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FOLDER 44: ENERGY TAX US ENERGY PRICES AND EXPENDITURES 1990 STATE ENERGY PRICE AND EXPENDITURE REPORT

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U.S. Energy Prices and Expenditures

The U.S. energy bill totaled $473 billion[1] in 1990. While the total amount of energy consumed in the United States in 1990 held steady at 81 quadrillion Btu, the overall average price for energy grew by 9 percent from the 1989 level, and total energy expenditures rose by 8 percent. The average price paid by consumers for all energy in 1990 was $8.43 per million Btu. In 1990, Americans consumed energy at the same per capita rate, 326 million Btu per person, as they had in 1970; however, including inflation, they spent nearly 5 times as much money per person for that same amount of energy (Table 1).

Table 1. Energy Consumption and Expenditures per Capita, 1970-1990

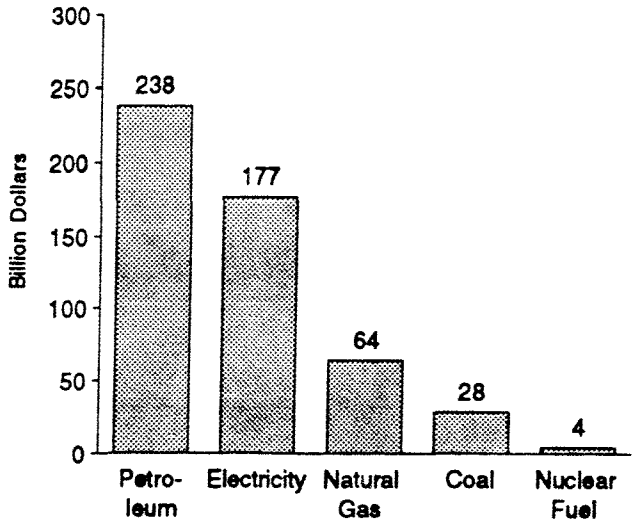
	Consumption per Capita		Expenditures per Capita	
	Million Btu	Index 1970=1.00	Dollars	Index 1970=1.00
1970	326	1.00	406	1.00
1971	328	1.00	434	1.07
1972	341	1.04	467	1.15
1973	352	1.08	528	1.30
1974	340	1.04	718	1.77
1975	328	1.00	797	1.96
1976	342	1.05	890	2.19
1977	347	1.06	1,002	2.47
1978	352	1.08	1,076	2.65
1979	351	1.08	1,323	3.26
1980	335	1.03	1,650	4.06
1981	322	0.99	1,857	4.57
1982	305	0.94	1,831	4.51
1983	301	0.92	1,775	4.37
1984	313	0.96	1,833	4.51
1985	310	0.95	1,824	4.49
1986	308	0.94	1,581	3.89
1987	315	0.97	1,618	3.98
1988	326	1.00	1,658	4.08
1989	328	1.00	1,756	4.32
1990	326	1.00	1,900	4.68

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Expenditures by Energy Source. Petroleum purchases totaling $238 billion accounted for the largest expenditure by energy source in 1990 (Figure 1). Within petroleum, motor gasoline expenditures totaled $126 billion or 53 percent of the petroleum total. Distillate fuel expenditures were $49 billion (21 percent of petroleum), jet fuel, $18 billion (7 percent), and liquefied petroleum gases, $13 billion (6 percent). A total of $177 billion was spent on electricity, which was generated from many other forms of energy such as coal, nuclear fuel, hydroelectric power, natural gas, and petroleum. Natural gas expenditures totaled $64 billion; coal, $28 billion; and nuclear fuel, $4 billion.

Expenditures by End-Use Sector. Transportation sector expenditures continued to exceed all other sectors in 1990, totaling $182 billion, followed by $109

Figure 1. U.S. Energy Expenditures by Source, 1990



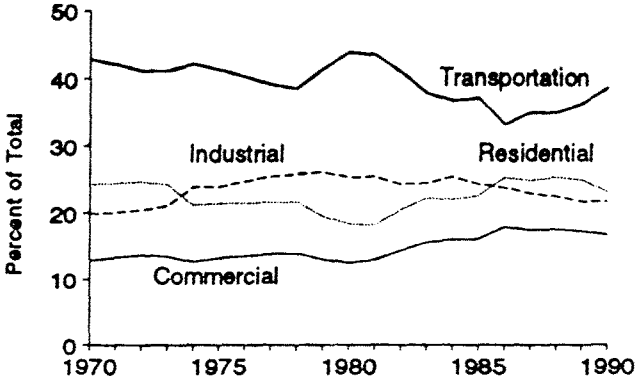
Note: Data are not additive due to expenditure components not shown and the double-counting of primary fuels in electricity. See U.S. expenditures table on page 19.
Source: State Energy Price and Expenditure Data System 1990.

[1] All prices and expenditures are expressed in current dollars, which are not adjusted to remove the effects of inflation.

billion for the residential sector, $102 billion for the industrial sector, and $79 billion for the commercial sector. In general, the transportation and industrial sectors' shares of total expenditures declined from 1980 through 1986, while the residential and commercial sectors' shares grew (Figure 2). After 1986, however, the transportation expenditure share expanded dramatically, while the other three sectors' shares each declined. Sector expenditures grew unevenly in 1990: transportation expenditures rose by 16 percent over the 1989 level, and industrial, commercial, and residential expenditures were up 8 percent, 5 percent, and 1 percent, respectively. Meanwhile, expenditures by the electric utility industry to acquire the resources to generate electricity fell by 1 percent in 1990. The decrease reflected reduced expenditure totals for petroleum and natural gas, outweighing increased expenditures for coal and nuclear fuel.

In 1990, electricity purchases accounted for the largest portion of the energy bills in each of the residential, commercial, and industrial sectors (Figure 3). The residential and commercial sectors' expenditures were similar: large expenditures on electricity, followed by natural gas and petroleum expenditures. The industrial sector's expenditures

Figure 2. End-Use Sector Shares of U.S. Total Energy Expenditures, 1970-1990

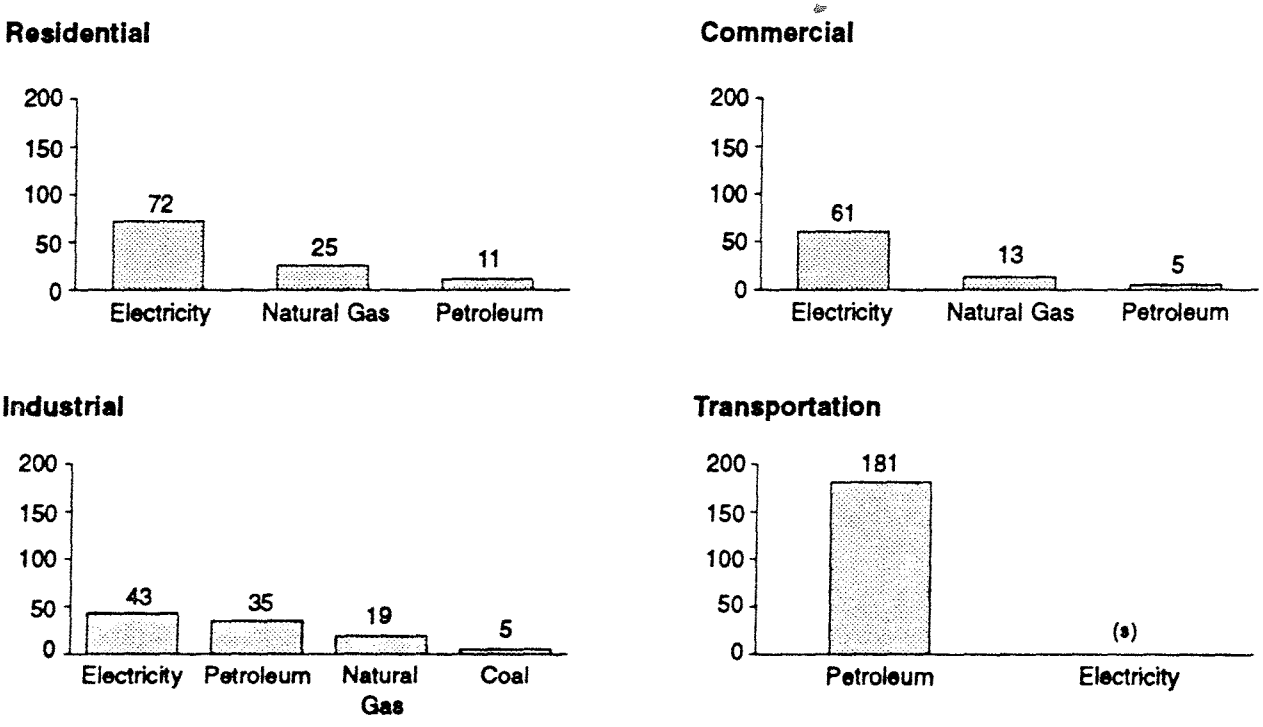


Source: State Energy Price and Expenditure Data System 1990.

were more diverse: 42 percent for electricity, 34 percent for petroleum, 19 percent for natural gas, and 5 percent for coal. In contrast to the industrial sector's diversity of energy sources, the transportation sector was almost exclusively petroleum dependent.

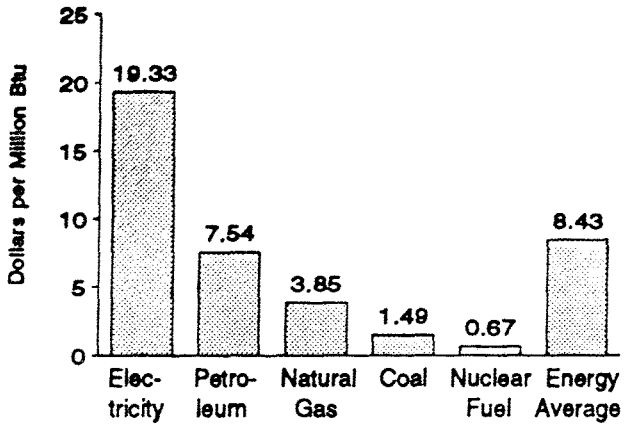
Prices by Energy Source. Of the major energy sources, electricity registered the highest energy price per million Btu ($19.33), followed by petroleum

Figure 3. U.S. Energy Expenditures by End-Use Sector and Source, 1990
(Billion Dollars)



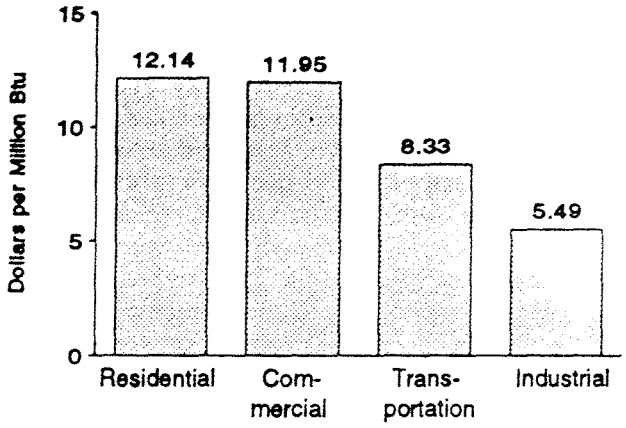
(s) = Less than 0.5 billion dollars.
Source: State Energy Price and Expenditure System 1990.

Figure 4. U.S. Energy Prices by Source, 1990



Source: State Energy Price and Expenditure Data System 1990.

Figure 5. U.S. Energy Prices by End-Use Sector, 1990



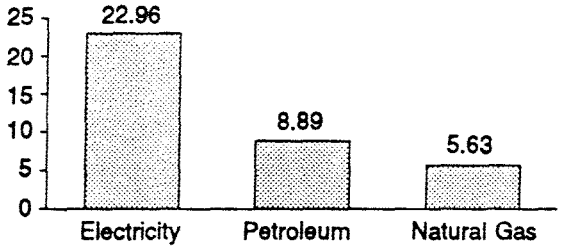
Source: State Energy Price and Expenditure Data System 1990.

