**State Energy Price Projections
for the Residential Sector
1993-1994**

November 1993

Energy Information Administration
Office of Energy Markets and End Use
U.S. Department of Energy
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Preface

This report is the result of a service request for short-term energy price projections by the Administration for Children and Families of the U.S. Department of Health and Human Services, in support of the Low Income Home Energy Assistance Program (LIHEAP).

The report was prepared by the Energy Information Administration (EIA), Office of Energy Markets and End Use (EMEUE). The assumptions that lie behind the State price projections used in this report are from EIA's third quarter 1993 *Short-Term Energy Outlook*. General questions concerning the content of the report may be referred to W. Calvin Kilgore (202/586-1617), Director of EMEUE; Arthur Andersen (202/586-1441), Director of Energy Markets and Contingency Information Division; or Derriel Cato (202/586-6574), Chief of the Short-Term Forecasting and Contingency Branch. Detailed questions can be addressed to David Costello (202/586-1468) or Michael Morris (202/586-1199).

Questions about the use of the price estimates for the Low Income Home Energy Assistance Program can be addressed to Marsha Werner (202/401-5307), Program Analyst, Division of Energy Assistance, Office of Community Services, Administration for Children and Families, U.S. Department of Health and Human Services.

Additional copies are available from the following office:

Office of Energy Markets and End Use
Short-Term Forecasting and Contingency Branch
Energy Information Administration
1000 Independence Avenue, SW
Washington, DC 20585

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Introduction

Background

The purpose of this report, *State Energy Price Projections for the Residential Sector, 1993-1994*, is to provide projections of State-level residential prices for 1993 and 1994 for the following fuels: electricity, natural gas, heating oil, liquefied petroleum gas (LPG), kerosene, and coal. Prices for 1992 are also included for comparison purposes. This report also explains the methodology used to produce these estimates and the limitations.

This report is provided at the request of the Administration for Children and Families, U.S. Department of Health and Human Services, which provides State grants to assist eligible households in meeting the costs of home energy use for space heating or cooling under the Low Income Home Energy Assistance Program (LIHEAP). Funds for LIHEAP are allocated according to each State's share of home energy expenditures by low income households, if Congress allocates more than \$1.975 billion for LIHEAP. Whenever less than \$1.975 billion is allocated for LIHEAP, funds are allocated based on the allotment percentages for fiscal year 1984. This has been the case for the last several years. Each State's share of the funds above \$1.975 billion is determined using a formula based, in part, on the price estimates in this report.

Several data sources and factors are used in deriving estimates on each State's share of home energy expenditures by low-income households. One such factor is State-level residential energy prices. The State-level residential energy price projections presented in this report are derived from a set of forecasting equations estimated for each State, based on annual time series data from the Energy Information Administration's (EIA) *State Energy Price and Expenditure Report (SEPER)* database, the *EIA Natural Gas Monthly (NGM)*, the *EIA Petroleum Marketing Annual (PMA)*, and the *EIA Electric Power Monthly (EPM)*. The *SEPER* database includes data from 1970 through 1991 for all of the residential fuel categories. For some fuel categories, more recent State information is available: 1992 prices are available for natural gas from the April 1993 *NGM*; 1992 prices are available for heating oil and kerosene for some States from the 1992 *EIA PMA*; and 1992 prices are estimated for electricity from the April 1993 *EPM*.

Methodology

It is assumed that an annual State residential energy price can be adequately estimated as a function of the national average price (a volume-weighted, average price for the United States). State-level estimating equations based on this premise were developed as described in the appendix to the 1992 edition of this report. The national average price forecasts are based on the mid-price case scenario of the Short-Term Integrated Forecasting System, as published in the third quarter 1993 *EIA Short-Term Energy Outlook*.

Criteria for Evaluating Model Estimation Results

In first estimating the basic model for the 298 regression models, if the root mean squared error (RMSE) was 5 percent or less of the mean of the dependent variable, a forecasting equation for a particular fuel and State is used, except in cases where the U.S. price coefficient is not statistically significant or if other obvious problems with the estimating equations exist. If the RMSE exceeds 5 percent, then the possibility of structural shifts in the equation is investigated and alternative estimation periods or dummy variable techniques are employed to provide a better model fit. In instances in which neither of these approaches is feasible, the percentage change from the previous year's to the current year's U.S. price for a given fuel determines the escalation factor for the State price.

