1.044	1.046	1.045	1.043	1.041	1.037	1.031	1.031	1.031	1.034	1.034	R 1.041	1.042
.. Average	1.026	1.025	1.029	1.026	1.028	1.027	1.027	1.027	1.025	1.023	1.022	1.024	R 1.028	1.031

 Not applicable.
here shown R Revised data.
ources ee source listing at the end of this appendix.

Table B6. Approximate Heat Content of Natural Gas Total Consumption, Selected Years, 1960-2000

(Thousand Btu per Cubic Foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	1.035	1.034	1.031	1.029	1.034	1.038	1.029	1.029	1.033	1.041	1.039	1.035	1.042
Alaska	1.035	1.010	1.005	1.005	1.003	1.006	0.954	1.006	0.990	1.000	0.999	1.000	1.025
Arizona	1.035	1.076	1.059	1.052	1.049	1.050	1.032	1.035	1.011	1.021	1.016	1.015	1.013
Arkansas	1.035	1.001	1.004	0.997	1.001	1.019	1.009	1.076	1.026	1.015	1.024	1.019	1.019
California	1.035	1.073	1.054	1.057	1.046	1.043	1.032	1.016	1.032	1.018	1.047	1.017	0.979
Colorado	1.035	0.912	0.974	0.913	0.993	0.999	1.005	1.018	1.024	1.012	1.012	1.007	1.008
Connecticut	1.035	1.022	1.016	1.005	1.022	1.030	1.033	1.028	1.028	1.027	1.026	1.024	1.025
Delaware	1.035	1.043	1.020	1.020	1.035	1.025	1.026	1.034	1.035	1.035	1.037	1.037	1.037
District of Columbia	1.035	1.024	1.016	1.012	1.003	1.015	1.008	1.006	1.009	1.021	1.027	1.021	1.027
Florida	1.035	1.037	1.041	1.043	1.041	1.053	1.043	1.033	1.050	1.048	1.051	1.043	1.060
Georgia	1.035	1.040	1.031	1.027	1.032	1.028	1.027	1.026	1.023	1.027	1.027	1.027	1.018
Hawaii	1.035	– –	0.962	0.947	0.963	1.082	1.070	1.048	1.057	1.030	1.056	1.055	1.047
Idaho	1.035	1.065	1.061	1.055	1.053	1.049	1.028	1.030	1.030	1.031	1.038	1.038	1.025
Illinois	1.035	1.029	1.025	1.026	1.022	1.040	1.022	1.020	1.019	1.021	1.022	1.022	1.022
Indiana	1.035	0.999	1.006	0.990	0.989	1.008	1.018	1.012	1.011	1.011	1.017	1.018	1.025
Iowa	1.035	1.010	1.009	1.008	1.003	1.011	1.007	1.005	1.006	1.009	1.011	1.019	1.005
Kansas	1.035	0.995	0.998	0.984	0.987	0.998	0.999	1.002	0.996	1.001	0.995	0.997	1.008
Kentucky	1.035	1.028	1.017	1.008	1.009	1.030	1.040	1.096	1.049	1.050	1.034	1.032	1.040
Louisiana	1.035	1.042	1.029	1.037	1.038	1.040	1.042	1.035	1.044	1.118	1.070	1.042	1.058
Maine	1.035	– –	1.012	1.024	1.024	1.035	1.005	1.016	1.016	1.014	1.017	1.018	1.073
Maryland	1.035	1.025	1.022	1.013	1.020	1.034	1.028	1.026	1.029	1.034	1.037	1.034	1.034
Massachusetts	1.035	1.013	1.012	1.004	1.016	1.027	1.038	1.026	1.027	1.022	1.023	1.048	1.042
Michigan	1.035	1.014	1.015	1.012	1.011	1.015	1.022	1.017	1.012	1.016	1.020	1.018	1.022
Minnesota	1.035	0.998	1.002	1.001	0.997	1.004	1.004	1.013	1.018	1.018	1.020	1.019	1.015
Mississippi	1.035	1.029	1.025	1.023	1.028	1.028	1.033	1.026	1.030	1.034	1.046	1.036	1.038
Missouri	1.035	1.020	1.007	1.006	1.014	1.017	1.011	1.007	1.011	1.010	1.011	1.013	1.015
Montana	1.035	1.001	1.032	1.021	1.012	1.001	1.028	1.030	1.030	1.031	1.026	1.024	1.024
Nebraska	1.035	0.991	1.008	0.994	0.978	0.982	0.983	0.980	1.007	0.998	1.003	0.999	1.005
Nevada	1.035	1.062	1.082	1.067	1.061	1.062	1.031	1.033	1.036	1.027	1.041	1.034	1.026
New Hampshire	1.035	1.012	1.010	1.010	1.020	1.027	1.014	1.011	1.019	1.011	1.011	1.009	1.058
New Jersey	1.035	1.045	1.026	1.031	1.033	1.026	1.026	1.034	1.036	1.035	1.038	1.039	1.035
New Mexico	1.035	1.108	1.083	1.064	1.043	1.074	1.054	1.020	1.029	1.019	0.982	0.979	0.972
New York	1.035	1.026	1.021	1.015	1.025	1.029	1.030	1.028	1.026	1.026	1.028	1.027	1.028
North Carolina	1.035	1.033	1.024	1.018	1.012	1.034	1.032	1.033	1.036	1.036	1.040	1.035	1.030
North Dakota	1.035	1.000	1.031	1.001	1.052	1.062	1.032	1.050	1.051	1.050	1.038	1.045	1.035
Ohio	1.035	1.033	1.023	1.023	1.016	1.044	1.040	1.038	1.038	1.045	1.040	1.037	1.042
Oklahoma	1.035	1.026	1.032	1.015	1.023	1.028	1.027	1.020	1.024	1.012	1.014	1.023	1.015
Oregon	1.035	1.070	1.045	1.039	1.046	1.030	1.023	1.040	1.040	1.046	1.043	1.051	1.027
Pennsylvania	1.035	1.038	1.033	1.025	1.022	1.034	1.037	1.035	1.034	1.035	1.036	1.036	1.035
Rhode Island	1.035	1.042	1.021	1.014	1.021	1.033	1.028	1.026	1.060	1.024	1.025	1.023	1.038
South Carolina	1.035	1.042	1.028	1.024	1.033	1.028	1.028	1.027	1.030	1.031	1.034	1.031	1.029
South Dakota	1.035	0.997	1.004	1.000	0.998	1.010	1.016	1.014	1.014	1.018	1.010	1.006	1.005
Tennessee	1.035	1.046	1.022	1.031	1.016	1.034	1.035	1.031	1.032	1.031	1.030	1.027	1.037
Texas	1.035	1.037	1.027	1.026	1.033	1.038	1.040	1.037	1.033	1.028	1.041	1.032	1.029
Utah	1.035	0.925	0.938	0.950	1.086	1.075	1.088	1.063	1.042	1.042	1.046	1.055	1.051
Vermont	1.035	– –	1.006	1.008	0.990	0.992	0.987	0.996	1.015	1.012	1.012	1.012	1.012
Virginia	1.035	1.031	1.026	1.019	1.016	1.039	1.042	1.031	1.039	1.044	1.043	1.038	1.035
Washington	1.035	1.075	1.055	1.042	1.052	1.040	1.030	1.040	1.037	1.046	1.045	1.052	1.038
West Virginia	1.035	1.071	1.029	1.037	1.032	1.067	1.071	1.061	1.061	1.068	1.063	1.055	1.068
Wisconsin	1.035	1.018	1.019	1.020	1.008	1.010	1.006	1.011	1.013	1.011	1.011	1.012	1.010
Wyoming	1.035	0.926	1.023	0.934	1.060	1.051	1.099	1.063	1.061	1.069	1.067	1.051	1.046
U.S. Average	1.035	1.033	1.026	1.022	1.025	1.033	1.030	1.028	1.029	1.033	1.035	1.028	1.025

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B7. Approximate Heat Content of Natural Gas Total Consumption, 2001-2014