($7.54), natural gas ($3.85), coal ($1.49), and nuclear fuel ($0.67) (Figure 4). The prices by major energy source remained in the same relative order over the 1970 through 1990 period. The price of electricity greatly exceeded other sources' prices because of the significant cost of converting energy from various forms (e.g., fossil fuels, nuclear fuel, hydroelectric energy, and geothermal energy) into electricity as well as somewhat smaller costs for transmitting and distributing electricity to end users. In addition, electricity is a premium form of energy because of its flexibility and clean nature at energy consumers' sites.

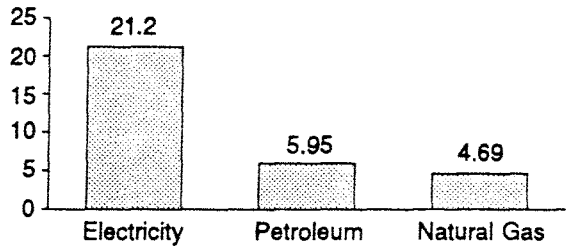
Prices by End-Use Sector. Because of different mixes of energy sources consumed, the average price paid by major end-use sector in the U.S. economy varied considerably (Figure 5). The residential and

Figure 6. U.S. Energy Prices by End-Use Sector and Source, 1990
(Dollars per Million Btu)

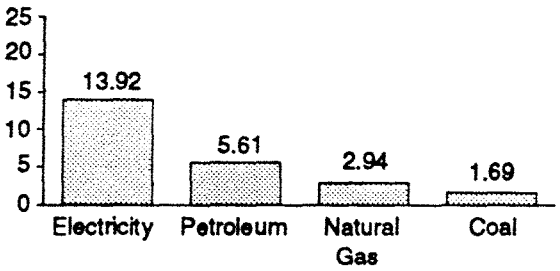
Residential



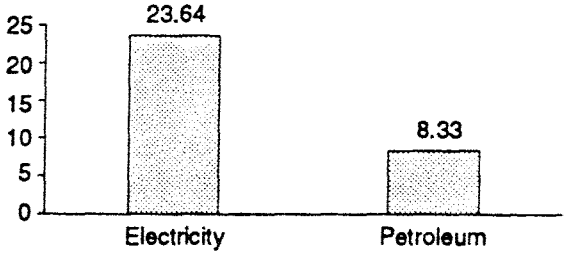
Commercial



Industrial



Transportation



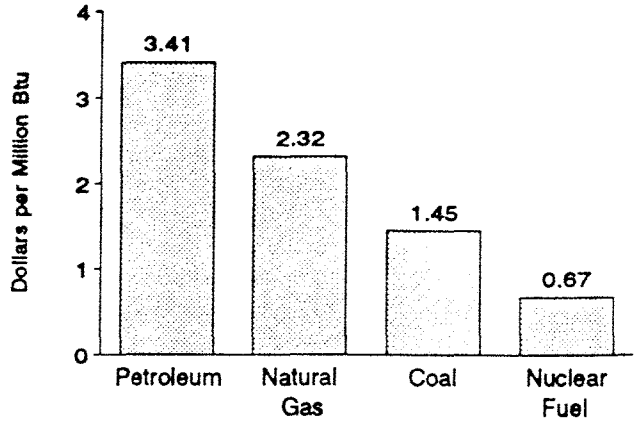
Source: State Energy Price and Expenditure System 1990.

commercial sectors' average prices were the highest in 1990, $12.14 per million Btu in the residential sector and $11.95 per million Btu in the commercial sector. The transportation sector's average price of $8.33 per million Btu reflects that sector's reliance on petroleum products. Although the industrial sector consumed more energy than the other sectors, its lower average price of $5.49 per million Btu reflects the use of large contracted purchases, which are less costly, and the use of lower-priced fuels such as coal and residual fuel (Figure 6). The higher average prices paid by residential and commercial consumers are a result, in part, of those sectors' greater reliance on higher-priced electricity. Throughout the 1970's, the residential, commercial, and transportation sectors' average prices for energy were very close, with industrial sector prices about half of the residential prices but following the same year-to-year pattern in price fluctuations. For instance, in 1970, the average price for energy in the residential sector was $2.12 per million Btu; the commercial sector, $1.97 per million Btu; the transportation sector, $2.31 per million Btu; and the industrial sector, 83 cents per million Btu. Throughout the 1980's, the transportation sector average prices dropped significantly below the average residential and commercial prices, following the trend in motor gasoline prices. Industrial prices continued to follow the same fluctuations as the residential and commercial sectors' prices and remained at about half of those prices.

Prices at Electric Utilities. The average price of fuel consumed at electric utilities in 1990 was $1.46 per million Btu, compared with the peak price of $2.01 per million Btu paid in 1982, when petroleum and natural gas prices were near their highest levels. Petroleum was consistently the highest-priced fuel used by electric utilities during the 1970 through 1990 period. In 1970 through 1975, coal prices were slightly higher than natural gas prices. After 1975, natural gas prices rose rapidly until 1985, while coal prices grew more slowly. The prices of both fuels declined in the second half of the 1980's. In 1990, electric utilities paid an average price of $1.45 per million Btu for coal and 67 cents per million Btu for nuclear fuel versus $3.41 per million Btu for petroleum and $2.32 per million Btu for natural gas (Figure 7).

Expenditures at Electric Utilities. Of the $38 billion spent by electric utilities to purchase fuel in 1990, 61 percent ($23 billion) was used to purchase coal (Figure 8). Other fuel expenditures were much smaller —$7 billion for natural gas, $4 billion for petroleum products, and $4 billion for nuclear fuel. Electric utility use of coal doubled during the 1970 through

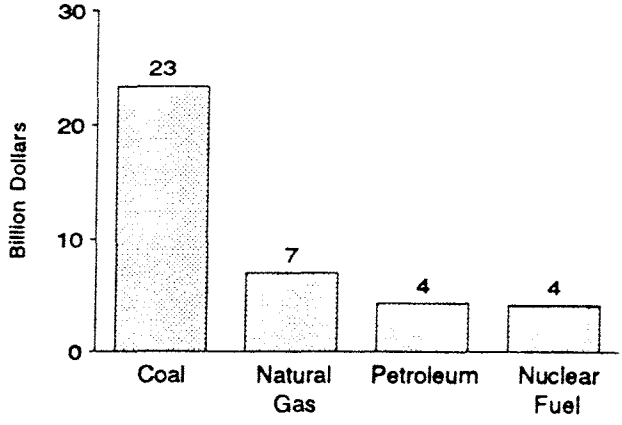
Figure 7. U.S. Prices at Electric Utilities, 1990



Source: State Energy Price and Expenditure Data System 1990.

1990 period, and coal's share of the electric utility annual energy expenditure total ranged from a low of 42 percent in 1977 to a high in 1986 of 64 percent of the total. Petroleum took increasing shares of the electric utility sector fuel budget in the early 1970's and peaked in 1974 at 44 percent. After that, electric utilities spent proportionally less each year on petroleum and, by 1986, petroleum purchases were only 10 percent of electric utilities' fuel expenditures. The natural gas share of electric utilities' expenditures ranged from 12 percent in 1974 to 27 percent in 1982. In 1990, natural gas accounted for 17 percent of the electric utility fuel bill. In general, expenditures expanded for coal and nuclear fuel over the entire period covered by this report, while expenditures for natural gas and petroleum contracted after the early 1980's.

Figure 8. U.S. Energy Expenditures at Electric Utilities, 1990



Source: State Energy Price and Expenditure Data System 1990.

State Rankings

Energy Prices. The average price paid for energy in 1990 ranged from $6.05 per million Btu in Louisiana to $11.64 per million Btu in Vermont (Table 2). In 1970, the average price for energy ranged from $0.94 per million Btu in Louisiana to $2.40 per million Btu in Vermont. Some States' positions changed significantly from 1970 to 1990. For example, New Mexico's average price, which ranked 43rd in 1970, was 15th highest in 1990; Delaware's rank rose from 33rd to 16th; North Dakota's rank fell from 7th highest to 48th; and Oklahoma's fell from 18th to 42nd.

Energy Expenditures. State energy expenditures vary widely due to differences in population, climate, and size and type of industry, among other factors. In 1990, energy expenditures ranged from $1.1 billion in Vermont to $48.6 billion in California (Table 3). The top nine States in the 1970 rankings were still the top nine in the 1990 rankings, with small variation in their order. The five leading States in energy expenditures in 1990 were California, Texas, New York, Illinois, and Pennsylvania. Their purchases alone accounted for 35 percent of the Nation's total, about the same share (34 percent) as in 1970.

Energy Expenditures per Capita. Energy expenditures per capita in 1990 ranged from $1,531 in New York to $3,869 in Alaska (Table 4). Some States ranked high in their total sum spent on energy but low in the per person rankings, and vice versa; for example, California spent the highest sum for energy in 1990 but ranked 46th in spending per person; New York's total expenditures ranked 3rd, but its per capita expenditures ranked last; and Florida was 7th in expenditures but 47th in per capita expenditures. On the other hand, Alaska ranked 41st in total expenditures but was 1st in the per capita ranking. Texas was high on both scales—2nd in total expenditures and 4th in per capita.

Petroleum Prices and Expenditures. In 1990, State-level average petroleum prices differed between the highest and lowest cost States by nearly $3 per million Btu: Vermont paid the highest, $9.29 per million Btu, while Texas paid the lowest, $6.30 per million Btu (Table 5). The States that paid the most for petroleum products in 1970 varied from those in 1990. Only Ohio and Nebraska were among the 10 States with the highest petroleum prices in both years. Mississippi paid the 2nd highest price for petroleum products in 1970 but ranked 40th in petroleum prices in 1990. The District of Columbia, which was 50th in average prices for petroleum in 1970, paid the 2nd highest price in 1990. Even with its high price, the District of Columbia spent the smallest amount on petroleum products of all the States in 1990 (Table 6). Similarly, while Vermont paid the highest average price for petroleum in 1990, it had the 2nd smallest petroleum expenditures that year. The 10 States that spent the most for all energy in 1990 were also the leading petroleum-purchasing States, in slightly different order. The top five States accounted for 34 percent of all expenditures for petroleum in 1990, unchanged from 1970.

Motor Gasoline Prices and Expenditures. In 1990, motor gasoline prices ranged from $8.24 per million Btu in Georgia to $11.71 per million Btu in Hawaii, and the U.S. average was $9.12 per million Btu (Table 7). In other words, in 1990 Georgians purchased motor gasoline for about 43 cents per gallon less than Hawaiians and about 11 cents per gallon below the U.S. average of $1.14 per gallon. The New England States were all in the top 15 rankings in the average price paid for motor gasoline. Expenditures for motor gasoline in 1990 ranged from $225 million in the District of Columbia to $13.7 billion in California. While District of Columbia residents purchased motor gasoline at the Nation's 2nd highest average price, they spent the smallest amount overall for the commodity (Table 8). California, with the next to the smallest motor gasoline price average in the Nation, spent the greatest overall total for the product.

Natural Gas Prices and Expenditures. Natural gas price averages ranged from $1.96 per million Btu in Alaska to $6.40 per million Btu in Connecticut and the District of Columbia (Table 9). Hawaii paid an unusually high rate ($12.24 per million Btu) due to

Note: Throughout this report, the District of Columbia is listed, for statistical purposes only, as a State.

its use of small quantities of liquefied natural gas. All of the Northeastern States fell within the top 15 positions in the rankings. Total expenditures for natural gas in 1990 ranged from Maine's $26 million to California's $7.8 billion (Table 10). Texas, California, and New York spent the most for natural gas, as well as for petroleum and electricity in 1990. Natural gas expenditures were more concentrated than the petroleum or electricity expenditures—the top 5 States accounted for 43 percent of the U.S. total natural gas expenditures versus 34 percent for petroleum and 36 percent for electricity.

