

Table 156. Residential Energy Consumption Estimates, Selected Years 1960-1999, Minnesota

Year	Coal ^a	Natural Gas ^b	Petroleum				Wood	Geothermal	Solar ^c	Electricity ^a	Electrical System Energy Losses ^d	Total
			Distillate Fuel ^a	Kerosene ^a	LPG ^a	Total						
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels				Thousand Cords	Million Kilowatthours	Net Energy	Million Kilowatthours		
1960	330	61	5,414	1,748	3,108	10,270	878	—	—	4,186	—	10,411
1965	216	86	6,309	1,556	4,043	11,908	682	—	—	6,063	—	14,476
1970	200	102	7,197	1,195	6,390	14,782	560	—	—	9,031	—	21,886
1975	81	114	7,242	558	6,040	13,840	563	—	—	10,189	—	24,578
1980	50	103	5,946	114	2,929	8,989	R 893	—	—	11,749	—	28,570
1985	77	107	3,826	137	2,400	6,363	855	—	—	13,261	—	31,156
1990	63	107	3,222	30	2,933	6,185	562	—	—	14,858	—	R 32,502
1991	33	117	4,098	41	3,186	7,324	592	—	—	15,655	—	R 34,033
1992	9	114	3,426	38	3,560	7,024	623	—	—	14,848	—	R 31,667
1993	38	123	3,210	36	4,379	7,624	R 525	—	—	15,597	—	R 32,943
1994	80	122	3,384	45	4,305	7,735	R 514	—	—	16,007	—	R 33,404
1995	92	129	3,334	50	4,447	7,831	R 571	—	—	16,974	—	R 35,391
1996	55	142	3,499	61	R 5,969	R 9,529	R 570	—	—	17,157	—	R 35,756
1997	37	129	3,106	52	R 5,650	R 8,808	R 404	—	—	17,073	—	R 35,515
1998	15	110	2,503	73	3,927	6,503	356	—	—	17,378	—	35,900
1999	5	119	1,914	32	4,853	6,799	381	—	—	17,998	—	35,263
Trillion Btu												
1960	7.3	63.6	31.5	9.9	12.5	53.9	17.6	0.0	0.0	14.3	156.6	35.5
1965	4.7	86.3	36.7	8.8	16.2	61.8	13.6	0.0	0.0	20.7	187.1	49.4
1970	4.2	102.0	41.9	6.8	24.1	72.8	11.2	0.0	0.0	30.8	221.1	74.7
1975	1.6	114.7	42.2	3.2	22.4	67.8	R 11.3	0.0	0.0	34.8	230.1	83.9
1980	1.0	103.1	34.6	0.6	10.8	46.0	R 17.9	0.0	0.0	40.1	208.1	97.5
1985	1.5	107.1	22.3	0.8	8.6	31.7	17.1	0.0	0.0	45.2	202.6	106.3
1990	1.1	107.4	18.8	0.2	10.6	29.6	11.2	e 0.1	e 0.3	50.7	R 200.5	110.9
1991	0.6	118.6	23.9	0.2	11.5	35.6	11.8	0.2	0.3	53.4	220.5	R 116.1
1992	0.2	114.8	20.0	0.2	12.9	33.1	12.5	0.2	R 0.4	50.7	R 211.7	R 108.0
1993	0.7	124.8	18.7	0.2	15.8	34.7	R 10.5	0.2	R 0.4	53.2	R 224.4	112.4
1994	1.6	123.6	19.7	0.3	15.6	35.6	R 10.3	0.2	R 0.4	54.6	R 226.2	114.0
1995	1.9	130.4	19.4	0.3	16.1	35.8	11.4	0.2	R 0.4	57.9	R 238.0	R 120.8
1996	1.0	144.9	20.4	0.3	R 21.6	R 42.3	R 11.4	0.2	R 0.4	58.5	R 258.7	R 122.0
1997	0.7	131.2	18.1	0.3	R 20.4	R 38.8	R 8.1	0.2	0.4	58.3	R 237.6	R 121.2
1998	0.3	112.7	14.6	0.4	14.2	29.2	7.1	0.2	0.4	59.3	209.2	122.5
1999	0.1	121.2	11.1	0.2	17.5	28.9	7.6	0.2	0.3	61.4	219.8	120.3

^a The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the "Additional Notes" under each type of energy in Appendix A.