Limitations of Methodology

The price projections presented in the tables in this report represent trends in relationships between State prices and the U.S. price. As such, model projections for individual States are approximations and are not based on detailed State models. More detailed models would involve the use of State-level economic and other data, which would be an undertaking much larger in scope and would result in projections that would be less easily identified with the U.S. quarterly price projections generated for the EIA *Short-Term Energy Outlook*. The current methodology may not be equally effective for every fuel. For example, given that no recent observations on State residential coal prices exist, it is not clear whether distortions in interstate comparisons remain in the forecast period. Fortunately, consumption of coal in the residential sector is quite small in the aggregate and as a share of total residential consumption in individual States. In order to be certain that relative State prices are consistent without building a more detailed model, some judgment may be applied to 1993 and 1994 projections for some States. Generally, this involves adjusting the prices wherever final model simulations generate implausible results, given knowledge of recent history. These adjustments typically are minor.

Summary

The following tables present the forecast assumptions and the State price projections. The State price projections are taken directly from simulations of 298 State price equations, plus several simulation rules for certain States where there are not enough annual price observations to allow for model estimation but where there is enough recent history to make a simple projection. The price projections are based on the assumption that State prices move more or less in tandem with the movement of the corresponding U.S. average price. The results have been analyzed closely and the overall conclusion is that the U.S. price is generally a good predictor of State residential energy prices. Prices are expressed in two kinds of units in order to provide a familiar comparison (dollars per physical unit) and to provide comparisons across fuels (dollars per million Btu). Conversion units differ somewhat among States for natural gas and coal, because the thermal content of these fuels varies across the country.

Table 1 provides the forecasts of the national average residential prices based on the mid-price projections from the third quarter 1993 EIA *Short-Term Energy Outlook*. Tables 2 through 7 provide the projections for all six of the residential fuels by State. Where the EIA 1991 *State Energy Price and Expenditure Report* did not report a price, no State price projection is provided. Missing observations were minimal.

The electricity price projections in Table 2 indicate that increases in costs to consumers are expected to be constrained during the forecast period. Increases in power generation from hydroelectric units, steady increases in nuclear capacity and utilization rates, and debt refinancing at lower interest rates are likely to keep average rate increases well below that of inflation. Reflecting local factors, State projections may differ substantially from the U.S. average in terms of both levels and rate increases. For example, the use of peaking capacity during periods of unusually high demand may result in declining electricity costs in subsequent years, when demand patterns return to seasonal norms.

Table 3 provides State-level projections for natural gas prices for 1992 through 1994. Gas prices are expected to rise in 1993 and 1994, reflecting increasing tightness in supply. Although imports from Canada are expected to continue to grow at double-digit rates through 1994, that source is expected to account for only 11 percent of U.S. market requirements, up slightly from this year. As a result, the disappearance of the gas bubble is likely to place upward pressure on gas prices even as imports continue to rise.

Table 4 provides State estimates for heating oil prices for 1993 and 1994. Not surprisingly, virtually all of the States exhibit heating oil price movement similar to the U.S. price path. This results from the

national scope of the heating oil market and the small likelihood that special State effects would distort the projections from the simple model used here. Liquefied petroleum gas and kerosene prices to the residential sector (Tables 5 and 6) exhibit characteristics similar to those of heating oil.

Residential coal prices are presented in Table 7. The projections call for a slight decline in prices in 1993 from those in 1992 followed by a slight increase in 1994. The continued closure of marginal mines, as well as increases in productivity account for much of the decline in 1993. In 1994, increases in transportation costs are expected to offset those two factors, resulting in small increases in residential coal prices. Most states are projected to follow the national pattern. Some areas, primarily on the East Coast, are expected to experience slight increases in residential coal prices for both 1993 and 1994, because the transportation component is smaller than for much of the coal consumed elsewhere.

Table 1. U.S. Residential Energy Price Assumptions

Fuel	1992	1993	1994
Electricity			
(dollars/million Btu)	24.05	24.12	24.65
(dollars/kilowatthour)	0.082	0.083	0.084
Natural Gas			
(dollars/million Btu)	5.69	5.89	6.04
(dollars/thousand cubic feet)	5.86	6.06	6.22
Heating Oil			
(dollars/million Btu)	7.30	7.36	7.60
(dollars/gallon)	1.01	1.02	1.05
Liquefied Petroleum Gas			
(dollars/million Btu)	10.32	10.75	10.76
(dollars/gallon)	0.94	0.98	0.98
Kerosene			
(dollars/million Btu)	8.09	8.15	8.39
(dollars/gallon)	1.09	1.10	1.13
Coal			
(dollars/million Btu)	3.06	3.04	3.07
(dollars/short ton)	70.68	70.38	70.93

Btu = British Thermal Unit.

Note: Heating oil is defined as No. 2 retail heating oil. Prices for 1993 and 1994 for LPG and kerosene are derived from the price projections for consumer grade propane price and retail No. 2 heating oil respectively. Coal prices for 1993 and 1994 are derived from the utility coal price forecast. All prices include taxes.

Source: Energy Information Administration, third quarter 1993 Short-Term Energy Outlook database.

