



Telephone: (212) 867-0052

Fax: (212) 972-9849

**Petroleum Industry Research Foundation, Inc.**

**122 EAST 42nd STREET**

**New York, N. Y. 10168**

**MEMORANDUM**

**Oil Heat Hangs on in the Northeast**

**December 1992**

*The Northeast, with about two-thirds of the nation's existing 13.5 million oil-heated homes and 85-90% of the newly built oil-heated homes each year, is the last bastion of oil heat. In recent years, oil has captured an increasing regional share of new construction, especially among single family homes built by contractor or owners, where the owner makes the heating fuel choice. Oil remained the most popular heating fuel in this market niche in 1991. However, a drop in its share gave it less than 50% of the segment, while the gas share rose, potentially a signal of an important erosion in oil heat's strength. It has long been expected that increased gas supply to the Northeast would cause a significant decline in the number of oil-heated homes: a surge in conversions to gas heat would eat into the existing inventory of oil-heated homes, and a move away from oil heat in the new home market would halt additions of oil-heated homes. To some extent this is already the case: conversions of oil-heated homes to gas have slightly exceeded construction of new oil-heated homes in each of the last three years. Whether a drop in the inventory of oil-heated homes analogous to the rapid decline in other regions has started in the Northeast is far from clear. U.S. Department of Energy data show that more than half of the oil-heated single family homes in the Mid-Atlantic in 1987 and almost 30% of the oil-heated homes in New England already had gas available to them but did not use it for heating. Continuing to retain this homeowner loyalty to oil heat will be the key to the industry's long-term performance.*

### **The Northeast's Economy Took Its Toll**

The recession-wracked Northeast turned in another poor performance in new home construction in 1991: 100,000 new single family homes were built, down from 127,000 in 1990. In 1991, the Northeast's new home construction accounted for only 11% of the nationwide total, down from a recent high of 16% in 1988. The position is a reversal of fortune from the early 1980's. New single family home construction in 1991 was about half of the region's 1987 peak. The Northeast's economy stayed strong throughout the mid-1980's. However, the area has been the nation's slowest growing region since the late 1980's, posting only a 7.5% increase in state personal income between 1988 and 1991, while income rose almost 10% on average nationwide. Particularly hard hit again in 1991 were construction industries (where the Northeast declined much faster than the average) and wholesale and retail trade (where the Northeast grew much slower than the average).

The U.S. Department of Commerce records new home information by type of builder, separating homes "built for sale" from "contractor-built" and "owner-built" homes. The categories react differently to economic signals, and make all of the difference in fuel choice. The "built for sale" (or "speculator-built") home construction market reacts quickly to the vicissitudes of the economy. In the mid-1980's boom, these homes

accounted for more than two-thirds of all the single family homes constructed in the Northeast. In the 1991 doldrums, they accounted for about half.

***Oil Heat Is Popular with Homeowners; Builders Choose Gas***

In 1991, oil heat was installed in 32% of the new single family homes constructed in the Northeast, the second highest market share in more than a decade.<sup>1</sup> Detailed data, however, reveal an erosion of the fuel's strength in its core market, the contractor-built and owner-built segment, where the homeowner makes the heating fuel choice.

Oil heat's lowest share of the Northeast's new home market occurred in

1981, when the memory of 1979's gasoline lines and peaking prices fed fears of availability; oil heat captured only 13% of the newly constructed single family homes. Two-thirds of these oil-heated homes were built for sale: the builder had made the heating fuel choice. In contrast, only one-third of the new oil-heated single family homes constructed in 1991 were built for sale. As shown in the following figure (Fig. 2), the oil heat share of the builder market has stayed relatively stable over the decade. The niche that raised the oil heat share in new homes in the late 1980's was the homeowner choice market. Oil heat's share grew sharply as supply fears faded (and prices fell). Since the late 1980's, however, the oil heat share has faltered.

