Appendix B. Thermal conversion factors

Table B1. Approximate heat content of petroleum and heat rates for electricity, selected years, 1960-2022

Year	Petroleum consumption					Electricity net generation		Heat content of electricity [c]
	Distillate fuel oil, all sectors (DFTCKUS)	Hydrocarbon gas liquids, industrial sector (HLICKUS)	Hydrocarbon gas liquids, all sectors (HLTCKUS)	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	3.783	3.810	5.253	5.542	10,760	11,629	3,412
1965	5.825	3.786	3.810	5.253	5.517	10,453	11,804	3,412
1970	5.825	3.648	3.731	5.253	5.499	10,494	10,977	3,412
1975	5.825	3.575	3.671	5.253	5.489	10,406	11,013	3,412
1976	5.825	3.533	3.645	5.253	5.499	10,373	11,047	3,412
1977	5.825	3.464	3.598	5.253	5.512	10,435	10,769	3,412
1978	5.825	3.447	3.584	5.253	5.512	10,361	10,941	3,412
1979	5.825	3.596	3.644	5.253	5.487	10,353	10,879	3,412
1980	5.825	3.629	3.669	5.253	5.472	10,388	10,908	3,412
1981	5.825	3.583	3.632	5.253	5.440	10,453	11,030	3,412
1982	5.825	3.532	3.588	5.253	5.406	10,454	11,073	3,412
1983	5.825	3.447	3.535	5.253	5.396	10,520	10,905	3,412
1984	5.825	3.527	3.580	5.253	5.385	10,440	10,843	3,412
1985	5.825	3.527	3.584	5.253	5.377	10,447	10,622	3,412
1986	5.825	3.582	3.631	5.253	5.410	10,446	10,579	3,412
1987	5.825	3.622	3.663	5.253	5.395	10,419	10,442	3,412
1988	5.825	3.598	3.643	5.253	5.402	10,324	10,602	3,412
1989	5.825	3.637	3.679	5.253	5.403	10,432	10,583	3,412
1990	5.825	3.578	3.630	5.253	5.403	10,402	10,582	3,412
1991	5.825	3.575	3.626	5.253	5.375	10,436	10,484	3,412
1992	5.825	3.599	3.643	5.253	5.369	10,342	10,471	3,412
1993	5.825	3.577	3.628	5.217	5.354	10,309	10,504	3,412
1994	5.820	3.616	3.657	5.214	5.345	10,316	10,452	3,412
1995	5.820	3.598	3.641	5.204	5.327	10,312	10,507	3,412
1996	5.820	3.578	3.629	5.211	5.324	10,340	10,503	3,412
1997	5.820	3.577	3.627	5.205	5.322	10,213	10,494	3,412
1998	5.819	3.568	3.619	5.203	5.335	10,197	10,491	3,412
1999	5.819	3.574	3.628	5.202	5.313	10,226	10,450	3,412
2000	5.819	3.549	3.610	5.201	5.311	10,201	10,429	3,412
2001	5.819	3.537	3.604	5.201	5.331	10,333	10,443	3,412
2002	5.819	3.519	3.588	5.199	5.309	10,173	10,442	3,412
2003	5.819	3.539	3.610	5.197	5.326	10,125	10,422	3,412
2004	5.818	3.523	3.591	5.196	5.330	10,016	10,428	3,412
2005	5.818	3.517	3.589	5.192	5.342	9,999	10,436	3,412
2006	5.803	3.479	3.551	5.185	5.323	9,919	10,435	3,412
2007	5.784	3.468	3.544	5.142	5.293	9,884	10,489	3,412
2008	5.780	3.446	3.549	5.106	5.268	9,854	10,452	3,412
2009	5.777	3.375	3.487	5.090	5.218	9,760	10,459	3,412
2010	5.775	3.394	3.489	5.067	5.204	9,756	10,452	3,412
2011	5.770	3.316	3.423	5.063	5.193	9,716	10,464	3,412
2012	5.767	3.360	3.440	5.062	5.176	9,516	10,479	3,412
2013	5.763	3.388	3.468	5.060	5.157	9,541	10,449	3,412
2014	5.763	3.344	3.439	5.059	5.161	9,509	10,459	3,412
2015	5.762	3.384	3.461	5.057	5.154	9,314	10,458	3,412
2016	5.757	3.341	3.424	5.055	5.161	9,228	10,459	3,412
2017	5.757	3.314	3.400	5.053	5.153	9,208	10,459	3,412
2018	5.759	3.291	3.381	5.054	5.123	9,098	10,455	3,412
2019	5.759	3.310	3.401	5.052	5.111	8,899	10,442	3,412
2020	5.756	3.259	3.349	5.052	5.054	8,767	10,446	3,412
2021	5.764	3.287	3.369	5.050	5.067	8,844	R 10,429	3,412
2022	5.765	3.119	3.229	5.049	5.058	8,813	10,429	3,412

[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. Through 2000, it is 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.
[c] The value of 3,412 Btu per kilowatthour is a constant used as the thermal conversion factor for electricity net generation from noncombustible renewable energy (hydro, geothermal, solar, and wind), electricity sales to ultimate customers, and electricity imports.

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, 1960-2005

(thousand Btu per cubic foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	1.035	1.034	1.031	1.033	1.133	1.099	1.029	1.023	1.027	1.040	1.025	1.027	1.025	1.027
Alaska	– –	1.010	1.005	1.006	1.006	1.006	1.027	1.003	1.003	1.004	1.009	1.004	1.007	1.006
Arizona	1.035	1.076	1.059	1.071	1.057	1.059	1.031	1.021	1.016	1.023	1.018	1.008	1.020	1.024
Arkansas	1.035	1.001	1.004	1.011	1.026	1.055	1.018	1.019	1.020	1.037	1.016	1.032	1.030	1.029
California	1.035	1.073	1.054	1.063	1.052	1.051	1.032	1.028	1.020	1.027	1.022	1.023	1.029	1.029
Colorado	1.035	0.912	0.974	0.996	0.981	0.989	1.041	1.063	1.056	1.047	1.017	1.034	1.041	1.035
Connecticut	1.035	1.022	1.016	1.005	– –	1.031	1.031	1.021	1.012	1.014	1.021	1.008	1.015	1.011
Delaware	1.035	1.043	1.020	1.073	1.042	1.038	1.070	1.032	1.017	1.037	1.017	1.043	1.032	1.037
District of Columbia	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	1.035	1.037	1.041	1.009	1.015	1.011	1.013	1.014	1.036	1.042	1.025	1.034	1.031	1.034
Georgia	1.035	1.040	1.031	1.029	1.035	1.024	1.024	1.027	1.016	1.019	1.022	1.024	1.030	1.046
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	– –	– –	– –	1.053	1.037	1.049	– –	– –	1.040	1.029	0.979	1.002	1.028	1.021
Illinois	1.035	1.029	1.025	1.029	1.024	1.027	1.023	1.017	1.020	1.022	1.012	1.015	1.025	1.020
Indiana	1.035	0.999	1.006	1.000	1.004	1.005	1.003	1.020	1.017	1.020	1.026	1.021	1.015	1.018
Iowa	1.035	1.010	1.009	1.008	1.008	1.021	1.014	1.009	1.009	1.014	1.007	1.011	0.999	1.003
Kansas	1.035	0.995	0.998	0.991	0.960	0.968	0.998	0.989	1.011	1.010	1.001	1.003	1.005	1.009
Kentucky	1.035	1.028	1.017	1.017	1.024	1.024	1.023	1.020	1.020	1.025	1.024	1.023	1.026	1.032
Louisiana	1.035	1.042	1.029	1.059	1.041	1.047	1.045	1.042	1.034	1.041	1.027	1.032	1.029	1.030
Maine	– –	– –	– –	– –	– –	– –	1.010	1.009	1.021	1.034	1.038	1.037	1.039	1.052
Maryland	1.035	1.025	1.022	0.943	1.023	1.025	1.034	1.035	1.041	1.033	1.043	1.038	1.040	1.049
Massachusetts	1.035	1.013	1.012	1.002	1.000	1.039	1.047	1.026	1.035	1.037	1.017	1.028	1.032	1.033
Michigan	1.035	1.014	1.015	0.834	0.737	0.460	0.813	0.855	0.934	0.990	1.008	1.013	1.017	1.016
Minnesota	1.035	0.998	1.002	0.984	0.994	1.002	1.015	1.011	1.018	1.022	1.005	1.004	1.006	1.009
Mississippi	1.035	1.029	1.025	1.030	1.017	1.039	1.034	1.034	1.028	1.029	1.025	1.033	1.032	1.032
Missouri	1.035	1.020	1.007	0.977	0.979	0.992	1.018	1.008	1.014	1.099	1.009	1.016	1.022	1.021
Montana	1.035	1.001	1.032	1.149	1.049	1.204	1.159	1.038	1.018	1.015	1.004	0.961	1.018	1.013
Nebraska	1.035	0.991	1.008	0.982	0.950	0.957	0.959	1.007	1.015	1.022	0.976	0.997	0.987	0.998
Nevada	1.035	1.062	1.082	1.067	1.071	1.065	1.031	1.033	1.024	1.026	1.020	1.024	1.030	1.037
New Hampshire	– –	– –	– –	1.000	– –	– –	– –	1.018	1.069	1.074	1.047	1.046	1.046	1.044
New Jersey	1.035	1.045	1.026	1.028	1.034	1.046	1.036	1.032	1.032	1.032	1.031	1.035	1.038	1.035
New Mexico	1.035	1.108	1.083	1.033	1.029	1.013	1.034	1.019	0.992	0.982	1.002	1.000	1.021	1.005
New York	1.035	1.026	1.021	1.025	1.036	1.035	1.032	1.022	1.018	1.019	1.019	1.025	1.022	1.021
North Carolina	1.035	1.033	1.024	1.031	1.034	1.033	1.027	1.026	1.017	1.024	1.010	1.007	1.009	1.014
North Dakota	1.035	1.000	1.031	1.054	1.054	1.054	1.038	1.066	– –	1.028	1.010	1.025	1.050	1.116
Ohio	1.035	1.033	1.023	0.864	1.004	1.014	1.011	1.023	1.019	1.019	1.024	1.034	1.029	1.029
Oklahoma	1.035	1.026	1.032	1.038	1.048	1.044	1.042	1.034	1.029	1.031	1.025	1.029	1.031	1.030
Oregon	1.035	1.070	1.045	1.037	0.998	– –	1.027	1.011	1.018	1.021	1.017	1.021	1.020	1.020
Pennsylvania	1.035	1.038	1.033	1.000	1.020	1.000	0.935	1.030	1.034	1.033	1.028	1.039	1.037	1.036
Rhode Island	1.035	1.042	1.021	1.042	1.022	1.034	1.032	1.021	1.031	1.032	1.018	1.022	1.021	1.021
South Carolina	1.035	1.042	1.028	1.028	1.030	1.029	1.024	1.023	1.038	1.037	1.028	1.028	1.034	1.035
South Dakota	1.035	0.997	1.004	1.000	0.988	1.010	1.028	1.017	1.020	1.027	0.980	0.960	0.983	1.009
Tennessee	1.035	1.046	1.022	– –	1.016	– –	1.027	1.019	1.033	1.040	1.023	1.032	1.026	1.023
Texas	1.035	1.037	1.027	1.019	1.037	1.036	1.035	1.025	1.021	1.030	1.019	1.021	1.023	1.028
Utah	1.035	0.925	0.938	0.941	0.955	1.075	1.027	1.049	1.044	1.046	1.005	1.004	1.000	1.044
Vermont	– –	– –	– –	1.000	1.000	1.000	1.027	1.001	1.012	1.012	1.018	1.019	1.020	0.890
Virginia	1.035	1.031	1.026	1.098	1.104	1.040	1.030	1.032	1.037	1.030	1.024	1.028	1.027	1.032
Washington	– –	– –	– –	– –	1.030	1.033	1.029	1.028	1.025	1.028	1.026	1.021	1.024	1.023
West Virginia	1.035	1.071	1.029	0.575	1.000	1.000	1.000	1.028	1.006	1.026	1.036	1.057	1.060	1.039
Wisconsin	1.035	1.018	1.019	1.016	1.007	1.000	1.016	1.015	1.012	1.016	0.975	0.986	0.998	1.010
Wyoming	1.035	0.926	1.023	0.843	0.847	1.048	1.035	1.043	1.027	1.031	0.923	0.935	0.946	0.925
U.S. Average	1.035	1.038	1.029	1.023	1.033	1.037	1.027	1.021	1.021	1.029	1.021	1.024	1.027	1.028