^b Includes supplemental gaseous fuels.

^c Includes small amounts of solar thermal and photovoltaic energy consumed by the commercial sector that cannot be separately identified. See Appendix A, Section 5, for explanation of estimation methodology.

^d Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

^e There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of renewable energy sources beginning in 1989.

R=Revised data.

—=Not applicable.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the appendices to this report.

Table 157. Commercial Energy Consumption Estimates, Selected Years 1960-1999, Minnesota

Year	Coal ^a	Natural Gas ^b	Petroleum					Wood	Electricity ^a	Electrical System Energy Losses ^c	Total ^d		
			Distillate Fuel ^a	Kerosene ^a	LPG ^a	Motor Gasoline	Residual Fuel ^a						
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels					Thousand Cords	Geothermal	Million Kilowatthours	Net Energy	Million Kilowatthours	
1960	614	20	1,323	378	548	142	634	3,026	17	—	1,540	—	3,831
1965	401	27	1,542	337	713	158	414	3,164	13	—	2,026	—	4,838
1970	372	77	1,759	259	1,128	235	393	3,774	11	—	3,178	—	7,701
1975	151	90	1,770	121	1,066	355	223	3,536	11	—	4,845	—	11,686
1980	93	64	1,443	0	517	340	32	2,331	21	—	5,724	—	13,919
1985	143	77	2,740	24	424	335	223	3,746	R 23	—	7,469	—	17,548
1990	116	78	939	5	518	1,568	263	3,293	R 36	—	8,813	—	R 19,278
1991	61	86	910	3	562	198	295	1,969	R 38	—	9,162	—	R 19,917
1992	16	82	760	7	628	117	197	1,709	R 41	—	9,007	—	R 19,211
1993	70	87	653	9	773	49	134	1,618	42	—	9,229	—	R 19,494
1994	149	84	903	14	760	49	161	1,887	43	—	9,698	—	R 20,238
1995	171	91	931	23	785	50	113	1,903	43	—	10,407	—	R 21,699
1996	101	99	1,028	27	R 1,053	50	141	R 2,298	47	—	10,850	—	R 22,612
1997	68	92	925	26	R 997	1,010	163	R 3,121	R 44	—	10,888	—	R 22,648
1998	27	82	830	31	693	988	171	2,714	44	—	11,152	—	23,038
1999	10	88	809	20	856	50	186	1,921	53	—	11,637	—	22,801
Trillion Btu													
1960	13.5	21.0	7.7	2.1	2.2	0.7	4.0	16.8	0.3	0.0	5.3	56.9	13.1
1965	8.8	26.8	9.0	1.9	2.9	0.8	2.6	17.2	0.3	0.0	6.9	59.9	16.5
1970	7.8	76.7	10.2	1.5	4.3	1.2	2.5	19.7	0.2	0.0	10.8	115.3	26.3
1975	2.9	89.9	10.3	0.7	4.0	1.9	1.4	18.2	0.2	0.0	16.5	127.7	39.9
1980	1.9	63.6	8.4	0.0	1.9	1.8	0.2	12.3	0.4	0.0	19.5	97.8	47.5
1985	2.7	77.3	16.0	0.1	1.5	1.8	1.4	20.8	R 0.5	0.0	25.5	R 126.8	59.9
1990	2.1	78.3	5.5	(s)	1.9	8.2	1.7	17.3	R 0.7	e 0.0	30.1	R e 128.5	65.8
1991	1.1	86.9	5.3	(s)	2.0	1.0	1.9	10.2	R 0.8	0.0	31.3	R 130.3	68.0
1992	0.3	83.3	4.4	(s)	2.3	0.6	1.2	8.6	R 0.8	0.0	30.7	R 123.7	R 65.5
1993	1.3	87.6	3.8	(s)	2.8	0.3	0.8	7.7	0.8	0.0	31.5	128.9	66.5
1994	2.9	84.9	5.3	0.1	2.8	0.3	1.0	9.4	0.9	0.0	33.1	131.1	R 69.1
1995	3.5	91.9	5.4	0.1	2.8	0.3	0.7	9.4	0.9	0.0	35.5	141.1	R 74.0
1996	1.8	100.3	6.0	0.2	R 3.8	0.3	0.9	R 11.1	0.9	0.0	37.0	R 151.2	R 77.2
1997	1.3	93.9	5.4	0.1	R 3.6	5.3	1.0	R 15.4	R 0.9	0.0	37.1	R 148.6	R 77.3
1998	0.6	84.0	4.8	0.2	2.5	5.2	1.1	13.7	0.9	0.0	38.1	137.3	78.6
1999	0.2	89.7	4.7	0.1	3.1	0.3	1.2	9.4	1.1	0.0	39.7	140.1	77.8