Coal Prices and Expenditures. In 1990, consumers of coal in Montana were able to purchase a million Btu worth of coal at a price that was $3 less than that in Vermont: coal prices ranged from 70 cents per million Btu in Montana to $3.73 per million Btu in Vermont (Table 11). Coal expenditures ranged from less than one-half million dollars in Rhode Island to $2.2 billion in Pennsylvania (Table 12). While the New England States generally ranked high in average price paid for coal, they tended to use little coal, thereby spending small sums on the resource overall. Pennsylvania, Ohio, Indiana, Texas, and West Virginia were the largest purchasers of coal in 1990. Together, they accounted for 34 percent of the Nation's coal expenditures in 1990, much less concentrated than the top 5 States' share of 49 percent in 1970. In 1970, however, there were 5 States that consumed no coal and another 12 that spent between only $2 million and $8 million on coal. Texas, which was 30th in coal expenditures in 1970, moved up to 4th place in 1990.

Electricity Prices and Expenditures. Electricity prices recorded the greatest range of the key energy sources, varying from $10.03 per million Btu in the State of Washington in 1990 to Alaska's $27.80 per million Btu (Table 13). The large price range, nearly $18 per million Btu, reflects the wide price differences of the resources that the States depended on to generate electricity. Washington, for example, relied heavily on hydroelectricity and had the lowest average cost for electricity in both 1970 and 1990. Similarly, almost all of Idaho's electricity came from hydropower; its price ranked 50th in 1990. Montana depended on coal and hydropower for electricity, both low-cost sources of power in 1990. Electricity expenditures in 1990 ranged from $0.4 billion in South Dakota to $18.4 billion in California (Table 14). The 5 leading State purchasers of electricity accounted for 36 percent of the Nation's total expenditures for electricity, 1 percent less than in 1970.

Table 2. Energy Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Vermont	11.64
2	Connecticut	11.62
3	Arizona	11.37
4	District of Columbia	11.31
5	New Hampshire	11.30
6	Rhode Island	10.80
7	New York	10.68
8	Florida	10.58
9	Massachusetts	10.57
10	North Carolina	10.06
11	Hawaii	9.76
12	Maine	9.54
13	Maryland	9.40
14	New Jersey	9.32
15	New Mexico	9.22
16	Delaware	9.14
17	California	9.08
18	Nevada	9.01
19	South Carolina	8.93
20	Missouri	8.91
21	Virginia	8.89
22	Georgia	8.88
23	Arkansas	8.81
24	Illinois	8.74
25	South Dakota	8.65
26	Pennsylvania	8.63
27	Tennessee	8.61
28	Nebraska	8.43
	United States	**8.43**
29	Oregon	8.39
30	Ohio	8.32
31	Mississippi	8.31
32	Wisconsin	8.27
33	Minnesota	8.17
34	Michigan	8.17
35	Colorado	8.14
36	Alabama	7.92
37	Kentucky	7.91
38	Montana	7.87
39	Idaho	7.81
40	Iowa	7.71
41	Kansas	7.59
42	Oklahoma	7.46
43	Washington	7.39
44	Utah	7.16
45	Alaska	7.03
46	West Virginia	6.77
47	Indiana	6.77
48	North Dakota	6.64
49	Texas	6.48
50	Wyoming	6.46
51	Louisiana	6.05

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 3. Energy Expenditures by State, 1990
(Million Dollars)

Rank	State	Expenditure
1	California	48,635
2	Texas	43,305
3	New York	27,550
4	Illinois	22,442
5	Pennsylvania	22,238
6	Ohio	21,097
7	Florida	20,961
8	Michigan	16,785
9	New Jersey	16,008
10	Louisiana	13,653
11	Georgia	12,892
12	North Carolina	12,585
13	Indiana	12,218
14	Virginia	11,302
15	Massachusetts	10,557
16	Tennessee	9,719
17	Missouri	9,468
18	Washington	8,563
19	Alabama	8,388
20	Wisconsin	8,093
21	Maryland	7,909
22	Minnesota	7,514
23	Kentucky	7,323
24	South Carolina	6,895
25	Arizona	6,544
26	Oklahoma	6,265
27	Connecticut	6,131
28	Kansas	5,318
29	Colorado	5,245
30	Iowa	5,164
31	Oregon	5,016
32	Mississippi	4,960
33	Arkansas	4,735
34	West Virginia	3,918
35	Nebraska	3,126
36	New Mexico	2,979
37	Utah	2,755
38	Maine	2,549
39	Nevada	2,424
40	Hawaii	2,186
41	Alaska	2,128
42	New Hampshire	1,970
43	Idaho	1,823
44	Montana	1,686
45	Rhode Island	1,586
46	North Dakota	1,581
47	Wyoming	1,531
48	Delaware	1,424
49	South Dakota	1,349
50	District of Columbia	1,084
51	Vermont	1,056
	United States	**472,657**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 4. Energy Expenditures per Capita by State, 1990
(Dollars per Capita)

Rank	State	Expenditure
1	Alaska	3,869
2	Wyoming	3,371
3	Louisiana	3,235
4	Texas	2,549
5	North Dakota	2,475
6	Indiana	2,204
7	West Virginia	2,185
8	Kansas	2,146
9	Delaware	2,138
10	Montana	2,111
11	Maine	2,076
12	Alabama	2,076
13	New Jersey	2,071
14	Nevada	2,017
15	Arkansas	2,014
16	Tennessee	1,993
17	Oklahoma	1,992
18	Georgia	1,990
19	Kentucky	1,987
20	Nebraska	1,981
21	South Carolina	1,977
22	Hawaii	1,973
23	New Mexico	1,966
24	Illinois	1,963
25	Ohio	1,945
26	South Dakota	1,938
27	Mississippi	1,928
	United States	**1,900**
28	North Carolina	1,899
29	Vermont	1,876
30	Pennsylvania	1,872
31	Connecticut	1,865
32	Iowa	1,860
33	Missouri	1,850
34	Virginia	1,827
35	Idaho	1,810
36	Michigan	1,806
37	District of Columbia	1,787
38	Arizona	1,786
39	New Hampshire	1,777
40	Oregon	1,765
41	Washington	1,759
42	Massachusetts	1,755
43	Minnesota	1,717
44	Wisconsin	1,654
45	Maryland	1,654
46	California	1,634
47	Florida	1,620
48	Utah	1,599
49	Colorado	1,592
50	Rhode Island	1,581
51	New York	1,531

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 5. Petroleum Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Vermont	9.29
2	District of Columbia	8.86
3	Illinois	8.65
4	Wisconsin	8.63
5	Arkansas	8.57
6	Ohio	8.54
7	North Carolina	8.51
8	Arizona	8.47
9	Nebraska	8.43
10	Michigan	8.42
11	Iowa	8.38
12	Minnesota	8.36
13	Tennessee	8.34
14	Rhode Island	8.27
15	Colorado	8.17
16	West Virginia	8.17
17	North Dakota	8.16
18	Idaho	8.13
19	Pennsylvania	8.09
20	New Mexico	8.09
21	Kentucky	8.07
22	Virginia	8.03
23	Oklahoma	8.02
24	South Dakota	8.00
25	Maryland	7.99
26	Utah	7.94
27	Montana	7.93
28	Missouri	7.92
29	South Carolina	7.91
30	Alabama	7.91
31	Nevada	7.91
32	Oregon	7.88
33	Wyoming	7.68
34	Connecticut	7.67
35	Alaska	7.62
	United States	**7.54**
36	Indiana	7.52
37	Georgia	7.41
38	Kansas	7.37
39	New Jersey	7.33
40	Mississippi	7.32
41	California	7.28
42	New Hampshire	7.27
43	Massachusetts	7.19
44	New York	7.16
45	Washington	7.12
46	Maine	7.04
47	Florida	7.00
48	Delaware	6.98
49	Louisiana	6.89
50	Hawaii	6.42
51	Texas	6.30

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 6. Petroleum Expenditures by State, 1990
(Million Dollars)

Rank	State	Expenditure
1	Texas	24,706
2	California	23,886
3	New York	12,492
4	Florida	10,994
5	Illinois	9,694
6	Pennsylvania	9,663
7	Ohio	8,958
8	New Jersey	8,313
9	Louisiana	7,894
10	Michigan	7,334
11	North Carolina	6,091
12	Georgia	6,084
13	Virginia	5,954
14	Indiana	5,834
15	Massachusetts	5,624
16	Washington	4,959
17	Missouri	4,839
18	Tennessee	4,725
19	Alabama	4,066
20	Wisconsin	4,027
21	Maryland	3,998
22	Minnesota	3,916
23	Kentucky	3,800
24	Connecticut	3,280
25	South Carolina	3,171
26	Oklahoma	3,159
27	Arizona	2,951
28	Oregon	2,801
29	Kansas	2,719
30	Colorado	2,616
31	Mississippi	2,615
32	Iowa	2,549
33	Arkansas	2,323
34	West Virginia	2,180
35	Hawaii	1,788
36	New Mexico	1,717
37	Nebraska	1,716
38	Maine	1,685
39	Alaska	1,560
40	Utah	1,420
41	Nevada	1,356
42	New Hampshire	1,116
43	Montana	1,007
44	Idaho	978
45	South Dakota	844
46	Wyoming	840
47	North Dakota	836
48	Rhode Island	831
49	Delaware	806
50	Vermont	637
51	District of Columbia	329
	United States	**237,681**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 7. Motor Gasoline Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Hawaii	11.71
2	District of Columbia	10.66
3	Delaware	10.26
4	Connecticut	10.06
5	Alaska	10.03
6	Rhode Island	10.03
7	West Virginia	9.96
8	Maryland	9.88
9	North Dakota	9.87
10	Maine	9.74
11	New Hampshire	9.66
12	Vermont	9.66
13	Minnesota	9.56
14	Montana	9.56
15	Massachusetts	9.53
16	Nebraska	9.49
17	Louisiana	9.47
18	Virginia	9.46
19	Oregon	9.45
20	Washington	9.45
21	North Carolina	9.44
22	South Dakota	9.40
23	Tennessee	9.40
24	Wisconsin	9.38
25	Iowa	9.38
26	Illinois	9.35
27	Ohio	9.35
28	Pennsylvania	9.35
29	Colorado	9.29
30	Kentucky	9.25
31	New Mexico	9.23
32	Arizona	9.22
33	Mississippi	9.21
34	Texas	9.16
35	Idaho	9.15
	United States	**9.12**
36	Nevada	9.10
37	Utah	9.09
38	New Jersey	9.03
39	Oklahoma	9.00
40	Alabama	8.96
41	Kansas	8.90
42	Arkansas	8.86
43	Florida	8.85
44	New York	8.83
45	South Carolina	8.80
46	Michigan	8.78
47	Indiana	8.74
48	Wyoming	8.66
49	Missouri	8.61
50	California	8.57
51	Georgia	8.24

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 8. Motor Gasoline Expenditures by State, 1990
(Million Dollars)