– – = 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, 2006-2022

(thousand Btu per cubic foot)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	1.029	1.033	1.028	1.025	1.020	1.019	1.016	1.018	1.026	1.032	1.031	1.031	1.029	1.028	1.031	1.031	1.032
Alaska	1.007	1.007	1.006	1.006	1.006	1.015	1.013	1.002	1.001	1.001	1.000	1.002	0.999	1.002	1.003	1.000	1.002
Arizona	1.021	1.022	1.027	1.022	1.016	1.016	1.021	1.024	1.029	1.038	1.035	1.039	1.041	1.032	1.028	1.032	1.031
Arkansas	1.028	1.026	1.032	1.025	1.020	1.020	1.021	1.025	1.033	1.032	1.027	1.025	1.021	1.024	1.025	1.028	1.029
California	1.032	1.031	1.029	1.027	1.026	1.022	1.025	1.029	1.033	1.035	1.034	1.034	1.032	1.034	1.031	1.033	1.035
Colorado	1.039	1.038	1.037	1.034	1.028	1.036	1.044	1.050	1.054	1.077	1.083	1.084	1.100	1.117	1.098	1.088	1.078
Connecticut	1.010	1.012	1.013	1.012	1.017	1.024	1.031	1.029	1.026	1.027	1.026	1.027	1.028	1.030	1.031	1.029	1.031
Delaware	1.037	1.036	1.034	1.024	1.021	1.021	1.026	1.052	1.057	1.047	1.040	1.035	1.036	1.036	1.034	1.033	1.034
District of Columbia	--	--	--	--	--	1.020	--	--	--	--	1.000	--	--	--	--	--	--
Florida	1.028	1.028	1.029	1.024	1.018	1.015	1.014	1.016	1.021	1.024	1.022	1.023	1.022	1.023	1.026	1.025	1.025
Georgia	1.040	1.040	1.035	1.035	1.023	1.017	1.015	1.017	1.024	1.030	1.032	1.032	1.029	1.026	1.030	1.029	1.029
Hawaii	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Idaho	1.027	1.025	1.016	1.014	1.017	1.011	1.012	1.011	1.014	1.013	1.014	1.020	1.023	1.019	1.018	1.015	1.018
Illinois	1.022	1.023	1.019	1.019	1.015	1.018	1.012	1.014	1.014	1.018	1.021	1.023	1.027	1.035	1.026	1.038	1.037
Indiana	1.015	1.014	1.014	1.013	1.008	1.011	1.011	1.019	1.030	1.044	1.045	1.054	1.051	1.053	1.056	1.057	1.056
Iowa	1.004	1.008	1.010	1.008	1.010	1.011	1.022	1.024	1.047	1.058	1.057	1.062	1.079	1.091	1.092	1.083	1.072
Kansas	1.015	1.020	1.016	1.014	1.017	1.018	1.020	1.019	1.020	1.043	1.037	1.033	1.033	1.019	1.014	1.018	1.021
Kentucky	1.028	1.027	1.025	1.024	1.022	1.018	1.022	1.030	1.032	1.025	1.033	1.046	1.045	1.050	1.047	1.043	1.041
Louisiana	1.037	1.033	1.032	1.030	1.023	1.022	1.018	1.021	1.031	1.029	1.031	1.028	1.027	1.030	1.027	1.027	1.023
Maine	1.056	1.058	1.058	1.049	1.049	1.053	1.036	1.022	1.023	1.020	1.021	1.017	1.051	1.042	1.036	1.041	1.042
Maryland	1.047	1.045	1.032	1.048	1.034	1.021	1.034	1.057	1.048	1.052	1.051	1.046	1.037	1.041	1.039	1.041	1.039
Massachusetts	1.032	1.037	1.034	1.034	1.037	1.039	1.036	1.036	1.030	1.028	1.030	1.030	1.032	1.030	1.031	1.030	1.030
Michigan	1.011	1.015	1.015	1.016	1.014	1.015	1.017	1.021	1.022	1.027	1.036	1.035	1.046	1.056	1.056	1.053	1.054
Minnesota	1.007	1.008	1.013	1.011	1.010	1.009	1.019	1.026	1.041	1.052	1.049	1.052	1.070	1.085	1.088	1.076	1.071
Mississippi	1.032	1.031	1.024	1.016	1.009	1.005	1.010	1.017	1.028	1.032	1.033	1.030	1.026	1.030	1.030	1.030	1.027
Missouri	1.025	1.023	1.018	1.018	1.017	1.022	1.027	1.028	1.027	1.031	1.028	1.030	1.032	1.034	1.027	1.027	1.025
Montana	1.011	1.045	1.021	1.019	1.019	1.016	1.025	1.022	1.020	1.023	1.034	1.035	1.042	1.037	1.038	1.041	1.044
Nebraska	1.005	1.016	1.006	0.998	1.003	1.009	1.022	1.026	1.036	1.061	1.066	1.065	1.060	1.075	1.068	1.064	1.059
Nevada	1.029	1.030	1.042	1.032	1.031	1.024	1.026	1.034	1.034	1.043	1.041	1.039	1.037	1.044	1.038	1.040	1.042
New Hampshire	1.043	1.055	1.049	1.036	1.040	1.041	1.032	1.030	1.031	1.030	1.028	1.029	1.030	1.032	1.031	1.032	1.032
New Jersey	1.035	1.035	1.032	1.029	1.026	1.026	1.031	1.036	1.036	1.041	1.037	1.035	1.035	1.037	1.035	1.035	1.034
New Mexico	1.008	1.018	1.017	1.028	1.022	1.022	1.027	1.029	1.033	1.037	1.050	1.044	1.038	1.030	1.025	1.030	1.029
New York	1.019	1.021	1.020	1.020	1.019	1.022	1.029	1.030	1.029	1.031	1.030	1.031	1.030	1.031	1.032	1.032	1.032
North Carolina	1.013	1.013	1.011	1.007	1.007	1.005	1.006	1.007	1.016	1.035	1.035	1.036	1.029	1.031	1.033	1.034	1.032
North Dakota	1.080	1.082	1.077	1.039	1.178	1.107	1.127	1.112	1.109	1.077	1.045	1.043	1.066	1.063	1.046	1.056	1.046
Ohio	1.031	1.032	1.034	1.033	1.029	1.028	1.025	1.035	1.041	1.060	1.059	1.059	1.057	1.061	1.062	1.062	1.058
Oklahoma	1.030	1.029	1.033	1.033	1.034	1.036	1.027	1.037	1.041	1.048	1.050	1.041	1.031	1.034	1.031	1.031	1.033
Oregon	1.025	1.033	1.021	1.022	1.024	1.018	1.021	1.026	1.030	1.043	1.044	1.051	1.053	1.053	1.050	1.052	1.059
Pennsylvania	1.034	1.030	1.034	1.029	1.027	1.028	1.033	1.043	1.042	1.042	1.038	1.035	1.036	1.036	1.036	1.035	1.035
Rhode Island	1.017	1.026	1.020	1.022	1.013	1.018	1.031	1.033	1.027	1.028	1.027	1.028	1.028	1.029	1.029	1.029	1.028
South Carolina	1.049	1.038	1.036	1.038	1.031	1.032	1.027	1.023	1.025	1.030	1.028	1.030	1.026	1.027	1.031	1.031	1.030
South Dakota	1.005	1.010	1.006	0.994	1.007	1.001	1.025	1.030	1.040	1.056	1.060	1.061	1.079	1.087	1.096	1.081	1.075
Tennessee	1.028	1.026	1.028	1.029	1.020	1.005	1.010	1.019	1.020	1.006	1.006	1.003	1.000	1.000	1.000	1.000	1.000
Texas	1.026	1.023	1.023	1.020	1.020	1.020	1.022	1.023	1.026	1.032	1.030	1.030	1.028	1.023	1.020	1.022	1.019
Utah	1.050	1.041	1.049	1.035	1.038	1.032	1.034	1.032	1.028	1.036	1.033	1.036	1.033	1.042	1.039	1.043	1.043
Vermont	1.016	1.018	1.000	1.005	1.007	1.008	1.020	1.015	1.016	1.037	1.020	1.038	1.030	1.036	1.039	1.040	1.043
Virginia	1.029	1.030	1.040	1.038	1.032	1.028	1.033	1.035	1.040	1.056	1.055	1.051	1.048	1.047	1.043	1.043	1.043
Washington	1.026	1.024	1.030	1.030	1.030	1.028	1.021	1.022	1.043	1.068	1.076	1.080	1.088	1.088	1.086	1.085	1.085
West Virginia	1.046	1.040	1.043	1.050	1.047	1.036	1.039	1.042	1.041	1.068	1.072	1.075	1.075	1.067	1.054	1.071	1.070
Wisconsin	1.012	1.017	1.014	1.015	1.010	1.012	1.016	1.018	1.022	1.025	1.018	1.017	1.018	1.020	1.033	1.036	1.035
Wyoming	0.991	0.977	0.976	0.987	0.990	0.983	0.977	0.966	1.004	1.041	1.047	1.049	1.050	1.054	1.047	1.054	1.054
U.S. Average	1.028	1.027	1.027	1.025	1.022	1.021	1.022	1.025	1.029	1.035	1.034	1.034	1.033	1.034	1.034	1.034	1.033

-- = 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, 1960-2005

(thousand Btu per cubic foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	1.035	1.034	1.031	1.029	1.033	1.038	1.029	1.029	1.044	1.032	1.029	1.030	1.025	1.030
Alaska	1.035	1.010	1.005	1.005	1.002	1.006	0.946	1.006	1.027	1.011	1.004	1.004	1.004	1.004
Arizona	1.035	1.076	1.059	1.050	1.046	1.046	1.032	1.038	1.010	1.006	1.017	1.013	1.017	1.023
Arkansas	1.035	1.001	1.004	0.995	0.994	1.017	1.008	1.084	1.019	1.013	1.024	1.031	1.009	1.010
California	1.035	1.073	1.054	1.056	1.044	1.038	1.032	1.011	0.956	1.015	1.019	1.020	1.020	1.023
Colorado	1.035	0.912	0.974	0.896	0.995	0.999	1.003	1.014	0.998	1.005	1.007	1.010	1.006	1.028
Connecticut	1.035	1.022	1.016	1.005	1.022	1.030	1.033	1.030	1.028	1.023	1.024	1.026	1.024	1.025
Delaware	1.035	1.043	1.020	1.015	1.033	1.022	1.009	1.036	1.041	1.033	1.037	1.038	1.036	1.037
District of Columbia	1.035	1.024	1.016	1.012	1.003	1.015	1.008	1.006	1.027	1.026	1.024	1.027	1.027	1.052
Florida	1.035	1.037	1.041	1.078	1.070	1.109	1.084	1.070	1.108	1.065	1.036	1.042	1.036	1.038
Georgia	1.035	1.040	1.031	1.027	1.032	1.028	1.027	1.026	1.018	1.035	1.026	1.029	1.029	1.035
Hawaii	– –	– –	– –	– –	0.963	1.082	1.070	1.048	1.047	1.036	1.060	1.047	1.048	1.037
Idaho	1.035	1.065	1.061	1.055	1.053	1.049	1.028	1.030	1.025	1.018	1.030	1.031	1.041	1.053
Illinois	1.035	1.029	1.025	1.026	1.022	1.040	1.022	1.020	1.022	1.020	1.013	1.015	1.014	1.015
Indiana	1.035	0.999	1.006	0.990	0.989	1.008	1.018	1.012	1.025	1.024	1.007	1.091	1.009	1.018
Iowa	1.035	1.010	1.009	1.008	1.003	1.011	1.007	1.005	1.005	1.004	1.003	1.003	1.003	1.006
Kansas	1.035	0.995	0.998	0.982	0.994	1.000	0.999	1.003	1.008	1.005	1.009	1.012	1.013	1.014
Kentucky	1.035	1.028	1.017	1.008	1.009	1.030	1.040	1.096	1.040	1.037	1.037	1.037	1.035	1.029
Louisiana	1.035	1.042	1.029	1.032	1.037	1.038	1.041	1.033	1.064	1.024	1.032	1.032	1.033	1.044
Maine	– –	– –	1.012	1.024	1.024	1.035	1.005	1.016	1.153	1.177	1.042	1.046	1.042	1.047
Maryland	1.035	1.025	1.022	1.013	1.020	1.034	1.027	1.025	1.033	1.037	1.036	1.038	1.037	1.048
Massachusetts	1.035	1.013	1.012	1.004	1.016	1.024	1.035	1.026	1.044	1.045	1.035	1.028	1.028	1.015
Michigan	1.035	1.014	1.015	1.024	1.020	1.023	1.044	1.040	1.036	1.031	1.021	1.030	1.025	1.015
Minnesota	1.035	0.998	1.002	1.002	0.997	1.004	1.004	1.013	1.015	1.012	1.007	1.008	1.007	1.012
Mississippi	1.035	1.029	1.025	1.022	1.034	1.025	1.033	1.021	1.043	1.022	1.036	1.036	1.029	1.029
Missouri	1.035	1.020	1.007	1.008	1.016	1.017	1.011	1.007	1.015	1.006	1.012	1.014	1.020	1.020
Montana	1.035	1.001	1.032	1.019	1.009	0.999	1.027	1.030	1.024	1.022	1.021	1.023	1.026	1.040
Nebraska	1.035	0.991	1.008	0.997	0.980	0.982	0.984	0.979	1.005	1.017	1.008	1.007	1.010	1.010
Nevada	1.035	1.062	1.082	1.067	1.052	1.061	1.031	1.033	1.030	1.023	1.033	1.035	1.032	1.044
New Hampshire	1.035	1.012	1.010	1.010	1.020	1.027	1.014	1.010	1.058	1.062	1.050	1.040	1.043	1.020
New Jersey	1.035	1.045	1.026	1.031	1.033	1.022	1.024	1.035	1.036	1.038	1.039	1.039	1.039	1.040
New Mexico	1.035	1.108	1.083	1.076	1.048	1.088	1.056	1.020	0.968	0.973	0.972	1.023	1.026	1.025
New York	1.035	1.026	1.021	1.015	1.023	1.027	1.029	1.031	1.032	1.033	1.025	1.028	1.027	1.026
North Carolina	1.035	1.033	1.024	1.018	1.012	1.034	1.032	1.033	1.031	1.042	1.037	1.042	1.036	1.037
North Dakota	1.035	1.000	1.031	1.001	1.052	1.062	1.032	1.050	1.035	1.029	1.003	1.009	1.021	1.036
Ohio	1.035	1.033	1.023	1.024	1.016	1.044	1.040	1.038	1.042	1.042	1.038	1.036	1.045	1.043
Oklahoma	1.035	1.026	1.032	0.996	1.002	1.020	1.021	1.015	1.008	1.027	1.030	1.030	1.031	1.030
Oregon	1.035	1.070	1.045	1.039	1.046	1.030	1.023	1.045	1.031	1.029	1.025	1.007	1.009	1.036
Pennsylvania	1.035	1.038	1.033	1.025	1.022	1.034	1.039	1.035	1.035	1.055	1.038	1.040	1.039	1.041
Rhode Island	1.035	1.042	1.021	1.014	1.021	1.033	1.027	1.029	1.047	1.029	1.030	1.026	1.027	1.021
South Carolina	1.035	1.042	1.028	1.023	1.033	1.028	1.028	1.027	1.029	1.038	1.033	1.037	1.035	1.038
South Dakota	1.035	0.997	1.004	1.000	0.998	1.010	1.016	1.014	1.003	0.995	1.000	1.003	1.003	1.007
Tennessee	1.035	1.046	1.022	1.031	1.016	1.034	1.035	1.031	1.037	1.037	1.032	1.033	1.033	1.035
Texas	1.035	1.037	1.027	1.030	1.031	1.039	1.042	1.042	1.033	1.024	1.033	1.029	1.031	1.028
Utah	1.035	0.925	0.938	0.950	1.092	1.075	1.088	1.064	1.051	1.053	1.060	1.067	1.056	1.054
Vermont	– –	– –	1.006	1.009	0.989	0.992	0.982	0.996	1.012	1.012	1.004	1.006	1.004	1.004
Virginia	1.035	1.031	1.026	1.019	1.015	1.039	1.043	1.031	1.035	1.038	1.036	1.037	1.031	1.042
Washington	1.035	1.075	1.055	1.042	1.052	1.040	1.030	1.042	1.042	1.035	1.030	1.026	1.028	1.030
West Virginia	1.035	1.071	1.029	1.038	1.032	1.067	1.071	1.061	1.068	1.068	1.062	1.066	1.058	1.068
Wisconsin	1.035	1.018	1.019	1.020	1.008	1.010	1.006	1.011	1.010	1.009	1.009	1.009	1.008	1.013
Wyoming	1.035	0.926	1.023	0.935	1.061	1.051	1.099	1.063	1.046	1.056	1.044	1.046	1.045	1.043
U.S. Average	1.035	1.032	1.025	1.022	1.024	1.032	1.031	1.030	1.026	1.026	1.025	1.029	1.026	1.028

