

ENERGY

Washington State Data Book

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END-USE ENERGY CONSUMPTION BY SECTOR

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Billion BTUs^{1,2}

Calendar					
Year	Total	Residential	Commercial	Industrial Transportation	
1987	1,157,689	156,732	120,936	386,299	493,722
1988	1,234,825	169,436	133,633	415,080	516,676
1989	1,255,196	178,574	130,338	388,764	557,520
1990	1,266,015	172,016	130,147	396,831	567,021
1991	1,264,325	182,108	133,781	372,505	575,931
1992	1,323,576	172,317	127,311	384,681	639,267
1993	1,303,854	196,312	136,280	381,791	589,471
1994	1,331,118	191,871	137,296	395,674	606,277
1995	1,352,773	192,096	140,446	389,857	630,374
1996	1,358,245	210,438	148,072	380,204	619,531
1997	1,387,291	208,672	148,239	395,050	635,330
1998	1,378,096	204,256	147,284	426,485	600,071
1999	1,412,109	220,238	157,730	422,781	611,360
2000	1,372,207	220,484	161,144	367,474	623,105
2001	1,306,061	238,979	168,713	302,149	596,220
2002	1,232,568	231,597	157,644	262,530	580,797
2003	1,231,423	222,914	159,626	266,672	582,211
2004	1,252,767	224,781	158,575	268,422	600,989
2005	1,269,032	215,513	158,566	285,055	609,898
2006	1,325,277	219,599	161,839	318,294	625,545
2007	1,347,097	227,155	166,235	290,173	663,534
2008	1,316,678	238,166	174,452	300,348	603,712
2009	1,306,933	245,170	172,926	293,750	595,087
2010	1,311,062	230,810	167,389	326,112	586,751
2011	1,335,309	245,458	171,190	333,748	584,913
2012	1,340,110	229,830	169,243	335,804	605,233
2013	1,342,736	239,946	173,303	337,552	591,935
2014	1,325,913	233,376	171,432	338,963	582,142
2015	1,358,863	226,088	175,697	334,870	622,208
2016	1,454,429	236,486	180,213	342,070	695,660
2017	1,463,396	266,836	188,850	331,996	675,714

¹British Thermal Unit (BTU): The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. 1 therm = 100,000 BTU.

²Non-energy petroleum consumption removed.

Table: YT01

PRIMARY ENERGY CONSUMPTION BY ENERGY SOURCE¹

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Billion BTUs¹

Calendar Year	Biomass	Coal	Hydro- electricity ^{2,3}	Nuclear Electricity ³	Natural Gas	Petroleum	Other Renewables ³
1987	122,823	95,700	238,250	57,728	136,092	634,600	0
1988	127,760	99,099	233,749	63,616	150,595	667,026	0
1989	108,569	96,650	244,054	64,745	167,988	690,243	354
1990	93,715	85,575	298,437	60,762	167,616	691,603	364
1991	74,222	89,085	304,835	44,346	179,395	693,198	363
1992	95,669	106,087	233,125	59,605	180,769	755,697	372
1993	96,782	97,804	229,669	74,946	229,616	699,776	374
1994	96,598	106,884	223,742	70,444	263,176	720,149	373
1995	90,390	69,790	281,490	72,938	264,474	738,977	370
1996	89,758	90,901	336,143	58,691	283,909	730,683	365
1997	94,302	80,465	355,431	65,526	268,141	748,214	355
1998	87,269	103,476	272,329	72,556	303,307	710,018	342
1999	89,181	96,875	330,926	63,598	302,262	721,275	326
2000	89,316	106,240	273,857	89,744	297,569	744,993	289
2001	92,755	99,441	186,752	86,159	322,413	720,483	263
2002	87,737	100,832	266,706	94,484	240,494	694,675	4,466
2003	95,750	118,207	244,835	79,360	255,839	684,068	6,303
2004	92,592	112,539	244,217	93,660	269,572	695,576	7,533
2005	81,278	112,284	245,920	86,016	272,167	709,503	5,100
2006	103,736	69,150	279,811	97,341	271,034	730,954	10,401
2007	79,079	95,737	268,965	85,051	279,429	764,277	24,197
2008	77,274	94,601	264,897	96,886	307,085	717,257	36,149
2009	84,333	84,048	248,847	69,385	319,739	694,489	34,990
2010	107,573	94,934	232,999	96,588	294,871	691,349	46,444
2011	104,436	56,951	313,283	50,293	272,261	688,298	61,046
2012	101,315	42,656	305,251	97,808	271,947	701,992	63,073
2013	107,981	74,955	266,665	88,408	327,840	687,137	67,166
2014	108,558	76,547	271,128	99,332	320,167	677,880	69,588
2015	113,296	58,273	250,458	85,347	327,738	722,280	66,585
2016	122,969	53,302	267,317	100,674	324,929	799,689	75,199
2017	119,159	61,732	280,408	85,013	351,273	774,284	65,002

