

**APPENDIX D**  
**ENERGY INFORMATION ADMINISTRATION**  
**2001 REPORTS OF ENERGY CONSUMPTION AND EXPENDITURES**

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**Table CE1-7c. Total Energy Consumption in U.S. Households by Four Most Populated States, 2001**

	Four Most Populated States					RSE Row Factors
	Total U.S.	New York	California	Texas	Florida	
<b>Million Households</b>						
<b>Total U.S. Households</b> .....	107.0	7.1	12.3	7.7	6.3	NE
<b>Number of Households, Fuels Used (more than one may apply):</b>						
Electricity <sup>1</sup> .....	107.0	7.1	12.3	7.7	6.3	NE
Natural Gas .....	66.9	5.4	10.5	4.9	1.3	4.1
Fuel Oil .....	8.7	2.2	Q	Q	Q	19.0
Kerosene .....	2.9	0.2	0.3	Q	Q	24.6
LPG .....	9.4	0.5	0.7	0.3	0.4	24.0
Wood .....	14.5	0.7	2.3	1.1	0.5	17.3
<b>Quadrillion Btu</b>						
<b>Total Btu Consumption, Fuels Used:</b>						
Electricity						
Primary .....	11.63	0.43	0.75	1.17	0.98	4.6
Site .....	3.89	0.14	0.25	0.39	0.33	4.6
Natural Gas .....	4.84	0.39	0.49	0.28	0.03	9.4
Fuel Oil .....	0.71	0.16	Q	Q	Q	21.9
Kerosene .....	0.05	(*)	0.01	Q	Q	32.1
LPG .....	0.38	0.01	0.02	0.01	(*)	27.9
Wood .....	0.37	0.06	0.04	0.01	(*)	21.8
Total (excludes primary electricity and wood) .....	9.86	0.70	0.77	0.68	0.37	3.1
<b>Physical Units</b>						
<b>Physical Units of Total Consumption, Fuels Used:</b>						
Electricity (billion kWh) .....	1,140	42	73	115	97	4.6
Natural Gas (billion cf) .....	4,708	378	475	271	33	9.4
Fuel Oil (million gallons) .....	5,105	1,123	Q	Q	Q	21.9
Kerosene (million gallons) .....	348	29	41	Q	Q	32.1
LPG (million gallons) .....	4,121	93	231	96	40	27.9
Wood (million cords) .....	18.7	2.8	1.8	0.6	0.2	21.8
<b>Million Btu per Household<sup>2</sup></b>						
<b>Total Btu Consumption per Household, Fuels Used:</b>						
Electricity						
Primary .....	108.7	60.9	60.7	152.4	155.6	4.6
Site .....	36.4	20.4	20.3	51.0	52.0	4.6
Natural Gas .....	72.4	71.4	46.3	57.0	26.3	6.6
Fuel Oil .....	81.7	70.9	Q	Q	Q	5.2
Kerosene .....	16.1	22.3	20.4	Q	Q	31.7
LPG .....	40.2	16.9	30.7	30.7	9.8	20.0
Wood .....	25.9	80.5	15.3	11.1	8.9	15.9
Total (excludes primary electricity and wood) .....	92.2	99.0	62.3	88.5	58.1	3.1

See footnotes at end of table.