– – = 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, 2006-2022

(thousand Btu per cubic foot)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	1.027	1.026	1.023	1.027	1.016	1.016	1.016	1.016	1.021	1.028	1.026	1.028	1.027	1.028	1.030	1.031	1.030
Alaska	1.005	1.006	1.006	1.005	1.005	1.013	1.012	1.001	1.001	1.001	1.001	0.988	0.973	0.983	0.984	R 0.981	0.983
Arizona	1.019	1.026	1.026	1.018	1.017	1.013	1.021	1.026	1.032	1.044	1.042	1.046	1.040	1.032	1.027	1.035	1.032
Arkansas	1.031	1.009	1.009	1.012	1.007	1.015	1.010	1.019	1.011	1.013	1.012	1.015	1.014	1.014	1.013	1.014	1.015
California	1.023	1.029	1.028	1.027	1.022	1.019	1.020	1.026	1.028	1.037	1.035	1.036	1.034	1.034	1.034	1.034	1.035
Colorado	1.030	1.028	1.015	1.015	1.017	1.031	1.038	1.034	1.045	1.056	1.057	1.060	1.070	1.079	1.069	R 1.056	1.046
Connecticut	1.026	1.024	1.020	1.023	1.025	1.028	1.031	1.020	1.028	1.027	1.028	1.029	1.030	1.030	1.029	1.029	1.029
Delaware	1.037	1.038	1.033	1.032	1.025	1.029	1.028	1.047	1.055	1.053	1.052	1.048	1.044	1.043	R 1.042	R 1.040	1.033
District of Columbia	1.025	1.027	1.028	1.035	1.014	1.016	1.029	1.030	1.043	1.044	1.044	1.039	1.036	1.035	1.033	1.032	1.034
Florida	1.032	1.036	1.032	1.031	1.024	1.015	1.019	1.018	1.030	1.025	1.027	1.033	1.028	1.023	1.027	1.030	1.023
Georgia	1.030	1.029	1.023	1.023	1.022	1.018	1.015	1.015	1.017	1.023	1.028	1.028	1.027	1.027	1.027	1.027	1.029
Hawaii	1.047	1.037	1.043	1.040	1.040	1.048	1.046	1.006	0.959	0.982	0.981	0.975	0.962	0.952	0.952	0.918	0.917
Idaho	1.047	1.024	1.024	1.023	1.022	1.018	1.016	1.025	1.018	1.036	1.045	1.046	1.041	1.033	1.027	1.020	1.026
Illinois	1.016	1.014	1.014	1.013	1.008	1.011	1.011	1.016	1.023	1.030	1.033	1.030	1.029	1.033	1.039	1.033	1.044
Indiana	1.017	1.023	1.013	1.015	1.012	1.012	1.012	1.014	1.018	1.023	1.036	1.040	1.046	1.052	1.052	1.056	1.051
Iowa	1.013	1.010	1.010	1.007	1.006	1.009	1.014	1.029	1.040	1.053	1.056	1.055	1.059	1.063	1.066	1.068	1.066
Kansas	1.019	1.018	1.036	1.020	1.019	1.020	1.022	1.018	1.024	1.035	1.034	1.034	1.039	1.043	1.035	1.035	1.034
Kentucky	1.029	1.027	1.035	1.037	1.031	1.028	1.031	1.025	1.026	1.021	1.029	1.046	1.051	1.049	1.050	1.050	1.052
Louisiana	1.038	1.034	1.036	1.029	1.024	1.018	1.014	1.017	1.026	1.024	1.022	1.021	1.021	1.020	1.020	1.019	1.018
Maine	1.054	1.071	1.067	1.043	1.039	1.042	1.029	1.031	1.033	1.031	1.030	1.036	1.037	1.037	1.040	1.041	1.044
Maryland	1.037	1.037	1.035	1.036	1.026	1.028	1.038	1.043	1.054	1.056	1.051	1.047	1.044	1.045	1.041	1.038	1.039
Massachusetts	1.010	1.016	1.013	1.031	1.034	1.029	1.034	1.033	1.024	1.029	1.030	1.030	1.031	1.031	1.030	1.030	1.030
Michigan	1.018	1.022	1.024	1.022	1.016	1.014	1.017	1.021	1.019	1.033	1.043	1.046	1.047	1.057	1.061	1.059	1.058
Minnesota	1.017	1.020	1.024	1.030	1.010	1.010	1.019	1.023	1.032	1.038	1.035	1.031	1.046	1.050	1.051	1.054	1.052
Mississippi	1.024	1.029	1.027	1.022	1.020	1.017	1.016	1.013	1.028	1.026	1.027	1.035	1.026	1.028	1.027	1.027	1.032
Missouri	1.020	1.019	1.006	1.006	1.005	1.008	1.008	1.014	1.013	1.009	1.023	1.006	1.022	1.021	1.022	1.021	1.021
Montana	1.017	1.017	1.016	1.011	1.012	1.016	1.025	1.034	1.025	1.033	1.034	1.041	1.043	1.050	1.073	1.058	1.052
Nebraska	1.012	1.018	1.011	1.012	1.004	1.011	1.019	1.036	1.042	1.057	1.059	1.061	1.060	1.070	1.067	1.063	1.057
Nevada	1.037	1.036	1.033	1.030	1.037	1.024	1.036	1.035	1.033	1.040	1.041	1.040	1.036	1.041	1.037	1.036	1.043
New Hampshire	1.019	1.025	1.020	1.034	1.032	1.037	1.032	1.030	1.031	1.030	1.030	1.031	1.032	1.032	1.033	1.032	1.036
New Jersey	1.036	1.035	1.033	1.029	1.026	1.026	1.028	1.048	1.045	1.048	1.044	1.041	1.040	1.041	1.041	1.040	1.040
New Mexico	1.021	1.026	1.028	1.028	1.021	1.022	1.023	1.030	1.034	1.038	1.044	1.041	1.035	1.031	1.030	1.032	1.032
New York	1.022	1.024	1.022	1.022	1.023	1.027	1.032	1.035	1.033	1.033	1.032	1.033	1.033	1.032	1.034	1.032	1.032
North Carolina	1.035	1.033	1.030	1.026	1.018	1.014	1.014	1.014	1.025	1.035	1.035	1.036	1.029	1.031	1.033	1.034	1.030
North Dakota	1.044	1.046	1.042	1.055	1.055	1.073	1.065	1.069	1.086	1.087	1.088	1.083	1.081	1.103	R 1.071	1.070	1.059
Ohio	1.039	1.037	1.040	1.041	1.034	1.031	1.034	1.037	1.060	1.070	1.075	1.073	1.067	1.067	1.071	1.074	1.071
Oklahoma	1.033	1.029	1.035	1.033	1.031	1.029	1.032	1.035	1.038	1.046	1.048	1.043	1.033	1.032	1.031	1.028	1.034
Oregon	1.036	1.033	1.025	1.026	1.008	1.022	1.022	1.009	1.028	1.053	1.071	1.070	1.068	1.053	1.056	1.058	1.072
Pennsylvania	1.039	1.039	1.039	1.040	1.037	1.040	1.044	1.050	1.051	1.048	1.043	1.043	1.039	1.039	1.040	1.039	1.039
Rhode Island	1.017	1.027	1.024	1.024	1.023	1.024	1.030	1.031	1.029	1.028	1.031	1.031	1.030	1.030	1.030	1.029	1.032
South Carolina	1.038	1.036	1.033	1.031	1.023	1.021	1.020	1.018	1.023	1.030	1.032	1.032	1.026	1.027	1.031	1.031	1.031
South Dakota	1.003	1.002	1.003	1.002	1.005	1.005	1.018	1.031	1.041	1.054	1.056	1.055	1.067	1.084	1.076	1.080	1.076
Tennessee	1.038	1.038	1.037	1.028	1.023	1.015	1.015	1.019	1.028	1.036	1.039	1.040	1.042	1.042	1.043	1.041	1.041
Texas	1.026	1.026	1.027	1.025	1.033	1.028	1.029	1.025	1.034	1.035	1.030	1.028	1.028	1.026	1.023	1.022	1.019
Utah	1.057	1.056	1.062	1.047	1.047	1.039	1.045	1.050	1.045	1.047	1.045	1.043	1.042	1.047	1.043	1.047	1.046
Vermont	1.001	1.001	1.005	1.005	1.007	1.008	1.012	1.015	1.017	1.025	1.024	1.030	1.034	1.036	1.041	1.040	1.042
Virginia	1.035	1.037	1.037	1.035	1.026	1.026	1.035	1.037	1.050	1.048	1.050	1.055	1.058	1.057	1.059	1.062	1.057
Washington	1.030	1.025	1.030	1.030	1.033	1.029	1.029	1.033	1.044	1.064	1.079	1.080	1.087	1.085	1.085	1.086	1.089
West Virginia	1.119	1.075	1.074	1.082	1.076	1.084	1.081	1.077	1.092	1.099	1.099	1.084	1.092	1.085	1.090	R 1.087	1.087
Wisconsin	1.011	1.014	1.014	1.014	1.010	1.014	1.020	1.027	1.037	1.047	1.046	1.040	1.048	1.050	1.049	1.049	1.050
Wyoming	1.041	1.037	1.031	1.031	1.031	1.034	1.034	1.042	1.040	1.060	1.074	1.060	1.062	1.074	1.075	1.056	1.058
U.S. Average	1.027	1.027	1.027	1.025	1.023	1.022	1.024	1.027	1.033	1.038	1.038	1.038	1.038	1.039	1.038	R 1.038	1.037

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

Table B6. Approximate heat content of natural gas total consumption, selected years, 1960-2005

(thousand Btu per cubic foot)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	1.035	1.034	1.031	1.029	1.034	1.038	1.029	1.029	1.042	1.034	1.028	1.029	1.025	1.029
Alaska	1.035	1.010	1.005	1.005	1.003	1.006	0.954	1.006	1.025	1.010	1.004	1.004	1.004	1.004
Arizona	1.035	1.076	1.059	1.052	1.049	1.050	1.032	1.035	1.013	1.015	1.018	1.010	1.019	1.024
Arkansas	1.035	1.001	1.004	0.997	1.001	1.019	1.009	1.076	1.019	1.016	1.023	1.031	1.013	1.014
California	1.035	1.073	1.054	1.057	1.046	1.043	1.032	1.016	0.979	1.020	1.020	1.021	1.023	1.025
Colorado	1.035	0.912	0.974	0.913	0.993	0.999	1.005	1.018	1.008	1.013	1.009	1.014	1.013	1.029
Connecticut	1.035	1.022	1.016	1.005	1.022	1.030	1.033	1.028	1.025	1.021	1.023	1.021	1.021	1.020
Delaware	1.035	1.043	1.020	1.020	1.035	1.025	1.026	1.034	1.037	1.034	1.030	1.039	1.035	1.037
District of Columbia	1.035	1.024	1.016	1.012	1.003	1.015	1.008	1.006	1.027	1.026	1.024	1.027	1.027	1.052
Florida	1.035	1.037	1.041	1.043	1.041	1.053	1.043	1.033	1.060	1.049	1.028	1.036	1.032	1.035
Georgia	1.035	1.040	1.031	1.027	1.032	1.028	1.027	1.026	1.018	1.033	1.025	1.029	1.029	1.037
Hawaii	1.035	– –	0.962	0.947	0.963	1.082	1.070	1.048	1.047	1.036	1.060	1.047	1.048	1.037
Idaho	1.035	1.065	1.061	1.055	1.053	1.049	1.028	1.030	1.025	1.019	1.028	1.027	1.039	1.048
Illinois	1.035	1.029	1.025	1.026	1.022	1.040	1.022	1.020	1.022	1.020	1.013	1.015	1.014	1.015
Indiana	1.035	0.999	1.006	0.990	0.989	1.008	1.018	1.012	1.025	1.024	1.008	1.087	1.009	1.018
Iowa	1.035	1.010	1.009	1.008	1.003	1.011	1.007	1.005	1.005	1.004	1.003	1.003	1.003	1.006
Kansas	1.035	0.995	0.998	0.984	0.987	0.998	0.999	1.002	1.008	1.005	1.008	1.012	1.013	1.014
Kentucky	1.035	1.028	1.017	1.008	1.009	1.030	1.040	1.096	1.040	1.037	1.036	1.037	1.035	1.029
Louisiana	1.035	1.042	1.029	1.037	1.038	1.040	1.042	1.035	1.058	1.027	1.031	1.032	1.032	1.041
Maine	1.035	– –	1.012	1.024	1.024	1.035	1.005	1.016	1.073	1.057	1.039	1.038	1.040	1.051
Maryland	1.035	1.025	1.022	1.013	1.020	1.034	1.028	1.026	1.034	1.037	1.037	1.038	1.037	1.048
Massachusetts	1.035	1.013	1.012	1.004	1.016	1.027	1.038	1.026	1.042	1.043	1.029	1.028	1.030	1.022
Michigan	1.035	1.014	1.015	1.012	1.011	1.015	1.022	1.017	1.022	1.025	1.019	1.028	1.024	1.015
Minnesota	1.035	0.998	1.002	1.001	0.997	1.004	1.004	1.013	1.015	1.012	1.007	1.008	1.007	1.012
Mississippi	1.035	1.029	1.025	1.023	1.028	1.028	1.033	1.026	1.038	1.025	1.031	1.035	1.030	1.030
Missouri	1.035	1.020	1.007	1.006	1.014	1.017	1.011	1.007	1.015	1.017	1.012	1.014	1.020	1.020
Montana	1.035	1.001	1.032	1.021	1.012	1.001	1.028	1.030	1.024	1.022	1.021	1.023	1.026	1.040
Nebraska	1.035	0.991	1.008	0.994	0.978	0.982	0.983	0.980	1.005	1.017	1.007	1.007	1.009	1.009
Nevada	1.035	1.062	1.082	1.067	1.061	1.062	1.031	1.033	1.026	1.025	1.025	1.028	1.031	1.039
New Hampshire	1.035	1.012	1.010	1.010	1.020	1.027	1.014	1.011	1.058	1.062	1.050	1.043	1.045	1.036
New Jersey	1.035	1.045	1.026	1.031	1.033	1.026	1.026	1.034	1.035	1.037	1.037	1.038	1.039	1.039
New Mexico	1.035	1.108	1.083	1.064	1.043	1.074	1.054	1.020	0.972	0.975	0.977	1.019	1.025	1.021
New York	1.035	1.026	1.021	1.015	1.025	1.029	1.030	1.028	1.028	1.029	1.023	1.027	1.026	1.025
North Carolina	1.035	1.033	1.024	1.018	1.012	1.034	1.032	1.033	1.030	1.041	1.033	1.040	1.033	1.034
North Dakota	1.035	1.000	1.031	1.001	1.052	1.062	1.032	1.050	1.035	1.029	1.003	1.009	1.021	1.036
Ohio	1.035	1.033	1.023	1.023	1.016	1.044	1.040	1.038	1.042	1.042	1.038	1.036	1.045	1.043
Oklahoma	1.035	1.026	1.032	1.015	1.023	1.028	1.027	1.020	1.015	1.028	1.028	1.030	1.031	1.030
Oregon	1.035	1.070	1.045	1.039	1.046	1.030	1.023	1.040	1.027	1.026	1.023	1.012	1.013	1.030
Pennsylvania	1.035	1.038	1.033	1.025	1.022	1.034	1.037	1.035	1.035	1.054	1.037	1.040	1.039	1.040
Rhode Island	1.035	1.042	1.021	1.014	1.021	1.033	1.028	1.026	1.038	1.031	1.023	1.024	1.024	1.021
South Carolina	1.035	1.042	1.028	1.024	1.033	1.028	1.028	1.027	1.029	1.038	1.032	1.036	1.035	1.037
South Dakota	1.035	0.997	1.004	1.000	0.998	1.010	1.016	1.014	1.005	0.999	0.999	1.001	1.002	1.007
Tennessee	1.035	1.046	1.022	1.031	1.016	1.034	1.035	1.031	1.037	1.037	1.032	1.033	1.033	1.035
Texas	1.035	1.037	1.027	1.026	1.033	1.038	1.040	1.037	1.029	1.026	1.028	1.026	1.028	1.028
Utah	1.035	0.925	0.938	0.950	1.086	1.075	1.088	1.063	1.051	1.052	1.055	1.061	1.053	1.053
Vermont	1.035	– –	1.006	1.008	0.990	0.992	0.987	0.996	1.012	1.012	1.004	1.006	1.004	1.004
Virginia	1.035	1.031	1.026	1.019	1.016	1.039	1.042	1.031	1.035	1.037	1.034	1.036	1.030	1.040
Washington	1.035	1.075	1.055	1.042	1.052	1.040	1.030	1.040	1.038	1.033	1.029	1.025	1.027	1.028
West Virginia	1.035	1.071	1.029	1.037	1.032	1.067	1.071	1.061	1.068	1.067	1.062	1.066	1.058	1.067
Wisconsin	1.035	1.018	1.019	1.020	1.008	1.010	1.006	1.011	1.010	1.009	1.007	1.008	1.007	1.013
Wyoming	1.035	0.926	1.023	0.934	1.060	1.051	1.099	1.063	1.046	1.055	1.040	1.044	1.045	1.042
U.S. Average	1.035	1.033	1.026	1.022	1.025	1.033	1.030	1.028	1.025	1.027	1.024	1.028	1.026	1.028