(Thousand Btu per Cubic Foot)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	1.034	1.028	1.029	1.025	1.029	1.028	1.029	1.025	1.026	1.018	1.018	1.016	1.017	1.025
Alaska	1.010	1.004	1.004	1.004	1.004	1.005	1.006	1.006	1.005	1.005	1.013	1.012	R 1.002	1.002
Arizona	1.015	1.018	1.010	1.019	1.024	1.020	1.023	1.027	1.021	1.016	1.015	1.021	1.025	1.029
Arkansas	1.016	1.023	1.031	1.013	1.014	1.030	1.014	1.015	1.016	1.012	1.017	1.015	R 1.015	1.024
California	1.020	1.020	1.021	1.023	1.025	1.026	1.030	1.028	1.027	1.023	1.020	1.022	R 1.028	1.028
Colorado	1.013	1.009	1.014	1.013	1.029	1.032	1.030	1.020	1.019	1.019	1.032	1.039	R 1.042	1.043
Connecticut	1.021	1.023	1.021	1.021	1.020	1.019	1.019	1.018	1.019	1.022	1.026	1.031	R 1.030	1.020
Delaware	1.034	1.030	1.039	1.035	1.037	1.037	1.037	1.033	1.030	1.023	1.025	1.027	R 1.043	1.054
District of Columbia	1.026	1.024	1.027	1.027	1.052	1.025	1.027	1.028	1.035	1.014	1.016	1.029	R 1.048	1.037
Florida	1.049	1.028	1.036	1.032	1.035	1.029	1.029	1.029	1.025	1.019	1.015	1.015	1.016	1.021
Georgia	1.033	1.025	1.029	1.029	1.037	1.032	1.032	1.026	1.027	1.022	1.018	1.015	1.016	1.022
Hawaii	1.036	1.060	1.047	1.048	1.037	1.047	1.037	1.043	1.040	1.040	1.048	1.046	R 0.983	0.958
Idaho	1.019	1.028	1.027	1.039	1.048	1.044	1.024	1.023	1.022	1.021	1.017	1.015	R 1.015	1.025
Illinois	1.020	1.013	1.015	1.014	1.015	1.016	1.015	1.014	1.013	1.008	1.011	1.011	1.016	1.021
Indiana	1.024	1.008	1.087	1.009	1.018	1.017	1.022	1.013	1.015	1.012	1.012	1.012	1.015	1.021
Iowa	1.004	1.003	1.003	1.003	1.006	1.012	1.010	1.010	1.007	1.006	1.009	1.014	R 1.016	1.038
Kansas	1.005	1.008	1.012	1.013	1.014	1.019	1.018	1.034	1.019	1.019	1.020	1.022	R 1.020	1.021
Kentucky	1.037	1.036	1.037	1.035	1.029	1.029	1.027	1.035	1.036	1.030	1.027	1.030	R 1.028	1.028
Louisiana	1.027	1.031	1.032	1.032	1.041	1.038	1.034	1.035	1.029	1.024	1.019	1.015	R 1.014	1.030
Maine	1.057	1.039	1.038	1.040	1.051	1.055	1.064	1.062	1.046	1.044	1.047	1.032	R 1.030	1.028
Maryland	1.037	1.037	1.038	1.037	1.048	1.038	1.038	1.035	1.037	1.027	1.027	1.037	R 1.051	1.050
Massachusetts	1.043	1.029	1.028	1.030	1.022	1.020	1.025	1.021	1.032	1.035	1.033	1.035	R 1.033	1.031
Michigan	1.025	1.019	1.028	1.024	1.015	1.017	1.021	1.023	1.021	1.016	1.014	1.017	R 1.017	1.021
Minnesota	1.012	1.007	1.008	1.007	1.012	1.016	1.019	1.023	1.029	1.010	1.010	1.019	R 1.015	1.033
Mississippi	1.025	1.031	1.035	1.030	1.030	1.028	1.030	1.026	1.019	1.014	1.010	1.012	R 1.016	1.029
Missouri	1.017	1.012	1.014	1.020	1.020	1.021	1.020	1.008	1.007	1.007	1.010	1.012	R 1.014	1.015
Montana	1.022	1.021	1.023	1.026	1.040	1.017	1.017	1.016	1.011	1.012	1.016	1.025	R 1.028	1.026
Nebraska	1.017	1.007	1.007	1.009	1.009	1.012	1.018	1.011	1.012	1.004	1.011	1.019	R 1.031	1.039
Nevada	1.025	1.025	1.028	1.031	1.039	1.032	1.032	1.039	1.031	1.033	1.024	1.029	R 1.033	1.034
New Hampshire	1.062	1.050	1.043	1.045	1.036	1.035	1.044	1.040	1.035	1.037	1.040	1.032	1.030	1.032
New Jersey	1.037	1.037	1.038	1.039	1.039	1.036	1.035	1.033	1.029	1.026	1.026	1.029	R 1.045	1.042
New Mexico	0.975	0.977	1.019	1.025	1.021	1.018	1.024	1.025	1.028	1.021	1.022	1.024	1.030	1.035
New York	1.029	1.023	1.027	1.026	1.025	1.021	1.023	1.021	1.021	1.022	1.025	1.031	1.033	1.031
North Carolina	1.041	1.033	1.040	1.033	1.034	1.032	1.030	1.027	1.023	1.015	1.011	1.011	R 1.013	1.018
North Dakota	1.029	1.003	1.009	1.021	1.036	1.044	1.046	1.042	1.055	1.055	1.073	1.065	R 1.082	1.064
Ohio	1.042	1.038	1.036	1.045	1.043	1.039	1.037	1.040	1.041	1.034	1.031	1.032	R 1.046	1.045
Oklahoma	1.028	1.028	1.030	1.031	1.030	1.032	1.029	1.034	1.033	1.032	1.032	1.030	1.036	1.040
Oregon	1.026	1.023	1.012	1.013	1.030	1.032	1.033	1.023	1.024	1.015	1.021	1.022	R 1.015	1.025
Pennsylvania	1.054	1.037	1.040	1.039	1.040	1.038	1.037	1.038	1.037	1.034	1.036	1.040	R 1.049	1.047
Rhode Island	1.031	1.023	1.024	1.024	1.021	1.017	1.026	1.022	1.023	1.017	1.020	1.031	1.032	1.029
South Carolina	1.038	1.032	1.036	1.035	1.037	1.041	1.037	1.034	1.034	1.026	1.026	1.023	R 1.019	1.024
South Dakota	0.999	0.999	1.001	1.002	1.007	1.003	1.003	1.003	1.002	1.005	1.005	1.018	R 1.023	1.035
Tennessee	1.037	1.032	1.033	1.033	1.035	1.038	1.038	1.037	1.028	1.023	1.014	1.014	R 1.021	1.026
Texas	1.026	1.028	1.026	1.028	1.028	1.026	1.025	1.025	1.023	1.028	1.025	1.026	R 1.027	1.030
Utah	1.052	1.055	1.061	1.053	1.053	1.056	1.052	1.059	1.044	1.045	1.038	1.043	R 1.047	1.041
Vermont	1.012	1.004	1.006	1.004	1.004	1.001	1.001	1.005	1.005	1.007	1.008	1.012	1.015	1.016
Virginia	1.037	1.034	1.036	1.030	1.040	1.034	1.035	1.038	1.036	1.028	1.027	1.034	R 1.040	1.041
Washington	1.033	1.029	1.025	1.027	1.028	1.029	1.025	1.030	1.030	1.032	1.029	1.028	1.030	1.043
West Virginia	1.067	1.062	1.066	1.058	1.067	1.117	1.074	1.073	1.082	1.076	1.083	1.080	R 1.083	1.073
Wisconsin	1.009	1.007	1.008	1.007	1.013	1.011	1.014	1.014	1.014	1.010	1.014	1.019	R 1.025	1.032
Wyoming	1.055	1.040	1.044	1.045	1.042	1.041	1.036	1.031	1.031	1.031	1.034	1.034	R 1.041	1.042
U.S. Average	1.027	1.024	1.028	1.026	1.028	1.027	1.027	1.027	1.025	1.023	1.022	1.023	R 1.027	1.031

– = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B8. Approximate Heat Content of Coal Consumed by the Residential and Commercial Sectors, Selected Years, 1960-2000

(Million Btu per Short Ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	24.910	24.779	23.933	23.520	24.042	24.407	24.629	24.646	24.638	24.642	25.476	25.883	25.450
Alaska	18.906	18.807	18.165	17.683	– –	15.800	15.800	15.800	15.800	15.848	15.710	15.600	15.600
Arizona	– –	– –	– –	– –	– –	19.788	18.698	21.962	19.285	19.103	21.699	21.956	21.956
Arkansas	– –	– –	– –	– –	23.900	22.990	24.834	– –	– –	24.497	25.089	25.464	– –
California	23.013	22.892	22.111	– –	23.109	23.555	23.184	23.296	23.282	23.101	23.627	23.740	23.790
Colorado	22.953	22.833	22.053	20.826	21.461	21.217	21.435	22.169	22.107	18.710	22.436	22.480	21.706
Connecticut	24.868	24.402	23.476	22.272	22.719	23.031	25.199	23.804	24.638	24.497	27.350	27.530	24.842
Delaware	24.721	24.316	23.476	22.272	23.143	24.117	24.856	24.696	24.934	25.054	26.903	26.151	26.118
District of Columbia	25.109	24.977	24.124	23.241	24.541	24.888	24.961	25.178	24.743	24.579	25.310	25.300	25.300
Florida	– –	– –	– –	– –	24.283	24.882	24.861	24.644	25.044	– –	26.042	25.975	25.750
Georgia	24.742	24.613	23.772	23.494	24.321	24.832	25.143	24.980	25.044	25.698	25.654	25.849	25.642
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	24.831	24.701	23.858	22.663	22.292	22.832	22.478	21.717	21.725	22.683	19.719	21.050	22.060
Illinois	24.042	23.915	23.099	22.523	22.069	22.269	22.452	22.516	22.681	22.802	21.960	21.960	21.955
Indiana	24.065	23.938	23.121	22.132	21.881	22.259	22.461	22.290	22.232	22.194	22.750	25.000	23.519
Iowa	21.321	21.210	20.485	18.277	20.223	21.402	23.960	24.361	24.529	23.562	24.410	25.970	26.101
Kansas	21.788	21.674	20.934	– –	21.182	21.146	24.280	23.945	24.108	22.528	24.688	24.707	24.156
Kentucky	24.431	24.284	23.454	23.178	23.837	24.344	24.450	24.928	24.356	23.264	25.470	26.239	26.408
Louisiana	– –	– –	– –	– –	21.365	– –	– –	25.078	– –	24.530	– –	– –	23.482
Maine	24.964	24.702	23.612	22.519	23.546	24.278	24.937	24.696	24.638	24.497	26.347	26.081	25.922
Maryland	25.033	24.875	23.944	22.938	24.043	24.749	25.067	24.838	25.081	25.138	25.310	25.300	25.072
Massachusetts	24.894	24.493	23.557	22.430	23.417	23.778	25.070	24.834	24.795	24.708	27.349	27.535	27.070
Michigan	24.759	24.628	23.787	23.466	24.353	24.460	24.812	24.662	24.849	24.593	24.800	25.100	25.100
Minnesota	21.971	21.856	21.109	19.257	20.829	19.142	17.892	20.258	17.548	18.409	19.252	19.311	19.294
Mississippi	– –	– –	– –	– –	22.993	24.541	24.852	– –	– –	24.497	– –	– –	– –
Missouri	22.942	22.821	22.042	21.404	21.807	22.802	21.936	22.634	22.661	22.826	22.000	22.430	22.014
Montana	21.336	21.224	20.499	20.389	22.042	17.680	18.781	21.228	18.188	17.860	23.376	17.094	16.016
Nebraska	20.913	20.804	20.093	18.406	18.038	21.526	21.374	20.321	24.638	17.332	20.749	– –	– –
Nevada	25.114	25.049	24.211	23.327	22.430	23.562	24.010	23.443	23.282	23.096	22.988	23.108	23.108
New Hampshire	24.721	24.316	23.476	22.272	22.719	23.031	25.171	24.868	24.842	24.552	27.350	27.530	25.922
New Jersey	24.724	24.354	23.481	22.263	22.719	23.218	25.173	24.696	24.638	24.497	25.229	25.317	25.500
New Mexico	22.993	22.873	22.091	– –	19.786	19.817	18.698	19.232	19.329	18.922	24.764	25.112	25.212
New York	24.700	24.360	23.496	22.574	23.337	23.819	24.856	24.958	24.828	24.838	25.450	25.510	25.311
North Carolina	24.762	24.632	23.791	23.493	24.422	24.859	25.187	25.164	24.839	24.994	26.700	27.000	27.000
North Dakota	15.550	15.469	14.940	13.757	13.243	13.138	13.910	15.535	14.927	14.938	14.276	14.264	14.228
Ohio	23.862	23.732	22.921	22.325	23.207	23.837	24.144	24.439	23.797	23.892	25.250	24.140	24.013
Oklahoma	22.727	22.608	21.836	20.673	23.291	23.394	24.834	25.894	26.128	17.353	19.939	19.779	– –
Oregon	24.605	24.476	23.640	22.383	22.722	22.607	23.184	23.296	– –	23.096	22.000	23.309	23.309
Pennsylvania	24.731	24.365	23.542	22.487	23.150	23.724	25.118	24.830	24.703	24.650	25.265	25.444	26.386
Rhode Island	24.721	24.316	23.476	22.272	22.719	23.031	25.199	24.696	24.638	24.497	27.350	27.530	25.922
South Carolina	24.762	24.632	23.791	23.493	24.414	24.854	24.875	25.503	24.717	24.972	26.211	26.347	– –
South Dakota	19.412	19.310	18.650	16.860	18.426	19.369	18.375	19.072	21.619	17.332	19.767	20.366	20.868
Tennessee	24.715	24.584	23.745	23.480	23.970	24.389	24.741	25.276	25.043	25.029	26.040	26.040	26.045
Texas	14.952	14.873	14.366	– –	15.200	22.511	25.896	– –	– –	25.510	24.818	16.251	16.280
Utah	25.892	25.756	24.877	23.740	23.179	23.562	23.150	23.296	23.282	23.093	23.549	23.366	23.210
Vermont	24.721	24.316	23.476	22.272	22.719	24.399	25.199	24.696	24.638	24.614	27.350	27.530	25.922
Virginia	24.785	24.652	23.810	23.462	24.414	24.864	25.087	24.997	25.104	24.928	26.407	26.455	26.174
Washington	22.909	22.789	22.011	19.968	22.771	23.452	21.737	22.634	23.098	22.872	26.600	25.980	25.961
West Virginia	24.997	24.866	24.017	23.709	24.059	24.860	25.017	24.822	24.680	24.738	25.770	25.710	25.742
Wisconsin	21.923	21.806	21.061	18.980	24.265	24.568	24.978	25.078	25.052	24.920	27.450	26.790	27.659
Wyoming	20.625	20.517	19.817	18.572	17.809	17.262	19.935	18.241	18.193	18.030	20.315	20.190	20.116
U.S. Average	23.943	23.776	22.990	22.120	22.892	22.682	23.021	23.027	22.718	22.379	23.276	23.668	23.364