^a The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the "Additional Notes" under each type of energy in Appendix A.

^b Includes supplemental gaseous fuels.

^c Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

^d Small amounts of solar thermal and photovoltaic energy consumed in the commercial sector cannot be separately identified and are included in residential consumption.

^e There is a discontinuity in this time series between 1988 and 1989 due to the expanded coverage of

renewable energy sources beginning in 1989.

R=Revised data.

—=Not applicable.

(s)=Btu value less than 0.05 and physical unit value less than 0.5.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the appendices to this report.

Table 159. Transportation Energy Consumption Estimates, Selected Years 1960-1999, Minnesota

Year	Coal ^a	Natural Gas ^b	Petroleum								Ethanol ^c	Electricity ^a	Electrical System Energy Losses ^d	Total ^c	
			Aviation Gasoline ^a	Distillate Fuel ^a	Jet Fuel ^a	LPG ^a	Lubricants ^a	Motor Gasoline	Residual Fuel ^a	Total					
Year	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels								Thousand Barrels	Million Kilowatthours	Net Energy	Million Kilowatthours	Total ^c
1960	45	(s)	1,199	3,194	472	27	697	28,176	95	33,860	0	0	—	0	—
1965	9	1	803	3,276	2,624	37	596	31,173	75	38,584	0	0	—	0	—
1970	3	7	277	5,064	3,491	95	628	40,279	29	49,863	0	0	—	0	—
1975	(s)	4	215	6,691	5,629	97	752	44,766	577	58,726	0	0	—	0	—
1980	0	9	193	8,117	5,142	68	796	44,535	971	59,822	0	0	—	0	—
1985	0	6	154	7,982	7,781	123	724	43,232	155	60,152	R e 658	0	—	0	—
1990	0	12	214	9,509	5,099	57	815	45,075	0	60,768	R 577	0	—	0	—
1991	0	13	188	10,518	4,978	52	729	46,937	3	63,404	R 1,102	0	—	0	—
1992	0	15	134	11,190	6,621	54	743	48,159	3	66,904	R 1,729	0	—	0	—
1993	0	16	132	11,355	9,438	100	757	50,077	(s)	71,859	R 3,224	0	—	0	—
1994	0	17	125	12,889	9,780	126	791	51,237	2	74,951	R 3,690	0	—	0	—
1995	0	19	129	13,657	9,969	134	778	53,061	0	77,728	R 3,968	0	—	0	—
1996	0	20	124	13,308	10,625	R 140	755	54,146	0	R 79,099	R 3,023	0	—	0	—
1997	0	20	137	13,816	10,887	R 137	797	52,898	10	R 78,682	R 4,523	0	—	0	—
1998	0	20	92	15,283	10,699	13	835	55,878	0	82,800	5,063	0	—	0	—
1999	0	22	141	16,027	12,591	7	843	58,819	2	88,430	5,500	0	—	0	—
Trillion Btu															
1960	0.9	0.3	6.1	18.6	2.6	0.1	4.2	148.0	0.6	180.2	0.0	0.0	181.4	0.0	181.4
1965	0.2	1.2	4.1	19.1	14.8	0.1	3.6	163.8	0.5	205.9	0.0	0.0	207.3	0.0	207.3
1970	0.1	7.5	1.4	29.5	19.7	0.4	3.8	211.6	0.2	266.6	0.0	0.0	274.1	0.0	274.1
1975	(s)	3.9	1.1	39.0	31.9	0.4	4.6	235.2	3.6	315.6	0.0	0.0	319.5	0.0	319.5
1980	0.0	9.1	1.0	47.3	29.1	0.2	4.8	233.9	6.1	322.5	0.0	0.0	331.6	0.0	331.6
1985	0.0	6.3	0.8	46.5	44.1	0.4	4.4	227.1	1.0	324.2	R e 2.3	0.0	e 330.5	0.0	e 330.5
1990	0.0	12.1	1.1	55.4	28.9	0.2	4.9	236.8	0.0	327.3	R 2.0	0.0	339.3	0.0	339.3
1991	0.0	13.5	0.9	61.3	28.2	0.2	4.4	246.6	(s)	341.6	R 3.9	0.0	355.1	0.0	355.1
1992	0.0	15.1	0.7	65.2	37.5	0.2	4.5	253.0	(s)	361.0	R 6.1	0.0	376.2	0.0	376.2
1993	0.0	16.4	0.7	66.1	53.5	0.4	4.6	263.1	(s)	388.3	R 11.4	0.0	404.7	0.0	404.7
1994	0.0	17.5	0.6	75.1	55.4	0.5	4.8	R 268.0	(s)	R 404.4	R 13.1	0.0	R 421.9	0.0	R 421.9
1995	0.0	19.5	0.7	79.6	56.5	0.5	4.7	R 276.7	0.0	R 418.6	R 14.0	0.0	R 438.1	0.0	R 438.1
1996	0.0	20.2	0.6	77.5	60.2	0.5	4.6	R 282.4	0.0	R 425.9	R 10.7	0.0	R 446.1	0.0	R 446.1
1997	0.0	19.9	0.7	80.5	61.7	R 0.5	4.8	R 275.8	0.1	R 424.0	R 16.0	0.0	R 443.9	0.0	R 443.9
1998	0.0	20.5	0.5	89.0	60.7	(s)	5.1	291.2	0.0	446.5	17.9	0.0	467.0	0.0	467.0
1999	0.0	22.5	0.7	93.4	71.4	(s)	5.1	306.5	(s)	477.1	19.5	0.0	499.6	0.0	499.6