Rank	State	Expenditure
1	California	13,700
2	Texas	9,831
3	Florida	6,581
4	New York	6,419
5	Illinois	5,913
6	Ohio	5,394
7	Pennsylvania	5,247
8	Michigan	4,582
9	North Carolina	3,824
10	New Jersey	3,694
11	Georgia	3,580
12	Virginia	3,475
13	Missouri	2,879
14	Tennessee	2,846
15	Indiana	2,827
16	Massachusetts	2,789
17	Washington	2,639
18	Maryland	2,447
19	Wisconsin	2,391
20	Minnesota	2,386
21	Alabama	2,303
22	Louisiana	2,174
23	Kentucky	2,080
24	South Carolina	1,988
25	Arizona	1,893
26	Oklahoma	1,851
27	Colorado	1,726
28	Connecticut	1,636
29	Oregon	1,566
30	Iowa	1,552
31	Mississippi	1,399
32	Arkansas	1,342
33	Kansas	1,331
34	West Virginia	1,022
35	Nebraska	915
36	New Mexico	899
37	Utah	794
38	Maine	719
39	Nevada	710
40	New Hampshire	594
41	Idaho	547
42	Hawaii	530
43	Montana	515
44	Rhode Island	459
45	South Dakota	441
46	Delaware	429
47	North Dakota	420
48	Vermont	338
49	Wyoming	321
50	Alaska	307
51	District of Columbia	225
	United States	**126,472**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 9. Natural Gas Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Hawaii	12.24
2	Connecticut	6.40
3	District of Columbia	6.40
4	New Hampshire	6.38
5	Maine	6.05
6	Rhode Island	5.80
7	Massachusetts	5.55
8	New York	5.25
9	Pennsylvania	5.24
10	Maryland	5.07
11	New Jersey	5.05
12	Georgia	4.80
13	Missouri	4.69
14	Virginia	4.67
15	Vermont	4.65
16	Illinois	4.57
17	Wisconsin	4.56
18	Ohio	4.54
19	Arizona	4.48
20	South Dakota	4.41
21	West Virginia	4.40
22	Michigan	4.36
23	California	4.31
24	Oregon	4.28
25	Indiana	4.27
26	North Carolina	4.19
27	Utah	4.17
28	Montana	4.16
29	North Dakota	4.12
30	Kentucky	4.10
31	Alabama	4.07
32	South Carolina	4.01
33	Tennessee	3.98
34	Nebraska	3.93
35	Colorado	3.92
36	Minnesota	3.87
	United States	**3.85**
37	New Mexico	3.84
38	Delaware	3.82
39	Iowa	3.81
40	Nevada	3.68
41	Washington	3.60
42	Wyoming	3.57
43	Idaho	3.43
44	Kansas	3.30
45	Arkansas	3.27
46	Florida	3.21
47	Oklahoma	2.80
48	Mississippi	2.75
49	Texas	2.47
50	Louisiana	2.11
51	Alaska	1.96

* Based on small quantities of liquefied natural gas.
Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 10. Natural Gas Expenditures by State, 1990
(Million Dollars)

Rank	State	Expenditure
1	California	7,830
2	Texas	7,319
3	New York	4,614
4	Illinois	4,269
5	Michigan	3,470
6	Ohio	3,402
7	Pennsylvania	3,297
8	Louisiana	2,467
9	New Jersey	2,185
10	Indiana	1,878
11	Massachusetts	1,480
12	Georgia	1,467
13	Wisconsin	1,371
14	Oklahoma	1,307
15	Missouri	1,108
16	Florida	1,081
17	Minnesota	1,066
18	Maryland	884
19	Kansas	871
20	Alabama	842
21	Virginia	831
22	Colorado	821
23	Tennessee	804
24	Iowa	803
25	Arkansas	665
26	North Carolina	657
27	Kentucky	656
28	Connecticut	642
29	Mississippi	558
30	Washington	554
31	South Carolina	526
32	West Virginia	471
33	Arizona	451
34	Oregon	438
35	Utah	419
36	Nebraska	415
37	New Mexico	349
38	Nevada	243
39	Alaska	224
40	Rhode Island	187
41	District of Columbia	185
42	Montana	163
43	Wyoming	163
44	Delaware	151
45	Idaho	142
46	South Dakota	111
47	North Dakota	99
48	New Hampshire	92
49	Hawaii	37
50	Vermont	31
51	Maine	26
	United States	**64,121**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 11. Coal Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Vermont	3.73
2	Alaska	3.67
3	Rhode Island	3.58
4	Maine	2.72
5	Connecticut	2.15
6	California	2.01
7	District of Columbia	1.96
8	Florida	1.85
9	Alabama	1.83
10	Hawaii	1.82
11	New Hampshire	1.82
12	New Jersey	1.79
13	Georgia	1.79
14	North Carolina	1.79
15	Massachusetts	1.77
16	Delaware	1.76
17	Idaho	1.76
18	South Carolina	1.73
19	Illinois	1.72
20	Louisiana	1.68
21	New York	1.66
22	Mississippi	1.66
23	Washington	1.65
24	Michigan	1.63
25	Arkansas	1.62
26	Maryland	1.62
27	Virginia	1.60
28	Pennsylvania	1.57
29	Ohio	1.54
	United States	**1.49**
30	Nevada	1.49
31	West Virginia	1.47
32	Indiana	1.46
33	Arizona	1.45
34	Texas	1.44
35	Wisconsin	1.41
36	Oklahoma	1.40
37	Tennessee	1.35
38	Missouri	1.35
39	Minnesota	1.32
40	New Mexico	1.32
41	Kentucky	1.27
42	Utah	1.24
43	Kansas	1.24
44	South Dakota	1.22
45	Oregon	1.22
46	North Dakota	1.18
47	Iowa	1.16
48	Colorado	1.07
49	Wyoming	0.86
50	Nebraska	0.78
51	Montana	0.70

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 12. Coal Expenditures by State, 1990
(Million Dollars)

Rank	State	Expenditure
1	Pennsylvania	2,245
2	Ohio	2,194
3	Indiana	1,983
4	Texas	1,919
5	West Virginia	1,286
6	Michigan	1,283
7	Illinois	1,283
8	Georgia	1,282
9	Alabama	1,238
10	Florida	1,156
11	Kentucky	1,019
12	North Carolina	946
13	Tennessee	813
14	Missouri	728
15	New York	575
16	Wisconsin	560
17	Virginia	533
18	South Carolina	499
19	Arizona	499
20	Maryland	464
21	Utah	455
22	North Dakota	444
23	Minnesota	429
24	Wyoming	396
25	Oklahoma	388
26	Iowa	386
27	New Mexico	363
28	Colorado	353
29	Louisiana	351
30	Arkansas	345
31	Kansas	338
32	Nevada	247
33	Massachusetts	200
34	Mississippi	172
35	New Jersey	144
36	Washington	141
37	California	131
38	Montana	116
39	Nebraska	110
40	Delaware	105
41	New Hampshire	57
42	Connecticut	55
43	Alaska	45
44	South Dakota	40
45	Oregon	19
46	Maine	18
47	Idaho	18
48	District of Columbia	3
49	Hawaii	1
50	Vermont	1
51	Rhode Island	0
	United States	**28,380**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 13. Electricity Prices by State, 1990
(Dollars per Million Btu)

Rank	State	Price
1	Alaska	27.80
2	New York	27.51
3	Rhode Island	26.85
4	Connecticut	26.83
5	New Hampshire	26.67
6	New Jersey	26.63
7	Hawaii	26.53
8	California	25.98
9	Massachusetts	25.93
10	Vermont	24.24
11	Arizona	22.82
12	Pennsylvania	22.46
13	Maine	22.42
14	Illinois	22.02
15	New Mexico	20.99
16	Michigan	20.85
17	Florida	20.62
18	Arkansas	19.78
	United States	**19.33**
19	Kansas	19.31
20	Georgia	19.25
21	Delaware	19.00
22	Missouri	18.94
23	North Carolina	18.74
24	Maryland	18.47
25	Mississippi	18.05
26	South Dakota	17.95
27	Louisiana	17.77
28	Virginia	17.70
29	District of Columbia	17.38
30	Iowa	17.37
31	Ohio	17.33
32	Colorado	17.31
33	Texas	17.09
34	North Dakota	16.86
35	Alabama	16.46
36	South Carolina	16.39
37	Nebraska	16.34
38	Utah	16.09
39	Oklahoma	16.08
40	Nevada	15.77
41	Wisconsin	15.77
42	Indiana	15.75
43	Minnesota	15.68
44	Tennessee	15.59
45	West Virginia	13.90
46	Kentucky	13.17
47	Wyoming	12.37
48	Oregon	12.25
49	Montana	11.67
50	Idaho	11.15
51	Washington	10.03

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

Table 14. Electricity Expenditures by State, 1990
(Million Dollars)

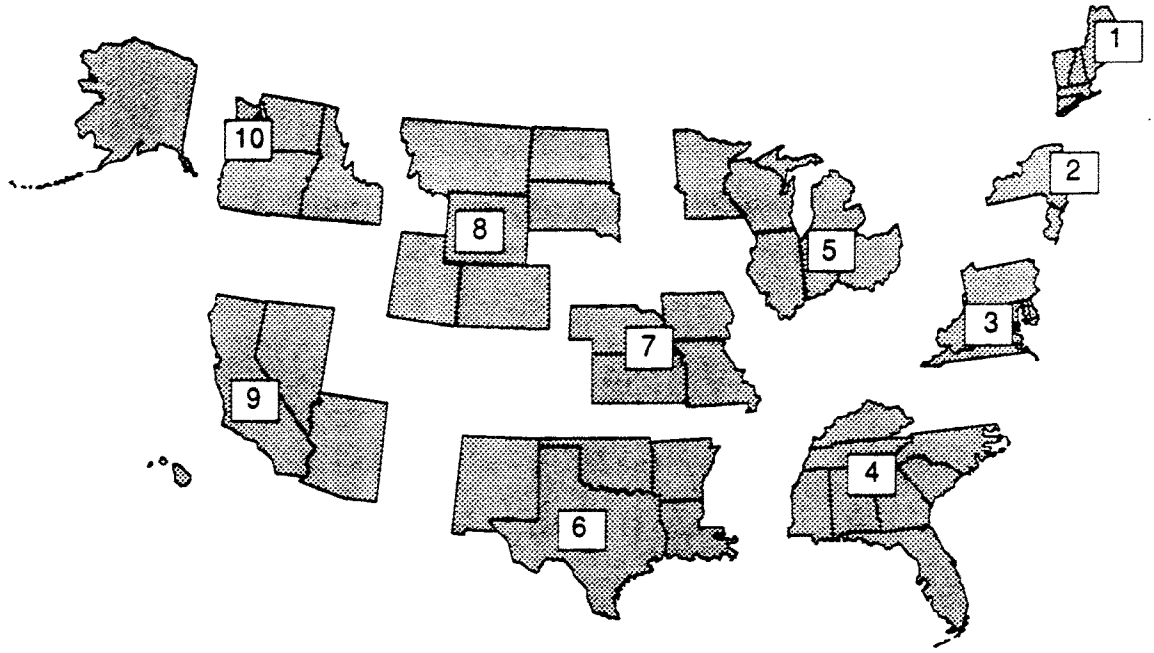
Rank	State	Expenditure
1	California	18,418
2	Texas	13,431
3	New York	12,088
4	Florida	10,098
5	Pennsylvania	8,737
6	Ohio	8,322
7	Illinois	8,307
8	Michigan	5,797
9	North Carolina	5,715
10	New Jersey	5,689
11	Georgia	5,255
12	Virginia	4,374
13	Tennessee	4,055
14	Massachusetts	4,021
15	Indiana	3,927
16	Louisiana	3,739
17	Missouri	3,485
18	Alabama	3,237
19	Arizona	3,181
20	Maryland	3,122
21	South Carolina	3,113
22	Washington	3,034
23	Kentucky	2,707
24	Wisconsin	2,620
25	Minnesota	2,491
26	Connecticut	2,489
27	Oklahoma	2,316
28	Mississippi	1,915
29	Colorado	1,800
30	Oregon	1,797
31	Arkansas	1,790
32	Kansas	1,775
33	Iowa	1,745
34	West Virginia	1,089
35	Nebraska	996
36	New Mexico	964
37	Maine	882
38	Nevada	880
39	Utah	831
40	New Hampshire	817
41	Hawaii	732
42	Idaho	685
43	Rhode Island	588
44	District of Columbia	584
45	Delaware	534
46	Montana	510
47	Wyoming	482
48	Alaska	401
49	North Dakota	401
50	Vermont	390
51	South Dakota	388
	United States	**176,742**

Note: Rankings are based on unrounded data.
Source: State Energy Price and Expenditure Data System 1990.