The built for sale homes are the tract houses and developments where gas heat now has invincible market strength: a gas utility can market effectively to builders--providing incentives on installation, providing on-site power during construction, etc. --with the assurance that the eventual home purchaser will be a customer. In contrast, a heating oil dealer providing a construction incentive, such as defraying the cost of tank installation, has no assurance of recouping the outlay, as the eventual occupant of the home may choose a competing oil supplier.

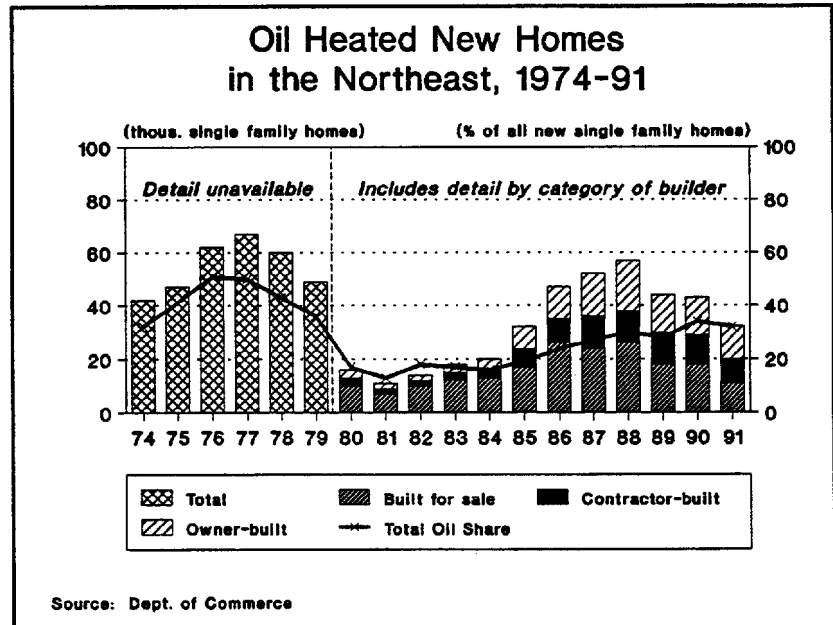


Figure 1

<sup>1</sup>U.S. Bureau of the Census, *Current Construction Reports, Series C25, Characteristics of New Housing: 1991*, U.S. Department of Commerce, Washington, DC, 1992.