– – = 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, 2006-2022

(thousand Btu per cubic foot)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	1.028	1.029	1.025	1.026	1.018	1.018	1.016	1.017	1.024	1.030	1.029	1.030	1.028	1.028	1.031	1.031	1.031
Alaska	1.005	1.006	1.006	1.005	1.005	1.013	1.012	1.001	1.001	1.001	1.001	0.989	0.975	0.984	0.985	R 0.982	0.984
Arizona	1.020	1.023	1.027	1.021	1.016	1.015	1.021	1.025	1.030	1.040	1.037	1.041	1.041	1.032	1.028	1.033	1.031
Arkansas	1.030	1.014	1.015	1.016	1.012	1.017	1.015	1.021	1.017	1.020	1.019	1.019	1.017	1.018	1.018	1.020	1.022
California	1.026	1.030	1.028	1.027	1.023	1.020	1.022	1.027	1.030	1.036	1.035	1.035	1.033	1.034	1.033	1.034	1.035
Colorado	1.032	1.030	1.020	1.019	1.019	1.032	1.039	1.037	1.047	1.060	1.063	1.065	1.078	1.089	1.077	1.064	1.054
Connecticut	1.019	1.019	1.018	1.019	1.022	1.026	1.031	1.024	1.027	1.027	1.027	1.028	1.029	1.030	1.030	1.029	1.030
Delaware	1.037	1.037	1.033	1.030	1.023	1.025	1.027	1.049	1.056	1.050	1.046	1.042	1.041	1.041	1.039	R 1.038	1.033
District of Columbia	1.025	1.027	1.028	1.035	1.014	1.016	1.029	1.030	1.043	1.044	1.044	1.039	1.036	1.035	1.033	1.032	1.034
Florida	1.029	1.029	1.029	1.025	1.019	1.015	1.015	1.016	1.022	1.024	1.023	1.024	1.023	1.023	1.026	1.026	1.025
Georgia	1.032	1.032	1.026	1.027	1.022	1.018	1.015	1.016	1.020	1.027	1.030	1.030	1.028	1.026	1.029	1.028	1.029
Hawaii	1.047	1.037	1.043	1.040	1.040	1.048	1.046	1.006	0.959	0.982	0.981	0.975	0.962	0.952	0.952	0.918	0.917
Idaho	1.044	1.024	1.023	1.022	1.021	1.017	1.015	1.022	1.017	1.030	1.038	1.041	1.037	1.030	1.025	1.019	1.024
Illinois	1.016	1.015	1.014	1.013	1.008	1.011	1.011	1.016	1.023	1.029	1.031	1.029	1.029	1.033	1.036	1.034	1.043
Indiana	1.017	1.022	1.013	1.015	1.012	1.012	1.012	1.015	1.019	1.027	1.038	1.043	1.047	1.052	1.053	1.056	1.052
Iowa	1.012	1.010	1.010	1.007	1.006	1.009	1.014	1.029	1.040	1.053	1.056	1.056	1.061	1.066	1.069	1.070	1.067
Kansas	1.019	1.018	1.034	1.019	1.019	1.020	1.022	1.018	1.024	1.035	1.034	1.034	1.038	1.041	1.033	1.034	1.033
Kentucky	1.029	1.027	1.035	1.036	1.030	1.027	1.030	1.025	1.027	1.022	1.030	1.046	1.049	1.049	1.049	1.048	1.048
Louisiana	1.038	1.034	1.035	1.029	1.024	1.019	1.015	1.018	1.027	1.025	1.024	1.022	1.022	1.022	1.021	1.020	1.019
Maine	1.055	1.064	1.062	1.046	1.044	1.047	1.032	1.028	1.029	1.027	1.026	1.030	1.041	1.038	1.039	1.041	1.043
Maryland	1.038	1.038	1.035	1.037	1.027	1.027	1.037	1.045	1.053	1.055	1.051	1.047	1.042	1.044	1.040	1.039	1.039
Massachusetts	1.020	1.025	1.021	1.032	1.035	1.033	1.035	1.034	1.026	1.029	1.030	1.030	1.031	1.031	1.030	1.030	1.030
Michigan	1.017	1.021	1.023	1.021	1.016	1.014	1.017	1.021	1.019	1.032	1.041	1.043	1.047	1.057	1.059	1.057	1.057
Minnesota	1.016	1.019	1.023	1.029	1.010	1.010	1.019	1.023	1.033	1.040	1.037	1.033	1.049	1.056	1.058	1.058	1.054
Mississippi	1.028	1.030	1.026	1.019	1.014	1.010	1.012	1.015	1.028	1.030	1.031	1.032	1.026	1.029	1.029	1.029	1.029
Missouri	1.021	1.020	1.008	1.007	1.007	1.010	1.012	1.016	1.015	1.012	1.024	1.010	1.024	1.024	1.023	1.022	1.022
Montana	1.017	1.017	1.016	1.011	1.012	1.016	1.025	1.033	1.025	1.032	1.034	1.041	1.043	1.049	1.072	1.057	1.051
Nebraska	1.012	1.018	1.011	1.012	1.004	1.011	1.019	1.036	1.042	1.057	1.059	1.061	1.060	1.070	1.067	1.063	1.057
Nevada	1.032	1.032	1.039	1.031	1.033	1.024	1.029	1.034	1.034	1.042	1.041	1.039	1.037	1.043	1.038	1.039	1.042
New Hampshire	1.035	1.044	1.040	1.035	1.037	1.040	1.032	1.030	1.031	1.030	1.029	1.030	1.031	1.032	1.032	1.032	1.034
New Jersey	1.036	1.035	1.033	1.029	1.026	1.026	1.029	1.044	1.042	1.045	1.041	1.039	1.038	1.039	1.039	1.038	1.038
New Mexico	1.018	1.024	1.025	1.028	1.021	1.022	1.024	1.030	1.034	1.038	1.046	1.042	1.036	1.031	1.028	1.031	1.031
New York	1.021	1.023	1.021	1.021	1.022	1.025	1.031	1.033	1.032	1.032	1.031	1.032	1.032	1.032	1.033	1.032	1.032
North Carolina	1.032	1.030	1.027	1.023	1.015	1.011	1.011	1.011	1.021	1.035	1.035	1.036	1.029	1.031	1.033	1.034	1.031
North Dakota	1.044	1.046	1.042	1.055	1.055	1.073	1.065	1.069	1.086	1.086	1.083	1.080	1.080	1.099	1.069	1.069	1.058
Ohio	1.039	1.037	1.040	1.041	1.034	1.031	1.032	1.037	1.057	1.068	1.071	1.070	1.064	1.065	1.068	1.070	1.066
Oklahoma	1.032	1.029	1.034	1.033	1.032	1.032	1.030	1.036	1.039	1.047	1.049	1.042	1.032	1.033	1.031	1.029	1.034
Oregon	1.032	1.033	1.023	1.024	1.015	1.021	1.022	1.016	1.029	1.048	1.059	1.062	1.061	1.053	1.053	1.055	1.066
Pennsylvania	1.038	1.037	1.038	1.037	1.034	1.036	1.040	1.048	1.048	1.046	1.041	1.040	1.038	1.038	1.038	1.037	1.037
Rhode Island	1.017	1.026	1.022	1.023	1.017	1.020	1.031	1.032	1.028	1.028	1.029	1.029	1.029	1.029	1.029	1.029	1.030
South Carolina	1.041	1.037	1.034	1.034	1.026	1.026	1.023	1.020	1.024	1.030	1.030	1.031	1.026	1.027	1.031	1.031	1.030
South Dakota	1.003	1.003	1.003	1.002	1.005	1.005	1.018	1.031	1.041	1.054	1.056	1.055	1.068	1.084	1.078	1.080	1.076
Tennessee	1.038	1.038	1.037	1.028	1.023	1.014	1.014	1.019	1.027	1.029	1.030	1.031	1.031	1.030	1.031	1.031	1.029
Texas	1.026	1.025	1.025	1.023	1.028	1.025	1.026	1.024	1.031	1.034	1.030	1.029	1.028	1.025	1.022	1.022	1.019
Utah	1.056	1.052	1.059	1.044	1.045	1.038	1.043	1.046	1.041	1.044	1.042	1.042	1.040	1.046	1.042	1.046	1.045
Vermont	1.001	1.001	1.005	1.005	1.007	1.008	1.012	1.015	1.017	1.025	1.024	1.030	1.034	1.036	1.041	1.040	1.042
Virginia	1.034	1.035	1.038	1.036	1.028	1.027	1.034	1.036	1.046	1.052	1.053	1.053	1.052	1.051	1.049	1.051	1.049
Washington	1.029	1.025	1.030	1.030	1.032	1.029	1.028	1.030	1.044	1.065	1.078	1.080	1.087	1.086	1.085	1.086	1.088
West Virginia	1.117	1.074	1.073	1.082	1.076	1.083	1.080	1.076	1.090	1.097	1.097	1.083	1.091	1.084	1.087	R 1.086	1.086
Wisconsin	1.011	1.014	1.014	1.014	1.010	1.014	1.019	1.026	1.035	1.042	1.039	1.035	1.041	1.042	1.044	1.045	1.046
Wyoming	1.041	1.036	1.031	1.031	1.031	1.034	1.034	1.042	1.040	1.060	1.074	1.060	1.062	1.074	1.074	1.056	1.058
U.S. Average	1.027	1.027	1.027	1.025	1.023	1.022	1.023	1.026	1.032	1.037	1.037	1.036	1.036	1.037	1.037	1.036	1.036

– – = 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, 1960-2005

(million Btu per short ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	24.910	24.779	23.933	23.520	24.042	24.407	24.629	24.646	25.450	18.845	24.232	24.224	24.224	25.130
Alaska	18.906	18.807	18.165	17.683	– –	15.800	15.800	15.800	15.600	15.600	15.600	15.600	15.600	15.600
Arizona	– –	– –	– –	– –	– –	19.788	18.698	21.962	21.956	18.819	18.963	18.657	18.780	18.959
Arkansas	– –	– –	– –	– –	23.900	22.990	24.834	– –	– –	– –	25.202	– –	25.202	– –
California	23.013	22.892	22.111	– –	23.109	23.555	23.184	23.296	23.790	23.546	25.202	24.578	22.400	22.690
Colorado	22.953	22.833	22.053	20.826	21.461	21.217	21.435	22.169	21.706	22.429	22.401	22.500	22.460	22.383
Connecticut	24.868	24.402	23.476	22.272	22.719	23.031	25.199	23.804	24.842	25.190	25.202	25.174	25.202	25.202
Delaware	24.721	24.316	23.476	22.272	23.143	24.117	24.856	24.696	26.118	25.202	– –	– –	– –	– –
District of Columbia	25.109	24.977	24.124	23.241	24.541	24.888	24.961	25.178	25.300	24.694	24.694	24.694	24.694	24.694
Florida	– –	– –	– –	– –	24.283	24.882	24.861	24.644	25.750	23.495	24.355	24.704	– –	25.202
Georgia	24.742	24.613	23.772	23.494	24.321	24.832	25.143	24.980	25.642	25.716	25.716	– –	25.714	24.872
Hawaii	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Idaho	24.831	24.701	23.858	22.663	22.292	22.832	22.478	21.717	22.060	22.348	22.074	21.644	18.444	21.283
Illinois	24.042	23.915	23.099	22.523	22.069	22.269	22.452	22.516	21.955	23.096	23.073	22.944	22.887	22.904
Indiana	24.065	23.938	23.121	22.132	21.881	22.259	22.461	22.290	23.519	22.303	22.272	22.389	22.343	22.455
Iowa	21.321	21.210	20.485	18.277	20.223	21.402	23.960	24.361	26.101	23.868	24.179	24.055	23.393	23.535
Kansas	21.788	21.674	20.934	– –	21.182	21.146	24.280	23.945	24.156	24.172	24.025	23.546	– –	– –
Kentucky	24.431	24.284	23.454	23.178	23.837	24.344	24.450	24.928	26.408	24.901	24.704	24.378	24.093	24.067
Louisiana	– –	– –	– –	– –	21.365	– –	– –	25.078	23.482	– –	– –	– –	– –	– –
Maine	24.964	24.702	23.612	22.519	23.546	24.278	24.937	24.696	25.922	25.198	25.196	25.202	25.202	25.202
Maryland	25.033	24.875	23.944	22.938	24.043	24.749	25.067	24.838	25.072	24.922	24.616	24.796	24.700	24.709
Massachusetts	24.894	24.493	23.557	22.430	23.417	23.778	25.070	24.834	27.070	25.395	24.648	24.997	24.469	24.969
Michigan	24.759	24.628	23.787	23.466	24.353	24.460	24.812	24.662	25.100	24.087	23.595	23.703	24.503	24.357
Minnesota	21.971	21.856	21.109	19.257	20.829	19.142	17.892	20.258	19.294	24.331	17.382	18.744	20.360	19.429
Mississippi	– –	– –	– –	– –	22.993	24.541	24.852	– –	– –	– –	– –	– –	– –	– –
Missouri	22.942	22.821	22.042	21.404	21.807	22.802	21.936	22.634	22.014	22.981	23.147	23.251	23.195	23.216
Montana	21.336	21.224	20.499	20.389	22.042	17.680	18.781	21.228	16.016	18.223	18.514	18.413	18.118	18.121
Nebraska	20.913	20.804	20.093	18.406	18.038	21.526	21.374	20.321	– –	22.347	22.394	22.439	22.396	22.370
Nevada	25.114	25.049	24.211	23.327	22.430	23.562	24.010	23.443	23.108	19.617	18.118	18.118	18.118	18.118
New Hampshire	24.721	24.316	23.476	22.272	22.719	23.031	25.171	24.868	25.922	25.202	25.202	25.202	25.202	25.202
New Jersey	24.724	24.354	23.481	22.263	22.719	23.218	25.173	24.696	25.500	25.202	25.202	25.202	25.202	25.202
New Mexico	22.993	22.873	22.091	– –	19.786	19.817	18.698	19.232	25.212	18.819	18.785	19.009	19.246	18.813
New York	24.700	24.360	23.496	22.574	23.337	23.819	24.856	24.958	25.311	24.846	25.094	25.202	24.992	25.010
North Carolina	24.762	24.632	23.791	23.493	24.422	24.859	25.187	25.164	27.000	25.080	24.825	25.329	24.772	25.373
North Dakota	15.550	15.469	14.940	13.757	13.243	13.138	13.910	15.535	14.228	16.003	16.228	16.379	16.982	18.098
Ohio	23.862	23.732	22.921	22.325	23.207	23.837	24.144	24.439	24.013	24.111	24.202	24.149	21.335	23.981
Oklahoma	22.727	22.608	21.836	20.673	23.291	23.394	24.834	25.894	– –	24.215	24.215	24.215	– –	24.276
Oregon	24.605	24.476	23.640	22.383	22.722	22.607	23.184	23.296	23.309	– –	– –	– –	– –	– –
Pennsylvania	24.731	24.365	23.542	22.487	23.150	23.724	25.118	24.830	26.386	25.137	25.110	25.124	25.105	25.132
Rhode Island	24.721	24.316	23.476	22.272	22.719	23.031	25.199	24.696	25.922	25.202	25.202	25.202	25.202	25.202
South Carolina	24.762	24.632	23.791	23.493	24.414	24.854	24.875	25.503	– –	– –	25.202	– –	– –	– –
South Dakota	19.412	19.310	18.650	16.860	18.426	19.369	18.375	19.072	20.868	23.506	17.381	17.381	17.381	17.381
Tennessee	24.715	24.584	23.745	23.480	23.970	24.389	24.741	25.276	26.045	24.457	24.553	23.831	23.497	24.704
Texas	14.952	14.873	14.366	– –	15.200	22.511	25.896	– –	16.280	25.623	18.685	19.228	25.683	25.716
Utah	25.892	25.756	24.877	23.740	23.179	23.562	23.150	23.296	23.210	23.544	23.546	23.547	23.547	23.551
Vermont	24.721	24.316	23.476	22.272	22.719	24.399	25.199	24.696	25.922	25.202	25.202	25.202	25.202	25.202
Virginia	24.785	24.652	23.810	23.462	24.414	24.864	25.087	24.997	26.174	25.042	25.045	24.925	25.004	24.859
Washington	22.909	22.789	22.011	19.968	22.771	23.452	21.737	22.634	25.961	23.488	23.506	23.519	23.510	– –
West Virginia	24.997	24.866	24.017	23.709	24.059	24.860	25.017	24.822	25.742	24.765	24.746	24.765	24.712	24.697
Wisconsin	21.923	21.806	21.061	18.980	24.265	24.568	24.978	25.078	27.659	24.448	24.309	24.717	24.326	18.945
Wyoming	20.625	20.517	19.817	18.572	17.809	17.262	19.935	18.241	20.116	17.746	17.837	17.860	17.879	17.869
U.S. Average	23.943	23.776	22.990	22.120	22.892	22.682	23.021	23.027	23.364	22.706	22.449	22.488	22.314	22.053