Table 2. State Residential Electricity Price Estimates/Forecast

State	1992 (dollars per million Btu)	1993	1994	Conversion Factor (million Btu per kilowatthour)	1992 (dollars per kilowatthour)	1993	1994
Alabama	19.56	20.07	20.89	0.003412	0.067	0.068	0.071
Alaska	31.23	31.16	31.63	0.003412	0.107	0.106	0.108
Arizona	26.74	27.24	28.08	0.003412	0.091	0.093	0.096
Arkansas	23.78	24.14	24.84	0.003412	0.081	0.082	0.085
California	31.98	30.92	31.49	0.003412	0.109	0.106	0.107
Colorado	20.48	22.12	22.56	0.003412	0.070	0.075	0.077
Connecticut	31.96	31.62	32.16	0.003412	0.109	0.108	0.110
Delaware	24.05	25.14	26.55	0.003412	0.082	0.086	0.091
District of Columbia	17.21	19.54	19.89	0.003412	0.059	0.067	0.068
Florida	22.95	24.79	25.40	0.003412	0.078	0.085	0.087
Georgia	21.51	22.84	23.34	0.003412	0.073	0.078	0.080
Hawaii	32.41	33.52	34.64	0.003412	0.111	0.114	0.118
Idaho	13.29	13.44	13.77	0.003412	0.045	0.046	0.047
Illinois	28.49	31.23	31.93	0.003412	0.097	0.107	0.109
Indiana	19.58	20.19	21.02	0.003412	0.067	0.069	0.072
Iowa	22.91	23.44	24.22	0.003412	0.078	0.080	0.083
Kansas	22.66	23.58	24.62	0.003412	0.077	0.080	0.084
Kentucky	16.37	18.53	18.93	0.003412	0.056	0.063	0.065
Louisiana	21.79	22.00	22.61	0.003412	0.074	0.075	0.077
Maine	33.73	32.83	32.67	0.003412	0.115	0.112	0.111
Maryland	21.53	22.09	22.95	0.003412	0.073	0.075	0.078
Massachusetts	29.59	28.97	29.58	0.003412	0.101	0.099	0.101
Michigan	23.52	23.75	24.36	0.003412	0.080	0.081	0.083
Minnesota	19.47	21.33	21.76	0.003412	0.066	0.073	0.074
Mississippi	20.35	20.78	21.44	0.003412	0.069	0.071	0.073
Missouri	20.99	21.43	22.12	0.003412	0.072	0.073	0.075
Montana	18.31	16.94	17.20	0.003412	0.062	0.058	0.059
Nebraska	17.07	19.12	19.51	0.003412	0.058	0.065	0.067
Nevada	18.59	18.63	19.08	0.003412	0.063	0.064	0.065
New Hampshire	32.41	31.82	32.15	0.003412	0.111	0.109	0.110
New Jersey	30.53	31.20	32.49	0.003412	0.104	0.106	0.111
New Mexico	26.63	27.28	28.14	0.003412	0.091	0.093	0.096
New York	34.22	34.90	36.07	0.003412	0.117	0.119	0.123
North Carolina	23.35	23.42	23.96	0.003412	0.080	0.080	0.082
North Dakota	17.13	17.61	18.31	0.003412	0.058	0.060	0.062
Ohio	23.13	24.22	25.20	0.003412	0.079	0.083	0.086
Oklahoma	20.42	20.92	21.58	0.003412	0.070	0.071	0.074
Oregon	14.34	14.51	14.93	0.003412	0.049	0.050	0.051
Pennsylvania	27.32	27.58	28.34	0.003412	0.093	0.094	0.097
Rhode Island	31.97	31.85	32.37	0.003412	0.109	0.109	0.110
South Carolina	21.24	21.54	22.21	0.003412	0.072	0.074	0.076
South Dakota	19.93	20.35	21.03	0.003412	0.068	0.069	0.072
Tennessee	16.62	17.07	17.67	0.003412	0.057	0.058	0.060
Texas	21.66	22.23	22.99	0.003412	0.074	0.076	0.078
Utah	20.55	21.03	21.87	0.003412	0.070	0.072	0.075
Vermont	30.60	29.75	29.87	0.003412	0.104	0.102	0.102
Virginia	21.53	21.83	22.50	0.003412	0.073	0.074	0.077
Washington	12.71	12.83	13.19	0.003412	0.043	0.044	0.045
West Virginia	17.72	18.15	18.75	0.003412	0.060	0.062	0.064
Wisconsin	19.99	20.31	20.97	0.003412	0.068	0.069	0.072
Wyoming	17.30	18.48	18.82	0.003412	0.059	0.063	0.064
Total U.S.	24.05	24.12	24.65	0.003412	0.082	0.083	0.084

1992 data: Energy Information Administration, Electric Power Monthly, DOE/EIA-0226, March 1993. 1993 and 1994 projections: derived from simulation of the LIHEAP model. Conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