^a The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the "Additional Notes" under each type of energy in Appendix A.

^b Includes supplemental gaseous fuels. Transportation use of natural gas is gas consumed in the operation of pipelines, primarily in compressors, and, since 1990, is also gas consumed as vehicle fuel.

^c Ethanol blended into motor gasoline, which is accounted for under motor gasoline, is shown separately here to display the use of renewable energy by the transportation sector and is included only once in the total.

^d Incurred in the generation, transmission, and distribution of electricity plus plant use and unaccounted for electrical system energy losses.

^e There is a discontinuity in this time series between 1980 and 1981 due to the expanded coverage of renewable energy sources beginning in 1981.

R=Revised data.

—=Not applicable.

(s)=Btu value less than 0.05 and physical unit value less than 0.5.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the appendices to this report.

Table 160. Estimates of Energy Input at Electric Utilities, Selected Years, 1960-1999, Minnesota

Year	Coal	Natural Gas ^a	Petroleum				Nuclear Electric Power	Hydroelectric Power ^e	Wood and Waste	Geothermal Energy	Other ^{b,f}	Total ^g
			Heavy Oil ^{b,c}	Light Oil ^{b,d}	Petroleum Coke ^b	Total						
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels				Million Kilowatthours					
1960	2,433	49	239	156	0	395	0	822	15	0	0	—
1965	3,857	51	278	182	0	460	143	1,026	14	0	0	—
1970	6,192	59	842	551	143	1,537	0	853	19	0	0	—
1975	7,595	23	851	674	59	1,584	9,750	913	4	0	0	—
1980	12,610	8	361	167	0	529	10,027	1,594	2	0	0	—
1985	11,498	1	(s)	49	0	49	11,572	3,497	(s)	0	0	—
1990	16,916	5	1	91	727	820	12,139	R 1,659	398	0	(s)	—
1991	16,114	6	2	90	962	1,054	12,059	R 2,861	402	0	(s)	—
1992	15,841	5	(s)	62	1,064	1,127	11,166	R 4,665	407	0	(s)	—
1993	16,844	4	1	90	1,077	1,168	11,986	R 6,120	414	0	(s)	—
1994	17,046	6	0	108	993	1,101	12,224	R 6,441	414	0	(s)	—
1995	17,282	8	0	133	770	903	13,243	R 6,801	429	0	(s)	—
1996	17,459	5	2	140	1,055	1,196	12,095	R 7,219	422	0	(s)	—
1997	17,490	6	7	179	1,241	1,427	10,819	R 7,003	429	0	0	—
1998	17,902	8	1	177	1,041	1,218	11,644	6,594	451	0	0	—
1999	17,114	7	2	200	1,261	1,462	13,316	5,332	417	0	0	—