**Table CE1-7c. Total Energy Consumption in U.S. Households by Four Most Populated States, 2001 (Continued)**

	Total U.S.	Four Most Populated States				RSE Row Factors
		New York	California	Texas	Florida	
RSE Column Factor:	0.4	1.2	0.9	1.5	1.5	
<b>Physical Units per Household<sup>2</sup></b>						
<b>Physical Units of Total Consumption per Household, Fuels Used:</b>						
Electricity (kWh) .....	10,656	5,974	5,948	14,937	15,250	4.6
Natural Gas (thousand cf) .....	70	69	45	55	26	6.6
Fuel Oil (gallons) .....	589	511	Q	Q	Q	5.2
Kerosene (gallons) .....	119	165	151	Q	Q	31.7
LPG (gallons) .....	440	185	336	336	108	20.0
Wood (cords) .....	1.3	4.0	0.8	0.6	0.4	15.9
<b>Million Households</b>						
<b>Number of Households, Where the End Use Is:</b>						
Space Heating <sup>3</sup> .....	105.3	7.0	11.8	7.7	6.2	0.7
Electric Air-Conditioning <sup>4</sup> .....	80.8	4.7	5.2	7.4	6.1	2.6
Water Heating <sup>5</sup> .....	106.7	7.0	12.2	7.6	6.3	NE
Refrigerators .....	106.8	7.1	12.3	7.7	6.3	NE
Appliances .....	107.0	7.1	12.3	7.7	6.3	NE
<b>Quadrillion Btu<sup>a</sup></b>						
<b>Total Btu Consumption, Where the End Use Is:</b>						
Space Heating .....	4.62	0.41	0.27	0.20	0.03	6.7
Electric Air-Conditioning .....	0.62	0.01	0.02	0.11	0.10	8.1
Water Heating .....	1.68	0.13	0.20	0.12	0.06	3.6
Refrigerators .....	0.53	0.03	0.04	0.05	0.04	4.0
Other Appliances and Lighting .....	2.40	0.13	0.24	0.20	0.14	3.2
<b>Million Btu per Household<sup>2,a</sup></b>						
<b>Total Btu Consumption per Household, Where the End Use Is:</b>						
Space Heating .....	43.9	58.5	22.6	25.9	5.0	6.8
Electric Air-Conditioning .....	7.7	2.4	3.3	14.8	16.6	6.5
Water Heating .....	15.8	18.1	16.2	15.9	9.6	3.5
Refrigerators .....	5.0	3.7	3.5	6.7	6.3	3.9
Other Appliances and Lighting .....	22.5	18.4	19.7	25.9	21.4	3.2

<sup>1</sup> The RECS cannot be used to accurately estimate the number of households that do not use electricity.  
<sup>2</sup> The averages for total and for appliances are over the set of all households; otherwise the averages are over the set of households using a given fuel or over the set using a given end use.  
<sup>3</sup> Households where the main or secondary space-heating fuel is electricity, natural gas, fuel oil, kerosene, or LPG.  
<sup>4</sup> The number of households, where the end use is electric air-conditioning, does not include households that did not use their equipment (0.9 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.  
<sup>5</sup> Households where the main or secondary water-heating fuel is electricity, natural gas, fuel oil, kerosene, or LPG.  
<sup>a</sup> The row factor in this section is underestimated because it contains no error for estimating the end-use.  
 (\*) = Value rounds to zero in the units displayed.  
 NE = RSE row factor not estimated because RSE's for all statistics in this row are between 0.0 and 1.0 percent.  
 Q = Data withheld either because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 10 households were sampled.  
 Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.  
 Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A-G of the 2001 Residential Energy Consumption Survey.