Table 3. State Residential Natural Gas Price History/Forecast

State	1992 (dollars per million Btu)	1993	1994	Conversion Factor (million Btu per thousand cubic feet)	1992 (dollars per thousand cubic feet)	1993	1994
Alabama	6.47	6.74	6.94	1.027	6.65	6.92	7.13
Alaska	3.78	3.81	3.84	1.002	3.79	3.82	3.84
Arizona	7.05	7.14	7.32	1.025	7.23	7.32	7.50
Arkansas	5.00	5.13	5.27	1.017	5.08	5.22	5.36
California	5.80	5.91	6.07	1.027	5.95	6.07	6.23
Colorado	4.39	5.01	5.15	1.030	4.52	5.16	5.30
Connecticut	8.72	8.93	9.12	1.031	8.99	9.21	9.40
Delaware	5.99	6.65	6.81	1.025	6.14	6.82	6.98
District of Columbia	7.33	7.69	7.89	1.006	7.37	7.73	7.94
Florida	8.29	7.63	7.77	1.099	9.11	8.39	8.54
Georgia	6.23	6.68	6.86	1.027	6.40	6.86	7.04
Hawaii	16.69	17.34	17.95	1.080	18.03	18.73	19.39
Idaho	5.07	5.68	5.86	1.033	5.24	5.87	6.05
Illinois	5.00	5.17	5.31	1.019	5.09	5.27	5.41
Indiana	5.34	5.50	5.64	1.014	5.42	5.57	5.72
Iowa	5.18	5.30	5.41	1.008	5.22	5.35	5.46
Kansas	4.65	4.62	4.66	1.011	4.70	4.67	4.71
Kentucky	4.77	4.96	5.10	1.047	4.99	5.19	5.34
Louisiana	5.31	5.74	5.99	1.048	5.56	6.01	6.28
Maine	6.89	7.67	7.88	1.006	6.93	7.71	7.93
Maryland	6.22	6.53	6.77	1.025	6.38	6.69	6.94
Massachusetts	7.56	7.82	8.03	1.039	7.85	8.13	8.35
Michigan	4.70	5.04	5.30	1.039	4.88	5.23	5.50
Minnesota	4.76	4.98	5.16	1.012	4.82	5.04	5.22
Mississippi	4.56	5.46	5.61	1.030	4.70	5.62	5.77
Missouri	4.99	5.28	5.49	1.009	5.03	5.32	5.54
Montana	4.64	4.68	4.81	1.028	4.77	4.81	4.94
Nebraska	4.85	4.96	5.08	0.985	4.78	4.88	5.01
Nevada	5.40	6.10	6.26	1.036	5.59	6.32	6.48
New Hampshire	7.54	7.15	7.31	1.007	7.59	7.20	7.36
New Jersey	6.75	7.00	7.20	1.025	6.92	7.18	7.38
New Mexico	4.55	5.47	5.63	1.042	4.74	5.70	5.87
New York	7.10	7.55	7.70	1.027	7.60	7.76	7.91
North Carolina	6.28	6.56	6.73	1.032	6.48	6.77	6.94
North Dakota	4.78	5.02	5.19	1.046	5.00	5.25	5.43
Ohio	4.96	5.25	5.48	1.044	5.18	5.48	5.72
Oklahoma	4.90	4.95	5.02	1.013	4.96	5.02	5.08
Oregon	5.95	6.75	6.91	1.031	6.13	6.96	7.13
Pennsylvania	6.41	6.37	6.54	1.035	6.63	6.60	6.77
Rhode Island	7.47	7.46	7.64	1.028	7.68	7.67	7.86
South Carolina	6.93	7.07	7.23	1.027	7.12	7.26	7.42
South Dakota	5.02	5.25	5.42	1.018	5.11	5.34	5.52
Tennessee	5.25	5.00	5.14	1.033	5.42	5.17	5.30
Texas	5.56	5.68	5.79	1.040	5.78	5.90	6.03
Utah	5.09	5.10	5.24	1.073	5.46	5.48	5.63
Vermont	6.78	6.43	6.57	0.988	6.70	6.35	6.49
Virginia	6.44	6.71	6.88	1.042	6.71	7.00	7.17
Washington	4.85	5.07	5.25	1.031	5.00	5.23	5.41
West Virginia	6.07	5.97	6.14	1.073	6.51	6.41	6.58
Wisconsin	5.71	5.98	6.18	1.007	5.75	6.02	6.23
Wyoming	4.42	4.91	5.05	1.060	4.68	5.21	5.36
Total U.S.	5.69	5.89	6.04	1.030	5.86	6.06	6.22

1992 data: Energy Information Administration, Natural Gas Monthly, DOE/EIA-0130, June 1993. 1993 and 1994 projections: derived from simulation of the LIHEAP model. Conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