United States

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	83	0.7%	313	2.8%
Natural gas	281	1.0%	1,202	3.9%
Coal	3	2.6%	12	10.6%
Electricity	770	1.0%	3,367	4.1%
Commercial				
Petroleum	60	1.0%	240	3.8%
Natural gas	173	1.1%	754	4.5%
Electricity	670	1.0%	2,939	4.1%
Industrial				
Petroleum	221	1.0%	984	4.1%
Natural Gas	462	1.8%	1,969	6.8%
Coal				
Metallurgical	58	3.1%	228	12.2%
Steam	102	3.6%	426	14.3%
Electricity	504	1.0%	2,237	4.1%
Transportation				
Petroleum				
Distillate	244	0.7%	1,075	2.7%
Jet	199	1.0%	862	4.3%
Gasoline	835	0.6%	3,540	2.4%
Residual	48	1.7%	206	6.7%
Other	17	0.5%	72	1.9%
Total Tax Revenues:	4,729	0.9%	20,425	3.7%
Total Energy Expenditures:	509,685		544,703	
Electric Utility Fuel Cost Increase:				
Petroleum	84	1.5%	379	5.8%
Natural Gas	211	2.2%	1,002	8.4%
Coal	1,015	3.8%	4,370	15.1%
Nuclear	390	N/A	1,683	N/A
Renewable	244	N/A	1,110	N/A

Federal Regions



Region 1
New England

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region 2
New York/
New Jersey

New Jersey
New York

Region 3
Mid-Atlantic

Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Region 4
South Atlantic

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region 5
Midwest

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region 6
Southwest

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Region 7
Central

Iowa
Kansas
Missouri
Nebraska

Region 8
North Central

Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Region 9
West

Arizona
California
Hawaii
Nevada

Region 10
Northwest

Alaska
Idaho
Oregon
Washington

New England

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	16	0.7%	59	2.9%
Natural gas	11	0.8%	50	3.1%
Coal	0	2.0%	1	8.0%
Electricity	28	0.8%	125	3.1%
Commercial				
Petroleum	6	1.0%	26	3.9%
Natural gas	7	0.9%	30	3.7%
Electricity	30	0.8%	126	3.1%
Industrial				
Petroleum	5	1.0%	25	4.2%
Natural Gas	4	1.3%	16	5.0%
Coal				
Metallurgical	0	N/A	0	N/A
Steam	1	2.5%	3	10.6%
Electricity	14	0.8%	58	3.1%
Transportation				
Petroleum				
Distillate	8	0.6%	36	2.4%
Jet	5	1.0%	20	4.1%
Gasoline	43	0.6%	179	2.3%
Residual	0	2.1%	1	7.5%
Other	1	0.5%	2	1.9%
Total Tax Revenues:	178	0.7%	758	2.9%
Total Energy Expenditures:	24,380		25,986	
Electric Utility Fuel Cost Increase:				
Petroleum	18	1.7%	74	6.3%
Natural Gas	4	2.1%	16	8.0%
Coal	10	3.1%	40	12.0%
Nuclear	25	N/A	110	N/A
Renewable	15	N/A	70	N/A

New York/New Jersey

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	18	0.7%	66	2.8%
Natural gas	33	0.8%	141	3.3%
Coal	0	2.5%	1	10.5%
Electricity	42	0.6%	177	2.6%
Commercial				
Petroleum	13	1.0%	51	4.0%
Natural gas	20	1.0%	85	4.0%
Electricity	57	0.6%	242	2.6%
Industrial				
Petroleum	5	0.9%	24	3.4%
Natural Gas	12	1.2%	52	4.9%
Coal				
Metallurgical	2	2.7%	9	10.6%
Steam	4	3.3%	16	13.6%
Electricity	15	0.6%	65	2.6%
Transportation				
Petroleum				
Distillate	13	0.6%	56	2.5%
Jet	18	1.0%	74	4.3%
Gasoline	71	0.6%	296	2.4%
Residual	4	1.8%	16	6.7%
Other	1	0.5%	4	1.9%
Total Tax Revenues:	325	0.7%	1,376	2.9%
Total Energy Expenditures:	45,082		47,134	
Electric Utility Fuel Cost Increase:				
Petroleum	20	1.4%	73	5.6%
Natural Gas	17	2.1%	74	7.7%
Coal	19	3.4%	77	13.7%
Nuclear	32	N/A	138	N/A
Renewable	25	N/A	121	N/A

Mid Atlantic

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	12	0.7%	44	2.9%
Natural gas	27	0.9%	118	3.6%
Coal	1	2.6%	6	10.2%
Electricity	88	1.1%	383	4.3%
Commercial				
Petroleum	7	1.0%	28	4.0%
Natural gas	15	1.1%	68	4.2%
Electricity	70	1.1%	306	4.3%
Industrial				
Petroleum	10	0.9%	44	3.6%
Natural Gas	29	1.4%	121	5.5%
Coal				
Metallurgical	21	3.4%	82	13.0%
Steam	17	3.7%	71	14.3%
Electricity	59	1.1%	255	4.3%
Transportation				
Petroleum				
Distillate	22	0.7%	97	2.6%
Jet	13	1.1%	57	4.3%
Gasoline	81	0.6%	343	2.4%
Residual	2	1.9%	11	7.1%
Other	1	0.5%	5	1.9%
Total Tax Revenues:	477	0.9%	2,039	3.8%
Total Energy Expenditures:	50,297		53,409	
Electric Utility Fuel Cost Increase:				
Petroleum	10	1.5%	52	5.7%
Natural Gas	3	2.0%	17	7.3%
Coal	143	3.8%	615	15.2%
Nuclear	54	N/A	228	N/A
Renewable	7	N/A	33	N/A

South Atlantic

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	9	0.6%	34	2.4%
Natural gas	21	0.9%	88	3.8%
Coal	0	3.0%	2	11.9%
Electricity	181	1.0%	784	4.4%
Commercial				
Petroleum	10	1.0%	38	4.0%
Natural gas	18	1.1%	79	4.3%
Electricity	128	1.0%	572	4.4%
Industrial				
Petroleum	25	1.1%	110	4.2%
Natural Gas	46	1.6%	192	6.2%
Coal				
Metallurgical	6	3.2%	23	13.0%
Steam	26	3.3%	107	12.9%
Electricity	108	1.0%	487	4.4%
Transportation				
Petroleum				
Distillate	50	0.7%	224	2.8%
Jet	32	1.1%	135	4.3%
Gasoline	167	0.6%	711	2.4%
Residual	3	2.1%	14	7.5%
Other	3	0.5%	12	2.0%
Total Tax Revenues:	834	0.9%	3,613	3.8%
Total Energy Expenditures:	90,868		96,070	
Electric Utility Fuel Cost Increase:				
Petroleum	21	1.7%	98	6.2%
Natural Gas	23	2.1%	115	8.1%
Coal	241	3.5%	1,044	13.9%
Nuclear	105	N/A	468	N/A
Renewable	28	N/A	119	N/A

Midwest

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	14	0.7%	55	2.8%
Natural gas	95	1.1%	405	4.2%
Coal	1	2.6%	1	10.5%
Electricity	135	1.0%	591	4.0%
Commercial				
Petroleum	8	0.8%	30	3.3%
Natural gas	47	1.2%	200	4.6%
Electricity	105	1.0%	458	4.0%
Industrial				
Petroleum	30	0.8%	137	3.3%
Natural Gas	77	1.4%	328	5.4%
Coal				
Metallurgical	27	3.0%	106	11.7%
Steam	28	3.7%	112	14.8%
Electricity	118	1.0%	524	4.0%
Transportation				
Petroleum				
Distillate	40	0.7%	173	2.6%
Jet	18	1.0%	76	4.3%
Gasoline	145	0.6%	608	2.4%
Residual	0	1.9%	1	6.8%
Other	3	0.5%	14	1.9%
Total Tax Revenues:	891	0.9%	3,819	3.7%
Total Energy Expenditures:	96,877		102,826	
Electric Utility Fuel Cost Increase:				
Petroleum	3	1.4%	13	5.2%
Natural Gas	11	2.1%	75	8.0%
Coal	255	3.7%	1,095	14.6%
Nuclear	84	N/A	357	N/A
Renewable	5	N/A	34	N/A

Southwest

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	4	0.7%	15	2.7%
Natural gas	25	1.0%	106	4.1%
Coal	0	2.4%	0	9.9%
Electricity	116	1.0%	504	4.2%
Commercial				
Petroleum	7	1.1%	26	4.2%
Natural gas	19	1.3%	82	4.9%
Electricity	87	1.0%	383	4.2%
Industrial				
Petroleum	102	1.2%	454	4.8%
Natural Gas	207	2.4%	861	8.9%
Coal				
Metallurgical	0	N/A	0	N/A
Steam	6	3.5%	26	12.7%
Electricity	76	1.0%	338	4.2%
Transportation				
Petroleum				
Distillate	41	0.7%	181	2.8%
Jet	42	1.1%	184	4.4%
Gasoline	109	0.6%	467	2.5%
Residual	14	1.8%	60	6.9%
Other	3	0.5%	11	2.0%
Total Tax Revenues:	858	1.1%	3,698	4.3%
Total Energy Expenditures:	78,519		85,013	
Electric Utility Fuel Cost Increase:				
Petroleum	1	1.4%	7	5.6%
Natural Gas	101	2.3%	444	9.0%
Coal	139	3.7%	605	14.3%
Nuclear	30	N/A	135	N/A
Renewable	8	N/A	33	N/A

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	Central 1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	4	0.8%	16	3.4%
Natural gas	19	1.2%	82	4.7%
Coal	0	3.2%	0	12.9%
Electricity	44	1.1%	192	4.4%
Commercial				
Petroleum	2	0.9%	7	3.5%
Natural gas	13	1.4%	56	5.5%
Electricity	35	1.1%	151	4.4%
Industrial				
Petroleum	12	1.0%	56	3.8%
Natural Gas	20	1.7%	88	6.5%
Coal				
Metallurgical	0	4.2%	0	16.6%
Steam	5	4.2%	20	16.6%
Electricity	23	1.1%	103	4.4%
Transportation				
Petroleum				
Distillate	15	0.7%	65	2.7%
Jet	6	1.0%	25	4.3%
Gasoline	43	0.6%	181	2.5%
Residual	0	2.7%	0	8.9%
Other	1	0.5%	5	2.0%
Total Tax Revenues:	242	1.0%	1,048	3.9%
Total Energy Expenditures:	25,264		26,978	
Electric Utility Fuel Cost Increase:				
Petroleum	0	1.3%	2	4.8%
Natural Gas	7	2.3%	42	8.7%
Coal	75	4.3%	322	16.5%
Nuclear	17	N/A	69	N/A
Renewable	3	N/A	11	N/A

North Central

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	2	0.8%	8	3.3%
Natural gas	12	1.2%	50	4.5%
Coal	0	3.5%	1	14.3%
Electricity	41	1.8%	179	7.5%
Commercial				
Petroleum	2	1.1%	8	4.2%
Natural gas	8	1.3%	37	5.0%
Electricity	40	1.8%	172	7.5%
Industrial				
Petroleum	8	0.9%	36	3.7%
Natural Gas	12	1.7%	56	6.4%
Coal				
Metallurgical	2	3.1%	6	12.4%
Steam	10	5.7%	41	22.1%
Electricity	29	1.8%	124	7.5%
Transportation				
Petroleum				
Distillate	10	0.7%	43	2.6%
Jet	6	1.0%	25	4.2%
Gasoline	28	0.6%	118	2.4%
Residual	0	N/A	0	N/A
Other	1	0.5%	3	2.0%
Total Tax Revenues:	210	1.2%	908	5.0%
Total Energy Expenditures:	16,797		18,024	
Electric Utility Fuel Cost Increase:				
Petroleum	1	1.5%	7	5.1%
Natural Gas	2	2.1%	12	7.9%
Coal	93	6.3%	392	25.3%
Nuclear	0	N/A	0	N/A
Renewable	14	N/A	64	N/A

West

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	2	0.5%	6	2.0%
Natural gas	33	1.0%	143	3.9%
Coal	0	3.3%	0	13.5%
Electricity	54	0.8%	248	3.4%
Commercial				
Petroleum	3	0.9%	13	3.5%
Natural gas	19	1.1%	86	4.3%
Electricity	68	0.8%	313	3.4%
Industrial				
Petroleum	16	0.9%	68	3.5%
Natural Gas	36	1.4%	168	5.6%
Coal				
Metallurgical	0	N/A	0	N/A
Steam	5	3.1%	23	12.8%
Electricity	42	0.8%	192	3.4%
Transportation				
Petroleum				
Distillate	31	0.6%	140	2.5%
Jet	45	1.0%	196	4.2%
Gasoline	118	0.6%	508	2.3%
Residual	18	1.6%	79	6.2%
Other	2	0.5%	10	2.0%
Total Tax Revenues:	492	0.8%	2,193	3.3%
Total Energy Expenditures:	61,706		67,301	
Electric Utility Fuel Cost Increase:				
Petroleum	9	1.3%	38	5.0%
Natural Gas	37	2.1%	174	7.7%
Coal	34	3.8%	152	15.1%
Nuclear	35	N/A	144	N/A
Renewable	50	N/A	245	N/A