**Table CE1-7e. Total Energy Expenditures in U.S. Households by Four Most Populated States, 2001**

	Total U.S.	Four Most Populated States				RSE Row Factors
		New York	California	Texas	Florida	
RSE Column Factor:	0.4	1.2	0.9	1.6	1.5	
<b>Million Households</b>						
Total U.S. Households .....	107.0	7.1	12.3	7.7	6.3	NE
<b>Number of Households, Fuels Used (more than one may apply):</b>						
Electricity <sup>1</sup> .....	107.0	7.1	12.3	7.7	6.3	NE
Natural Gas .....	66.9	5.4	10.5	4.9	1.3	4.1
Fuel Oil .....	8.7	2.2	Q	Q	Q	19.9
Kerosene .....	2.9	0.2	0.3	Q	Q	25.5
LPG .....	9.4	0.5	0.7	0.3	0.4	24.0
Wood .....	14.5	0.7	2.3	1.1	0.5	17.3
<b>Billion Dollars</b>						
<b>Total Expenditures, Fuels Used:</b>						
Electricity .....	100.34	6.16	8.86	9.97	8.63	4.5
Natural Gas .....	46.98	4.51	5.09	2.43	0.51	7.8
Fuel Oil .....	6.31	1.36	Q	Q	Q	23.0
Kerosene .....	0.52	0.04	0.06	Q	Q	35.4
LPG .....	5.60	0.16	0.38	0.13	0.09	25.0
Total .....	159.74	12.23	14.42	12.53	9.23	3.6
<b>Dollars per Household<sup>2</sup></b>						
<b>Total Expenditures per Household, Fuels Used:</b>						
Electricity .....	938	870	719	1,300	1,364	4.5
Natural Gas .....	702	829	483	497	386	5.9
Fuel Oil .....	737	624	Q	Q	Q	5.8
Kerosene .....	178	222	222	Q	Q	30.8
LPG .....	605	321	549	447	262	15.5
Total .....	1,493	1,727	1,168	1,634	1,458	3.6
<b>Dollars per Million Btu<sup>2</sup></b>						
<b>Average Price of Btu Consumption, Fuels Used:</b>						
Electricity .....	25.80	42.67	35.37	25.50	26.21	2.3
Natural Gas .....	9.70	11.61	10.42	8.72	14.70	4.0
Fuel Oil .....	8.91	8.72	Q	Q	Q	1.3
Kerosene .....	11.09	9.96	10.85	Q	Q	5.6
LPG .....	14.87	19.07	17.88	14.57	24.23	7.7
Total .....	16.19	17.44	18.76	18.47	25.11	1.8

See footnotes at end of table.

**Table CE1-7e. Total Energy Expenditures in U.S. Households by Four Most Populated States, 2001 (Continued)**

	Four Most Populated States					RSE Row Factors
	Total U.S.	New York	California	Texas	Florida	
RSE Column Factor:	0.4	1.2	0.9	1.6	1.5	
<b>Price per Physical Unit<sup>2</sup></b>						
<b>Average Price of Physical Units of Consumption, Fuels Used:</b>						
Electricity (cents per kWh) .....	8.8	14.6	12.1	8.7	8.9	2.3
Natural Gas (dollars per thousand cf) .....	9.98	11.95	10.72	8.98	15.13	4.0
Fuel Oil (dollars per gallon) .....	1.24	1.21	Q	Q	Q	1.3
Kerosene (dollars per gallon) .....	1.50	1.35	1.46	Q	Q	5.6
LPG (dollars per gallon) .....	1.36	1.74	1.63	1.33	2.21	7.7
<b>Million Households</b>						
<b>Number of Households, Where the End Use Is:</b>						
Space Heating <sup>3</sup> .....	105.3	7.0	11.8	7.7	6.2	NE
Electric Air-Conditioning <sup>4</sup> .....	80.8	4.7	5.2	7.4	6.1	2.6
Water Heating <sup>5</sup> .....	106.7	7.0	12.2	7.6	6.3	NE
Refrigerators .....	106.8	7.1	12.3	7.7	6.3	NE
Appliances .....	107.0	7.1	12.3	7.7	6.3	NE
<b>Billion Dollars<sup>a</sup></b>						
<b>Total Expenditures, Where the End Use Is:</b>						
Space Heating .....	50.53	4.57	3.24	2.32	0.64	6.7
Electric Air-Conditioning .....	15.94	0.51	0.64	2.83	2.64	8.3
Water Heating .....	21.61	1.51	2.32	1.49	1.39	3.5
Refrigerators .....	14.38	1.18	1.53	1.31	1.05	4.1
Other Appliances and Lighting .....	57.28	4.46	6.69	4.58	3.51	3.5
<b>Dollars per Household<sup>2,a</sup></b>						
<b>Total Expenditures per Household, Where the End Use Is:</b>						
Space Heating .....	480	658	274	302	103	6.8
Electric Air-Conditioning .....	197	109	125	384	436	6.8
Water Heating .....	203	214	190	196	220	3.4
Refrigerators .....	135	167	125	171	166	4.0
Other Appliances and Lighting .....	535	630	542	597	554	3.5