Table 4. State Residential Heating Oil Price Estimates/Forecast

State	1992 (dollars per million Btu)	1993	1994	Conversion Factor (million Btu per gallon)	1992	1993	1994
					(dollars per gallon)		
Alabama	5.82	5.93	6.21	0.139	0.81	0.82	0.86
Alaska	6.78	7.36	7.59	0.139	0.94	1.02	1.05
Arizona	5.30	5.71	5.80	0.139	0.74	0.79	0.80
Arkansas	6.24	6.30	6.51	0.139	0.87	0.87	0.90
California	5.77	6.83	7.04	0.139	0.94	0.95	0.98
Colorado	5.36	5.42	5.66	0.139	0.74	0.75	0.78
Connecticut	7.37	7.82	8.05	0.139	1.02	1.08	1.12
Delaware	6.66	6.93	7.21	0.139	0.92	0.96	1.00
District of Columbia	8.08	8.09	8.28	0.139	1.12	1.12	1.15
Florida	7.45	7.52	7.77	0.139	1.03	1.04	1.08
Georgia	6.53	6.58	6.79	0.139	0.91	0.91	0.94
Hawaii	6.22	6.28	6.46	0.139	0.86	0.87	0.90
Idaho	6.49	6.64	6.91	0.139	0.90	0.92	0.96
Illinois	6.71	6.90	7.12	0.139	0.93	0.96	0.99
Indiana	7.07	7.13	7.36	0.139	0.98	0.99	1.02
Iowa	5.16	5.25	5.45	0.139	0.71	0.73	0.76
Kansas	6.36	6.41	6.61	0.139	0.88	0.89	0.92
Kentucky	6.76	6.82	7.04	0.139	0.94	0.95	0.98
Louisiana	5.46	5.50	5.66	0.139	0.76	0.76	0.79
Maine	6.66	7.19	7.42	0.139	0.92	1.00	1.03
Maryland	7.56	7.77	8.01	0.139	1.05	1.08	1.11
Massachusetts	7.00	7.50	7.71	0.139	0.97	1.04	1.07
Michigan	6.53	6.98	7.20	0.139	0.91	0.97	1.00
Minnesota	6.29	7.09	7.32	0.139	0.87	0.98	1.02
Mississippi	4.73	4.78	4.98	0.139	0.66	0.66	0.69
Missouri	6.42	6.51	6.76	0.139	0.89	0.90	0.94
Montana	5.82	5.89	6.12	0.139	0.81	0.82	0.85
Nebraska	5.74	5.80	6.02	0.139	0.80	0.80	0.84
Nevada	6.76	6.82	7.03	0.139	0.94	0.95	0.98
New Hampshire	6.17	6.73	6.97	0.139	0.86	0.93	0.97
New Jersey	7.24	7.26	7.46	0.139	1.00	1.01	1.03
New Mexico	5.86	5.92	6.14	0.139	0.81	0.82	0.85
New York	7.71	7.75	7.98	0.139	1.07	1.08	1.11
North Carolina	7.10	7.17	7.40	0.139	0.99	0.99	1.03
North Dakota	6.78	6.84	7.06	0.139	0.94	0.95	0.98
Ohio	6.33	6.66	6.99	0.139	0.88	0.92	0.97
Oklahoma	6.34	6.40	6.62	0.139	0.88	0.89	0.92
Oregon	6.33	6.32	6.54	0.139	0.88	0.88	0.91
Pennsylvania	6.79	7.09	7.41	0.139	0.94	0.98	1.03
Rhode Island	7.04	7.85	7.76	0.139	0.98	1.09	1.08
South Carolina	6.94	7.00	7.22	0.139	0.96	0.97	1.00
South Dakota	4.98	5.18	5.50	0.139	0.69	0.72	0.76
Tennessee	6.17	6.23	6.46	0.139	0.86	0.86	0.90
Texas	5.52	5.58	5.81	0.139	0.77	0.77	0.81
Utah	6.27	6.18	6.31	0.139	0.87	0.86	0.88
Vermont	6.98	7.14	7.45	0.139	0.97	0.99	1.03
Virginia	6.93	7.37	7.61	0.139	0.96	1.02	1.06
Washington	7.24	7.30	7.53	0.139	1.00	1.01	1.04
West Virginia	6.60	6.92	7.14	0.139	0.92	0.96	0.99
Wisconsin	6.19	6.76	6.98	0.139	0.86	0.94	0.97
Wyoming	5.56	5.54	5.73	0.139	0.77	0.77	0.79
Total U.S.	7.30	7.36	7.60	0.139	1.01	1.02	1.05

1992 data: Energy Information Administration, Petroleum Marketing Annual 1992, DOE/EIA-0487, July 1993. 1993 and 1994 projections: derived from simulation of the LIHEAP model. Conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