## Oil for Homeowners, Gas for Builders: New Single Family Homes in the N'East Fuel Shares by Builder Type

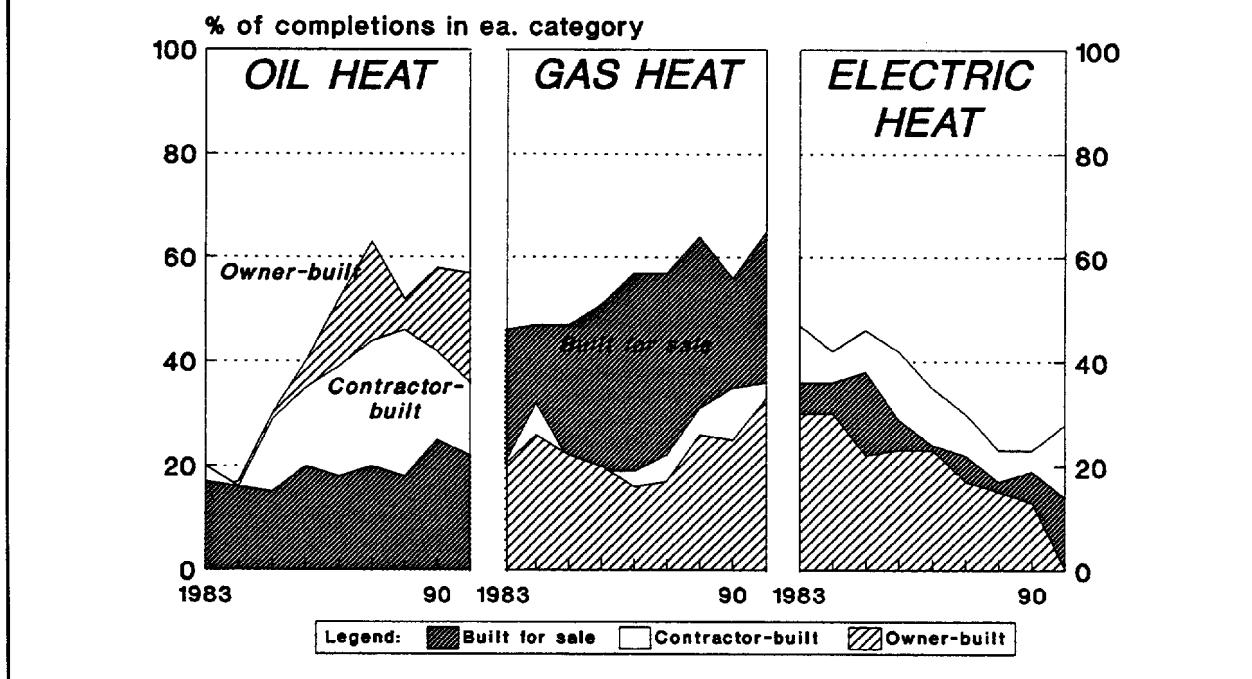


Figure 2

### *Conversions to Gas Heat Are Significantly Outpacing New Oil Heat Construction, Especially Outside the Northeast*

As shown in Figure 3, the Northeast accounts for 85-90% of the newly constructed oil-heated homes, and only about 60% of the conversions to gas heat. Thus, the Northeast showed a net gain in oil-heated housing in several years in the late 1980's, but a significant loss in the early 1980's and a somewhat smaller net decline in each of the last three years.

Outside the Northeast, where construction of oil-heated homes is minimal, these rapid conversions to gas heat suggest a steady loss of some 35-40,000 oil-heated housing units each year on a net basis. The increments and decrements are small relative to the total number of homes, however: in 1989, there were approximately 4.2 million oil-heated housing units in regions outside the Northeast. Thus, the erosion is made evident only very slowly. Between 1985 and 1989, for instance, the inventory of housing units heated with fuel oil (but not kerosene) fell by about 160,000 in the Midwest and by

110,000 in the South.<sup>2</sup> (An unspecified component of inventory change is demolitions, which are likely weighted toward oil because of the age of the structures.)

In the West, according to Bureau of the Census data, the number of oil-heated homes rose by 85,000 over the period, to 677,000 in 1989. The construction data over the same period, however, show estimates so small they are subject to too much sampling error to be reported.