<sup>1</sup> The RECS cannot be used to accurately estimate the number of households that do not use electricity.  
<sup>2</sup> The averages for total and for appliances are over the set of all households; otherwise the averages are over the set of households using a given fuel or over the set using a given end use.  
<sup>3</sup> Households where the main or secondary space-heating fuel is electricity, natural gas, fuel oil, kerosene, or LPG.  
<sup>4</sup> The number of households, where the end use is electric air-conditioning, does not include households that did not use their equipment (0.9 million). It does include the small number of households where the fuel for central air-conditioning equipment was something other than electricity; those households were treated as if the fuel was electricity.  
<sup>5</sup> Households where the main or secondary water-heating fuel is electricity, natural gas, fuel oil, kerosene, or LPG.  
<sup>a</sup> The row factor in this section is underestimated because it contains no error for estimating the end-use.  
 NE = RSE row factor not estimated because RSE's for all statistics in this row are between 0.0 and 1.0 percent.  
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 Notes: • To obtain the RSE percentage for any table cell, multiply the corresponding column and row factors. • Because of rounding, data may not sum to totals. • See "Glossary" for definition of terms used in this report.  
 Source: Energy Information Administration, Office of Energy Markets and End Use, Forms EIA-457 A-G of the 2001 Residential Energy Consumption Survey.

**APPENDIX E**  
**ENERGY INFORMATION ADMINISTRATION**  
**1993 REPORTS OF ENERGY CONSUMPTION AND EXPENDITURES**



# Household Energy Consumption and Expenditures 1993

## Preliminary Estimates

The preliminary estimates of household energy consumption and expenditures in this Energy Preview are taken from the 1993 Residential Energy Consumption Survey (RECS), a national multistage probability sample survey that the Energy Information Administration (EIA) conducts every 3 years. The RECS gathers data primarily by means of personal interviews with householders and a mail survey of those households' energy suppliers. The 1993 RECS sample included more than 7 thousand households and increased the subsample of new homes by a factor of nearly three over the 1990 RECS subsample to better assess changes in consumption behavior and the effects of climate, energy conservation efforts, and energy prices on residential energy consumption.

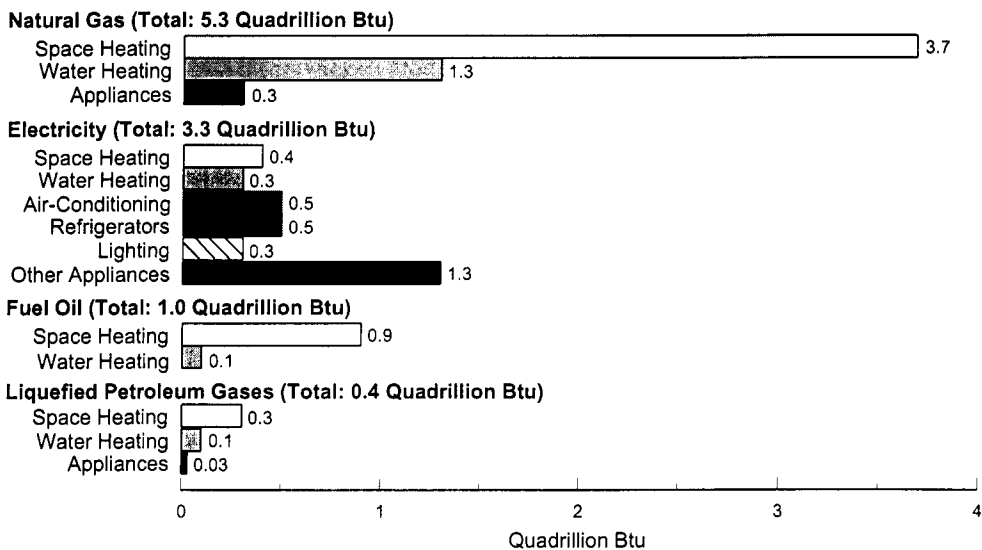
The scope of the 1993 RECS was further broadened to encompass a number of new items, reflecting EIA's efforts to better understand the factors that affect the amount of energy consumed for various end uses (Figure 1). The expanded survey included an entire sequence of questions concerning indoor light usage. The survey also sought to collect more data concerning hot water usage by asking respondents about their use of washing machines and dishwashers, as well as about the number of showers or baths

taken each week. EIA now has first-time estimates of electricity used for lighting (940 kilowatthours per year), electric clothes dryers (875 kilowatthours per year), electric ranges and ovens (458 kilowatthours per year), and dishwashers (299 kilowatthours per year).