Northwest

TAX RATES ($/mmBtu) $0.06 1994 $0.25 1997	1994 Tax Revenues ($Mill)	1994 Price Increase (%)	1997 Tax Revenues ($Mill)	1997 Price Increase (%)
Residential				
Petroleum	3	0.7%	10	3.1%
Natural gas	4	1.1%	19	4.2%
Coal	0	2.5%	1	10.3%
Electricity	47	1.5%	206	5.9%
Commercial				
Petroleum	3	1.0%	13	3.9%
Natural gas	7	1.3%	30	5.1%
Electricity	35	1.5%	151	5.9%
Industrial				
Petroleum	7	1.0%	31	3.9%
Natural Gas	19	1.9%	88	7.3%
Coal				
Metallurgical	0	N/A	0	N/A
Steam	1	3.3%	5	14.4%
Electricity	30	1.5%	132	5.9%
Transportation				
Petroleum				
Distillate	13	0.6%	59	2.6%
Jet	15	1.0%	70	4.1%
Gasoline	30	0.6%	128	2.4%
Residual	6	2.0%	25	7.3%
Other	1	0.5%	5	1.9%
Total Tax Revenues:	222	1.1%	973	4.4%
Total Energy Expenditures:	19,894		21,962	
Electric Utility Fuel Cost Increase:				
Petroleum	2	1.2%	15	4.7%
Natural Gas	6	2.7%	33	9.2%
Coal	6	4.5%	28	16.7%
Nuclear	8	N/A	35	N/A
Renewable	90	N/A	379	N/A

BTU TAX ANALYSIS

Taxable Basis

A broad based energy tax could be levied on all forms of energy -- coal, oil, natural gas, nuclear power, and hydroelectricity. In the case of fossil fuels, the tax could be based on the measured energy content of the fuels, while a Btu-equivalent tax could be levied on the imputed energy in nuclear and hydroelectric power.

A "Btu tax" could is an excise tax based on the energy content of fossil fuels (Btu is British thermal unit, a measure of useful energy). Because fuels have different prices per unit of heat, the tax rates would not be identical to an ad valorem tax based on purchase price. This is an important point, since a Btu tax represents a neutral tax with respect to energy content, but can raise the prices of fuels quite differently on percentage terms. For example, coal is a very low-value fuel based on energy content and extraction cost (a low price expressed in dollars per million Btu) while natural gas and petroleum products are higher valued fuels because of their relative utility in broader applications. An excise tax also does not rise with inflation, and thus erodes in real terms if not adjusted.

The tax could be levied as far "upstream" as possible, e.g. coal at the minemouth, natural gas and petroleum at the wellhead or the point of importation. This minimizes the number of transactions being taxed and insures that energy products are only taxed once as they enter the economy. It also dilutes the price impact of fuel producers passing on the tax, since fuels increase in value as they pass through the chain of distribution.

In 1990, coal at the minemouth averaged about $1.00 per million Btu (mmBtu), natural gas was priced at roughly $1.80/mmBtu, and world oil price was about $3.00 per million Btu. But these prices are much lower than delivered prices and prices for refined products. For example, the price of coal delivered to customers ranges between $1.50 and $2.00/mmBtu, gasoline at the pump is priced at about $9.50/mmBtu, and natural gas delivered to residential customers is about $4.50 per mmBtu. Thus, any tax levied in $/mmBtu terms on fuels entering the economy will be passed on in much lower percentage terms by the time that energy is used by the residential, industrial, or commercial customer.

About 6% of fossil fuels are used in non-energy applications, and could be exempted from the tax through a rebate program involving the purchaser of the fossil fuel. Typical non-fuel uses inclued asphalt, road oil, lubricants, petrochemical feedstocks, petroleum coke, special naptha, and natural gas feedstocks. Energy exports could also be excluded for competitiveness reasons. The major U.S. energy exports are

petroleum products (about $4.7 billion per year) and coal (about $4.6 billion dollars representing roughly 12% of domestic production).

Implementation Issues:

Some taxes are already levied on energy, and a Btu tax would not pose significant implementation issues. Fuel producers and importers would have to submit the tax; alternatively the first commercial transaction could be subject to the tax and the tax could be paid by the buyer. Special reporting requirements would have to be established for integrated energy companies that extract or import fuels and process and distribute them for sale (i.e. an oil company that sells gasoline at the pump).

Tax rate for a $20 billion revenue goal in 1997

In order to obtain $20 billion in annual revenues by 1997, a $0.25/mmBtu tax would have to be imposed on all energy. The $0.25 tax is discussed here in real 1990 dollars. Therefore, a statutory rate would have to be adjusted for inflation, and could be up to $0.30/mmBtu by the year 1997. The tax could be phased in each year, beginning in 1994 when a $0.06/mmBtu tax could produce roughly $4.7 billion (in 1990 dollars). If increased by $0.06 per year, the tax would produce roughly $20 billion by 1997.

Impact on Energy Prices

When fully phased in at a $20 billion revenue level, a $0.25/mmbtu Btu tax would increase the minemouth price of coal by about $5.50 per ton (about 25% increase), raise the natural gas wellhead price by about $0.25 per thousand cubic feet (about 14% increase) and raise the price of crude oil by about $1.50 per barrel (about 7% increase). These price increases would be passed on to utilities, refineries, and other energy companies. They, in turn would pass on some of the price increase to customers.

The delivered price of energy (end-use prices) depend on the type of fuel and vary across regions. It is difficult to determine how much of the tax would be passed on through various chains of distribution, and how much fuel might be conserved before some energy products like electricity would be sold. The analysis that follows assumes that 100% of the price increase from the Btu tax is passed on to end-users, and that energy consumption is unchanged from baseline levels. This assumption is fairly accurate for taxes at this magnitude. The tables that follow are all in real 1990 dollars, and are based on an energy expenditure accounting model. Thus, for example, increased utility fuel costs are passed on within each region as an equal percentage increase in electricity rates to all customer classes -- residential, industrial, and commercial. Actual rate-

setting might differ, but this proceedure will tend to overestimate the impact on residential electricity bills, since residential rates are usually higher than other customer rates.

Under these assumptions, a $0.06/mmBut tax in 1994 will increase the average price of energy by under 1 percent. Electricity rates would increase by about 1%, while gasoline prices would increase by only 0.6%, or less than a penny per gallon at the pump. (This may be a slight understatement based on energy consumed in refining and distributing that is allocated to the industrial sector. Nevertheless, it is probably not above 2¢ per gallon increase.)

A $0.25/mmBtu tax in 1997 would raise average energy prices by about 3.7%. Electricity rates would rise by 4.1%, and gasoline prices would be 2.4% higher (about 3¢/gallon). This tax would only increase consumer energy prices by 1% per year over a four year phase period. This is well within seasonal/yearly variation, and will not cause a perceptible income or price shock in the economy.

TABLE: 1997 Tax Revenues by Sector

	1997 Revenues (Billion$)	Percent of Revenues
Residential Energy		
Fuel Bills	$1.5	7
Electric Bills	$3.4	16
Gasoline	$2.8	14
Total Consumer	$7.7	38
Commercial Energy		
Fuel Bills	$1.0	5
Electricity	$2.9	14
Total Commercial	$3.9	19
Industrial Energy		
Fuel Bills	$3.6	18
Electricity	$2.2	11
Total Industrial	$5.8	29
Transportation		
Diesel	$1.1	5
Other Fuels	$1.8	9
Total Transport	$2.9	14
TOTAL	$20.4	100
Electric Utility Fuel Price Increases	$8.5	42

NOTE: This breakdown assumes that 80% of gasoline sales are to consumers, and 20% is allocated to transportation services.

Net Revenues

Net revenues may be lower than gross estimated revenues because:

- To the extent that increased energy costs are not passed to consumers, net income of firms will be lower, and thus corporate income tax receipts will decline somewhat. On the other hand, this will reduce consumer price impacts.

- Firms and consumers could undertake additional energy conservation and reduce overall energy consumption. At these tax levels, U.S. energy consumption might fall by 2% to 4% from baseline levels (although energy use would still rise). Decreased energy consumption would have environmental benefits.

- Government assistance programs indexed to the CPI may increase payments. This will increase government expenditures but also reduce the impact of the energy taxes on lower income families.

- Government spends roughly $10 billion on energy and energy assistance. This could increase by $400 million, although government energy use is slated to fall by 20% from actions under the Energy Policy Act of 1992.

Regressivity and Distributional Impacts

Energy taxes are slightly regressive. However, the extent of regressivity must be considered in the entire context of proposed tax changes. For example, while the upper income earners may pay less energy tax as a percentage of income than lower income families, the proposed increase in taxes for high income families will far outweigh the relatively light burden on those income classes. In the middle income brackets, energy taxes are fairly proportional with income. At the lower income brackets, however, energy taxes will take the largest percentage of income or expenditures.

However, since only 40% of the tax revenues are paid by consumers, the relative burden compared to a gasoline tax raising an equivalent revenue stream is much less. For the lower income brackets, a combination of expanded income assistance or an increase in the earned income tax credit would offset the regressivity of the tax. This will not cost the treasury much as a percent of gross energy tax revenues -- perhaps 10% to 20%

would offset the disproportionate impact on the lower third of the income scale.

In terms of regional fairness, areas with already high energy prices will see prices go up somewhat less (in percentage terms) than areas that have currently low energy prices. This represents an equitable distribution from the standpoint of every region contributing roughly an equivalent amount based on energy consumption rather than expenditures.

Macroeconomic Impacts

Although energy taxes are slightly inflationary, minimal accomodation by the federal reserve can restore macroeconomic output to baseline levels. Moreover, the phased-in schedule will allow some consumption adjustments to occur prior to full impositions of the tax. This will dampen potential output losses as energy consumers (firms and families) will have several years to adjust to anticipated price increases.

On the business side, an energy tax would be synergistic to an investment tax credit, since capital is substitute for energy use. Small increases in energy prices would bolster ITC as investment is made more valuable by increased energy costs. This will accelerate investments in more efficient, cleaner technologies. The energy tax could be thought of as a way to fund an ITC (60% of the taxes would come from business) while preserving the marginal tax incentive for investment.

Competitiveness

The most important aspect of potential competitiveness is that the European Community and Japan have initiated energy tax proposals conditional upon the U.S. imposing similar taxes. These other OECD countries are considering using energy taxes as a way to fulfill commitments made at the Earth Summit to stablize CO_2 emissions during the decade. If the U.S. imposes an energy tax and our international competitors follow suit, the impact on competitiveness, however slight, would disappear entirely.

A few energy intensive industries would have to raise prices slightly, although much less than normal fluctuations in exchange rates. The chemical industry would be shielded from competition under a petrochemical feedstock exemption (assumed in the revenue estimates). Paper manufacture is highly energy intensive, although many mills burn waste wood for fuel (this would not be taxed). Primary metals is also very energy intensive. Other manufacturing industries have much lower energy/dollar output ratios, and would not face undue burdens under taxes of this magnitude.

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EC COMMISSION WELCOMES U.S. DECLARATIONS ON POSSIBLE ENERGY AND ENVIRONMENT TAX

The EC Commission welcomes the recent declarations made in United States government circles which demonstrate a willingness to seriously and efficiently tackle world energy and environment problems. The Commission is especially pleased to see the new US administration thinking about measures regarding an energy and environment tax. The Commission has already approved such measures, but they are subject to a "conditionality clause", meaning that they can only take effect as part of a concerted worldwide effort.