¹British Thermal Unit (BTU): The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. 1 therm = 100,000 BTU.

²Hydroelectric and Renewables are direct conversion from Megawatt-hours to BTU.

³Note that much of the electricity in Washington by hydropower, nuclear and renewable resources is sold out-of-state.

Table: YT02

ENERGY EXPENDITURES BY SECTOR

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Millions of Constant \$¹

Calendar Year	Total	Commercial	Industrial	Residential	Transportation
1987	11,102	1,621	2,081	2,294	5,107
1988	11,468	1,693	2,355	2,409	5,010
1989	12,231	1,673	2,472	2,515	5,572
1990	12,860	1,645	2,356	2,469	6,391
1991	12,638	1,631	2,213	2,466	6,329
1992	12,171	1,624	2,091	2,318	6,139
1993	12,177	1,727	2,068	2,589	5,793
1994	12,634	1,804	2,208	2,633	5,989
1995	12,818	1,842	2,232	2,613	6,130
1996	13,644	1,929	2,136	2,812	6,767
1997	13,504	1,889	2,174	2,758	6,684
1998	12,225	1,861	2,334	2,691	5,340
1999	13,646	1,965	2,477	2,859	6,345
2000	15,824	2,089	2,539	3,012	8,184
2001	15,361	2,461	2,185	3,496	7,219
2002	14,373	2,501	1,757	3,526	6,591
2003	15,409	2,476	1,880	3,314	7,738
2004	17,348	2,566	2,019	3,450	9,312
2005	19,942	2,646	2,439	3,663	11,194
2006	22,348	2,818	2,690	3,904	12,937
2007	23,660	2,832	2,548	4,145	14,135
2008	26,573	2,992	3,083	4,339	16,159
2009	20,982	2,937	2,568	4,395	11,081
2010	22,583	2,878	2,716	4,148	12,841
2011	26,251	2,962	2,925	4,431	15,934
2012	26,326	2,906	2,758	4,157	16,506
2013	24,969	2,902	2,513	4,207	15,346
2014	23,858	2,854	2,516	3,977	14,512
2015	20,034	2,935	2,337	3,874	10,889
2016	19,024	2,880	2,085	3,919	10,141
2017	20,998	2,980	2,152	4,386	11,480

¹Adjusted to 2009 dollars.

Table: YT03

SELECTED ENERGY PRICES

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Constant \$ per Million BTUs^{1,2}

Calendar Year	Petroleum	Electricity	Natural Gas	Bio-fuels	Coal
1987	9.34	16.35	6.36	3.14	4.00
1988	8.70	16.33	6.40	3.06	3.88
1989	9.28	16.04	6.14	2.41	3.82
1990	10.40	15.01	5.39	2.12	3.76
1991	10.17	14.42	5.14	2.52	4.13
1992	8.75	14.33	5.25	2.15	3.95
1993	9.22	14.89	5.49	2.23	3.75
1994	9.14	16.05	5.35	2.15	4.18
1995	9.13	16.05	5.17	2.15	4.16
1996	10.12	16.10	5.04	2.03	3.92
1997	10.01	15.29	5.17	1.86	3.73
1998	8.08	15.11	4.75	1.96	3.13
1999	9.14	15.16	4.98	2.11	3.06
2000	11.97	15.56	6.64	2.50	3.07
2001	11.84	18.72	9.16	3.32	2.89
2002	10.99	20.31	8.61	3.30	2.98
2003	12.89	19.85	8.26	3.08	2.82
2004	14.96	19.14	9.89	3.64	3.02
2005	17.51	18.76	11.51	3.74	3.60
2006	19.58	19.06	12.10	3.38	3.91
2007	20.41	19.24	12.13	3.65	3.97
2008	25.27	19.43	11.58	4.27	4.90
2009	17.85	19.41	12.41	4.17	4.81
2010	21.30	19.39	10.36	3.99	5.60
2011	26.70	19.37	10.24	4.21	5.98
2012	26.51	19.47	9.49	3.92	5.58
2013	25.51	19.58	9.02	4.13	5.70
2014	24.45	19.36	8.45	4.49	5.59
2015	17.13	19.86	8.90	3.90	5.44
2016	14.47	20.26	7.64	3.46	5.04
2017	17.03	20.56	7.44	3.68	5.47