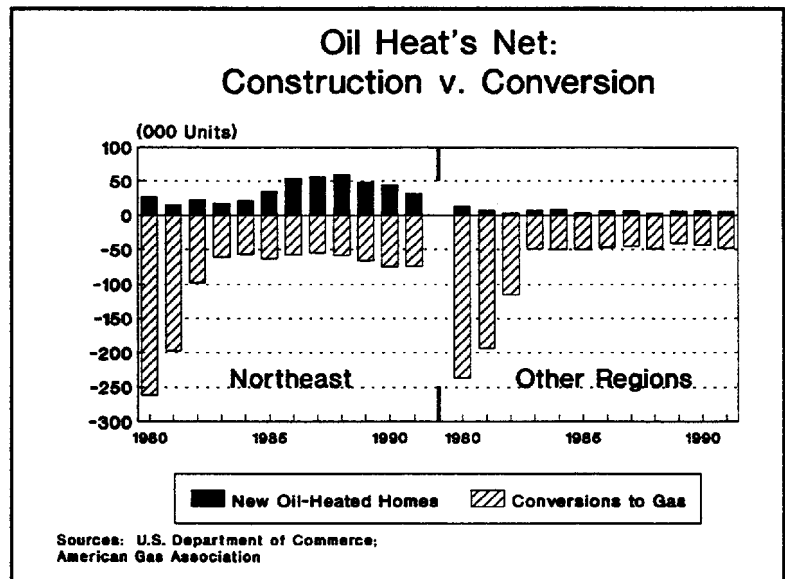


Figure 3

### ***How Much Will Natural Gas Pipeline Expansions Increase Market Penetration in the Northeast?***

In the last decade, the natural gas industry in Canada and the U.S. has focused on increasing supply of natural gas to the Northeast, particularly New England. Competing projects for importing Canadian gas were debated throughout the decade, and one, Iroquois Gas Transmission System, finally began delivery in December 1991. It transports about 600 million cubic feet per day of natural gas (the equivalent of approximately 100 thousand B/D of oil) to the U.S. Northeast, half to New England and half to New York and New Jersey. Plans for additional compressors will increase capacity further. Iroquois' shippers include both local distribution companies (accounting for 80% of the total volume) and power generators (20%). Other incremental supplies have become available through an expansion of Tennessee Gas Pipeline's connection to TransCanada Pipeline at Niagara Falls (141 million cubic feet per day), its two-phase expansion in New England (262 million cubic feet per day), and its project to serve electric generation customers in New York and western Massachusetts (51 million cubic feet per day). Each of these projects is currently in service. The Empire State Pipeline project, sponsored primarily by subsidiaries of Coastal Corp., is scheduled to supply about 200 million cubic feet per day in its first year of service, beginning November 1993, and 443 million cubic feet by its second year. The supplies are currently slated to

<sup>2</sup>U.S. Bureau of the Census, *Current Housing Reports, Series H150, American Housing Survey for the United States*, U.S. Department of Commerce, Washington D.C., 1991 (1989 data) and 1988 (1985 data). The agency does not reconcile the *American Housing Survey* data with the new home data published in *Characteristics of New Housing*.

go to Rochester Gas & Electric, and a cogenerator in New York. In addition to these and other projects to supply incremental supplies to the region, which amount to over 1,300 million cubic feet per day or the equivalent of about 225 thousand B/D of oil, laterals have enhanced the distribution of gas within the Northeast, and local distribution companies in the Northeast have matched the pipelines' expansions with local installations of mains, substantially increasing the reach of gas service in the region.

Some of these gas supplies will go to new facilities such as cogenerators. Some will go to the new home market. But because the Northeast's economy is not robust, expansions of the customer-base are slow. So the most interesting question for the oil market is: How quickly will these supply and service expansions increase the gas penetration to the existing residential market?

The answer is far from clear: according to the U.S. Department of Energy's recent report, *Housing Characteristics, 1990*<sup>3</sup>, natural gas is currently available to many homes that do not use it for heating. Nationwide, more than half of the oil-heated single family homes have piped gas available in their neighborhoods, and in almost 30% (3 million homes), gas is used in the home for some purposes. The Department of Energy regional detail is not yet available for the 1990 survey. The data for the *Housing Characteristics, 1987*, however, show that in the Northeast alone, 44% of the oil-heated homes had gas available, and it was used in about half of these. (See Figure 4). The share of homes where gas was available was, as expected, higher in the Mid-Atlantic states (more than half) and lower in New England (almost 30%). The service expansions noted above have increased gas availability since these data were compiled.

Gas utilities are of course most likely to focus their marketing push on existing customers. It is interesting to note, from the utilities' perspective, that the Middle Atlantic's multi-family housing market, concentrated as it is in metropolitan areas where gas service is essentially universal, has gas available to 2.2 million homes, including 1.7 large apartment buildings where the likely oil product currently used is residual fuel oil.