– – = 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, 2006-2022

(million Btu per short ton)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	24.295	25.195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Alaska	15.600	15.600	15.280	15.356	15.302	15.184	15.268	15.272	15.278	15.186	15.118	14.995	15.126	15.083	15.029	14.976	15.246
Arizona	18.914	19.703	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arkansas	25.202	22.932	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
California	23.546	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Colorado	22.324	22.419	24.195	22.928	22.968	22.898	23.679	22.752	23.219	23.104	23.848	23.565	--	--	22.906	23.090	23.637
Connecticut	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Delaware	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
District of Columbia	--	24.694	27.395	28.028	27.658	27.658	27.273	26.598	27.102	26.146	26.520	26.312	26.445	27.096	--	--	--
Florida	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Georgia	--	24.331	28.000	28.000	28.000	28.000	28.000	28.000	28.000	26.184	--	--	--	--	--	--	--
Hawaii	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Idaho	21.546	23.007	23.491	23.088	23.088	23.131	22.871	23.377	23.161	--	--	--	--	--	--	--	--
Illinois	22.934	22.915	22.227	22.245	22.292	22.211	22.352	22.454	22.356	22.212	22.432	22.685	22.785	22.959	22.665	22.300	22.202
Indiana	22.372	22.352	23.073	23.152	23.132	22.932	22.390	22.544	22.558	22.339	22.717	22.662	22.573	22.737	22.501	22.407	22.294
Iowa	23.407	23.408	23.154	23.082	23.070	23.059	23.039	22.872	22.832	22.740	22.894	22.891	23.050	22.703	22.360	22.613	22.166
Kansas	23.546	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Kentucky	23.668	23.698	27.274	27.316	27.393	27.315	27.357	27.090	25.959	26.409	26.410	26.217	27.133	25.981	26.150	26.082	26.464
Louisiana	--	24.355	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maine	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maryland	24.733	24.745	26.138	26.569	26.113	26.650	27.000	27.000	27.000	22.069	--	--	--	--	--	--	--
Massachusetts	24.773	24.637	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Michigan	24.375	24.469	25.594	26.016	25.863	24.926	23.625	23.526	23.299	24.748	24.540	--	--	--	--	--	--
Minnesota	17.782	19.324	18.049	17.967	18.077	17.888	18.871	19.508	18.377	17.934	17.962	17.826	18.482	18.218	18.112	18.907	17.733
Mississippi	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Missouri	23.195	23.080	22.716	22.954	22.924	22.878	22.789	22.916	22.727	22.700	22.666	22.814	22.653	22.751	22.853	22.956	22.888
Montana	18.118	18.118	25.046	24.274	24.730	25.239	25.487	17.129	17.299	21.600	22.385	20.960	22.042	21.180	22.194	20.968	21.378
Nebraska	22.295	22.349	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nevada	18.118	22.349	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New Hampshire	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New Jersey	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New Mexico	18.929	18.581	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New York	24.860	24.918	25.253	25.363	25.374	24.600	--	--	--	--	--	--	--	--	--	--	--
North Carolina	25.113	25.318	26.738	26.803	26.520	26.696	26.741	26.657	26.350	26.651	26.400	26.144	25.758	25.759	26.028	25.277	25.636
North Dakota	17.847	15.916	17.123	17.231	17.475	17.103	17.294	17.184	17.230	17.188	17.137	17.343	17.245	17.598	18.041	18.317	18.167
Ohio	24.194	24.122	26.652	26.850	26.677	26.636	26.710	26.614	26.643	26.822	27.014	24.572	--	--	--	--	--
Oklahoma	24.557	24.694	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pennsylvania	25.125	25.126	25.729	25.958	25.713	25.507	25.065	25.791	26.246	26.273	26.139	26.221	25.779	26.078	25.673	25.214	26.156
Rhode Island	25.202	25.202	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Carolina	24.331	25.202	27.542	27.512	27.020	--	26.560	--	--	--	--	--	--	--	--	--	--
South Dakota	17.381	17.381	25.893	24.900	24.900	--	16.574	--	--	--	--	--	--	--	--	--	--
Tennessee	24.386	24.540	25.613	25.660	25.827	25.400	25.597	25.283	25.362	25.756	--	--	--	--	--	--	--
Texas	25.202	25.202	27.483	27.250	27.250	26.846	26.757	26.559	27.044	26.616	--	--	--	--	--	--	--
Utah	23.542	23.539	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vermont	25.202	25.363	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia	24.745	24.777	26.520	26.007	26.727	26.468	26.388	26.196	26.432	26.444	26.229	25.741	26.445	27.096	26.898	27.998	26.991
Washington	17.381	17.381	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
West Virginia	24.716	24.704	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Wisconsin	24.354	24.335	26.890	26.865	27.012	26.990	26.771	26.851	26.671	26.782	26.750	26.750	26.750	26.750	26.750	--	--
Wyoming	17.895	17.907	21.850	21.271	19.878	19.415	19.109	17.761	20.397	21.173	20.994	23.075	23.189	22.901	22.491	23.084	23.030
U.S. Average	21.915	22.179	22.941	22.820	22.590	22.105	21.350	21.259	21.442	20.667	20.316	19.608	19.321	19.082	18.258	18.067	18.146

-- = 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, 1960-2005

(million Btu per short ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	25.178	24.960	23.542	22.990	24.106	24.383	24.679	24.848	25.450	25.563	25.611	25.605	25.336	24.568
Alaska	19.428	19.257	18.140	17.684	– –	– –	– –	– –	15.710	15.600	15.600	15.600	15.600	15.600
Arizona	21.614	21.424	20.181	19.778	20.373	20.257	20.071	19.962	22.164	21.907	22.345	22.407	21.938	22.163
Arkansas	25.428	25.204	– –	21.336	21.406	21.310	22.808	23.957	25.154	24.929	24.797	24.305	24.404	25.230
California	26.052	25.823	24.325	22.985	22.173	23.299	22.522	23.296	23.790	24.128	23.883	24.164	24.130	23.658
Colorado	23.558	23.351	21.996	21.392	21.818	21.568	21.105	21.702	21.706	21.768	23.371	23.218	22.776	23.140
Connecticut	25.780	25.553	24.071	23.627	– –	24.419	25.199	– –	– –	– –	– –	– –	– –	24.694
Delaware	25.359	25.129	23.743	23.441	24.472	24.720	24.938	25.192	26.151	26.089	25.917	25.689	26.082	26.369
District of Columbia	25.884	25.655	24.167	23.786	24.357	– –	– –	– –	– –	– –	– –	– –	– –	– –
Florida	– –	– –	– –	23.541	22.892	24.778	25.005	25.107	25.750	25.729	25.618	25.503	25.850	25.824
Georgia	25.423	25.199	23.737	23.508	24.331	24.818	25.148	25.198	25.642	25.719	25.891	25.861	25.665	25.582
Hawaii	– –	– –	– –	– –	– –	24.688	24.810	21.500	19.518	18.140	13.214	26.400	23.760	23.876
Idaho	22.544	22.345	21.049	19.935	17.684	17.762	17.858	19.035	22.060	20.562	20.873	20.277	20.349	20.574
Illinois	23.848	23.631	22.267	21.694	22.357	22.799	22.556	22.837	22.552	22.275	22.001	21.637	21.350	21.606
Indiana	24.011	23.799	22.419	21.824	22.253	22.431	22.712	23.055	23.866	24.728	24.566	24.093	24.364	23.449
Iowa	23.565	23.335	21.983	21.320	21.517	22.611	22.586	20.978	20.980	20.990	20.467	20.790	20.237	20.183
Kansas	22.671	22.471	21.168	20.480	21.568	21.506	24.224	24.241	24.156	23.384	24.013	24.286	24.855	24.511
Kentucky	24.734	24.497	23.119	22.904	24.059	24.518	24.633	24.847	26.408	26.080	26.732	26.189	26.299	26.090
Louisiana	– –	– –	– –	– –	22.153	24.054	19.979	18.136	24.502	24.796	24.387	24.232	24.621	24.268
Maine	25.889	25.626	24.134	23.975	24.439	24.861	24.924	25.102	25.922	25.871	25.855	26.136	25.577	25.270
Maryland	25.904	25.676	24.190	23.658	24.485	24.728	25.118	25.324	25.072	26.150	25.736	25.395	25.122	24.441
Massachusetts	26.150	25.906	24.402	23.798	24.602	24.850	24.877	25.176	27.070	26.975	27.055	27.054	27.232	27.447
Michigan	24.831	24.610	23.187	22.892	24.044	24.741	24.451	24.026	24.912	25.098	25.518	25.637	25.187	25.025
Minnesota	19.521	19.349	18.227	18.917	17.084	20.690	18.563	19.078	19.294	19.465	19.335	18.938	18.999	18.990
Mississippi	25.681	25.455	23.978	23.213	23.442	23.399	23.254	24.073	23.922	24.178	24.369	24.143	23.326	23.650
Missouri	23.601	23.392	22.036	21.430	22.003	22.329	22.988	23.175	23.128	22.979	23.155	23.061	23.001	22.796
Montana	22.827	22.626	21.313	20.879	19.035	18.068	18.376	18.100	16.016	16.457	14.694	14.624	14.878	14.694
Nebraska	21.975	21.781	20.517	19.285	19.194	18.597	19.053	19.359	20.508	19.559	20.501	20.268	20.106	19.898
Nevada	26.496	26.144	24.783	23.422	23.161	23.562	23.184	22.668	23.280	23.380	23.055	23.276	23.025	22.615
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	25.500	24.800	25.200	25.244	25.233	25.202
New Mexico	23.038	22.834	21.510	– –	21.867	21.625	21.388	22.008	25.212	25.066	24.751	25.195	24.675	24.588
New York	25.719	25.486	24.054	23.635	24.454	24.858	25.108	25.117	26.294	25.536	25.970	26.079	26.150	26.377
North Carolina	25.446	25.222	23.759	23.490	24.419	24.880	24.938	25.269	26.492	26.750	26.397	26.461	26.329	26.211
North Dakota	14.812	14.681	13.830	13.039	13.120	13.160	13.489	13.353	14.228	14.177	13.984	14.310	14.344	14.278
Ohio	24.789	24.568	23.149	22.676	23.339	24.178	24.304	24.512	24.816	25.040	25.142	25.086	25.230	25.105
Oklahoma	25.383	25.160	– –	23.439	21.212	21.434	22.802	22.675	19.882	19.973	20.142	20.433	21.175	21.156
Oregon	22.677	22.477	21.173	20.348	17.693	17.868	17.352	19.026	– –	– –	22.269	23.089	21.855	23.532
Pennsylvania	25.479	25.249	23.889	23.430	24.110	24.678	24.920	25.135	24.476	24.318	24.116	24.043	23.716	23.085
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	26.270	26.078	26.334	26.196	25.986	25.827
South Dakota	19.909	19.734	18.589	18.765	19.220	17.262	17.338	17.258	20.868	16.861	16.855	16.763	16.615	16.630
Tennessee	25.056	24.833	23.413	23.129	24.145	24.579	25.133	25.135	26.088	25.742	26.037	26.002	25.991	25.909
Texas	16.854	16.902	17.885	18.825	16.296	15.577	14.790	14.965	16.280	17.000	17.701	17.545	17.100	17.166
Utah	26.198	25.967	24.461	23.644	22.331	22.274	23.189	23.003	23.210	23.453	23.017	23.158	21.029	23.055
Vermont	26.525	26.291	24.766	24.056	24.888	24.265	25.079	– –	– –	– –	– –	– –	– –	– –
Virginia	25.461	25.237	23.777	23.473	24.448	24.900	25.070	25.085	26.386	26.218	25.654	26.316	26.259	26.113
Washington	25.955	25.726	24.234	23.546	21.363	21.634	22.707	19.006	22.332	22.658	22.070	23.180	21.867	20.752
West Virginia	25.516	25.293	23.830	23.522	24.347	24.849	24.888	24.975	25.742	25.532	25.445	25.177	24.563	24.807
Wisconsin	24.597	24.380	22.966	21.957	22.735	23.323	24.150	24.219	23.698	23.545	23.451	23.185	23.152	23.100
Wyoming	20.539	20.357	19.177	18.356	17.955	17.555	22.178	21.941	20.116	19.987	20.148	19.848	19.914	19.753
U.S. Average	24.657	24.460	23.064	22.290	22.696	22.249	22.430	22.112	22.476	22.652	22.575	22.511	22.464	22.174