Table 5. State Residential Liquefied Petroleum Gas Price Estimates/Forecast

State	1992 (dollars per million Btu)	1993	1994	Conversion Factor (million Btu per gallon)	1992	1993	1994
					(dollars per gallon)		
Alabama	10.05	10.46	10.46	0.091	0.91	0.95	0.95
Alaska	15.60	16.26	16.27	0.091	1.42	1.48	1.48
Arizona	12.30	12.82	12.83	0.091	1.12	1.17	1.17
Arkansas	9.86	10.29	10.30	0.091	0.90	0.94	0.94
California	12.40	12.79	12.80	0.091	1.13	1.16	1.16
Colorado	5.85	6.26	6.27	0.091	0.53	0.57	0.57
Connecticut	12.44	12.96	12.97	0.091	1.13	1.18	1.18
Delaware	12.77	13.25	13.26	0.091	1.16	1.21	1.21
District of Columbia	14.20	14.58	14.59	0.091	1.29	1.33	1.33
Florida	12.89	13.38	13.39	0.091	1.17	1.22	1.22
Georgia	10.07	10.41	10.42	0.091	0.92	0.95	0.95
Hawaii	16.58	17.12	17.13	0.091	1.51	1.56	1.56
Idaho	11.12	11.58	11.59	0.091	1.01	1.05	1.05
Illinois	6.77	7.18	7.29	0.091	0.62	0.65	0.66
Indiana	9.31	9.68	9.68	0.091	0.85	0.88	0.88
Iowa	7.20	7.53	7.54	0.091	0.66	0.69	0.69
Kansas	7.43	7.80	7.81	0.091	0.68	0.71	0.71
Kentucky	10.46	10.88	10.89	0.091	0.95	0.99	0.99
Louisiana	10.66	11.11	11.12	0.091	0.97	1.01	1.01
Maine	13.26	13.82	13.83	0.091	1.21	1.26	1.26
Maryland	12.04	12.55	12.56	0.091	1.10	1.14	1.14
Massachusetts	12.86	13.35	13.36	0.091	1.17	1.21	1.22
Michigan	10.06	10.47	10.48	0.091	0.92	0.95	0.95
Minnesota	8.74	9.06	9.07	0.091	0.80	0.82	0.83
Mississippi	9.86	10.25	10.26	0.091	0.90	0.93	0.93
Missouri	8.31	8.65	8.65	0.091	0.76	0.79	0.79
Montana	8.62	9.00	9.01	0.091	0.78	0.82	0.82
Nebraska	7.29	7.63	7.64	0.091	0.66	0.69	0.70
Nevada	13.20	13.70	13.71	0.091	1.20	1.25	1.25
New Hampshire	12.13	12.44	12.36	0.091	1.10	1.13	1.12
New Jersey	11.80	12.27	12.28	0.091	1.07	1.12	1.12
New Mexico	8.94	9.27	9.28	0.091	0.81	0.84	0.84
New York	11.95	12.46	12.47	0.091	1.09	1.13	1.13
North Carolina	10.66	11.09	11.10	0.091	0.97	1.01	1.01
North Dakota	6.92	7.28	7.28	0.091	0.63	0.66	0.66
Ohio	10.65	11.09	11.10	0.091	0.97	1.01	1.01
Oklahoma	7.97	8.28	8.29	0.091	0.73	0.75	0.75
Oregon	11.79	12.29	12.30	0.091	1.07	1.12	1.12
Pennsylvania	11.83	12.34	12.35	0.091	1.08	1.12	1.12
Rhode Island	12.42	12.96	12.97	0.091	1.13	1.18	1.18
South Carolina	10.42	10.83	10.84	0.091	0.95	0.99	0.99
South Dakota	6.23	6.68	6.82	0.091	0.57	0.51	0.62
Tennessee	10.44	10.87	10.88	0.091	0.95	0.99	0.99
Texas	9.85	10.29	10.29	0.091	0.90	0.94	0.94
Utah	9.26	9.60	9.61	0.091	0.84	0.87	0.87
Vermont	12.57	13.10	13.11	0.091	1.14	1.19	1.19
Virginia	11.70	12.14	12.15	0.091	1.06	1.10	1.11
Washington	11.46	11.90	11.91	0.091	1.04	1.08	1.08
West Virginia	9.40	9.90	9.91	0.091	0.86	0.90	0.90
Wisconsin	8.46	8.94	9.02	0.091	0.77	0.81	0.82
Wyoming	9.61	10.02	10.02	0.091	0.87	0.91	0.91
Total U.S.	10.32	10.75	10.76	0.091	0.94	0.98	0.98

Note: All prices are projections derived from simulation of the LIHEAP model. Conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