¹British Thermal Unit (BTU): The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. 1 therm = 100,000 BTU.

²Adjusted to 2009 dollars.

Table: YT04

NATURAL GAS PRICES BY SECTOR

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Constant \$ per Million BTU^{1,2}

Calendar Year	Residential	Commercial	Industrial	Electric Utilities
1987	8.76	7.27	4.64	4.17
1988	8.64	7.21	4.66	4.92
1989	8.25	7.03	4.41	7.84
1990	7.29	6.01	3.95	4.53
1991	6.57	5.71	3.92	5.55
1992	6.85	5.92	3.99	4.47
1993	6.96	6.04	4.29	5.20
1994	7.39	6.36	3.83	6.38
1995	7.49	6.37	3.49	5.81
1996	7.09	6.03	3.35	6.19
1997	6.89	5.78	3.85	7.24
1998	7.07	5.75	3.19	4.13
1999	6.97	5.80	3.35	3.27
2000	8.39	7.05	4.70	6.22
2001	11.29	9.95	5.79	8.86
2002	10.65	9.41	5.49	3.88
2003	9.47	8.29	6.79	3.67
2004	10.82	10.27	8.55	5.07
2005	12.46	11.01	10.84	7.06
2006	13.68	12.26	10.10	5.97
2007	13.89	12.40	9.81	6.17
2008	12.78	11.24	10.32	8.38
2009	13.54	11.90	11.34	5.14
2010	11.71	10.04	8.96	5.30
2011	11.57	9.79	8.90	5.34
2012	10.96	9.07	8.10	4.13
2013	10.30	8.33	7.57	4.21
2014	9.33	7.96	7.53	4.53
2015	10.09	8.36	7.64	3.16
2016	8.92	7.03	6.18	3.04
2017	8.62	6.75	6.00	3.33

¹British Thermal Unit (BTU): The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. 1 therm = 100,000 BTU.

²Adjusted to 2009 dollars.

Table: YT05

ELECTRICITY PRICES BY SECTOR

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Cents¹ per Kilowatt Hour

Calendar Year	Residential	Commercial	Industrial	Transportation
1987	6.95	6.22	3.82	4.34
1988	6.85	6.06	4.23	4.67
1989	6.72	6.07	4.11	4.87
1990	6.58	5.94	3.57	4.13
1991	6.32	5.82	3.32	4.09
1992	6.32	5.87	3.17	4.18
1993	6.36	6.02	3.31	4.32
1994	6.73	6.21	3.78	4.63
1995	6.59	6.18	3.92	4.21
1996	6.56	6.16	3.79	4.44
1997	6.34	6.01	3.51	4.65
1998	6.37	5.89	3.58	3.97
1999	6.37	5.87	3.64	3.97
2000	6.27	5.73	4.03	3.95
2001	6.81	6.39	5.68	4.40
2002	7.40	7.02	5.74	4.84
2003	7.28	7.00	5.49	7.44
2004	7.15	6.93	4.81	7.23
2005	7.12	6.88	4.64	7.00
2006	7.20	7.00	4.68	6.26
2007	7.46	6.73	4.69	5.90
2008	7.61	6.83	4.56	5.87
2009	7.68	6.98	4.40	5.91
2010	7.94	7.28	4.03	7.34
2011	8.01	7.25	3.96	8.27
2012	8.11	7.30	3.92	7.66
2013	8.14	7.28	3.96	7.52
2014	7.98	7.33	3.98	7.80
2015	8.27	7.47	3.96	7.44
2016	8.47	7.53	3.96	7.94
2017	8.47	7.52	4.04	8.06

¹Adjusted to 2009 dollars.