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B9. Approximate Heat Content of Coal Consumed by the Residential and Commercial Sectors, 2001-2014

(Million Btu per Short Ton)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	18.845	24.232	24.224	24.224	25.130	24.295	25.195	– –	– –	– –	– –	– –	– –	– –
Alaska	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.280	15.356	15.302	15.184	15.268	15.272	15.278
Arizona	18.819	18.963	18.657	18.780	18.959	18.914	19.703	– –	– –	– –	– –	– –	– –	– –
Arkansas	– –	25.202	– –	25.202	– –	25.202	22.932	– –	– –	– –	– –	– –	– –	– –
California	23.546	25.202	24.578	22.400	22.690	23.546	– –	– –	– –	– –	– –	– –	– –	– –
Colorado	22.429	22.401	22.500	22.460	22.383	22.324	22.419	24.195	22.928	22.968	22.898	23.679	22.752	23.219
Connecticut	25.190	25.202	25.174	25.202	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
Delaware	25.202	– –	– –	– –	– –	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
District of Columbia	24.694	24.694	24.694	24.694	24.694	– –	24.694	27.395	28.028	27.658	27.658	27.273	26.598	27.102
Florida	23.495	24.355	24.704	– –	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
Georgia	25.716	25.716	– –	25.714	24.872	– –	24.331	28.000	28.000	28.000	28.000	28.000	28.000	28.000
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	22.348	22.074	21.644	18.444	21.283	21.546	23.007	23.491	23.088	23.088	23.131	22.871	23.377	23.161
Illinois	23.096	23.073	22.944	22.887	22.904	22.934	22.915	22.227	22.245	22.292	22.211	22.352	22.454	22.356
Indiana	22.303	22.272	22.389	22.343	22.455	22.372	22.352	23.073	23.152	23.132	22.932	22.390	22.544	22.558
Iowa	23.868	24.179	24.055	23.393	23.535	23.407	23.408	23.154	23.082	23.070	23.059	23.039	22.872	22.832
Kansas	24.172	24.025	23.546	– –	– –	23.546	– –	– –	– –	– –	– –	– –	– –	– –
Kentucky	24.901	24.704	24.378	24.093	24.067	23.668	23.698	27.274	27.316	27.393	27.315	27.357	27.090	25.959
Louisiana	– –	– –	– –	– –	– –	– –	24.355	– –	– –	– –	– –	– –	– –	– –
Maine	25.198	25.196	25.202	25.202	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
Maryland	24.922	24.616	24.796	24.700	24.709	24.733	24.745	26.138	26.569	26.113	26.650	27.000	27.000	27.000
Massachusetts	25.395	24.648	24.997	24.469	24.969	24.773	24.637	– –	– –	– –	– –	– –	– –	– –
Michigan	24.087	23.595	23.703	24.503	24.357	24.375	24.469	25.594	26.016	25.863	24.926	23.625	23.526	23.299
Minnesota	24.331	17.382	18.744	20.360	19.429	17.782	19.324	18.049	17.967	18.077	17.888	18.871	19.508	18.377
Mississippi	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Missouri	22.981	23.147	23.251	23.195	23.216	23.195	23.080	22.716	22.954	22.924	22.878	22.789	22.916	22.727
Montana	18.223	18.514	18.413	18.118	18.121	18.118	18.118	25.046	24.274	24.730	25.239	25.487	17.129	17.299
Nebraska	22.347	22.394	22.439	22.396	22.370	22.295	22.349	– –	– –	– –	– –	– –	– –	– –
Nevada	19.617	18.118	18.118	18.118	18.118	18.118	22.349	– –	– –	– –	– –	– –	– –	– –
New Hampshire	25.202	25.202	25.202	25.202	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
New Jersey	25.202	25.202	25.202	25.202	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
New Mexico	18.819	18.785	19.009	19.246	18.813	18.929	18.581	– –	– –	– –	– –	– –	– –	– –
New York	24.846	25.094	25.202	24.992	25.010	24.860	24.918	25.253	25.363	25.374	24.600	– –	– –	– –
North Carolina	25.080	24.825	25.329	24.772	25.373	25.113	25.318	26.738	26.803	26.520	26.696	26.741	26.657	26.350
North Dakota	16.003	16.228	16.379	16.982	18.098	17.847	15.916	17.123	17.231	17.475	17.103	17.294	17.184	17.230
Ohio	24.111	24.202	24.149	21.335	23.981	24.194	24.122	26.652	26.850	26.677	26.636	26.710	26.614	26.643
Oklahoma	24.215	24.215	24.215	– –	24.276	24.557	24.694	– –	– –	– –	– –	– –	– –	– –
Oregon	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Pennsylvania	25.137	25.110	25.124	25.105	25.132	25.125	25.126	25.729	25.958	25.713	25.507	25.065	25.791	26.246
Rhode Island	25.202	25.202	25.202	25.202	25.202	25.202	25.202	– –	– –	– –	– –	– –	– –	– –
South Carolina	– –	25.202	– –	– –	– –	24.331	25.202	27.542	27.512	27.020	– –	26.560	– –	– –
South Dakota	23.506	17.381	17.381	17.381	17.381	17.381	17.381	25.893	24.900	24.900	– –	16.574	– –	– –
Tennessee	24.457	24.553	23.831	23.497	24.704	24.386	24.540	25.613	25.660	25.827	25.400	25.597	25.283	25.362
Texas	25.623	18.685	19.228	25.683	25.716	25.202	25.202	27.483	27.250	27.250	26.846	26.757	26.559	27.044
Utah	23.544	23.546	23.547	23.547	23.551	23.542	23.539	– –	– –	– –	– –	– –	– –	– –
Vermont	25.202	25.202	25.202	25.202	25.202	25.202	25.363	– –	– –	– –	– –	– –	– –	– –
Virginia	25.042	25.045	24.925	25.004	24.859	24.745	24.777	26.520	26.007	26.727	26.468	26.388	26.196	26.432
Washington	23.488	23.506	23.519	23.510	– –	17.381	17.381	– –	– –	– –	– –	– –	– –	– –
West Virginia	24.765	24.746	24.765	24.712	24.697	24.716	24.704	– –	– –	– –	– –	– –	– –	– –
Wisconsin	24.448	24.309	24.717	24.326	18.945	24.354	24.335	26.890	26.865	27.012	26.990	26.771	26.851	26.671
Wyoming	17.746	17.837	17.860	17.879	17.869	17.895	17.907	21.850	21.271	19.878	19.415	19.109	17.761	20.397
U.S. Average	22.706	22.449	22.488	22.314	22.053	21.915	22.179	22.941	22.820	22.590	22.105	21.350	21.259	21.442

– – = Not applicable.
Where shown, R = Revised data.
Note: Beginning in 2008, commercial sector only.
Sources: See source listing at the end of this appendix.