EC Commissioner Ioannis Paleokrassas, whose responsibilities include environment and nuclear safety issues, declared: "If the US is adopting such a plan, this will open the door to a rapid implementation of provisions necessary to fulfill the pledges made in Rio by all developed countries. This would also offer a new opportunity for further cooperation between the EC and the US in this crucial area."

The Commission issued its final proposal for an energy tax on fossil fuels and nuclear energy in mid-1992 to achieve an EC target of stabilizing carbon dioxide (CO 2) emission at 1990 levels by the year 2000. CO 2 is believed to play a major role in the so-called greenhouse effect. The Community accounts for 13 percent of world CO 2 emissions, putting it behind Eastern Europe and the former Soviet Union (25 percent) and the United States (23 percent) and ahead of Japan (5 percent).

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Deficit, Environmental Worries Push Fuel Taxes to Forefront

To many environmentalists, the federal budget deficit is a cloud with a silver lining: energy taxes.

Environmental groups for years have advocated a stiff tax on fuel to reduce consumption and attendant pollution. Proposals range from tripling the gasoline tax to slapping a levy on the energy content of fuels.

In Congress, these ideas are still on the back burner. The temperature has been cranked up in recent weeks, though, as President-elect Bill Clinton prepares to deal with a larger-than-expected budget deficit.

Sensing an opportunity to cut pollution along with the deficit, environmentalists are issuing reports, writing letters and pumping up support for energy taxes. They are being supported by economists who prefer market-based strategies to government regulations.

UNITED PRESS INTERNATIONAL

R. MICHAEL JENKINS

AMERICAN PETROLEUM INSTITUTE

Possible energy taxes include a levy on fuels that create carbon dioxide emissions, a gas tax and an oil import fee.

"You have a policy which can help with both issues at the same time. It's pretty irresistible," said Dan Lashof, a senior scientist at the Natural Resources Defense Council.

Still, "irresistible" is not a word used on Capitol Hill to describe a tax increase as the nation is pulling out of a recession — despite the hopes of some key players, most notably House Ways and Means Chairman Dan Rostenkowski, D-Ill., about raising the gasoline tax to reduce the deficit.

Any effort to increase the gasoline tax without spending the money on roads, bridges, airports and other infrastructure projects, however, will draw a fight from the House Public Works Committee. The committee is preparing a $20 billion infrastructure package that it wants to be free of any tax hike.

Even proponents of energy taxes say that rank-and-file members of Congress have little reason to spill political blood for a major fuel tax, absent a pressing energy or environmental disaster.

"It's unlikely that they'll take on something that doesn't have the degree of priority that reduction of the budget deficit does, that increasing employment does, that meeting the health-care problem does," said Elihu Bergman, executive director of Americans for Energy Independence.

Proponents contend that energy taxes do give the public what it wants — just not directly. Roger Dower, director of the World Resources Institute's climate, energy and pollution program, said energy taxes can be used to help the economy by lowering taxes on production and savings, and also by lowering the deficit.

The taxes also could be used to rebuild infrastructure, provide universal health insurance and improve education — all things Clinton vowed to do during the 1992 presidential campaign.

Rep. Pete Stark, the Democrat from California who is a leading proponent of a fuel tax, said that the government's need for money and the public support for taxes on polluters eventually will lead Congress to adopt energy taxes. "Will it happen in one or two years? I think not. But we'll head down that road," he said. "I think we're pointed in that direction."

Opponents, such as the oil and coal lobbies, counter that energy taxes would hurt consumers — particularly those with lower incomes. Families who are the least well-off spend the largest portion of their incomes on energy bills and so would pay proportionately higher taxes, said Bob Stauffer, vice president and general counsel of the National Coal Association.

Global Warming Tax?

The energy tax that most environmental groups favor is the one Stark has proposed in each of the last two Congresses: a tax on the carbon dioxide emissions of fuels. When burned, coal, oil and natural gas all emit carbon dioxide, the most prevalent of the "greenhouse gases" that some scientists say are causing global warming.

The tax would be assessed at the point the fuel enters the market, based on estimates of the amount of carbon dioxide it is expected to generate — at the mine, the well, or, in the case of imported oil, the dock. Energy sources that produce no carbon dioxide emissions, such as nuclear, solar and hydroelectric power, would not be taxed.

The tax would be passed on by power companies and manufacturers to consumers, raising the price of heat, electricity and most manufactured goods. The intent is to reduce the emission of carbon dioxide by making it more expensive, leading consumers to conserve energy and demand energy-efficient products. That demand, in turn, would lead manufacturers to produce goods that require less fuel.

Taxing carbon dioxide is a much more efficient approach than using regulations to limit emissions, Dower said, because it relies on the market and not government. It also is a far more lucrative approach. Stark said his last proposal, which called for a tax of $30 per ton of carbon dioxide, would raise $100 billion over five years.

By Jon Healey

The Fuel Taxes

Advocates of energy taxes are focusing on four ways to raise money from fuel. They are:

Gasoline tax. Assessed at filling stations, this tax would be felt most by commuters and businesses with fleets of cars, buses or trucks. The federal government already collects a tax of 14 cents per gallon of gasoline and 20 cents per gallon of diesel fuel. State governments also levy gas taxes.

Carbon tax. This tax would be assessed on each ton of carbon dioxide emitted into the atmosphere as a result of burning fuels, with coal at the top of the list. It would apply to coal, oil and gas, weighing most heavily on power companies and industries that burn coal for energy.

Btu tax. A variation on the carbon tax, this tax would be assessed on fuels according to their British thermal units, or heat content. In addition to mines, wells and ports, it would be assessed at nuclear and hydropower plants.

Oil import fee. This charge would be applied only on petroleum that is imported. In addition to drivers, it would hit power companies with plants powered by oil, and homes and businesses heated with fuel oil.

—Jon Healey

The main opposition to a carbon tax is likely to come from coal-state members, including such powerhouses as Sen. Robert C. Byrd, D-W.Va. The tax would hit a broad range of industries and interests, though, so the coal-state forces could expect help in fighting such an effort.

An even broader approach is a tax that would be assessed on fuel according to the British thermal units, or heat, it emits when used. Some environmentalists prefer a Btu tax to a carbon tax because it gives no advantage to nuclear plants and their customers. However, the tax is not as clearly linked to pollution as a carbon tax would be.

The European Community has proposed a dual energy tax, half on the carbon content and half on the Btus of fuel. Japan is considering a similar approach. Those taxes have been put on hold: According to Dower, the Europeans and the Japanese "are all sitting, waiting for the United States to do something."

Gas Tax

Congress seems less likely to go the untraveled route of carbon or Btu taxes than it is to raise the existing federal tax on gasoline. That idea gained support during the presidential campaign and picked up steam last month at Clinton's economic summit, when the chairman of Ford Motor Co. endorsed a 25-cent-per-gallon increase.

If Clinton does propose an increase in the gas tax, it will have to go through the two tax-writing committees, House Ways and Means and Senate Finance.

Rostenkowski is a longtime proponent of raising the gas tax to lower the deficit. Treasury Secretary-designee Lloyd Bentsen was an opponent of raising the gas tax as Finance chairman, but his replacement, Daniel Patrick Moynihan, D-N.Y., has supported increases in the past.

After helping to raise the gas tax to 14.2 cents a gallon in 1990, Rostenkowski pushed a nickel increase in the gas tax through his committee in the following year to pay for the 1991 multi-billion-dollar surface transportation bill. But the additional nickel was dropped after many House members refused to vote for another increase.

Many liberal Democrats oppose the gas tax, calling it a regressive measure that falls disproportionately on the poor. It is also unpopular among members from rural and Western states, where residents often have to drive longer distances.

On the other hand, a 1-cent increase in the gas tax raises roughly $1 billion, making it attractive for members such as Rostenkowski who want to attack the deficit.

Clinton has not ruled out an increase in the gas tax, but he said last month that it would have to be coupled with tax relief for middle- and lower-income taxpayers who he contends bore the brunt of the tax increases in the 1980s.

If Clinton is willing to make a case for raising the gas tax, he certainly could get Ways and Means — and even the full House — to go along, some members believe. "We will make some very, very tough votes, if we know that he will defend us," said Rep. Robert T. Matsui, D-Calif., a Ways and Means Committee member.

Getting the increase through the Senate, where rural states have more power than in the House, could prove more difficult.

Leaders of the Public Works Committee also have made it clear that they will fight attempts to raise the gas tax for any purpose other than highways and mass transit. Chairman Norman Y. Mineta, D-Calif., said he wants to reverse the decision in 1990 to use 2½ cents of the gas tax for deficit reduction. "It's stuck in my craw ever since," he said. *(1990 Almanac, p. 135)*

Splitting the difference between Rostenskowski and Mineta, Rep. William O. Lipinski, D-Ill., is proposing a 5-cent increase in the gas tax to pay for infrastructure projects and a 3-cent increase to lower the deficit.

Mineta, though, is preparing a $20 billion infrastructure bill that would be financed through borrowing or spending cuts rather than higher taxes. The bill will be introduced only if Clinton requests it, Mineta said.

Oil Import Fee

Another energy tax under consideration is a fee on imported oil. This idea, which has been floating around for years, is aimed less at reducing the deficit or conserving energy than at promoting the domestic oil industry. It would increase the demand for domestic oil and give U.S. companies more incentive to drill.

The advantages of such a tax are that it would reduce America's dependence on foreign oil and, by raising the price of oil, increase energy conservation. The disadvantage, some environmentalists say, is that it would increase the pressure to drill in sensitive coastal waters and in the Arctic National Wildlife Refuge.

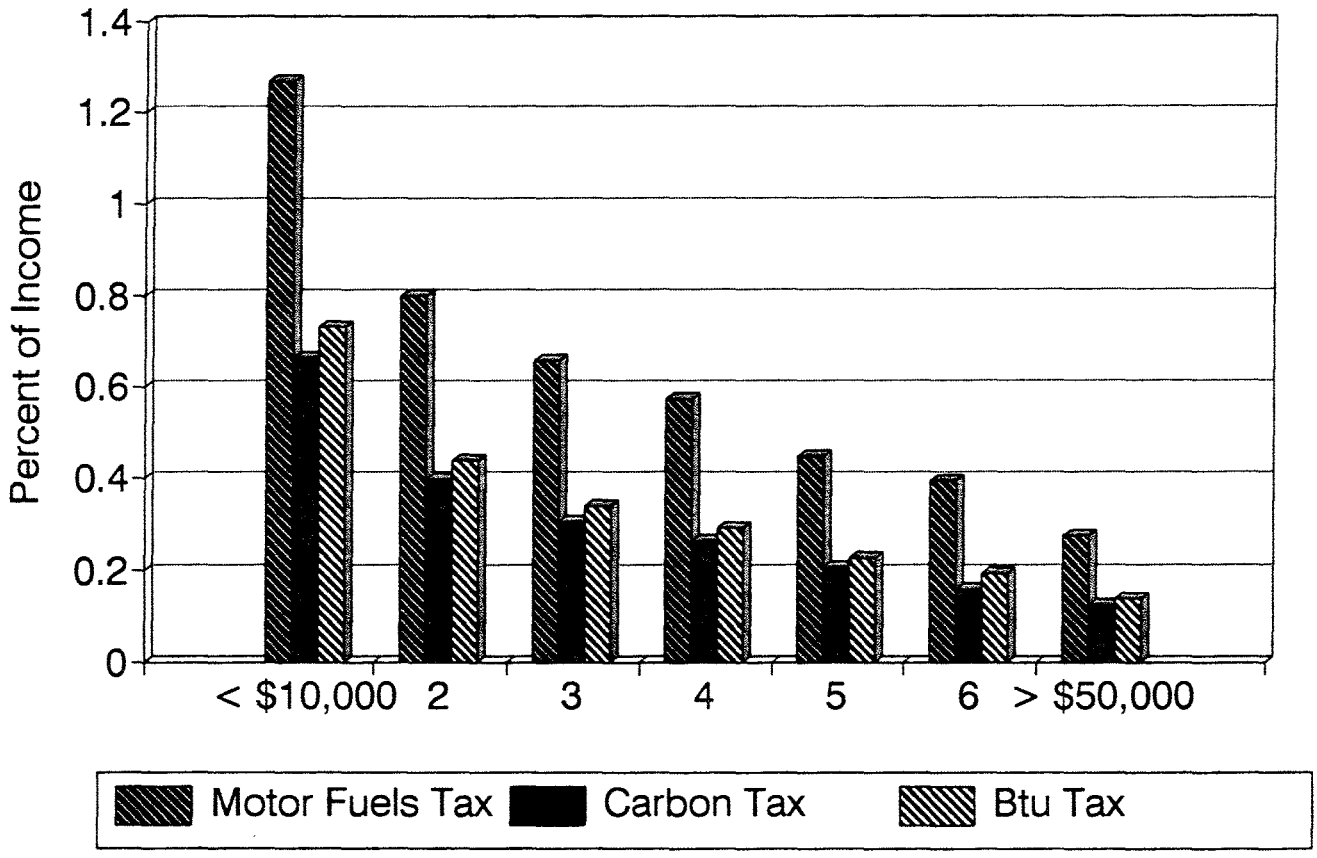
The most recent push for an oil import fee in Congress was led by Bentsen. As well-placed as he is in the new administration, Bentsen is outranked by Vice President-elect Al Gore, a proponent of carbon taxes.