Average total energy consumption per household was 103.6 million Btu in 1993 (Table 1), compared with 98.1 million Btu in 1990. The increase reflects primarily greater energy use for space heating during the winter (which was colder than that of 1990) and for appliances, but other uses contributed as well.

A companion report published in June 1995, *Housing Characteristics 1993*, contains information on the physical characteristics of the housing units, appliances used, occupants, types of fuels, and other characteristics related to energy use. Preliminary consumption and expenditure tables are available now from the National Energy Information Center (telephone: 202-586-8800; fax: 202-586-0727; Internet E-mail: [infoctr@eia.doe.gov](mailto:infoctr@eia.doe.gov)). Final data will be published in EIA's *Household Energy Consumption and Expenditures 1993*, planned for September 1995.

**Figure 1. Household End Uses of Major Energy Sources, 1993**  
(Quadrillion Btu)



Note: A fifth major energy source, kerosene, accounts for 0.05 quadrillion Btu of end-use consumption; 0.001 quadrillion Btu of that total is used for water heating, the rest for space heating.

Source: Energy Information Administration, Forms EIA-457A through H, 1993 Residential Energy Consumption Survey.

**Table 1. Household Energy Consumption and Expenditures, Preliminary Estimates, 1993**

Housing Characteristic	Number of Households (millions)	Total Consumption (quadrillion Btu)	Total Expenditures (billion dollars)	Average Consumption per Household (million Btu)	Average Expenditure per Household (dollars)
<b>Use of Major Fuel(s)</b>	<b>96.6</b>	<b>10.01</b>	<b>123.91</b>	<b>103.6</b>	<b>1,282</b>
Electricity .....	96.6	3.28	81.08	34.0	840
Site .....	—	3.28	—	—	—
Primary .....	—	9.91	—	—	—
Natural Gas .....	58.7	5.27	32.04	89.9	546
Fuel Oil .....	10.8	1.02	6.61	94.7	612
Liquefied Petroleum Gas ..	8.1	0.38	3.81	46.8	470
Kerosene .....	3.6	0.05	0.37	12.8	103
<b>Climate Zone</b>					
Less than 2,000 CDD <sup>a</sup> and More than 7,000 HDD <sup>a</sup> ..	8.7	1.08	10.90	124.0	1,254
5,500 to 7,000 HDD .....	26.5	3.42	35.93	129.2	1,356
4,000 to 5,499 HDD .....	22.5	2.43	30.51	108.3	1,359
Less than 4,000 HDD .....	17.8	1.40	19.70	78.5	1,107
2,000 CDD or more and Less than 4,000 HDD ..	21.2	1.68	26.87	79.0	1,267
<b>Year of Construction</b>					
1939 or before .....	20.4	2.63	26.97	129.4	1,325
1940 to 1949 .....	6.9	0.77	8.56	111.8	1,240
1950 to 1959 .....	13.1	1.49	18.12	114.1	1,387
1960 to 1969 .....	15.0	1.55	18.89	102.9	1,257
1970 to 1979 .....	18.1	1.59	22.18	87.9	1,222
1980 to 1984 .....	8.5	0.68	10.55	80.3	1,247
1985 to 1987 .....	5.5	0.47	7.05	85.2	1,284
1988 to 1990 .....	4.7	0.43	6.23	90.4	1,322
1991 to 1993 <sup>b</sup> .....	4.5	0.40	5.36	88.9	1,200
<b>Heated Floorspace (square feet)</b>					
Fewer than 1,000 .....	29.3	1.96	25.65	66.7	875
1,000 to 1,999 .....	40.2	4.05	51.68	100.7	1,286
2,000 to 2,999 .....	17.8	2.44	28.93	136.6	1,622
3,000 or more .....	9.3	1.57	17.66	168.8	1,901
<b>Census Region and Division</b>					
<b>Northeast</b> .....	<b>19.5</b>	<b>2.38</b>	<b>29.72</b>	<b>122.4</b>	<b>1,526</b>
New England .....	5.1	0.62	7.77	123.1	1,532
Middle Atlantic .....	14.4	1.76	21.95	122.1	1,523
<b>Midwest</b> .....	<b>23.3</b>	<b>3.13</b>	<b>31.12</b>	<b>134.3</b>	<b>1,336</b>
East North Central .....	16.4	2.27	22.21	138.8	1,358
West North Central .....	6.9	0.86	8.91	123.8	1,282
<b>South</b> .....	<b>33.5</b>	<b>2.95</b>	<b>43.67</b>	<b>87.9</b>	<b>1,304</b>
South Atlantic .....	17.4	1.35	22.37	77.8	1,288
East South Central .....	6.0	0.57	7.20	94.9	1,200
West South Central .....	10.1	1.02	14.09	101.1	1,391
<b>West</b> .....	<b>20.4</b>	<b>1.55</b>	<b>19.41</b>	<b>76.0</b>	<b>953</b>
Mountain .....	5.4	0.53	5.49	98.1	1,025
Pacific .....	15.0	1.02	13.91	68.2	928
<b>Most Populous States</b>					
California .....	11.1	0.73	10.50	65.2	944
Florida .....	5.6	0.29	6.58	52.1	1,180
New York .....	6.8	0.82	10.73	121.2	1,577
Texas .....	6.4	0.61	8.70	94.7	1,349