Table B10. Approximate Heat Content of Coal Consumed by Other Industrial Users, Selected Years, 1960-2000

(Million Btu per Short Ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	25.178	24.960	23.542	22.990	24.106	24.383	24.679	24.848	24.785	24.679	24.874	24.874	25.450
Alaska	19.428	19.257	18.140	17.684	– –	– –	– –	– –	15.800	15.848	15.710	15.710	15.710
Arizona	21.614	21.424	20.181	19.778	20.373	20.257	20.071	19.962	19.797	19.540	19.250	19.237	22.164
Arkansas	25.428	25.204	– –	21.336	21.406	21.310	22.808	23.957	23.987	23.581	24.432	24.432	25.154
California	26.052	25.823	24.325	22.985	22.173	23.299	22.522	23.296	23.282	23.055	22.997	22.997	23.790
Colorado	23.558	23.351	21.996	21.392	21.818	21.568	21.105	21.702	21.574	21.572	21.263	21.257	21.706
Connecticut	25.780	25.553	24.071	23.627	– –	24.419	25.199	– –	– –	– –	– –	– –	– –
Delaware	25.359	25.129	23.743	23.441	24.472	24.720	24.938	25.192	25.146	25.215	25.169	25.166	26.151
District of Columbia	25.884	25.655	24.167	23.786	24.357	– –	– –	– –	– –	– –	– –	– –	– –
Florida	– –	– –	– –	23.541	22.892	24.778	25.005	25.107	25.116	25.052	25.002	25.003	25.750
Georgia	25.423	25.199	23.737	23.508	24.331	24.818	25.148	25.198	25.137	25.090	25.079	25.079	25.642
Hawaii	– –	– –	– –	– –	– –	24.688	24.810	21.500	21.500	22.499	23.040	23.040	19.518
Idaho	22.544	22.345	21.049	19.935	17.684	17.762	17.858	19.035	18.166	17.332	18.160	18.160	22.060
Illinois	23.848	23.631	22.267	21.694	22.357	22.799	22.556	22.837	22.849	23.171	23.049	23.051	22.552
Indiana	24.011	23.799	22.419	21.824	22.253	22.431	22.712	23.055	22.715	23.180	23.258	23.263	23.866
Iowa	23.565	23.335	21.983	21.320	21.517	22.611	22.586	20.978	21.307	20.932	21.177	21.178	20.980
Kansas	22.671	22.471	21.168	20.480	21.568	21.506	24.224	24.241	25.476	24.523	24.795	24.795	24.156
Kentucky	24.734	24.497	23.119	22.904	24.059	24.518	24.633	24.847	24.745	24.481	24.695	24.695	26.408
Louisiana	– –	– –	– –	– –	22.153	24.054	19.979	18.136	25.018	24.857	25.181	25.181	24.502
Maine	25.889	25.626	24.134	23.975	24.439	24.861	24.924	25.102	25.026	24.982	24.510	24.510	25.922
Maryland	25.904	25.676	24.190	23.658	24.485	24.728	25.118	25.324	25.133	25.115	25.029	24.992	25.072
Massachusetts	26.150	25.906	24.402	23.798	24.602	24.850	24.877	25.176	24.907	25.035	24.476	24.476	27.070
Michigan	24.831	24.610	23.187	22.892	24.044	24.741	24.451	24.026	24.345	24.354	23.739	23.739	24.912
Minnesota	19.521	19.349	18.227	18.917	17.084	20.690	18.563	19.078	19.140	18.869	18.615	18.611	19.294
Mississippi	25.681	25.455	23.978	23.213	23.442	23.399	23.254	24.073	23.907	23.676	24.074	24.074	23.922
Missouri	23.601	23.392	22.036	21.430	22.003	22.329	22.988	23.175	23.134	22.820	22.909	22.913	23.128
Montana	22.827	22.626	21.313	20.879	19.035	18.068	18.376	18.100	18.210	18.244	17.913	18.023	16.016
Nebraska	21.975	21.781	20.517	19.285	19.194	18.597	19.053	19.359	18.823	19.132	19.075	19.044	20.508
Nevada	26.496	26.144	24.783	23.422	23.161	23.562	23.184	22.668	22.620	22.981	23.139	23.139	23.280
New Hampshire	24.450	24.233	22.945	23.364	24.112	24.624	24.939	25.216	– –	– –	– –	– –	– –
New Jersey	25.388	25.156	23.712	23.377	23.526	24.453	25.236	23.983	24.638	24.497	23.781	23.538	25.500
New Mexico	23.038	22.834	21.510	– –	21.867	21.625	21.388	22.008	21.976	21.788	21.988	21.988	25.212
New York	25.719	25.486	24.054	23.635	24.454	24.858	25.108	25.117	25.028	25.163	25.041	25.046	26.294
North Carolina	25.446	25.222	23.759	23.490	24.419	24.880	24.938	25.269	25.150	25.061	25.069	25.069	26.492
North Dakota	14.812	14.681	13.830	13.039	13.120	13.160	13.489	13.353	13.382	13.287	13.342	13.342	14.228
Ohio	24.789	24.568	23.149	22.676	23.339	24.178	24.304	24.512	24.469	24.438	24.364	24.364	24.816
Oklahoma	25.383	25.160	– –	23.439	21.212	21.434	22.802	22.675	22.232	20.884	23.329	23.329	19.882
Oregon	22.677	22.477	21.173	20.348	17.693	17.868	17.352	19.026	21.299	20.523	20.170	– –	– –
Pennsylvania	25.479	25.249	23.889	23.430	24.110	24.678	24.920	25.135	25.061	25.163	24.902	24.907	24.476
Rhode Island	24.721	24.316	23.476	22.963	24.099	24.419	25.199	– –	– –	– –	– –	– –	– –
South Carolina	25.421	25.194	23.756	23.473	24.399	24.861	25.118	25.193	25.064	25.088	25.031	25.031	26.270
South Dakota	19.909	19.734	18.589	18.765	19.220	17.262	17.338	17.258	17.300	17.419	17.516	17.516	20.868
Tennessee	25.056	24.833	23.413	23.129	24.145	24.579	25.133	25.135	25.020	25.004	25.021	25.023	26.088
Texas	16.854	16.902	17.885	18.825	16.296	15.577	14.790	14.965	15.340	15.552	14.231	14.228	16.280
Utah	26.198	25.967	24.461	23.644	22.331	22.274	23.189	23.003	23.282	23.489	23.056	23.056	23.210
Vermont	26.525	26.291	24.766	24.056	24.888	24.265	25.079	– –	– –	24.497	24.446	24.446	– –
Virginia	25.461	25.237	23.777	23.473	24.448	24.900	25.070	25.085	25.098	24.946	24.861	24.861	26.386
Washington	25.955	25.726	24.234	23.546	21.363	21.634	22.707	19.006	19.658	20.647	23.007	23.007	22.332
West Virginia	25.516	25.293	23.830	23.522	24.347	24.849	24.888	24.975	24.940	24.967	24.782	24.782	25.742
Wisconsin	24.597	24.380	22.966	21.957	22.735	23.323	24.150	24.219	23.891	24.131	24.279	24.279	23.698
Wyoming	20.539	20.357	19.177	18.356	17.955	17.555	22.178	21.941	21.897	21.581	21.931	21.931	20.116
U.S. Average	24.657	24.460	23.064	22.290	22.696	22.249	22.430	22.112	22.157	22.187	21.966	21.883	22.476

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B11. Approximate Heat Content of Coal Consumed by Other Industrial Users, 2001-2014