Table: YT06

ENERGY CONSUMPTION PER CAPITA

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Million BTUs^{1,2} per Person

Calendar Year	WA Consumption Per Capita	U.S. Consumption Per Capita
1987	256	249
1988	267	259
1989	265	259
1990	260	253
1991	252	250
1992	257	253
1993	248	253
1994	248	256
1995	247	258
1996	244	264
1997	245	263
1998	240	258
1999	242	260
2000	233	256
2001	219	247
2002	204	248
2003	202	247
2004	203	250
2005	203	247
2006	208	243
2007	208	243
2008	200	235
2009	196	221
2010	195	229
2011	197	226
2012	197	219
2013	195	226
2014	190	227
2015	192	225
2016	202	224
2017	200	224

¹British Thermal Unit (BTU): The quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit. 1 therm = 100,000 BTU.

²Non-energy petroleum consumption removed.

Table: YT07

ELECTRICITY SUPPLY BY FUEL SOURCE

Department of Commerce | 360-725-3112 | <http://www.commerce.wa.gov>

Energy Office | 360-725-3120 | <http://www.commerce.wa.gov/energy>

Megawatt-hour

Calendar Year	Hydro- power	Coal	Natural gas ¹	Nuclear	Biomass	Petroleum	Waste	Wind	Other Renewables ²	Total
2001	45,853,455	13,247,976	11,863,293	3,975,371	937,515	489,650	236,666	23,822	229,586	76,857,334
2002	56,339,641	10,076,412	6,606,079	3,858,716	392,378	22,244	23,471	163,134	220,705	77,702,781
2003	53,850,478	14,336,264	7,961,221	3,726,175	434,700	34,957	139,056	320,540	75,125	80,878,516
2004	54,132,176	14,459,001	7,379,356	4,591,072	536,643	53,046	102,864	346,470	134,122	81,734,750
2005	55,342,273	14,860,017	7,986,135	4,403,537	587,085	44,233	150,955	432,667	80,500	83,887,402
2006	59,609,529	14,245,188	7,319,961	4,513,216	392,712	62,232	331,963	867,392	72,257	87,414,450
2007	59,203,647	14,866,637	8,459,744	4,326,265	460,983	69,267	288,528	545,622	60,230	88,280,923
2008	58,235,550	15,034,912	9,021,054	5,083,665	415,226	69,937	276,669	1,010,928	39,909	89,187,849
2009	57,214,771	14,672,973	11,846,700	3,653,541	445,076	94,360	296,180	587,994	35,296	88,846,891
2010	53,412,121	15,955,168	12,207,985	5,430,617	492,371	81,372	332,719	567,281	36,163	88,515,798
2011	66,847,397	12,900,636	7,003,278	2,390,245	446,890	68,539	336,948	1,017,702	67,316	91,078,950
2012	62,984,536	12,149,258	7,439,486	4,239,398	310,812	67,580	303,066	3,011,137	102,101	90,607,375
2013	58,074,493	13,519,852	11,949,790	4,247,504	260,972	64,611	221,914	2,859,415	78,588	91,277,141
2014	59,723,805	14,026,540	10,442,484	4,617,391	300,416	59,674	203,960	2,219,613	128,961	91,722,844
2015	55,306,859	14,388,993	11,807,835	4,021,955	401,408	47,108	158,887	2,029,032	158,024	88,320,101
2016	55,697,796	12,799,782	9,937,111	4,308,647	675,649	61,888	110,699	3,661,267	151,668	87,404,507
2017	63,644,891	12,593,438	10,188,498	3,941,745	562,311	103,244	172,753	2,674,081	124,637	94,005,598

¹Natural gas category includes co-generation.

²Geothermal, landfill gas and solar.

Table: YT08