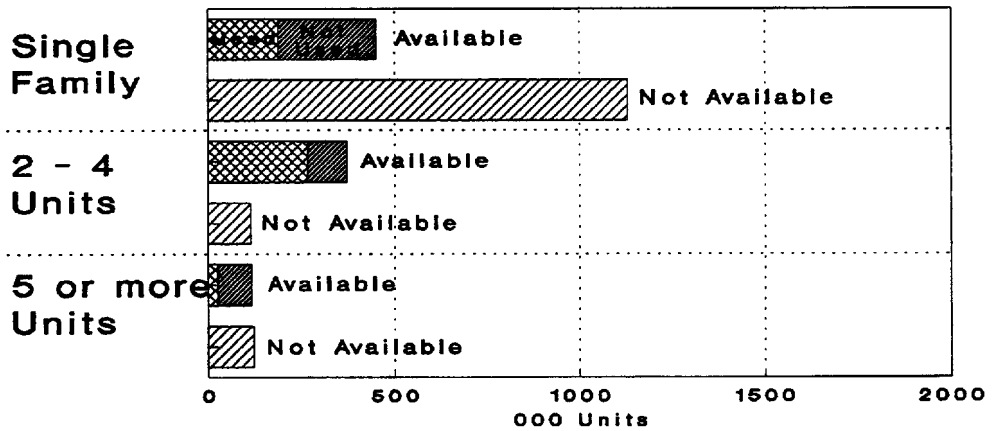
Although gas utilities have not yet succeeded in converting even existing gas customers from oil heat, the oil heat industry clearly faces mounting challenges in holding onto their customers. Most vulnerable are homeowners who face a capital investment either for replacement of their furnace or oil storage tank. Tough state rules on potential environmental liability for underground storage tanks have made tank replacement an important homeowner decision. In some areas, underground storage tanks are required to be dug up; in many areas, a replacement tank must be above ground, outside. A shelter to protect the tank and pipes from extreme cold which impairs oil flow may be necessary, however. (Some localities allow tanks to be located in basements, mitigating the weather problem.) Oil dealers are thus forced to market replacement services aggressively, and given the fragility of the account, may provide a significant, even below-cost, discount on the installation.

---

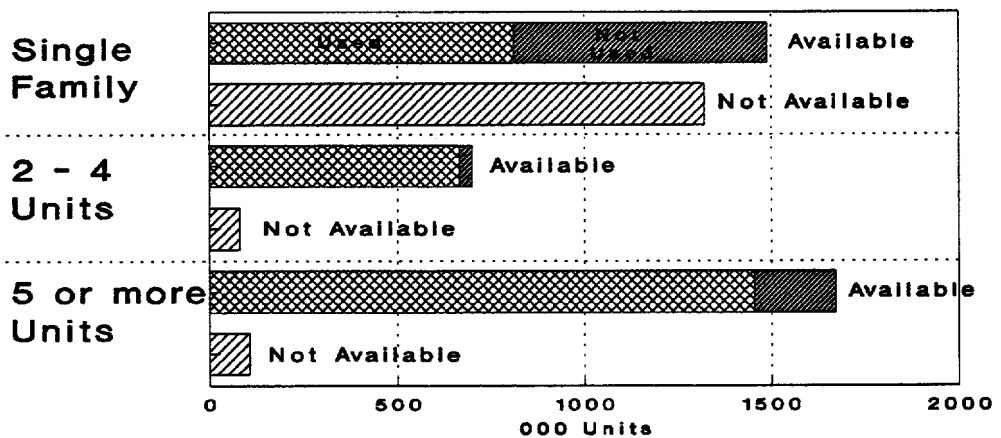
<sup>3</sup>Energy Information Administration, *Housing Characteristics, 1990*, DOE/EIA-0314(90), May 1992.

# Gas Availability to Oil-Heated Homes in the Northeast

## New England



## Middle Atlantic



"Available" denotes available in the neighborhood. Within that category: Used for some purpose; Not used.

Source: Taken from database for U.S. Department of Energy publication, *Housing Characteristics, 1987* (latest detail available). Data extractions and calculations by PIRINC. Excludes units heated with kerosene.