(Million Btu per Short Ton)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	25.563	25.611	25.605	25.336	24.568	24.709	24.934	25.218	25.353	25.006	25.388	25.483	25.253	25.370
Alaska	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.600	15.268	15.272	15.278
Arizona	21.907	22.345	22.407	21.938	22.163	22.048	21.488	20.597	20.257	20.098	19.937	20.835	23.893	23.457
Arkansas	24.929	24.797	24.305	24.404	25.230	24.904	24.609	24.636	24.921	25.247	23.894	23.741	23.613	24.090
California	24.128	23.883	24.164	24.130	23.658	24.092	23.728	23.353	23.549	23.401	23.164	23.186	23.090	23.315
Colorado	21.768	23.371	23.218	22.776	23.140	22.748	22.947	23.171	22.999	21.910	22.172	22.275	22.159	22.492
Connecticut	– –	– –	– –	– –	24.694	– –	– –	– –	– –	– –	– –	– –	– –	– –
Delaware	26.089	25.917	25.689	26.082	26.369	26.410	26.374	25.788	25.527	– –	– –	– –	– –	– –
District of Columbia	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	25.729	25.618	25.503	25.850	25.824	25.410	25.431	25.432	25.780	25.677	25.803	25.451	26.081	25.897
Georgia	25.719	25.891	25.861	25.665	25.582	25.677	25.724	25.257	25.440	25.490	25.209	25.451	25.512	25.880
Hawaii	18.140	13.214	26.400	23.760	23.876	27.965	24.964	23.356	23.117	23.303	22.325	22.886	22.330	22.378
Idaho	20.562	20.873	20.277	20.349	20.574	20.358	20.116	19.827	19.968	20.044	20.099	20.420	21.894	21.196
Illinois	22.275	22.001	21.637	21.350	21.606	21.657	21.591	21.349	20.916	20.623	20.675	21.376	21.209	21.270
Indiana	24.728	24.566	24.093	24.364	23.449	23.483	23.723	24.152	23.686	24.007	25.432	25.846	26.270	25.504
Iowa	20.990	20.467	20.790	20.237	20.183	19.832	20.216	19.793	19.614	19.717	19.855	19.009	18.736	18.968
Kansas	23.384	24.013	24.286	24.855	24.511	24.002	23.955	24.705	23.495	23.815	23.971	22.741	23.890	24.371
Kentucky	26.080	26.732	26.189	26.299	26.090	26.103	25.463	25.915	25.669	25.707	26.111	25.994	25.914	25.840
Louisiana	24.796	24.387	24.232	24.621	24.268	24.094	24.343	24.254	23.563	23.855	16.485	15.555	15.723	15.538
Maine	25.871	25.855	26.136	25.577	25.270	25.438	26.226	26.241	26.022	25.489	25.259	25.343	25.259	25.063
Maryland	26.150	25.736	25.395	25.122	24.441	24.174	24.465	24.303	24.374	23.956	22.772	22.530	21.799	22.170
Massachusetts	26.975	27.055	27.054	27.232	27.447	26.267	26.115	26.539	26.451	26.651	26.519	27.104	27.131	27.003
Michigan	25.098	25.518	25.637	25.187	25.025	24.878	25.233	24.942	24.185	24.369	23.518	23.166	23.497	24.070
Minnesota	19.465	19.335	18.938	18.999	18.990	18.932	19.049	19.223	19.193	19.100	19.098	18.907	18.939	18.766
Mississippi	24.178	24.369	24.143	23.326	23.650	24.160	23.873	23.364	23.504	23.042	23.027	22.987	22.856	22.932
Missouri	22.979	23.155	23.061	23.001	22.796	22.735	22.464	22.508	22.536	22.662	22.448	22.471	22.228	22.154
Montana	16.457	14.694	14.624	14.878	14.694	14.470	14.787	15.339	14.815	14.955	14.995	17.594	17.129	17.299
Nebraska	19.559	20.501	20.268	20.106	19.898	19.428	18.919	18.789	18.547	18.263	18.330	18.232	18.054	18.057
Nevada	23.380	23.055	23.276	23.025	22.615	22.656	22.868	21.829	22.115	21.856	22.684	23.177	22.698	22.104
New Hampshire	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
New Jersey	24.800	25.200	25.244	25.233	25.202	25.064	– –	– –	– –	– –	– –	– –	– –	– –
New Mexico	25.066	24.751	25.195	24.675	24.588	24.569	24.649	24.445	24.661	24.922	24.804	24.445	24.248	24.317
New York	25.536	25.970	26.079	26.150	26.377	25.928	26.254	26.176	25.990	25.890	25.504	25.765	25.653	25.515
North Carolina	26.750	26.397	26.461	26.329	26.211	26.254	26.223	26.125	26.201	26.102	25.890	25.983	27.001	26.616
North Dakota	14.177	13.984	14.310	14.344	14.278	14.293	14.290	14.377	14.456	14.388	14.386	14.352	14.368	14.465
Ohio	25.040	25.142	25.086	25.230	25.105	25.037	25.195	25.020	24.797	24.976	24.987	24.932	24.922	24.695
Oklahoma	19.973	20.142	20.433	21.175	21.156	20.513	20.643	20.469	19.145	19.085	18.887	19.041	19.218	19.256
Oregon	– –	22.269	23.089	21.855	23.532	24.541	24.536	24.351	24.481	24.183	23.974	23.368	23.211	23.150
Pennsylvania	24.318	24.116	24.043	23.716	23.085	22.686	22.341	22.142	22.155	22.184	22.468	22.989	23.261	23.331
Rhode Island	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
South Carolina	26.078	26.334	26.196	25.986	25.827	25.742	25.915	25.862	25.858	25.842	25.479	25.472	26.343	26.185
South Dakota	16.861	16.855	16.763	16.615	16.630	16.648	16.916	16.810	16.613	16.520	16.544	16.574	16.529	16.427
Tennessee	25.742	26.037	26.002	25.991	25.909	25.925	25.936	26.067	26.160	26.139	25.950	26.054	25.982	26.181
Texas	17.000	17.701	17.545	17.100	17.166	17.290	21.648	21.587	20.482	14.524	20.339	20.950	21.565	21.205
Utah	23.453	23.017	23.158	21.029	23.055	23.160	22.799	22.717	22.427	23.059	23.035	23.031	22.825	22.660
Vermont	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Virginia	26.218	25.654	26.316	26.259	26.113	26.054	26.077	25.892	25.723	25.733	25.669	25.917	25.701	25.784
Washington	22.658	22.070	23.180	21.867	20.752	21.288	23.389	19.961	20.691	19.306	18.797	19.167	19.011	19.155
West Virginia	25.532	25.445	25.177	24.563	24.807	24.952	24.970	24.981	25.360	25.216	25.010	25.324	25.145	25.225
Wisconsin	23.545	23.451	23.185	23.152	23.100	22.717	22.779	22.794	22.493	22.323	22.171	22.507	22.411	22.244
Wyoming	19.987	20.148	19.848	19.914	19.753	19.828	19.847	19.643	19.614	19.666	19.432	19.647	19.777	19.567
U.S. Average	22.652	22.575	22.511	22.464	22.174	22.035	22.371	22.275	21.867	21.722	21.686	21.518	21.611	21.489

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B12. Approximate Heat Content of Coal Consumed by the Electric Power Sector, Selected Years, 1960-2000

(Million Btu per Short Ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Alabama	24.126	23.704	23.314	23.164	23.912	24.111	24.299	23.718	23.625	23.240	23.117	22.191	22.062
Alaska	17.729	17.858	17.080	17.400	15.800	15.800	15.800	15.800	15.800	15.800	16.901	16.658	16.571
Arizona	– –	20.850	21.238	21.090	21.243	20.986	20.951	20.578	20.441	20.347	20.383	20.504	20.426
Arkansas	– –	– –	– –	– –	17.009	17.207	17.478	17.370	17.398	17.413	17.347	17.303	17.352
California	– –	– –	– –	– –	– –	– –	20.703	22.066	23.458	21.852	22.250	23.452	23.506
Colorado	20.546	21.322	21.530	19.808	19.992	19.497	19.660	19.778	19.907	19.738	19.765	19.556	19.685
Connecticut	26.548	25.908	23.548	23.904	– –	26.317	25.808	25.612	25.610	25.781	25.606	24.570	24.542
Delaware	25.982	26.392	24.186	24.534	24.922	25.924	26.063	26.173	26.036	26.132	25.907	25.856	25.900
District of Columbia	27.460	26.948	25.920	25.619	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	24.606	23.762	22.748	23.093	23.686	24.450	24.818	24.301	24.382	24.329	24.271	24.364	24.397
Georgia	25.042	24.932	23.756	23.751	23.805	24.241	23.638	22.993	23.076	23.266	23.348	23.260	23.176
Hawaii	– –	– –	– –	– –	– –	– –	17.568	22.462	21.993	21.865	21.989	21.929	21.963
Idaho	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Illinois	21.694	21.448	21.002	20.259	20.593	20.969	21.587	20.232	20.096	19.815	19.956	19.889	19.008
Indiana	22.640	22.466	22.030	21.229	21.632	21.314	21.125	20.725	20.760	20.848	20.998	21.171	21.188
Iowa	20.768	21.218	20.888	20.385	18.633	18.197	17.826	17.464	17.368	17.353	17.758	17.741	17.742
Kansas	23.754	24.192	24.100	19.957	18.370	17.537	17.841	17.465	17.638	17.537	17.398	17.283	17.358
Kentucky	22.972	22.892	21.852	21.481	22.917	22.769	23.091	23.299	23.079	23.164	23.095	23.103	23.220
Louisiana	– –	16.038	– –	– –	– –	16.907	16.420	16.167	16.329	16.253	16.192	16.294	16.064
Maine	28.580	– –	– –	– –	– –	– –	28.000	25.500	25.500	26.000	25.500	25.501	25.502
Maryland	26.616	26.372	24.612	24.323	24.757	25.326	25.479	25.928	25.780	25.826	25.831	25.873	25.581
Massachusetts	26.352	26.072	23.260	24.347	26.751	26.561	26.122	25.400	25.283	25.128	25.117	25.180	25.136
Michigan	24.884	24.804	24.202	23.662	24.025	23.393	22.243	21.377	21.048	21.188	21.175	21.036	20.876
Minnesota	22.390	22.176	20.274	17.940	17.557	17.451	17.644	17.700	17.863	17.814	17.804	17.812	17.883
Mississippi	24.858	24.890	24.098	23.164	23.994	24.252	25.115	22.432	21.987	20.968	21.252	22.116	23.072
Missouri	21.904	21.550	21.518	21.494	21.306	21.289	20.758	18.509	18.167	17.974	17.870	17.910	17.838
Montana	13.500	13.140	15.474	15.959	17.003	17.307	17.105	16.995	16.879	16.817	16.831	16.848	16.762
Nebraska	24.782	24.568	23.914	20.954	18.809	17.299	17.125	17.191	17.190	17.193	17.164	17.004	17.264
Nevada	– –	25.488	25.654	22.388	22.078	22.768	22.191	22.120	22.279	22.364	22.402	22.490	22.465
New Hampshire	25.448	27.904	27.432	26.701	26.816	26.905	26.645	26.269	26.258	26.122	26.282	26.340	26.264
New Jersey	26.768	26.458	24.944	25.401	26.182	26.475	26.831	26.513	26.071	26.015	26.146	26.144	26.106
New Mexico	25.000	18.004	17.966	17.849	17.695	18.376	18.234	18.061	18.230	18.143	18.169	18.266	18.388
New York	26.505	26.678	24.664	24.050	24.635	25.200	25.718	25.912	25.836	26.014	26.043	26.100	26.096
North Carolina	26.242	25.814	24.114	23.788	24.538	24.975	25.191	25.056	24.949	24.801	24.854	24.947	24.966
North Dakota	13.836	13.918	13.666	13.344	13.234	13.150	13.268	13.166	13.188	13.096	13.124	13.095	13.057
Ohio	23.770	23.564	22.500	21.919	22.880	23.625	23.775	24.243	24.080	23.787	23.812	23.855	23.549
Oklahoma	25.942	24.000	25.076	25.076	17.393	17.168	17.792	17.463	17.482	17.589	17.677	17.570	17.717
Oregon	– –	– –	– –	– –	16.393	16.584	16.696	17.765	17.563	17.516	17.371	17.923	17.273
Pennsylvania	23.436	24.095	23.341	23.498	24.176	24.445	23.352	22.654	22.623	22.709	22.842	23.029	23.163
Rhode Island	28.152	27.468	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
South Carolina	26.734	25.822	24.274	24.161	24.843	25.132	25.303	25.706	25.521	25.701	25.558	25.562	25.407
South Dakota	17.168	17.904	16.572	12.616	12.599	12.210	13.203	14.276	18.326	17.625	17.754	17.469	17.189
Tennessee	24.040	23.590	22.594	21.983	23.254	23.657	23.944	24.297	24.220	23.995	24.232	24.261	24.203
Texas	– –	– –	– –	13.103	14.791	14.807	14.578	14.726	14.989	15.011	15.057	15.016	15.193
Utah	24.940	25.184	24.812	23.650	22.900	23.607	23.002	22.789	22.762	22.401	22.311	22.909	22.926
Vermont	27.760	27.340	24.870	25.744	25.926	25.628	– –	– –	– –	– –	– –	– –	– –
Virginia	26.726	26.474	24.782	23.930	25.013	25.628	25.461	25.539	25.260	25.151	25.227	25.457	25.674
Washington	– –	– –	– –	16.200	16.200	16.200	16.270	16.538	15.866	16.088	16.434	16.460	16.193
West Virginia	23.908	23.736	23.318	23.221	24.269	24.827	24.931	24.482	24.503	24.542	24.376	24.478	24.333
Wisconsin	24.208	24.036	22.446	21.236	20.523	19.547	19.111	18.563	18.475	18.676	18.650	18.597	18.886
Wyoming	14.846	15.990	16.534	16.626	17.590	17.510	17.682	17.542	17.477	17.650	17.639	17.616	17.633
U.S. Average	23.922	23.781	22.575	21.650	21.357	21.023	20.777	20.542	20.545	20.516	20.516	20.490	20.511