Clinton has speculated publicly about a variety of energy taxes several times since the election. Although he has voiced objections to increasing them, he has taken no firm stance.

Speaking for both sides in the debate over energy taxes, Lashof of the Natural Resources Defense Council said, "I think everybody's waiting to see what Clinton will do.... For [energy taxes] to happen, Clinton has to take the lead." ■

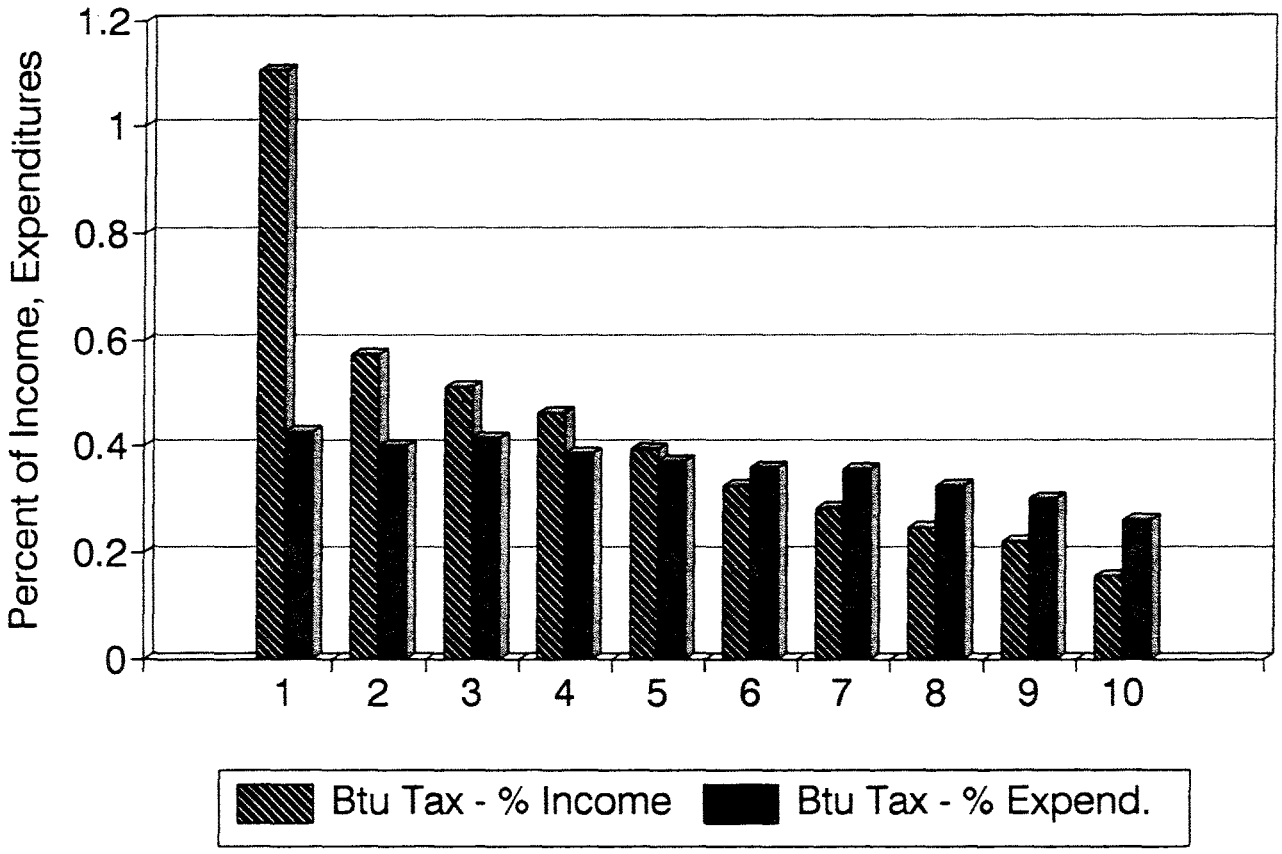
Distribution of Energy Taxes

By Income Class - $20B Revenues



Distribution of $0.25/mmBtu Tax

By Income & Expenditure Decile



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January 8, 1993

Mr. Greg Simon
Clinton/Gore Transition Office
1122 Vermont Avenue, N.W.
Washington, D.C. 20270

Dear Greg:

For decades the fundamental criticism of the gasoline tax has been its unfairness; that like all flat taxes, everyone, regardless of income, would pay the same amount thereby imposing a disproportionately larger tax burden as you go from the top of the income scale through the middle and to the bottom.

But it is now time to question this premise which derives from the pre-suburban era of one car families in which most cars got roughly the same miles per gallon and in which a higher proportion of people used public transit. The lifestyle changes since World War II may have so dramatically altered our assumptions about fairness that by examining them we may conclude that the gasoline tax is a far more equitable method of paying for our government than was previously believed.

For example: Who lives in suburbs? What does suburban life demand in the way of driving and suggest in the way of automobile ownership?

Past demographic studies have reported that the suburbs tend to contain people in much higher income brackets than those in cities. If so, this is very significant to the debate.

Suburban life, for example, is dependent on the automobile, i.e., one must drive everywhere, be it to school, stores, work, worship, social, or cultural activities. This means that those with higher incomes who have chosen the suburban lifestyle of necessity require more automobile usage per family, require more driving per family, and therefore purchase more gasoline than do poorer residents of cities who tend to use public transportation in greater numbers, have fewer cars, and therefore purchase less gasoline.

The kinds of cars in question ought also to be examined. It would be interesting to know where the "gas guzzlers" are cited. And, not just the gas guzzlers, but the heavier more luxurious automobiles which don't qualify for the gas guzzler tax but still receive fewer miles per gallon than their more economical cousins. In these instances, a higher tax on premium fuel which the more powerful and more expensive automobiles require might be in order and thereby further blunt the equity charge.

By reevaluating the questions that deal with the amount of driving done, the location of different kinds of automobiles, and the number of cars per family, we may well conclude that the gasoline tax is a far more accurate reflection of income than the current attacks on its inequity would suggest. And, that being the case, politically it should be easier to accept by those who are most moved by the equity issue.

Best wishes.

Sincerely,

Benjamin L. Palumbo

BLP/mlr

Institute for Research on the Economics of Taxation.

FOR IMMEDIATE RELEASE:
JULY 17, 1992

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GAS TAX INCREASE WOULD COST JOBS, PRODUCTIVITY

WASHINGTON, D.C. — Even a modest increase in the federal gasoline excise tax would cost more than two hundred thousand jobs and significant productivity losses throughout the U.S. economy, according to a new study, *The Impact, Shifting, And Incidence Of An Increase In The Gasoline Excise Tax*, released today by the Institute for Research on the Economics of Taxation (IRET).

The IRET analysis finds that a ten cent increase in the gasoline excise would cost the American economy more than $23 billion in lost GNP in the near term. Productivity would advance more slowly, and real wage rates and employment levels would be lower than otherwise. The tax hike would result in 232,000 fewer full-time equivalent jobs in the first full year. In the year 2000, GNP, in constant 1990 dollars, would be $26.6 billion less than if the tax were not increased, and employment would be off by 247,000 jobs compared to the level of employment without the tax hike.

The tax increase would reduce gasoline consumption by 2.1 percent in the short run and by 6.2 percent in the longer term compared to levels that would otherwise prevail. Personal consumption patterns would adjust to the higher cost of gasoline, but total consumption outlays would fall less than the increase in the tax. Personal saving, therefore, would be depressed. Moreover, if government spending were to increase along with the increase in tax revenues, as the historical record urges, national saving would also fall. The tax would raise the annual cost of living by about $125 per household.

While the excise increase would add to federal gasoline tax revenues, other federal tax revenues would fall. In the first full year of the tax increase, a 10-cent a gallon excise hike would produce about $12.3 billion in additional gasoline tax revenues, but other taxes would be about $4.8 billion less than otherwise; the net gain in tax revenues would be only $7.5 billion.

The attached table summarizes the economic effects of the tax through the year 2000.

Copies of the study are available for $4.95 plus $2.00 for postage.

IRET is a 501(c)(3) nonpartisan, nonprofit economic policy research organization. Founded in 1977, it is dedicated to the advancement of economic growth through free-market oriented public economic policies.

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EFFECTS OF A $0.10 A GALLON INCREASE IN THE FEDERAL GASOLINE EXCISE

	Changes Relative to Baseline								Revenue Effects		
	GNP		Capital Services	Employment		Real Wage Rate	Gasoline Consumption		Gasoline Excise	Other Federal Taxes	Net Revenue Effects
	%	billions (1990 $)	%	%	Jobs (000s)	%	%	billion gallons per year	billions (1990 $)	billions (1990 $)	billions (1990 $)
1991	-0.414%	-$23.4	-0.924%	-0.195%	-230	-0.220%	-2.08%	-2.708	$12.3	-$4.9	$7.4
1992	-0.410%	-$23.8	-0.916%	-0.193%	-232	-0.218%	-2.33%	-3.084	$12.5	-$5.0	$7.5
1993	-0.407%	-$24.2	-0.908%	-0.191%	-234	-0.216%	-2.61%	-3.524	$12.6	-$5.1	$7.6
1994	-0.403%	-$24.6	-0.899%	-0.190%	-237	-0.214%	-2.93%	-4.038	$12.8	-$5.2	$7.6
1995	-0.399%	-$24.9	-0.891%	-0.188%	-239	-0.212%	-3.31%	-4.639	$12.9	-$5.2	$7.6
1996	-0.395%	-$25.3	-0.881%	-0.186%	-241	-0.210%	-3.74%	-5.341	$13.0	-$5.3	$7.7
1997	-0.390%	-$25.6	-0.872%	-0.184%	-243	-0.207%	-4.23%	-6.163	$13.0	-$5.4	$7.7
1998	-0.386%	-$26.0	-0.861%	-0.181%	-244	-0.205%	-4.80%	-7.124	$13.1	-$5.5	$7.6
1999	-0.381%	-$26.3	-0.850%	-0.179%	-246	-0.202%	-5.45%	-8.248	$13.1	-$5.5	$7.6
2000	-0.376%	-$26.6	-0.838%	-0.177%	-247	-0.199%	-6.21%	-9.564	$13.0	-$5.6	$7.5

Note: All changes are with respect to a baseline incorporating 2.5% real annual growth of GNP after 1990 consisting of 1.9 percent annual growth of factor inputs and 0.6 percent growth due to technological advances.
The excise tax increase is assumed to have been effective 1/1/91 and to apply to gasoline and diesel fuel for highway use.
Other Federal Taxes includes federal individual and corporate income taxes, payroll, excise, and estate and gift taxes.

The Impact, Shifting, And Incidence Of An Increase In The Gasoline Excise Tax

A Study Prepared by

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IRET *Institute for Research on the Economics of Taxation.*