Table 6. State Residential Kerosene Price Estimates/Forecast

State	1992 (dollars per million Btu)	1993 (dollars per million Btu)	1994 (dollars per million Btu)	Conversion Factor (million Btu per gallon)	1992 (dollars per gallon)	1993 (dollars per gallon)	1994 (dollars per gallon)
Alabama	7.17	7.24	7.49	0.135	0.97	0.98	1.01
Alaska	7.54	7.50	7.53	0.135	1.02	1.01	1.02
Arizona	7.84	7.88	8.02	0.135	1.06	1.06	1.08
Arkansas	6.76	6.81	7.01	0.135	0.91	0.92	0.95
California	12.04	12.12	12.44	0.135	1.62	1.64	1.68
Colorado	6.92	6.99	7.22	0.135	0.93	0.94	0.97
Connecticut	8.44	8.50	8.73	0.135	1.14	1.15	1.18
Delaware	8.19	8.25	8.49	0.135	1.11	1.11	1.15
District of Columbia	8.24	8.30	8.54	0.135	1.11	1.12	1.15
Florida	11.46	10.98	10.87	0.135	1.55	1.48	1.47
Georgia	8.43	8.47	8.72	0.135	1.14	1.14	1.18
Hawaii	NA	NA	NA	0.135	NA	NA	NA
Idaho	11.36	11.45	11.78	0.135	1.53	1.55	1.59
Illinois	8.19	8.40	8.64	0.135	1.11	1.13	1.17
Indiana	8.39	8.15	8.39	0.135	1.13	1.10	1.13
Iowa	6.32	6.43	6.68	0.135	0.85	0.87	0.90
Kansas	7.22	7.27	7.48	0.135	0.97	0.98	1.01
Kentucky	6.26	7.07	7.30	0.135	0.85	0.95	0.99
Louisiana	7.99	8.05	8.27	0.135	1.08	1.09	1.12
Maine	8.38	8.45	8.68	0.135	1.13	1.14	1.17
Maryland	7.86	8.12	8.45	0.135	1.06	1.10	1.14
Massachusetts	7.43	7.92	8.35	0.135	1.00	1.07	1.13
Michigan	7.51	7.69	8.01	0.135	1.01	1.04	1.08
Minnesota	7.67	7.79	8.04	0.135	1.04	1.05	1.08
Mississippi	6.33	6.55	6.93	0.135	0.85	0.88	0.94
Missouri	7.91	7.88	8.07	0.135	1.07	1.06	1.09
Montana	8.42	8.49	8.74	0.135	1.14	1.15	1.18
Nebraska	7.23	7.28	7.50	0.135	0.98	0.98	1.01
Nevada	12.56	12.66	13.03	0.135	1.70	1.71	1.76
New Hampshire	8.08	8.15	8.38	0.135	1.09	1.10	1.13
New Jersey	8.72	9.14	9.58	0.135	1.18	1.23	1.29
New Mexico	7.58	7.64	7.87	0.135	1.02	1.03	1.06
New York	8.66	8.70	8.91	0.135	1.17	1.17	1.20
North Carolina	7.10	7.79	8.02	0.135	0.96	1.05	1.08
North Dakota	6.81	6.85	7.05	0.135	0.92	0.93	0.95
Ohio	6.91	7.71	7.94	0.135	0.93	1.04	1.07
Oklahoma	7.56	7.62	7.85	0.135	1.02	1.03	1.06
Oregon	9.07	9.11	9.34	0.135	1.22	1.23	1.26
Pennsylvania	7.35	7.59	7.95	0.135	0.99	1.03	1.07
Rhode Island	8.14	8.23	8.48	0.135	1.10	1.11	1.14
South Carolina	7.91	7.98	8.20	0.135	1.07	1.08	1.11
South Dakota	6.27	6.57	6.95	0.135	0.85	0.89	0.94
Tennessee	7.36	6.87	7.11	0.135	0.99	0.93	0.96
Texas	5.97	6.01	6.16	0.135	0.81	0.81	0.83
Utah	14.30	14.03	14.12	0.135	1.93	1.89	1.91
Vermont	8.20	8.25	8.47	0.135	1.11	1.11	1.14
Virginia	7.70	7.77	7.99	0.135	1.04	1.05	1.08
Washington	9.18	9.24	9.49	0.135	1.24	1.25	1.28
West Virginia	7.38	8.02	8.42	0.135	1.00	1.08	1.14
Wisconsin	7.67	7.73	7.95	0.135	1.04	1.04	1.07
Wyoming	5.97	6.01	6.14	0.135	0.81	0.81	0.83
Total U.S.	8.09	8.15	8.39	0.135	1.09	1.10	1.13

1992 data: Energy Information Administration, Petroleum Marketing Annual 1992, DOE/EIA-0487, July 1993. 1993 and 1994 projections: derived from simulation of the LIHEAP model. Conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