Figure 4

**Price: It's Not the Only Thing**

Since home heating equipment is generally dedicated to a single fuel, residential heating fuels do not compete on short term price fluctuations the way industrial and electric generation fuels do. Even longer term, other factors--cost of installation (a critical criterion for builders), availability, reliability, convenience, service, etc.--vie with price as components in a decision to install or convert to a heating fuel. The secondary role of price is illustrated by electric heat, which at one time occupied an important share of the new home market even though it was significantly higher priced than oil and gas. In the aftermath of the oil crisis of 1979, and in the face of restrictions on new hook-ups of gas imposed after the gas shortages of the late 1970's, electricity's easy availability and low installation cost gave it a competitive edge, but as noted above, the price of electricity for home heating, even under now-abolished preferential rate structures, remained above the price of competing fuels. As soon as markets were reassured of oil's continuing availability and the strictures on gas were eased, the two fuels rapidly took market share from electricity in the new home heating market. Oil heat was in fact an option, and a lower priced one, throughout the period; the market's *perception* of continuing security of supply was the deterrent.

According to Energy Information Administration data, the price of heating oil in New England has generally been below the price of gas over the last five heating seasons. In the Mid-Atlantic, the opposite has recently been true, particularly in the market upheavals of 1989-90 and 1990-91. Figure 5 shows regional average prices for No. 2 heating oil and residential natural gas (weighted across states by residential consumption and weighted by degree days for seasonal averages), for the 1987-88 to the 1991-92 heating

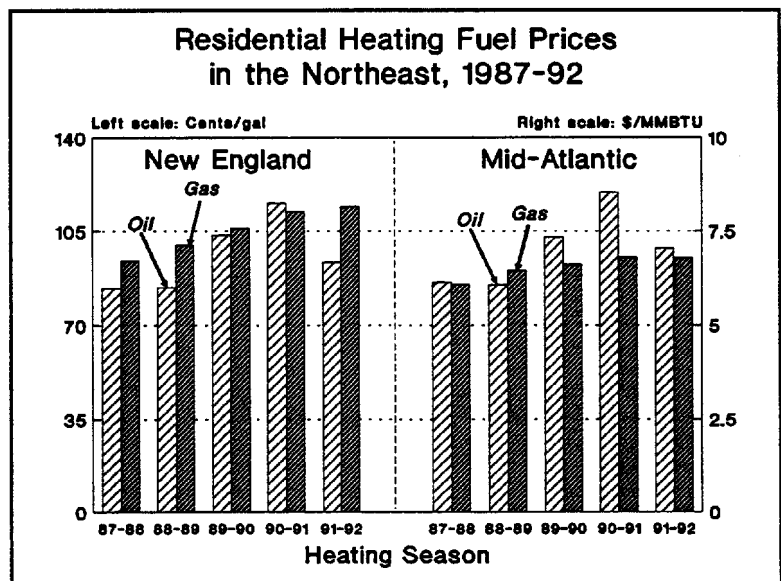


Figure 5

seasons. In New England, only the Persian Gulf conflict in late 1990 and early 1991 pushed the heating season average for oil above that for gas, but by less than 4%. The headline-grabbing spike in oil prices caused by December 1989's excessive cold did not result in a seasonal oil price for the region which exceeded gas: weighted by degree days and combined with the lower prices of the rest of the season, oil prices in the 1989-90 season were close to, but just below, gas. Connecticut routinely shows the highest gas prices in the region; in that 1989-90 season, the state's gas prices to residential



consumers exceeded oil's by almost 10%. Massachusetts showed nearly equal gas and oil prices over the same season. (Together, Connecticut and Massachusetts account for about 85% of New England's gas consumption.)

The Mid-Atlantic region, by contrast, shows heating oil prices lower than gas in two of the five years shown, and about equal to gas in the most recent heating season. Heating oil prices, on average, exceeded the gas price in each of the two recent seasons with exceptional circumstances: the record-breaking cold of December 1989 and the Persian Gulf conflict of 1990-91. The spread is smaller in New York, the state with the largest residential oil and gas use in the region, where higher gas prices in the populous downstate area increase the state average. (Oil prices, also, are higher in the downstate region.)