<sup>a</sup>CDD=Cooling Degree-Days. HDD=Heating Degree-Days. CDD and HDD are, respectively, measures of how hot and cold a location is over a period, compared with a base temperature (here, 65° F). Climate zones are defined by long-term weather conditions that affect heating and cooling loads in buildings. High HDD values imply generally colder areas, while high CDD

values imply generally warmer areas.

<sup>b</sup>1993 data do not include all new construction for the year.

— = Not applicable.

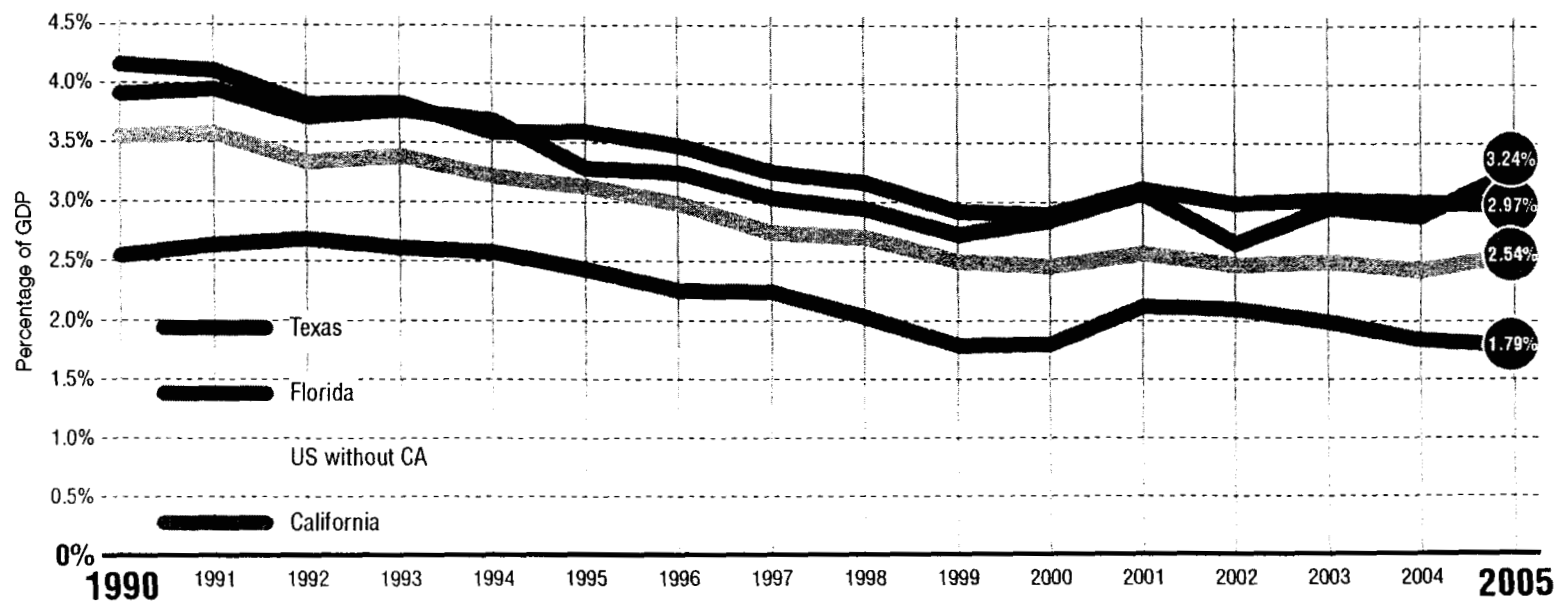
Source: Energy Information Administration, Forms EIA-457A through H, 1993 Residential Energy Consumption Survey.