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Table B13. Approximate Heat Content of Coal Consumed by the Electric Power Sector, 2001-2014

(Million Btu per Short Ton)

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Alabama	21.892	22.452	21.793	21.475	21.613	21.541	21.674	21.261	20.714	20.974	20.818	20.593	20.025	20.444
Alaska	16.534	16.135	16.264	16.041	15.277	15.306	15.085	14.457	14.546	14.538	14.599	14.748	14.674	15.109
Arizona	20.305	20.306	20.192	20.399	20.287	20.270	19.972	19.676	19.484	19.370	19.378	19.191	19.339	19.321
Arkansas	17.411	17.281	17.018	16.979	16.955	16.958	16.970	17.175	17.117	17.319	17.208	17.129	17.161	17.310
California	23.533	23.597	24.409	24.378	23.715	24.388	24.311	23.802	23.989	24.409	24.266	24.383	23.954	24.711
Colorado	19.566	19.574	19.465	19.663	19.817	19.606	19.605	19.673	19.623	19.447	19.333	18.938	18.909	19.129
Connecticut	24.573	22.618	20.358	20.585	20.229	20.326	20.586	20.345	21.959	21.024	18.685	22.384	18.347	18.219
Delaware	22.854	24.640	24.862	24.572	24.289	24.637	24.816	24.548	24.681	24.598	24.940	25.499	25.774	25.780
District of Columbia	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	24.197	24.478	24.542	24.310	24.235	24.052	24.036	23.716	23.755	23.959	23.684	23.591	23.447	23.547
Georgia	23.323	23.276	23.193	21.870	21.879	21.908	21.955	21.608	21.250	21.476	20.949	19.853	19.744	20.362
Hawaii	21.959	22.856	22.780	22.382	22.184	22.077	22.125	21.306	21.414	21.150	20.398	20.481	20.154	20.629
Idaho	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Illinois	18.963	17.986	18.052	17.941	17.681	17.559	17.495	17.487	17.461	17.499	17.478	17.580	17.550	17.561
Indiana	21.074	20.637	20.779	20.930	21.191	21.079	20.923	20.869	20.807	20.841	20.721	20.844	21.092	21.276
Iowa	17.752	17.459	17.407	17.368	17.283	17.294	17.238	17.053	17.068	17.016	17.071	17.067	17.076	17.137
Kansas	17.408	17.096	17.078	17.185	17.001	17.176	17.145	17.015	17.014	17.041	17.091	17.207	17.170	17.233
Kentucky	22.856	23.026	22.910	22.742	22.820	22.855	23.225	22.889	22.724	22.880	22.604	22.571	22.459	22.603
Louisiana	16.023	15.784	15.834	15.941	15.955	16.126	16.053	15.959	16.040	15.984	16.077	16.040	16.374	16.390
Maine	25.509	25.675	26.343	25.706	25.853	25.646	26.246	25.767	25.195	26.147	25.276	25.502	25.269	25.070
Maryland	25.394	25.942	25.265	25.166	25.239	25.191	25.009	25.291	24.886	24.675	24.550	24.736	24.685	25.017
Massachusetts	24.581	24.983	24.272	23.582	23.163	23.106	22.921	22.852	23.317	23.475	23.448	23.455	23.623	22.774
Michigan	20.353	19.803	19.723	19.574	19.801	19.852	19.723	19.530	19.317	19.372	19.186	18.866	18.604	18.849
Minnesota	17.847	17.529	17.688	17.630	17.644	17.633	17.686	17.703	17.592	17.474	17.573	17.665	17.691	17.520
Mississippi	23.344	19.152	18.378	18.217	17.767	17.965	18.345	18.324	16.512	16.953	16.915	15.237	16.187	17.406
Missouri	17.835	17.589	17.522	17.543	17.626	17.539	17.553	17.526	17.444	17.467	17.484	17.559	17.546	17.525
Montana	16.768	16.921	17.004	16.984	16.876	16.854	16.834	16.783	16.913	16.830	16.831	16.893	16.899	16.747
Nebraska	17.169	17.186	17.239	17.084	17.132	17.014	17.011	16.979	17.086	17.069	16.953	17.043	17.225	16.931
Nevada	22.428	20.354	22.531	22.199	22.407	22.799	22.688	21.725	21.043	21.191	21.029	20.342	19.521	20.869
New Hampshire	26.103	26.034	26.067	26.148	25.584	27.363	27.573	27.171	27.190	27.122	27.259	27.306	27.235	27.337
New Jersey	26.006	25.706	25.498	25.385	25.046	25.009	23.931	23.451	23.443	23.348	25.103	25.405	25.482	25.315
New Mexico	18.503	18.572	18.352	18.448	18.546	18.525	18.430	18.365	18.453	18.325	18.338	18.158	17.880	17.954
New York	26.039	25.592	25.100	24.074	23.489	22.916	22.947	22.021	21.585	22.175	21.602	21.874	21.194	21.333
North Carolina	24.696	24.611	24.699	24.592	24.638	24.389	24.581	24.430	24.610	24.477	24.426	24.631	24.637	24.662
North Dakota	13.082	13.002	12.840	12.933	13.196	13.072	13.171	13.302	13.326	13.513	13.624	13.643	13.619	13.665
Ohio	23.094	23.278	23.483	23.419	23.034	22.817	22.705	22.428	22.901	22.907	22.907	23.737	23.717	23.870
Oklahoma	17.641	17.635	17.582	17.590	17.401	17.431	17.413	17.174	17.234	17.231	17.202	17.227	17.226	17.221
Oregon	17.412	17.000	17.127	16.880	16.839	16.720	16.736	16.675	16.837	16.837	16.771	16.749	16.911	17.106
Pennsylvania	22.445	23.565	22.983	22.900	22.490	22.223	22.286	22.013	21.924	22.004	21.694	21.735	21.572	21.256
Rhode Island	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
South Carolina	25.122	24.673	24.992	24.892	24.838	24.936	24.881	24.611	24.782	24.725	24.549	24.506	24.471	24.692
South Dakota	17.082	16.955	16.942	16.956	17.196	16.945	16.935	16.786	16.723	16.731	16.403	16.503	16.695	16.586
Tennessee	24.172	23.036	22.899	22.645	22.027	21.970	21.698	21.208	21.033	21.519	20.656	20.472	19.992	20.415
Texas	15.330	15.443	15.247	15.279	15.385	15.446	15.243	15.383	15.517	15.496	15.218	15.196	15.373	15.328
Utah	22.748	22.518	22.303	22.082	21.702	22.047	22.304	22.217	21.908	22.295	22.153	21.906	21.928	21.918
Vermont	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Virginia	25.372	25.420	24.397	24.470	24.703	24.825	25.056	24.782	24.806	24.750	24.508	23.606	22.752	22.916
Washington	16.002	16.000	15.799	16.014	15.839	16.278	16.289	15.902	16.191	16.101	16.095	16.209	16.471	16.501
West Virginia	24.147	24.206	24.184	24.056	23.710	23.832	24.064	23.653	23.774	23.947	23.791	23.874	24.077	24.204
Wisconsin	18.710	19.230	18.276	18.348	19.316	17.809	17.813	17.697	17.515	17.637	17.996	17.696	17.836	18.088
Wyoming	17.727	17.439	17.790	17.645	17.563	17.386	17.281	17.294	17.368	17.342	17.304	17.461	17.510	17.382
U.S. Average	20.337	20.238	20.082	19.980	19.988	19.931	19.908	19.713	19.521	19.623	19.341	19.211	19.174	19.290

– – = Not applicable.
Where shown, R = Revised data.
Sources: See source listing at the end of this appendix.