– – = 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, 2006-2022

(million Btu per short ton)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	24.709	24.934	25.218	25.353	25.006	25.388	25.483	25.253	25.370	25.796	25.642	26.466	26.019	25.495	26.296	25.750	25.076
Alaska	15.600	15.600	15.600	15.600	15.600	15.600	15.268	15.272	15.278	15.186	15.118	14.995	15.126	15.083	15.029	14.976	15.246
Arizona	22.048	21.488	20.597	20.257	20.098	19.937	20.835	23.893	23.457	23.148	23.292	23.284	23.308	23.247	23.502	23.241	23.064
Arkansas	24.904	24.609	24.636	24.921	25.247	23.894	23.741	23.613	24.090	23.748	24.077	23.692	23.266	23.461	22.842	23.033	22.645
California	24.092	23.728	23.353	23.549	23.401	23.164	23.186	23.090	23.315	23.207	23.099	22.995	23.121	23.348	23.141	23.101	22.732
Colorado	22.748	22.947	23.171	22.999	21.910	22.172	22.275	22.159	22.492	22.703	23.029	21.711	21.461	22.854	24.172	24.125	23.637
Connecticut	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Delaware	26.410	26.374	25.788	25.527	--	--	--	--	--	--	22.968	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Florida	25.410	25.431	25.432	25.780	25.677	25.803	25.451	26.081	25.897	26.017	26.176	25.207	25.151	24.735	24.856	25.236	24.034
Georgia	25.677	25.724	25.257	25.440	25.490	25.209	25.451	25.512	25.880	26.184	25.718	24.995	25.093	25.136	25.079	25.235	24.977
Hawaii	27.965	24.964	23.356	23.117	23.303	22.325	22.886	22.330	22.378	22.580	22.580	--	--	--	--	--	--
Idaho	20.358	20.116	19.827	19.968	20.044	20.099	20.420	21.894	21.196	22.106	22.676	22.908	23.187	23.348	24.592	24.396	24.595
Illinois	21.657	21.591	21.349	20.916	20.623	20.675	21.376	21.209	21.270	21.078	20.798	20.723	20.615	20.403	20.374	20.982	21.237
Indiana	23.483	23.723	24.152	23.686	24.007	25.432	25.846	26.270	25.504	25.225	26.366	26.512	26.442	25.836	26.308	26.414	26.166
Iowa	19.832	20.216	19.793	19.614	19.717	19.855	19.009	18.736	18.968	18.439	18.274	18.505	18.306	18.401	18.215	18.181	17.937
Kansas	24.002	23.955	24.705	23.495	23.815	23.971	22.741	23.890	24.371	24.006	22.017	21.816	21.584	22.829	21.683	21.348	20.994
Kentucky	26.103	25.463	25.915	25.669	25.707	26.111	25.994	25.914	25.840	26.472	26.153	26.510	25.898	26.134	26.106	25.548	25.875
Louisiana	24.094	24.343	24.254	23.563	23.855	16.485	15.555	15.723	15.538	15.554	15.289	15.710	16.166	15.661	15.281	14.978	14.978
Maine	25.438	26.226	26.241	26.022	25.489	25.259	25.343	25.259	25.063	24.999	25.238	25.369	25.496	24.636	24.672	--	--
Maryland	24.174	24.465	24.303	24.374	23.956	22.772	22.530	21.799	22.170	22.069	21.851	21.858	22.069	21.562	23.011	23.502	22.193
Massachusetts	26.267	26.115	26.539	26.451	26.651	26.519	27.104	27.131	27.003	27.002	25.097	24.716	24.581	24.856	--	--	--
Michigan	24.878	25.233	24.942	24.185	24.369	23.518	23.166	23.497	24.070	24.296	24.540	25.314	25.006	24.900	22.781	23.605	23.825
Minnesota	18.932	19.049	19.223	19.193	19.100	19.098	18.907	18.939	18.766	18.261	18.571	18.259	18.226	18.520	18.636	18.657	18.612
Mississippi	24.160	23.873	23.364	23.504	23.042	23.027	22.987	22.856	22.932	23.130	--	--	--	29.698	29.688	29.561	29.468
Missouri	22.735	22.464	22.508	22.536	22.662	22.448	22.471	22.228	22.154	22.257	22.529	22.581	22.450	22.343	22.486	22.494	22.367
Montana	14.470	14.787	15.339	14.815	14.955	14.995	17.594	17.129	17.299	17.838	17.883	17.982	18.219	17.883	17.750	18.039	18.163
Nebraska	19.428	18.919	18.789	18.547	18.263	18.330	18.232	18.054	18.057	18.028	17.977	17.924	17.864	17.406	17.430	17.421	17.535
Nevada	22.656	22.868	21.829	22.115	21.856	22.684	23.177	22.698	22.104	22.672	22.579	22.449	23.192	23.371	23.692	23.360	23.032
New Hampshire	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New Jersey	25.064	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
New Mexico	24.569	24.649	24.445	24.661	24.922	24.804	24.445	24.248	24.317	24.657	24.616	24.522	24.461	24.449	24.457	24.528	24.409
New York	25.928	26.254	26.176	25.990	25.890	25.504	25.765	25.653	25.515	26.059	26.302	26.069	26.048	25.480	25.519	25.413	25.446
North Carolina	26.254	26.223	26.125	26.201	26.102	25.890	25.983	27.001	26.616	25.957	26.455	27.291	27.065	26.980	26.932	27.052	26.804
North Dakota	14.293	14.290	14.377	14.456	14.388	14.386	14.352	14.368	14.465	14.453	14.456	14.462	14.407	14.436	14.444	14.416	14.456
Ohio	25.037	25.195	25.020	24.797	24.976	24.987	24.932	24.922	24.695	24.619	24.419	24.572	24.796	25.471	25.454	25.610	25.208
Oklahoma	20.513	20.643	20.469	19.145	19.085	18.887	19.041	19.218	19.256	19.149	18.974	18.665	19.735	20.449	23.639	23.988	22.481
Oregon	24.541	24.536	24.351	24.481	24.183	23.974	23.368	23.211	23.150	23.521	--	23.299	23.374	22.792	23.796	22.745	22.323
Pennsylvania	22.686	22.341	22.142	22.155	22.184	22.468	22.989	23.261	23.331	23.620	23.378	22.312	23.479	24.241	25.170	24.851	24.179
Rhode Island	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Carolina	25.742	25.915	25.862	25.858	25.842	25.479	25.472	26.343	26.185	25.762	26.038	26.865	26.630	26.549	25.968	26.066	25.818
South Dakota	16.648	16.916	16.810	16.613	16.520	16.544	16.574	16.529	16.427	17.024	16.377	16.751	16.713	16.822	16.881	16.498	16.030
Tennessee	25.925	25.936	26.067	26.160	26.139	25.950	26.054	25.982	26.181	26.191	26.410	26.396	26.056	26.288	26.199	26.017	25.856
Texas	17.290	21.648	21.587	20.482	14.524	20.339	20.950	21.565	21.205	21.465	20.514	19.871	20.297	19.658	20.681	23.128	23.229
Utah	23.160	22.799	22.717	22.427	23.059	23.035	23.031	22.825	22.660	22.852	22.853	22.923	23.025	22.792	23.183	23.070	23.263
Vermont	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia	26.054	26.077	25.892	25.723	25.733	25.669	25.917	25.701	25.784	26.166	26.173	26.507	26.250	26.068	26.140	26.016	25.887
Washington	21.288	23.389	19.961	20.691	19.306	18.797	19.167	19.011	19.155	18.815	18.781	18.772	18.791	18.808	18.891	18.760	18.790
West Virginia	24.952	24.970	24.981	25.360	25.216	25.010	25.324	25.145	25.225	25.639	27.214	27.886	27.614	27.687	27.607	26.098	26.418
Wisconsin	22.717	22.779	22.794	22.493	22.323	22.171	22.507	22.411	22.244	22.284	21.312	21.583	21.758	21.299	21.383	21.579	21.884
Wyoming	19.828	19.847	19.643	19.614	19.666	19.432	19.647	19.777	19.567	19.610	19.878	19.551	19.789	19.767	19.758	20.257	19.999
U.S. Average	22.035	22.371	22.275	21.867	21.722	21.686	21.518	21.611	21.489	21.260	21.086	20.856	20.698	20.698	20.486	20.605	20.339

-- = 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, 1960-2005

(million Btu per short ton)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	24.126	23.704	23.314	23.164	23.912	24.111	24.299	23.718	22.062	21.892	22.452	21.793	21.475	21.613
Alaska	17.729	17.858	17.080	17.400	15.800	15.800	15.800	15.800	16.571	16.534	16.135	16.264	16.041	15.277
Arizona	– –	20.850	21.238	21.090	21.243	20.986	20.951	20.578	20.426	20.305	20.306	20.192	20.399	20.287
Arkansas	– –	– –	– –	– –	17.009	17.207	17.478	17.370	17.352	17.411	17.281	17.018	16.979	16.955
California	– –	– –	– –	– –	– –	– –	20.703	22.066	23.506	23.533	23.597	24.409	24.378	23.715
Colorado	20.546	21.322	21.530	19.808	19.992	19.497	19.660	19.778	19.685	19.566	19.574	19.465	19.663	19.817
Connecticut	26.548	25.908	23.548	23.904	– –	26.317	25.808	25.612	24.542	24.573	22.618	20.358	20.585	20.229
Delaware	25.982	26.392	24.186	24.534	24.922	25.924	26.063	26.173	25.900	22.854	24.640	24.862	24.572	24.289
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	24.397	24.197	24.478	24.542	24.310	24.235
Georgia	25.042	24.932	23.756	23.751	23.805	24.241	23.638	22.993	23.176	23.323	23.276	23.193	21.870	21.879
Hawaii	– –	– –	– –	– –	– –	– –	17.568	22.462	21.963	21.959	22.856	22.780	22.382	22.184
Idaho	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
Illinois	21.694	21.448	21.002	20.259	20.593	20.969	21.587	20.232	19.008	18.963	17.986	18.052	17.941	17.681
Indiana	22.640	22.466	22.030	21.229	21.632	21.314	21.125	20.725	21.188	21.074	20.637	20.779	20.930	21.191
Iowa	20.768	21.218	20.888	20.385	18.633	18.197	17.826	17.464	17.742	17.752	17.459	17.407	17.368	17.283
Kansas	23.754	24.192	24.100	19.957	18.370	17.537	17.841	17.465	17.358	17.408	17.096	17.078	17.185	17.001
Kentucky	22.972	22.892	21.852	21.481	22.917	22.769	23.091	23.299	23.220	22.856	23.026	22.910	22.742	22.820
Louisiana	– –	16.038	– –	– –	– –	16.907	16.420	16.167	16.064	16.023	15.784	15.834	15.941	15.955
Maine	28.580	– –	– –	– –	– –	– –	28.000	25.500	25.502	25.509	25.675	26.343	25.706	25.853
Maryland	26.616	26.372	24.612	24.323	24.757	25.326	25.479	25.928	25.581	25.394	25.942	25.265	25.166	25.239
Massachusetts	26.352	26.072	23.260	24.347	26.751	26.561	26.122	25.400	25.136	24.581	24.983	24.272	23.582	23.163
Michigan	24.884	24.804	24.202	23.662	24.025	23.393	22.243	21.377	20.876	20.353	19.803	19.723	19.574	19.801
Minnesota	22.390	22.176	20.274	17.940	17.557	17.451	17.644	17.700	17.883	17.847	17.529	17.688	17.630	17.644
Mississippi	24.858	24.890	24.098	23.164	23.994	24.252	25.115	22.432	23.072	23.344	19.152	18.378	18.217	17.767
Missouri	21.904	21.550	21.518	21.494	21.306	21.289	20.758	18.509	17.838	17.835	17.589	17.522	17.543	17.626
Montana	13.500	13.140	15.474	15.959	17.003	17.307	17.105	16.995	16.762	16.768	16.921	17.004	16.984	16.876
Nebraska	24.782	24.568	23.914	20.954	18.809	17.299	17.125	17.191	17.264	17.169	17.186	17.239	17.084	17.132
Nevada	– –	25.488	25.654	22.388	22.078	22.768	22.191	22.120	22.465	22.428	20.354	22.531	22.199	22.407
New Hampshire	25.448	27.904	27.432	26.701	26.816	26.905	26.645	26.269	26.264	26.103	26.034	26.067	26.148	25.584
New Jersey	26.768	26.458	24.944	25.401	26.182	26.475	26.831	26.513	26.106	26.006	25.706	25.498	25.385	25.046
New Mexico	25.000	18.004	17.966	17.849	17.695	18.376	18.234	18.061	18.388	18.503	18.572	18.352	18.448	18.546
New York	26.505	26.678	24.664	24.050	24.635	25.200	25.718	25.912	26.096	26.039	25.592	25.100	24.074	23.489
North Carolina	26.242	25.814	24.114	23.788	24.538	24.975	25.191	25.056	24.966	24.696	24.611	24.699	24.592	24.638
North Dakota	13.836	13.918	13.666	13.344	13.234	13.150	13.268	13.166	13.057	13.082	13.002	12.840	12.933	13.196
Ohio	23.770	23.564	22.500	21.919	22.880	23.625	23.775	24.243	23.549	23.094	23.278	23.483	23.419	23.034
Oklahoma	25.942	24.000	25.076	25.076	17.393	17.168	17.792	17.463	17.717	17.641	17.635	17.582	17.590	17.401
Oregon	– –	– –	– –	– –	16.393	16.584	16.696	17.765	17.273	17.412	17.000	17.127	16.880	16.839
Pennsylvania	23.436	24.095	23.341	23.498	24.176	24.445	23.352	22.654	23.163	22.445	23.565	22.983	22.900	22.490
Rhode Island	28.152	27.468	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –
South Carolina	26.734	25.822	24.274	24.161	24.843	25.132	25.303	25.706	25.407	25.122	24.673	24.992	24.892	24.838
South Dakota	17.168	17.904	16.572	12.616	12.599	12.210	13.203	14.276	17.189	17.082	16.955	16.942	16.956	17.196
Tennessee	24.040	23.590	22.594	21.983	23.254	23.657	23.944	24.297	24.203	24.172	23.036	22.899	22.645	22.027
Texas	– –	– –	– –	13.103	14.791	14.807	14.578	14.726	15.193	15.330	15.443	15.247	15.279	15.385
Utah	24.940	25.184	24.812	23.650	22.900	23.607	23.002	22.789	22.926	22.748	22.518	22.303	22.082	21.702
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	25.674	25.372	25.420	24.397	24.470	24.703
Washington	– –	– –	– –	16.200	16.200	16.200	16.270	16.538	16.193	16.002	16.000	15.799	16.014	15.839
West Virginia	23.908	23.736	23.318	23.221	24.269	24.827	24.931	24.482	24.333	24.147	24.206	24.184	24.056	23.710
Wisconsin	24.208	24.036	22.446	21.236	20.523	19.547	19.111	18.563	18.886	18.710	19.230	18.276	18.348	19.316
Wyoming	14.846	15.990	16.534	16.626	17.590	17.510	17.682	17.542	17.633	17.727	17.439	17.790	17.645	17.563
U.S. Average	23.922	23.781	22.575	21.650	21.357	21.023	20.777	20.542	20.511	20.337	20.238	20.082	19.980	19.988