Table 7. State Residential Coal Price Forecast

State	1992 (dollars per million Btu)	1993 (dollars per million Btu)	1994 (dollars per million Btu)	Conversion Factor (million Btu per ton)	1992 (dollars per ton)	1993 (dollars per ton)	1994 (dollars per ton)
Alabama	3.00	2.99	3.02	24.64	74.02	73.66	74.31
Alaska	8.92	7.75	7.18	15.80	140.96	122.49	113.45
Arizona	NA	NA	NA	NA	NA	NA	NA
Arkansas	2.96	3.09	3.23	25.97	76.84	80.25	83.85
California	4.38	4.24	4.23	23.14	101.27	98.15	97.96
Colorado	2.72	2.71	2.73	21.57	58.66	58.40	58.87
Connecticut	4.49	4.48	4.51	25.03	112.48	112.13	112.77
Delaware	4.05	4.04	4.07	25.03	101.41	101.02	101.74
District of Columbia	3.12	3.15	3.21	25.04	78.13	78.88	80.26
Florida	3.03	3.01	3.04	24.83	75.12	74.71	75.46
Georgia	3.04	3.09	3.15	25.19	76.55	77.90	79.41
Hawaii	NA	NA	NA	NA	NA	NA	NA
Idaho	1.80	1.79	1.81	22.57	40.65	40.44	40.82
Illinois	2.37	2.36	2.37	22.56	53.42	53.25	53.56
Indiana	2.83	2.82	2.84	22.43	63.51	63.29	63.69
Iowa	3.16	3.15	3.17	24.09	76.06	75.75	76.32
Kansas	2.12	2.12	2.12	24.17	51.27	51.33	51.22
Kentucky	2.32	2.31	2.33	24.71	57.34	57.15	57.50
Louisiana	NA	NA	NA	NA	NA	NA	NA
Maine	4.38	4.37	4.40	24.98	109.47	109.06	109.81
Maryland	3.39	3.48	3.54	25.16	85.22	87.57	89.05
Massachusetts	4.45	4.44	4.47	24.99	111.33	110.95	111.64
Michigan	3.73	3.72	3.75	24.89	92.91	92.53	93.22
Minnesota	4.11	4.09	4.12	17.73	72.82	72.47	73.10
Mississippi	2.65	2.52	2.33	24.85	66.18	62.52	57.84
Missouri	1.62	1.66	1.70	21.95	35.46	36.49	37.31
Montana	1.01	1.01	1.01	18.02	18.13	18.12	18.14
Nebraska	2.63	2.62	2.64	21.54	56.76	56.53	56.95
Nevada	4.62	4.60	4.63	23.15	106.85	106.49	107.15
New Hampshire	4.66	4.64	4.68	25.03	116.68	116.24	117.05
New Jersey	2.93	2.96	3.00	25.03	73.39	74.06	75.20
New Mexico	2.71	2.70	2.72	18.64	50.55	50.31	50.75
New York	3.43	3.43	3.46	24.79	85.03	85.02	85.75
North Carolina	2.81	2.80	2.81	25.27	70.90	70.63	71.12
North Dakota	1.93	1.93	1.93	13.90	26.82	26.80	26.83
Ohio	2.91	2.90	2.92	24.17	70.39	70.10	70.64
Oklahoma	2.72	2.70	2.73	25.97	70.51	70.18	70.78
Oregon	4.05	4.05	4.06	23.15	93.79	93.65	93.91
Pennsylvania	2.70	2.76	2.82	25.02	67.65	68.97	70.63
Rhode Island	4.46	4.44	4.47	21.39	95.30	94.97	95.57
South Carolina	3.44	3.43	3.44	25.14	86.37	86.11	86.59
South Dakota	3.02	3.01	3.03	17.29	52.25	52.06	52.40
Tennessee	1.79	1.78	1.80	25.10	44.95	44.81	45.07
Texas	2.17	2.17	2.18	25.72	55.92	55.73	56.09
Utah	3.32	3.30	3.34	23.15	76.90	76.48	77.24
Vermont	4.81	4.80	4.82	25.03	120.38	120.05	120.65
Virginia	3.44	3.51	3.60	25.12	86.33	88.15	90.34
Washington	4.05	4.04	4.06	22.33	90.46	90.32	90.58
West Virginia	1.50	1.58	1.62	25.01	37.51	39.44	40.57
Wisconsin	3.89	3.87	3.90	25.06	97.48	97.11	97.78
Wyoming	1.98	1.68	1.81	23.15	45.78	38.88	41.79
Total U.S.	3.06	3.04	3.07	23.20	70.68	70.38	70.93

Notes: All prices are projections derived from simulation of the LIHEAP model. conversion factors: Energy Information Administration, State Energy Data Report 1991, DOE/EIA-0214, May 1993.

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