Trillion Btu												
1960	54.5	50.2	1.5	0.9	0.0	2.4	0.0	8.8	0.2	0.0	0.0	116.1
1965	85.5	51.3	1.7	1.1	0.0	2.8	1.7	10.7	0.1	0.0	0.0	152.2
1970	125.5	59.1	5.3	3.2	0.9	9.4	0.0	8.9	0.2	0.0	0.0	203.1
1975	136.3	22.3	5.4	3.9	0.4	9.6	107.4	9.5	(s)	0.0	0.0	285.1
1980	221.4	8.0	2.3	1.0	0.0	3.2	109.4	16.6	(s)	0.0	0.0	358.6
1985	200.6	1.3	(s)	0.3	0.0	0.3	125.1	36.5	(s)	0.0	0.0	363.9
1990	297.3	5.2	(s)	0.5	4.4	4.9	129.6	R 17.3	4.1	0.0	(s)	R 455.7
1991	283.7	5.9	(s)	0.5	5.8	6.3	129.5	R 29.9	4.2	0.0	(s)	R 467.5
1992	280.0	4.9	(s)	0.4	6.4	6.8	119.2	R 48.2	4.2	0.0	(s)	R 479.1
1993	297.9	3.9	(s)	0.5	6.5	7.0	128.0	R 63.1	4.3	0.0	(s)	R 514.0
1994	300.7	5.9	0.0	0.6	6.0	6.6	130.5	R 66.4	4.3	0.0	(s)	R 536.4
1995	305.1	8.3	0.0	0.8	4.6	5.4	141.1	R 70.1	4.4	0.0	(s)	R 560.0
1996	311.2	5.3	(s)	0.8	6.4	7.2	128.5	R 74.6	4.4	0.0	(s)	R 556.6
1997	311.1	6.1	(s)	1.0	7.5	8.6	114.9	R 72.5	4.4	0.0	0.0	R 554.9
1998	318.0	7.8	(s)	1.0	6.3	7.3	123.7	68.2	4.7	0.0	0.0	550.8
1999	304.0	6.7	(s)	1.2	7.6	8.8	141.5	55.2	4.3	0.0	0.0	536.2

^a Includes supplemental gaseous fuels.^b The continuity of these data series estimates may be affected by changing data sources and estimation methodologies. See the "Additional Notes" under each type of energy in Appendix A.^c Prior to 1980, based on oil used in steam plants. Since 1980, heavy oil includes fuel oil nos. 4, 5, and 6 and residual fuel oils.^d Prior to 1980, based on oil used in internal combustion and gas turbine engine plants. Since 1980, light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.^e If applicable, through 1988, includes all net imports of electricity, and, from 1989, includes only the portion of imports of electricity that is derived from hydroelectric power.^f "Other" is electricity generated for distribution from wind, photovoltaic, and solar thermal energy.^g If applicable, from 1989, includes net imports of electricity generated from nonrenewable energy sources not shown in other columns. See data in appendix Table A8.

R=Revised data.

—=Not applicable.

(s)=Btu value less than 0.05 and physical unit value less than 0.5.

Note: Totals may not equal sum of components due to independent rounding.

Sources: Data sources, estimation procedures, and assumptions are described in the appendices to this report.