– – = 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, 2006-2022

(million Btu per short ton)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	21.541	21.674	21.261	20.714	20.974	20.818	20.593	20.025	20.444	20.206	19.806	19.472	19.540	18.842	18.490	18.529	18.074
Alaska	15.306	15.085	14.457	14.546	14.538	14.599	14.748	14.674	15.109	15.060	14.963	14.792	14.793	14.805	14.671	14.863	14.877
Arizona	20.270	19.972	19.676	19.484	19.370	19.378	19.191	19.339	19.321	19.200	19.220	19.448	19.327	19.509	18.166	18.285	18.156
Arkansas	16.958	16.970	17.175	17.117	17.319	17.208	17.129	17.161	17.310	17.340	17.177	17.304	17.194	17.129	17.235	17.323	17.485
California	24.388	24.311	23.802	23.989	24.409	24.266	24.383	23.954	24.711	--	--	--	--	--	--	--	--
Colorado	19.606	19.605	19.673	19.623	19.447	19.333	18.938	18.909	19.129	18.938	18.899	18.608	18.383	18.536	18.578	18.579	18.708
Connecticut	20.326	20.586	20.345	21.959	21.024	18.685	22.384	18.347	18.219	18.220	18.240	18.240	18.240	18.240	18.240	18.240	--
Delaware	24.637	24.816	24.548	24.681	24.598	24.940	25.499	25.774	25.780	25.882	25.820	25.785	25.790	25.590	25.880	26.420	26.341
District of Columbia	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Florida	24.052	24.036	23.716	23.755	23.959	23.684	23.591	23.447	23.547	23.570	23.337	23.343	23.558	23.417	23.337	23.394	23.409
Georgia	21.908	21.955	21.608	21.250	21.476	20.949	19.853	19.744	20.362	19.811	20.142	20.030	19.567	19.575	19.928	19.801	19.684
Hawaii	22.077	22.125	21.306	21.414	21.150	20.398	20.481	20.154	20.629	20.800	20.839	19.694	19.564	19.780	19.827	19.810	20.230
Idaho	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Illinois	17.559	17.495	17.487	17.461	17.499	17.478	17.580	17.550	17.561	17.528	17.493	17.549	17.522	17.509	17.524	R 17.490	17.539
Indiana	21.079	20.923	20.869	20.807	20.841	20.721	20.844	21.092	21.276	21.395	21.556	21.627	21.160	21.363	21.812	21.549	21.617
Iowa	17.294	17.238	17.053	17.068	17.016	17.071	17.067	17.076	17.137	17.328	17.469	17.467	17.212	17.309	17.401	17.301	17.391
Kansas	17.176	17.145	17.015	17.014	17.041	17.091	17.207	17.170	17.233	17.074	17.196	17.087	17.087	16.987	17.096	17.295	17.230
Kentucky	22.855	23.225	22.889	22.724	22.880	22.604	22.571	22.459	22.603	22.388	22.318	22.293	22.261	22.106	22.432	22.305	22.247
Louisiana	16.126	16.053	15.959	16.040	15.984	16.077	16.040	16.374	16.390	15.821	15.925	16.491	16.503	16.547	16.541	16.467	17.360
Maine	25.646	26.246	25.767	25.195	26.147	25.276	25.502	25.269	25.070	24.929	25.150	25.695	25.283	24.665	22.869	23.069	19.411
Maryland	25.191	25.009	25.291	24.886	24.675	24.550	24.736	24.685	25.017	25.007	25.169	25.049	25.054	25.092	24.701	24.855	24.770
Massachusetts	23.106	22.921	22.852	23.317	23.475	23.448	23.455	23.623	22.774	22.841	22.067	22.015	--	--	--	--	--
Michigan	19.852	19.723	19.530	19.317	19.372	19.186	18.866	18.604	18.849	18.822	18.689	18.538	18.666	18.695	19.031	18.858	18.954
Minnesota	17.633	17.686	17.703	17.592	17.474	17.573	17.665	17.691	17.520	17.563	17.643	17.630	17.506	17.599	17.592	17.556	17.519
Mississippi	17.965	18.345	18.324	16.512	16.953	16.915	15.237	16.187	17.406	14.299	13.539	13.914	13.319	13.165	13.022	13.041	13.058
Missouri	17.539	17.553	17.526	17.444	17.467	17.484	17.559	17.546	17.525	17.513	17.491	17.436	17.515	17.278	17.494	17.606	17.623
Montana	16.854	16.834	16.783	16.913	16.830	16.831	16.893	16.899	16.747	16.872	16.856	16.938	16.940	16.776	16.945	17.162	17.142
Nebraska	17.014	17.011	16.979	17.086	17.069	16.953	17.043	17.225	16.931	16.897	16.886	16.928	16.876	16.951	17.139	17.142	17.312
Nevada	22.799	22.688	21.725	21.043	21.191	21.029	20.342	19.521	20.869	19.781	20.396	19.591	19.940	19.662	19.791	20.310	19.633
New Hampshire	27.363	27.573	27.171	27.190	27.122	27.259	27.306	27.235	27.337	27.095	27.210	26.984	26.546	26.225	26.378	26.394	26.368
New Jersey	25.009	23.931	23.451	23.443	23.348	25.103	25.405	25.482	25.315	25.660	26.160	26.146	25.815	26.018	25.694	25.368	25.658
New Mexico	18.525	18.430	18.365	18.453	18.325	18.338	18.158	17.880	17.954	18.012	18.515	18.805	18.595	18.410	18.463	18.633	18.528
New York	22.916	22.947	22.021	21.585	22.175	21.602	21.874	21.194	21.333	21.155	23.906	25.892	25.682	25.483	25.847	--	--
North Carolina	24.389	24.581	24.430	24.610	24.477	24.426	24.631	24.637	24.662	24.723	24.639	24.898	24.790	24.847	24.873	24.995	25.220
North Dakota	13.072	13.171	13.302	13.326	13.513	13.624	13.643	13.619	13.665	13.657	13.736	13.614	13.470	13.466	13.528	13.526	13.471
Ohio	22.817	22.705	22.428	22.901	22.907	22.907	23.737	23.717	23.870	24.061	24.498	24.566	24.032	24.535	24.708	24.750	24.711
Oklahoma	17.431	17.413	17.174	17.234	17.231	17.202	17.227	17.226	17.221	17.206	17.307	17.319	17.216	17.102	16.875	17.235	17.481
Oregon	16.720	16.736	16.675	16.837	16.837	16.771	16.749	16.911	17.106	17.243	17.286	17.236	17.258	17.504	17.229	--	--
Pennsylvania	22.223	22.286	22.013	21.924	22.004	21.694	21.735	21.572	21.256	21.319	20.854	20.578	19.911	20.436	18.796	19.695	18.155
Rhode Island	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Carolina	24.936	24.881	24.611	24.782	24.725	24.549	24.506	24.471	24.692	24.782	24.580	24.323	24.134	24.162	24.076	24.371	24.433
South Dakota	16.945	16.935	16.786	16.723	16.731	16.403	16.503	16.695	16.586	16.433	16.533	16.509	16.471	16.422	16.324	16.446	16.463
Tennessee	21.970	21.698	21.208	21.033	21.519	20.656	20.472	19.992	20.415	21.019	20.756	20.298	20.759	19.712	21.398	21.896	21.166
Texas	15.446	15.243	15.383	15.517	15.496	15.218	15.196	15.373	15.328	15.209	15.201	15.397	15.528	15.524	15.458	15.583	15.681
Utah	22.047	22.304	22.217	21.908	22.295	22.153	21.906	21.928	21.918	21.599	21.322	21.202	21.442	21.722	21.827	21.870	21.803
Vermont	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia	24.825	25.056	24.782	24.806	24.750	24.508	23.606	22.752	22.916	23.058	22.534	21.962	21.385	21.528	21.980	21.484	20.462
Washington	16.278	16.289	15.902	16.191	16.101	16.095	16.209	16.471	16.501	16.549	16.724	16.647	16.477	16.518	16.653	16.733	16.959
West Virginia	23.832	24.064	23.653	23.774	23.947	23.791	23.874	24.077	24.204	24.444	24.411	24.445	24.541	24.838	24.912	24.847	24.815
Wisconsin	17.809	17.813	17.697	17.515	17.637	17.996	17.696	17.836	18.088	17.654	17.815	17.608	17.555	17.849	17.852	17.878	17.865
Wyoming	17.386	17.281	17.294	17.368	17.342	17.304	17.461	17.510	17.382	17.393	17.398	17.290	17.403	17.382	17.457	17.520	17.406
U.S. Average	19.930	19.908	19.713	19.521	19.623	19.341	19.211	19.174	19.290	19.146	19.153	18.981	18.915	18.903	18.882	18.941	18.792

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

Table B14. Approximate heat content of hydrocarbon gas liquids consumed by the industrial sector, selected years, 1960-2005

(million Btu per barrel)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Alaska	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Arizona	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Arkansas	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
California	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Colorado	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Connecticut	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Delaware	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
District of Columbia	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Florida	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Georgia	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Hawaii	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Idaho	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Illinois	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Indiana	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Iowa	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Kansas	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Kentucky	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Louisiana	3.783	3.786	3.648	3.630	3.804	3.666	3.819	3.816	3.635	3.631	3.570	3.662	3.623	3.606
Maine	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Maryland	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Massachusetts	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Michigan	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Minnesota	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Mississippi	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Missouri	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Montana	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Nebraska	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Nevada	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
New Hampshire	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
New Jersey	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
New Mexico	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
New York	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
North Carolina	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
North Dakota	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Ohio	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Oklahoma	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Oregon	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Pennsylvania	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Rhode Island	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
South Carolina	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
South Dakota	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Tennessee	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Texas	3.783	3.786	3.648	3.589	3.669	3.542	3.572	3.589	3.560	3.548	3.534	3.547	3.532	3.528
Utah	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Vermont	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Virginia	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Washington	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
West Virginia	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Wisconsin	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
Wyoming	3.783	3.786	3.648	3.534	3.526	3.421	3.448	3.462	3.420	3.426	3.430	3.447	3.434	3.433
U.S. Average	3.783	3.786	3.648	3.575	3.629	3.527	3.578	3.598	3.549	3.537	3.519	3.539	3.523	3.517

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

Table B15. Approximate heat content of hydrocarbon gas liquids consumed by the industrial sector, 2006-2022

(million Btu per barrel)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Alaska	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Arizona	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Arkansas	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
California	3.420	3.392	3.370	3.313	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838
Colorado	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Connecticut	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Delaware	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
District of Columbia	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	--	--	3.841	3.841	3.841	3.841	3.841	3.841
Florida	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Georgia	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Hawaii	3.420	3.392	3.370	3.313	3.841	3.841	--	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Idaho	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Illinois	3.420	3.392	3.370	3.313	3.141	3.133	3.142	3.218	3.149	3.102	3.088	3.088	3.098	3.150	3.141	3.120	3.094
Indiana	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Iowa	3.420	3.392	3.370	3.313	3.193	3.160	3.210	3.223	3.228	3.180	3.181	3.192	3.194	3.237	3.184	3.175	3.150
Kansas	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Kentucky	3.420	3.392	3.370	3.313	3.840	3.840	3.840	3.788	3.075	3.066	3.071	3.038	3.014	3.017	3.019	3.013	3.044
Louisiana	3.526	3.527	3.430	3.353	R 3.288	R 3.248	R 3.255	R 3.290	R 3.225	R 3.253	R 3.223	R 3.198	R 3.214	R 3.169	R 3.074	R 3.095	2.977
Maine	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Maryland	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Massachusetts	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Michigan	3.420	3.392	3.370	3.313	R 3.838	R 3.838	R 3.838	R 3.839	R 3.839	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Minnesota	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Mississippi	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Missouri	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Montana	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Nebraska	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Nevada	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New Hampshire	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New Jersey	3.420	3.392	3.370	3.313	3.835	3.835	3.836	3.836	3.836	3.836	3.836	3.835	3.835	3.835	3.836	3.836	3.836
New Mexico	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New York	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
North Carolina	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
North Dakota	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Ohio	3.420	3.392	3.370	3.313	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838	3.838
Oklahoma	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Oregon	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Pennsylvania	3.420	3.392	3.370	3.313	3.836	3.836	3.837	3.836	R 3.836	3.836	3.836	3.836	3.836	3.836	R 3.836	3.837	3.073
Rhode Island	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
South Carolina	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
South Dakota	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Tennessee	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Texas	3.489	3.479	3.467	3.396	R 3.369	R 3.265	R 3.333	R 3.369	R 3.332	3.393	3.341	3.314	R 3.279	3.314	R 3.282	R 3.315	3.114
Utah	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Vermont	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Virginia	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Washington	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
West Virginia	3.420	3.392	3.370	3.313	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.835	3.836
Wisconsin	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Wyoming	3.420	3.392	3.370	3.313	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
U.S. Average	3.479	3.468	3.446	3.375	3.394	3.316	3.360	3.388	3.344	3.384	3.341	3.314	3.291	3.310	3.259	3.287	3.119

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

Table B16. Approximate heat content of hydrocarbon gas liquids total consumption, selected years, 1960-2005

(million Btu per barrel)