Thermal Conversion Factor Source Documentation

Approximate Heat Content of Petroleum and Natural Gas Plant Liquids

Asphalt. EIA adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Aviation gasoline. EIA adopted the Bureau of Mines thermal conversion factor of 5.048 million Btu per barrel for "Gasoline, Aviation" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

Aviation gasoline blending components. Assumed by EIA to be 5.048 million Btu per barrel or equal to the thermal conversion factor of aviation gasoline. See **aviation gasoline**.

Butane. EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

Butane-propane mixture. EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel based on an assumed mixture of 60% butane and 40% propane. See **butane** and **propane**.

Crude oil (including lease condensate) used directly. EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950."

Distillate fuel oil. (DFTCKUS)

- 1960 through 1993: EIA adopted the Bureau of Mines thermal conversion factor of 5.285 million Btu per barrel, from the Bureau of Mines internal memorandum "Bureau of Mines Standard Average Heating Value of Various Fuels, adopted January 3, 1950."
- 1994 forward: EIA calculates the national annual average thermal conversion factor, which includes biodiesel blended into distillate fuel oil, by using the heat content values of three sulfur-content categories of distillate fuel oil, weighted by quantity consumed.

Ethane. EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

Ethane-propane mixture. EIA calculated 3.308 million Btu per barrel on the basis of an assumed mixture of 70% ethane and 30% propane. See **ethane** and **propane**.

Isobutane. EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

Jet fuel, kerosene type. EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel for "Jet Fuel, Commercial" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

Jet fuel, naphtha type. EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel for "Jet Fuel, Millitary" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics.

Kerosene. EIA adopted the thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

Liquefied petroleum gases. (LGTCKUS)

- 1960 through 1966: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, "Crude Petroleum and Petroleum Products, 1956," Table 4 footnote, constant value of 4.011 million Btu per barrel.
- 1967 forward: Calculated annually by EIA as a weighted average by multiplying the quantity consumed of each of the component products by each product's conversion factor, listed in this appendix, and dividing the sum of those heat contents by the sum of the quantities consumed. The component products are ethane (including ethylene), propane (including propylene), normal butane (including butylene),

butane-propane mixtures, ethane-propane mixtures, and isobutane. Quantities consumed are from: EIA, *Energy Data Reports*, "Petroleum Statement, Annual," Table 1 (1967 through 1980), EIA, *Petroleum Supply Annual*, Table 2 (1981 through 2004), and EIA, *Petroleum Supply Annual*, Table 1 (2005 forward).

Lubricants. EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Miscellaneous products. EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Motor gasoline. (MGTCKUS)

- 1960 through 1992: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985*, a 1968 release of historical and projected statistics. The factor excludes oxygenates.
- 1993 forward: EIA calculates national annual average thermal conversion factor, which includes fuel ethanol blended into motor gasoline (shown in Appendix B Table B1 on page 167). For 1993-2006, it also includes methyl tertiary butyl ether (MTBE) and other oxygenates blended into motor gasoline.

Motor gasoline blending components. (MBTCKUS)

- 1960 through 2006: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" as published by the Texas Eastern Transmission Corporation in Appendix V of Competition and Growth in American Markets 1947-1985, a 1968 release of historical and projected statistics.
- 2007 forward: EIA adopted the thermal conversion factor of 5.222 million Btu per barrel (124,340 Btu per gallon) for gasoline blendstock from U.S. Department of Energy, Argonne National Laboratory, "The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model" (GREET), version GREET1_2013, October 2013.

Natural gasoline. EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Pentanes plus. EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel, equal to that for natural gasoline. See **natural gasoline**.

Petrochemical feedstocks, naphtha less than 401°F. EIA assumed the thermal conversion factor to be 5.248 million Btu per barrel, equal to that for special naphthas. See **special naphthas**.

Petrochemical feedstock, other oils equal to or greater than 401°F. EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel, equal to that for distillate fuel oil. See **distillate fuel oil**.

Petrochemical feedstock, still gas. Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See **still gas**.

Petroleum coke, catalyst. (PCCTKUS)

- 1960 through 2003: EIA adopted the Bureau of Mines thermal conversion factor of 6.024 million Btu per barrel, from the Bureau of Mines internal memorandum "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950."
- 2004 forward: Assumed by EIA to be 6.287 million Btu per barrel or equal to the thermal conversion factor for residual fuel oil.

Petroleum coke, marketable. (PCMKKUS)

- 1960 through 2003: EIA adopted the Bureau of Mines thermal conversion factor of 6.024 million Btu per barrel, from the Bureau of Mines internal memorandum "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950."
- 2004 forward: EIA adopts the thermal conversion factor of 5.719 million Btu per barrel, calculated by dividing 28,595,925 Btu per short ton for petroleum coke (from U.S. Department of Energy, Argonne National Laboratory, "The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model" (GREET), version GREET1_October 2013) by 5.0 barrels per short ton (as given in the Bureau of Mines Form 6-1300-M and successor EIA forms).

Plant condensate. EIA estimated 5.418 million Btu per barrel from data provided by McClanahan Consultants, Inc., Houston, Texas.

Propane. EIA adopted the Bureau of Mines thermal conversion factor of 3.836 million Btu per barrel as published in the *California Oil World and Petroleum*

Industry, First Issue, April 1942.

Residual fuel oil. EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

Road oil. EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel, equal to that of asphalt and first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970*. See **asphalt**.

Special naphthas. EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel, equal to that of total gasoline (aviation and motor) and first published in the *Petroleum Statement, Annual, 1970*.

Still gas. EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970*.

Unfinished oil. EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel, equal to that for distillate fuel oil and first published in the Annual Report to Congress, Volume 3, 1977. See **distillate fuel oil**.

Unfractionated streams. EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel, equal to that for plant condensate and first published in the EIA, *Annual Report to Congress, Volume 2, 1981*. See **plant condensate**.

Waxes. EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the EIA, *Petroleum Statement, Annual, 1956*.

Approximate Heat Content of Natural Gas

Natural gas, total consumption. (NGTCKZZ)

- 1960 through 1962: EIA adopted the thermal conversion factor of 1,035 Btu per cubic foot as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.
- 1963 through 1979: EIA adopted the thermal conversion factors calculated annually by the American Gas Association (AGA) and published in *Gas Facts*, an AGA annual.
- 1980 through 1996: EIA, *Historical Natural Gas Annual 1930 Through 2000*, Table 16.
- 1997 forward: EIA, *Natural Gas Annual*, Table 16, http://www.eia.gov/naturalgas/annual/ and unpublished revisions. Data from 2007 forward are also available at http://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm.

Natural gas, consumption by the electric power sector. (NGEIKZZ)

- 1960 through 1971: Assumed by EIA to be equal to the thermal conversion factor for the consumption of natural gas by all users. See **natural gas, total consumption.**
- 1972 through 1982: Calculated annually by EIA by dividing the total heat content of natural gas received at steam electric plants 25 megawatts or greater by the total quantity received at those electric plants. The heat contents and quantities received are from the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."
- 1983 through 1988: The average heat content of natural gas received at steam electric plants 50 megawatts capacity or larger from FERC Form 423 and published from 1993 forward in Btu per cubic foot in the EIA, *Cost and Quality of Fuels for Electric Utility Plants*, Table 14. Note: For states that reported consumption on EIA-759 but were not large enough to report on FERC Form 423, factors were estimated by using previous years' factors or the factor for total natural gas consumption in the state.
- 1989 forward: Calculated by dividing the total heat content of natural gas received at electric power plants (including electric utilities and independent power producers) by the total quantity consumed in physical units collected by the EIA on Form EIA-923, "Power Plant Operations Report," and predecessor forms, http://www.eia.gov/

APPENDIX B

electricity/data/eia923/index.html.

Approximate Heat Content of Coal and Coal Coke

Coal, consumption at coke plants. (CLKCKZZ)

- 1960 through 1997: Calculated by EIA as the consumption-weighted average of national-level anthracite conversion factors and state-level bituminous coal and lignite factors using factors and consumption from SEDS—Anthracite conversion factor (for all end-use sectors) sources: 1960 through 1997: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for." Bituminous coal and lignite conversion factor sources: 1960 through 1972: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coal-Bituminous and Lignite," sum of columns "Beehive coke plants" and "Ovencoke plants." 1973 through 1984: EIA, *Weekly Coal Production*, August 9, 1986, Table 8. 1985 through 1987: EIA, *Weekly Coal Production*, July 16, 1988, Table 7. 1988 through 1997: EIA, Unpublished data from Form EIA-5.
- 1998 through 2000: Average total coal factors by state calculated by EIA using unpublished data from Form EIA-5. The 1998 state factors are used for 1999 and 2000.
- 2001 forward: Calculated by EIA from data reported on Form EIA-5, "Quarterly Coal Consumption and Quality Report, Coke Plants." Coke plant data on tons of coal carbonized to create coke, the volatilities of the coal carbonized, and conversion factors based on coal volatility are used to calculate average conversion factors by state.

Coal, consumption by the electric power sector. (CLEIKZZ)

- 1960 through 1988: Calculated by EIA as the consumption-weighted average of national-level anthracite conversion factors and state-level bituminous coal and lignite factors using factors and consumption from SEDS—Anthracite conversion factor sources: 1960 through 1972: U.S. Energy Information Administration (EIA) assumed that all anthracite consumed at electric utilities was recovered from culm banks and river dredging and was estimated to have an average

heat content of 17.500 million Btu per short ton. 1973 through 1988: Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. These data are reported on the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and predecessor forms. Bituminous coal and lignite conversion factor sources: 1960 through 1972: EIA adopted the average thermal conversion factor of the Bureau of Mines, which used the National Coal Association (NCA) average thermal conversion factor for electric utilities calculated from the Federal Power Commission's (FPC) Form 1 and published in *Steam Electric Plant Factors*, an NCA annual report. The specific tables are: 1960 and 1961, Table 1. 1962 through 1972, Table 2. 1973 through 1982: The average heat content of coal received at steam electric plants 25 megawatts or greater from FPC Form 423 and published in Btu per pound in EIA, *Cost and Quality of Fuels for Electric Utility Plants*, tables titled "Destination and Origin of Coal 'Delivered to' (1973-1979) 'Receipts to' (1980) 'Received at' (1981-1982) Steam-Electric Plants 25-MW or Greater." 1983 through 1988: The average heat content of coal received at steam electric plants 50 megawatts capacity or larger from FERC Form 423 and published in Btu per pound in the EIA, *Cost and Quality of Fuels for Electric Utility Plants*. The specific tables are: 1983 and 1984, Table 58. 1985 through 1988, Table 48.