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**APPENDIX F**  
**ENERGY INFORMATION ADMINISTRATION**  
**CA, FL AND TX STATEWIDE ELECTRICITY BILL AS A FRACTION OF GDP**

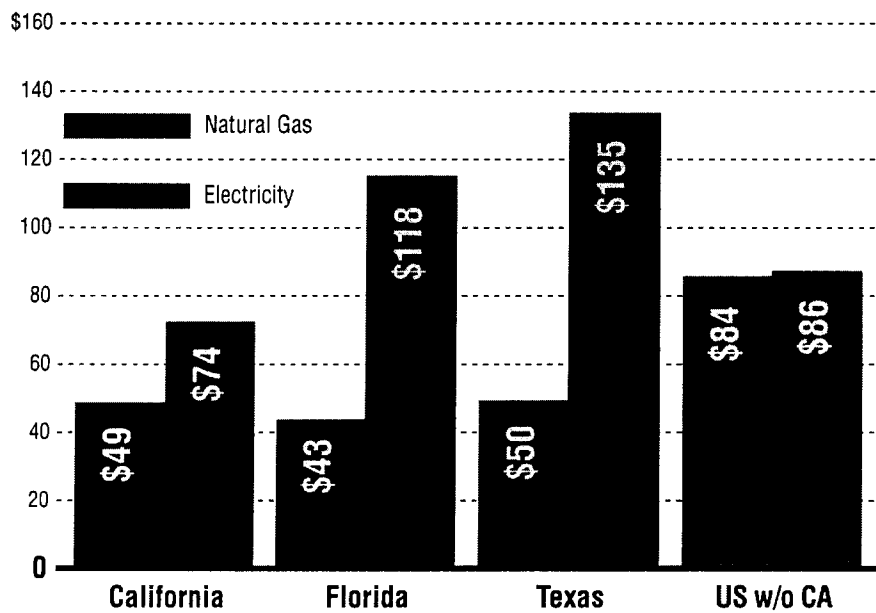
## 7: Statewide Electricity Bill as a Fraction of GDP



Source: Energy Information Agency, U.S. Department of Energy; Bureau of Economic Analysis, U.S. Department of Commerce

**APPENDIX G**  
**ENERGY INFORMATION ADMINISTRATION**  
**CA, FL AND TX AVERAGE MONTHLY ELECTRICITY AND GAS BILLS**

## 8: Average Monthly Residential Gas & Electrical Bills 2005



Source: Energy Information Agency, U.S. Department of Energy