State	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005
Alabama	3.828	3.828	3.798	3.754	3.723	3.722	3.756	3.717	3.753	3.697	3.740	3.744	3.750	3.733
Alaska	3.836	3.841	3.765	3.651	3.645	3.725	3.815	3.722	3.841	3.830	3.780	3.798	3.776	3.831
Arizona	3.823	3.833	3.804	3.723	3.694	3.718	3.699	3.695	3.799	3.778	3.820	3.740	3.728	3.785
Arkansas	3.827	3.830	3.807	3.753	3.703	3.718	3.705	3.675	3.630	3.656	3.688	3.705	3.707	3.709
California	3.813	3.817	3.727	3.591	3.629	3.575	3.599	3.623	3.642	3.602	3.584	3.662	3.709	3.783
Colorado	3.830	3.830	3.802	3.750	3.689	3.729	3.715	3.716	3.639	3.628	3.666	3.708	3.664	3.726
Connecticut	3.822	3.818	3.748	3.663	3.676	3.678	3.706	3.746	3.737	3.722	3.787	3.738	3.708	3.627
Delaware	3.795	3.798	3.691	3.592	3.571	3.717	3.704	3.745	3.782	3.764	3.805	3.771	3.783	3.741
District of Columbia	3.811	3.815	3.735	3.692	3.618	3.602	3.616	3.639	3.559	3.608	3.712	3.693	3.696	3.710
Florida	3.832	3.834	3.818	3.790	3.684	3.736	3.757	3.695	3.722	3.694	3.759	3.746	3.780	3.737
Georgia	3.821	3.823	3.778	3.710	3.706	3.720	3.716	3.714	3.679	3.673	3.671	3.719	3.729	3.689
Hawaii	3.819	3.820	3.762	3.674	3.632	3.813	3.807	3.493	3.805	3.797	3.709	3.766	3.782	3.828
Idaho	3.831	3.827	3.802	3.757	3.651	3.661	3.720	3.696	3.778	3.817	3.824	3.794	3.819	3.765
Illinois	3.808	3.807	3.720	3.632	3.566	3.491	3.577	3.533	3.558	3.538	3.565	3.594	3.559	3.542
Indiana	3.824	3.825	3.810	3.732	3.685	3.667	3.623	3.715	3.720	3.721	3.724	3.732	3.708	3.708
Iowa	3.828	3.827	3.789	3.715	3.656	3.599	3.650	3.567	3.554	3.532	3.547	3.609	3.538	3.532
Kansas	3.827	3.828	3.793	3.733	3.622	3.452	3.487	3.599	3.495	3.511	3.534	3.514	3.507	3.818
Kentucky	3.807	3.804	3.729	3.659	3.601	3.570	3.589	3.645	3.560	3.520	3.524	3.572	3.550	3.537
Louisiana	3.789	3.790	3.662	3.640	3.805	3.668	3.820	3.816	3.639	3.637	3.574	3.666	3.626	3.611
Maine	3.836	3.831	3.786	3.761	3.697	3.686	3.740	3.788	3.813	3.793	3.739	3.822	3.832	3.792
Maryland	3.824	3.825	3.776	3.727	3.663	3.705	3.714	3.742	3.710	3.738	3.777	3.762	3.776	3.740
Massachusetts	3.828	3.826	3.768	3.695	3.647	3.732	3.696	3.773	3.747	3.719	3.726	3.812	3.827	3.788
Michigan	3.830	3.827	3.814	3.790	3.718	3.583	3.658	3.715	3.763	3.788	3.773	3.784	3.741	3.730
Minnesota	3.830	3.832	3.813	3.775	3.670	3.652	3.679	3.670	3.694	3.686	3.627	3.699	3.651	3.652
Mississippi	3.826	3.828	3.793	3.738	3.678	3.644	3.596	3.593	3.730	3.696	3.687	3.614	3.709	3.718
Missouri	3.837	3.838	3.822	3.801	3.731	3.741	3.737	3.701	3.697	3.775	3.691	3.697	3.656	3.641
Montana	3.832	3.831	3.805	3.802	3.704	3.624	3.679	3.703	3.769	3.760	3.743	3.802	3.813	3.793
Nebraska	3.831	3.836	3.813	3.744	3.654	3.621	3.612	3.638	3.648	3.650	3.627	3.652	3.626	3.652
Nevada	3.808	3.833	3.818	3.774	3.707	3.742	3.718	3.749	3.626	3.631	3.760	3.722	3.753	3.804
New Hampshire	3.836	3.831	3.779	3.709	3.714	3.694	3.767	3.789	3.741	3.779	3.803	3.811	3.811	3.783
New Jersey	3.799	3.796	3.679	3.585	3.566	3.491	3.552	3.638	3.565	3.556	3.542	3.738	3.709	3.728
New Mexico	3.818	3.819	3.762	3.669	3.623	3.778	3.553	3.513	3.776	3.811	3.802	3.795	3.781	3.781
New York	3.834	3.833	3.793	3.756	3.696	3.757	3.795	3.788	3.742	3.750	3.779	3.771	3.767	3.722
North Carolina	3.825	3.826	3.775	3.665	3.660	3.640	3.677	3.681	3.667	3.680	3.691	3.739	3.746	3.709
North Dakota	3.829	3.829	3.818	3.804	3.674	3.581	3.664	3.662	3.680	3.607	3.687	3.739	3.683	3.698
Ohio	3.816	3.814	3.752	3.717	3.549	3.486	3.638	3.624	3.693	3.650	3.626	3.594	3.664	3.623
Oklahoma	3.827	3.829	3.795	3.767	3.607	3.553	3.639	3.617	3.643	3.660	3.632	3.659	3.568	3.520
Oregon	3.813	3.839	3.808	3.719	3.698	3.641	3.627	3.631	3.674	3.770	3.741	3.796	3.651	3.789
Pennsylvania	3.816	3.816	3.744	3.667	3.613	3.585	3.643	3.725	3.737	3.690	3.714	3.660	3.656	3.619
Rhode Island	3.832	3.826	3.758	3.658	3.680	3.715	3.719	3.743	3.729	3.703	3.689	3.755	3.756	3.709
South Carolina	3.830	3.830	3.790	3.739	3.705	3.730	3.727	3.715	3.649	3.636	3.710	3.739	3.767	3.717
South Dakota	3.837	3.837	3.820	3.786	3.705	3.709	3.667	3.733	3.740	3.753	3.689	3.738	3.676	3.698
Tennessee	3.829	3.826	3.819	3.804	3.732	3.713	3.738	3.755	3.735	3.723	3.704	3.764	3.738	3.722
Texas	3.794	3.796	3.678	3.618	3.675	3.551	3.578	3.592	3.568	3.559	3.543	3.555	3.537	3.535
Utah	3.825	3.835	3.817	3.711	3.629	3.652	3.649	3.531	3.592	3.684	3.679	3.816	3.796	3.753
Vermont	3.827	3.831	3.798	3.775	3.725	3.804	3.817	3.791	3.788	3.789	3.801	3.812	3.811	3.794
Virginia	3.827	3.831	3.786	3.723	3.709	3.659	3.694	3.735	3.707	3.748	3.708	3.766	3.784	3.753
Washington	3.827	3.834	3.809	3.740	3.701	3.588	3.630	3.675	3.580	3.583	3.740	3.764	3.757	3.806
West Virginia	3.811	3.805	3.699	3.616	3.570	3.525	3.572	3.559	3.656	3.774	3.738	3.758	3.773	3.748
Wisconsin	3.826	3.832	3.816	3.768	3.713	3.715	3.746	3.750	3.715	3.732	3.725	3.751	3.715	3.713
Wyoming	3.821	3.817	3.781	3.745	3.655	3.557	3.635	3.599	3.630	3.707	3.734	3.743	3.780	3.745
U.S. Average	3.810	3.810	3.731	3.671	3.669	3.584	3.630	3.641	3.610	3.604	3.588	3.610	3.591	3.589

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

Table B17. Approximate heat content of hydrocarbon gas liquids total consumption, 2006-2022

(million Btu per barrel)

State	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alabama	3.721	3.674	3.747	3.754	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Alaska	3.803	3.806	3.828	3.786	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Arizona	3.763	3.729	3.751	3.746	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Arkansas	3.694	3.666	3.718	3.699	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
California	3.736	3.766	3.724	3.660	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840
Colorado	3.615	3.657	3.789	3.798	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Connecticut	3.598	3.635	3.830	3.824	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Delaware	3.715	3.754	3.773	3.774	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
District of Columbia	3.707	3.650	3.733	3.704	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Florida	3.712	3.729	3.755	3.763	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Georgia	3.673	3.678	3.712	3.691	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Hawaii	3.804	3.779	3.838	3.820	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Idaho	3.756	3.726	3.777	3.804	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Illinois	3.541	3.528	3.567	3.513	3.367	3.345	3.321	3.450	3.335	3.297	3.283	3.293	3.326	3.383	3.374	3.377	3.337
Indiana	3.684	3.689	3.767	3.708	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Iowa	3.516	3.523	3.520	3.480	3.365	3.352	3.386	3.378	3.383	3.335	3.338	3.341	3.402	3.437	3.403	3.374	3.395
Kansas	3.826	3.454	3.793	3.770	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Kentucky	3.522	3.504	3.516	3.497	3.840	3.840	3.840	3.800	3.261	3.238	3.226	3.164	3.164	3.211	3.167	3.180	3.233
Louisiana	3.531	3.531	3.434	3.358	R 3.293	R 3.253	R 3.258	R 3.292	R 3.229	R 3.256	R 3.226	R 3.202	R 3.218	R 3.173	R 3.078	R 3.098	2.981
Maine	3.764	3.795	3.831	3.824	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Maryland	3.719	3.738	3.780	3.772	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Massachusetts	3.705	3.722	3.816	3.819	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Michigan	3.717	3.727	3.803	3.797	R 3.840	R 3.840	R 3.840	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Minnesota	3.650	3.642	3.683	3.626	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Mississippi	3.681	3.711	3.760	3.755	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Missouri	3.669	3.637	3.761	3.733	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Montana	3.785	3.740	3.794	3.835	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Nebraska	3.607	3.646	3.720	3.638	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Nevada	3.788	3.783	3.738	3.731	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New Hampshire	3.755	3.788	3.810	3.807	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New Jersey	3.725	3.716	3.769	3.784	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.837
New Mexico	3.775	3.525	3.787	3.807	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
New York	3.738	3.765	3.799	3.804	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
North Carolina	3.678	3.676	3.741	3.708	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
North Dakota	3.684	3.658	3.729	3.681	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Ohio	3.613	3.700	3.766	3.742	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840	3.840
Oklahoma	3.488	3.746	3.762	3.774	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Oregon	3.774	3.751	3.698	3.694	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Pennsylvania	3.603	3.607	3.585	3.573	3.838	3.838	3.839	3.839	3.839	3.839	3.839	3.839	3.839	3.839	3.839	3.839	3.249
Rhode Island	3.682	3.716	3.743	3.729	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
South Carolina	3.702	3.722	3.753	3.720	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
South Dakota	3.682	3.686	3.737	3.703	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Tennessee	3.704	3.712	3.764	3.799	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Texas	3.496	3.485	3.476	3.405	R 3.377	R 3.274	R 3.339	R 3.375	R 3.339	3.399	R 3.347	R 3.319	3.285	3.320	R 3.289	R 3.321	3.122
Utah	3.721	3.701	3.783	3.788	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Vermont	3.765	3.795	3.807	3.821	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Virginia	3.722	3.748	3.782	3.778	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Washington	3.798	3.784	3.712	3.726	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
West Virginia	3.723	3.741	3.759	3.780	3.837	3.837	3.837	3.837	3.837	3.837	3.837	3.836	3.837	3.837	3.837	3.837	3.837
Wisconsin	3.701	3.701	3.781	3.754	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
Wyoming	3.689	3.748	3.771	3.809	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841	3.841
U.S. Average	3.551	3.544	3.549	3.487	3.489	3.423	3.440	3.468	3.439	3.461	3.424	3.400	3.381	3.401	3.349	3.369	3.229

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

Thermal conversion factor source documentation

The heat content per unit of physical unit (i.e., thermal conversion factors) provided in this section represents the gross (or higher or upper) energy content of the fuel. Gross heat content is applied in all Btu calculations for the State Energy Data System and is commonly used in energy calculations in the United States; net (or lower) heat content is typically used in European energy calculations. See "Heat Content" and "British Thermal Unit (Btu)" in the Glossary for more information.

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**.

Butylene. EIA estimated the thermal conversion factor to be 4.377 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

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 biofuels 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 estimated the thermal conversion factor to be 2.783 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Ethylene. EIA adopted the thermal conversion factor of 2.436 million Btu per barrel (0.058 million Btu per gallon) as published in the Federal Register EPA; 40 CFR Part 98; e-CRF; Table C1; April 5, 2019, http://www.ecfr.gov/cgi-bin/text-idx?SID=ae265d7d6f98ec86fcd8640b9793a3f6&mc=true&node=pt40.23.98&rgn=div5#ap40.23.98_19.1. The ethylene higher heating value is determined at 41 degrees Fahrenheit at saturation pressure.

Hydrocarbon gas liquids. (HLTCKUS and HLTCKZZ)

- 1960 through 2009: Calculated using consumption-weighted average of liquefied petroleum gases (LPG) and natural gasoline (pentanes plus).
- 2010 forward: Calculated using consumption-weighted average of nine HGL products: normal butane, butylene, ethane, ethylene, isobutane, isobutylene, natural gasoline, propane, and propylene.

Isobutane. EIA estimated the thermal conversion factor to be 4.183 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and

data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Isobutylene. EIA estimated the thermal conversion factor to be 4.355 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, NIST Chemistry WebBook, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

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: EIA adopted the 1967 calculated average heat content of 3.810 million Btu per barrel
- 1967 through 2009: 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 207). 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 estimated the thermal conversion factor to be 4.638 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute. EIA assumes a natural gasoline ratio of 29% isopentane, 29% neopentane, 20% normal pentane,

13% normal hexane, 4% cyclohexane, 3% benzene, and 2% toluene in these calculations.

Normal butane. EIA estimated the thermal conversion factor to be 4.353 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Pentanes plus. EIA estimated the thermal conversion factor to be 4.638 million Btu per barrel. based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute. EIA assumes a pentanes plus ratio of 29% isopentane, 29% neopentane, 20% normal pentane, 13% normal hexane, 4% cyclohexane, 3% benzene, and 2% toluene in these calculations, 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 adopted 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. (1973—1983) EIA estimated 5.418 million Btu per barrel from data provided by McClanahan Consultants, Inc., Houston, Texas.

Propane. EIA estimated the thermal conversion factor to be 3.841 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Propylene. EIA estimated the thermal conversion factor to be 3.835 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

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*.

APPENDIX B

Still gas.

- 1960 through 2015: EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel, first published in the *Petroleum Statement, Annual*, 1970.
- 2016 forward: Assumed by EIA to be 6.287 million Btu per barrel or equal to the thermal conversion factor for residual fuel oil.

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. (1979—1982) EIA assumed the thermal conversion factor to be 3.800 million Btu per barrel, the average of all natural gas plant liquids calculated on their contribution to total barrels produced.

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 EIA on Form EIA-923, "Power Plant Operations Report," and predecessor forms, http://

www.eia.gov/electricity/data/eia923/.

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" (through 2013) and Form EIA-3, "Quarterly Survey of Industrial, Commercial & Institutional Coal Users," after Form EIA-5 was folded into Form EIA-3 in 2014. 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/.
- 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 Survey of Industrial, Commercial & 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 facilities reported 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 Form EIA-860. For states that are not represented in data on Form EIA-860, it is assumed that the heat content of the coal receipts in theses sectors is equal to the heat content of coal received in the other industrial sector. For states that are not represented in either the Form EIA-3A data or the Form 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, because 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 Survey of Industrial, Commercial & 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

Biodiesel. EIA estimated the thermal conversion factor for biodiesel to be 5.359 million Btu per barrel, published in EIA's *Monthly Energy Review*, Table A1, http://www.eia.gov/totalenergy/data/monthly/pdf/sec12_2.pdf.

Fuel ethanol. EIA adopted the annual denatured fuel ethanol thermal conversion factors in million Btu per barrel published in EIA's *Monthly Energy Review*, Table A3, http://www.eia.gov/totalenergy/data/monthly/pdf/sec12_4.pdf. This factor is calculated by EIA using the quantity-weighted average of the thermal conversion factors for undenatured ethanol (3.539 million Btu per barrel), natural gasoline used as denaturant, and conventional motor gasoline used as denaturant. The factor for 2009 is used as the estimated factor for earlier years. The undenatured ethanol 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.

Renewable diesel fuel. EIA adopted the thermal conversion factor of 5.494 million Btu per barrel (130,817 Btu per gallon) for renewable diesel II (UOP-HDO) from U.S. Department of Energy, Argonne National Laboratory, "The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model" (GREET), version GREET1_2022, October 2022.

Other biofuels. EIA assumed the thermal conversion factor to be 5.359 million Btu per barrel or equal to the thermal conversion factor for Biodiesel.

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.

Approximate heat rates for electricity

Constant heat content of electricity is 3,412 Btu per kilowatthour. Electricity has an inherent heat content of 3,412 Btu per kilowatthour (kWh). SEDS uses this constant conversion factor for electricity sales to ultimate customers, electricity imports from Canada and Mexico, and electricity net generation from noncombustible renewable energy sources (hydroelectric power, geothermal, solar thermal, solar photovoltaic, and wind). There are several generally accepted methods to measure the thermal conversion rates for power plants that generate electricity from noncombustible renewable energy sources. To be consistent with international standards from the United Nations, EIA uses the *captured energy approach* to convert noncombustible renewable electricity with the constant heat content of electricity, 3,412 Btu per kWh. See EIA's *Monthly Energy Review* Appendix E for more information.

Fossil-fueled steam-electric plant generation. (FFETKUS) EIA uses data from Forms EIA-860 and EIA-923 (and predecessor forms) to calculate a rate factor that is equal to the annual average heat rate factor for fossil-fueled steam-electric power plants in the United States. Through 2000, EIA uses these thermal conversion factors to estimate wood and waste electricity net generation at electric utilities. Beginning in 2001, the source surveys provide Btu data for wood and waste at electric utilities.

During the SEDS 2022 data cycle, EIA updated the way we calculate primary energy consumption of electricity generation from noncombustible renewable energy sources (solar, wind, hydroelectric, and geothermal) to Btu using the constant conversion of 3,412 Btu per kWh (the heat content of electricity). This method is called the *captured energy approach*. Before the SEDS 2022 cycle, EIA converted noncombustible renewable energy sources to Btu using the annual U.S. average heat content of fossil fuels consumed at steam-electric power plants (FFETKUS) as a conversion factor. That method is called the *fossil fuel equivalency approach*. The *captured energy approach* is more consistent with international energy statistics standards from the United Nations than the *fossil fuel equivalency approach*. See EIA's *Monthly Energy Review* Appendix E for more information.

- 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).