Notes: The state conversion factors for 1960 through 1972 were derived from actual consumption data, while the conversion factors for 1973 to 1988 were based on receipts of coal. The factors for 1960 through 1972 may also have included some quantities of anthracite. These breaks in the series create some data discrepancies. In instances where a state had no receipts for a particular year but did report consumption, it was assumed that the coal received in one year was consumed during the following year and the Btu value of the previous year's receipts was used.

- 1989 forward: Calculated by dividing the total heat content of coal received at electric power plants (including electric utilities, nonutility power plants, and combined heat-and-power plants) by the total quantity consumed in physical units collected on Form EIA-923, "Power Plant Operations Report," and predecessor forms, http://www.eia.gov/electricity/data/eia923/index.html.
- Alaska factors: The sources used to develop thermal conversion factors for bituminous coal and lignite consumed by the electric power sector—the National Coal Association report and the Federal Power Commission's (FPC) Form 423 and FERC Form 423 published in the *Cost and Quality of Fuels for Electric Utility Plants*—exclude Alaska. However, Alaska reported consumption of bituminous coal and lignite at electric utilities for all years, 1960 forward. Unpublished FPC heat rates for coal at electric utilities in Alaska were used for 1960 through 1972. The 1972 conversion factor (the last year for which a conversion factor was reported for Alaska) was used for 1973 through 1978. According to industry sources, new mines were opened in 1978 and a more representative factor was used for 1979 through 1997. From 1998 forward, the Alaska factor is calculated using the same methodology as is used for other states, described above.

Coal, consumption by other industrial users. (CLOCKZZ)

- 1960 through 1997: Calculated by EIA as the consumption-weighted average of national level anthracite conversion factors and state-level bituminous coal and lignite factors using factors and consumption from SEDS—Anthracite conversion factor sources: 1960 through 1997: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for." Bituminous coal and lignite conversion factor sources: 1960 through 1973: Estimated by EIA by adjusting the 1974 average heat value of bituminous coal and lignite consumed by industrial users other than coke plants by the ratios of 1960 through 1973 national averages for the other industrial users to its 1974 average. 1974 through 1997: Calculated by EIA by assuming that the bituminous coal and lignite consumed by industrial users other than coke plants in each state contained heating values equal to those of bituminous coal and lignite received at electric utilities in each state from identified coal-producing districts as reported on Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to other industrial users in each State and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor

Bureau of Mines Form 6-1419-Q.

- 1998 through 2000: The average heat content of coal received at manufacturing plants (other than coke plants) consuming more than 1,000 short tons of coal during the year from Form EIA-3A and published in Btu per pound in the EIA *Annual Coal Report* and predecessor publications.
- 2001 forward: Calculated by EIA using unpublished data as the average heat content of (1) coal received at manufacturing plants (other than coke plants) consuming more than 1,000 short tons of coal annually from Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users," and predecessor forms; (2) coal distributed to agricultural, mining, and construction sectors reported on Form EIA-6A, "Coal Distribution Report—Annual" with heat contents for the coal producing state reported on FERC Form 423 and Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants" (discontinued after 2007); and (3) coal consumed by coal mining facilitiesreported on Form EIA-7A, "Coal Production Report," with heat contents for the coal producing state reported on Form EIA-923, "Power Plant Operations Report," and predecessor forms.

Coal, consumption by residential and commercial users. (CLHCKZZ)

- 1960 through 1997: Calculated by EIA as the consumption-weighted average of national-level anthracite conversion factors and state-level bituminous coal and lignite factors using factors and consumption from SEDS—Anthracite conversion factor sources: 1960 through 1997: Calculated annually by EIA by dividing the heat content of anthracite produced less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumption by all sectors other than the electric utility sector less the quantity of anthracite stock changes, losses, and "unaccounted for." Bituminous coal and lignite conversion factor sources: 1960 through 1973: Estimated by EIA by adjusting the 1974 average heat value of bituminous coal and lignite consumed in the residential and commercial sector by the ratios of 1960 through 1973 national averages for the sector to its 1974 average. 1974 through 1997: Calculated by EIA by assuming that the bituminous coal and lignite consumed in the residential and commercial sector in each state contained heating values equal to those of bituminous coal and lignite received at electric utilities in each state from identified coal-producing districts as reported on the Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to the residential and commercial sector in each state and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor Bureau of Mines Form 6-1419-Q.
- 1998 through 2000: The average heat content of coal received for the residential and commercial sectors as reported on the EIA-860. For states that are not represented in data on the EIA-860, it is assumed that the heat content of the coal receipts in theses sectors is equivalent to the heat content of coal received in the other industrial sector. For states that are not represented in either the EIA-3A data or the EIA-860 data (CT, NH, VT, and DC), the heat content of coal receipts in MA is used for CT, NH, and VT, and the heat content of coal receipts in MD is used for DC, since the origin of the coal receipts are similar.
- 2001 through 2007: Calculated by EIA from the coal distribution data reported on Form EIA-6A, "Coal Distribution Report—Annual," and the average heat content of coal reported on FERC Form 423 and Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants." Form EIA-6A provides distribution data for the combined residential and commercial sectors by state of origin to the destination state. FERC Form 423 and Form EIA-423 provide the average heat content of coal produced in the state of origin.
- 2008 forward: Calculated by EIA using unpublished data as the average heat content of coal received at commercial and institutional establishments consuming more than 1,000 short tons of coal annually from Form EIA-3, "Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users."

Coal, consumption by transportation users. (CLACKZZ)

- 1960 through 1977: Assumed by EIA to be equal to the Btu conversion factor for bituminous coal and lignite consumption by industrial users other than coke plants: 1960 through 1973: Estimated by EIA by

adjusting the 1974 average heat value of bituminous coal and lignite consumed by industrial users other than coke plants by the ratios of 1960 through 1973 national averages for the other industrial users to its 1974 average. 1974 through 1977: Calculated by EIA by assuming that the bituminous coal and lignite consumed by industrial users other than coke plants in each state contained heating values equal to those of bituminous coal and lignite received at electric utilities in each state from identified coal-producing districts as reported on Federal Energy Regulatory Commission (FERC) Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." The average Btu content of coal delivered from each coal-producing district was applied to deliveries to other industrial users in each state and the sum total of the heat content was divided by total tonnages, yielding a weighted average. The coal distribution data by coal-producing district are reported on Form EIA-6, "Coal Distribution Report," and predecessor Bureau of Mines Form 6-1419-Q.

- 1978 forward: Transportation sector coal is included in the other industrial category. Zero is entered for this variable.

Coal coke, imports and exports. EIA adopted the Bureau of Mines estimate of 24.800 million Btu per short ton.

Approximate Heat Content of Renewable Energy Sources

Fuel ethanol. Fuel ethanol, which is derived from agicultural feedstocks (primarily corn) and blended into motor gasoline, is computed separately in SEDS to display the use of renewable energy in the commercial, industrial, and transportation sectors. EIA adopted the denatured thermal conversion factor of 3.563 million Btu per barrel published in EIA, *Monthly Energy Review*, Table A3 of Appendix A, http://www.eia.gov/totalenergy/data/monthly/pdf/sec13_3.pdf. This factor is calculated by EIA using the 2009 quantity-weighted average of the thermal conversion factors for undenatured ethanol (3.539 million Btu per barrel), pentanes plus used as denaturant (4.620 million Btu per barrel), and conventional motor gasoline used as denaturant (5.253 million Btu per barrel). The undenatured thermal conversion factor of 3.539 million Btu per barrel is published in "Oxygenate Flexibility for Future Fuels," a paper presented by William J. Piel of the ARCO Chemical Company at the National Conference on Reformulated Gasolines and Clean Air Act Implementation, Washington, D.C., October 1991.

Wood, consumption by the residential and commercial sectors. Estimated by EIA to be 20 million Btu per cord of wood. This rough average factor takes into account a number of variables, such as moisture content and species of wood, as explained in the EIA, *Household Energy Consumption and Expenditures 1993*, page 314.

APPENDIX B

Approximate Heat Rates for Electricity

Fossil-fueled steam-electric plant generation. (FFETKUS) There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricityfrom hydroelectric, biomass fuels, geothermal, wind, photovoltaic, or solar thermal energy sources. Therefore, EIA uses data from Form EIA-767 to calculate a rate factor that is equal to the prevailing annual averageheat rate factor for fossil-fueled steam-electric power plants in the United States. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption, such as droughts. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour.

- 1960 through 1988: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Electric Plant Cost and Power Production Expenses 1991*, Table 9.
- 1989 through 2000: Calculated annually by EIA by using heat rate data reported on Form EIA-860, "Annual Electric Generator Report" (and predecessor forms); and net generation data reported on Form EIA-759, "Monthly Power Plant Report." The computation includes data for all electric utility steam-electric plants using fossil fuels.
- 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, "Power Plant Operations Report," and predeccessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using fossil fuels.

Nuclear steam-electric plant generation. (NUETKUS)

- 1960 through 1984: Calculated annually by EIA by dividing the total heat content consumed in nuclear generating units by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation data are reported on FERC Form 1, Form EIA-412, and predecessor forms. The factors for 1982 through 1991 are published in the following EIA reports—1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215; 1983 and 1984: *Electric Plant Cost and Power Production Expenses 1991*, Table 13.
- 1985 forward: Calculated annually by EIA using the heat rate reported on Form EIA-860, "Annual Electric Generator Report" (and predecessor forms), and the generation reported on Form EIA-923, "Power Plant Operations Report" (and predecessor forms).