It is likely that the price of gas will rise more rapidly than the price of oil in the next several years, because of market fundamentals as well as rates. The wellhead price constitutes a much smaller share of residential gas prices than residential oil prices. In 1991, for instance, the wellhead price of gas was \$1.64/MMBTU, or some 20% of the average residential price in the Northeast of \$7.82. The average price of crude oil to refiners was about 45 cents/gal (\$19/Bbl), accounting for 45% of the Northeast's average residential price of No. 2 oil of about \$1.00/gal. Thus, changes in the commodity price of gas have only a muted effect on consumer prices in percentage terms. Nonetheless, higher wellhead prices in the tightening gas market will be approximately passed on dollar-for-dollar in residential rates. According to the Energy Information Administration's latest long term forecast, *Annual Energy Outlook, 1992*, the wellhead price of natural gas is forecast to rise by \$1.00/MCF in real terms, or almost 60%, between 1990 and 2000. The average residential prices are forecast to rise by \$1.12/MMBTU, which is only a 20% increase. (See table below.)

**Table 1**

**Energy Information Administration Energy Prices, 1990-2000**

	<u>1990</u> (1990 \$/MMBTU)	<u>2000</u>	<u>Chg.</u> (%)
<b>Natural Gas</b>			
Wellhead	1.67	2.64	58.1
New England Residential	7.15	8.33	16.5
New York/New Jersey Residential	6.82	7.99	17.2
<b>Oil</b>			
Imported Crude	3.76	4.55	21.2
New England No. 2 Heating Oil	7.71	8.22	6.6
New York/New Jersey No. 2	8.03	8.60	7.1

Source: Energy Information Administration, *Annual Energy Outlook, 1992* and *Supplement to the Annual Energy Outlook, 1992*. Reference Case.

The Northeast's gas prices are likely to rise somewhat faster than the national average as the utilities attempt to recoup in their rates the costs of recent service expansions. The Energy Information Administration forecasts gas price increases in the Northeast will rise by \$1.18/MMBTU, an increase which is 6% greater than the national average. Because of the higher transportation costs to the region, however, the increment goes on top of the Northeast's already above-average prices. The forecast increase therefore translates to a 17% rise in the price of gas for residential service in the Northeast.

The outlook for oil prices, on the other hand, has a much slower rise for both crude oil and residential heating oil prices. The EIA's forecast shows crude oil price increases of more than 20% over the 1990-2000 period (in real terms). Regional prices for No. 2 oil, however, are forecast to rise 7-8¢/gal, or about 7%, over the period.

## **APPENDIX TABLES**

### **Heating Fuels in New Homes, 1980-1991:**

**Single Family Homes  
Units in Multi-Family Housing  
Summary of Total Housing Additions**

## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b>SINGLE FAMILY HOMES</b>											
<b>U.S.</b>	1991	838	505	267	37	29	100	60	32	4	3
	1990	968	573	318	48	27	100	59	33	5	3
	1989	1026	596	352	50	28	100	58	34	5	3
	1988	1085	587	402	60	36	100	54	37	6	3
	1987	1123	583	440	58	38	100	52	39	5	3
	1986	1120	527	497	52	45	100	47	44	5	4
	1985	1072	466	528	36	42	100	43	49	3	4
	1984	1025	460	492	24	49	100	45	48	2	5
	1983	924	400	448	22	53	100	43	48	2	6
	1982	632	252	315	17	48	100	40	50	3	8
	1981	819	339	407	16	57	100	41	50	2	7
	1980	957	394	482	29	52	100	41	50	3	5
<b>N'east</b>	1991	100	50	16	32	b	100	50	16	32	0
	1990	127	57	24	43	3	100	45	19	34	2
	1989	159	81	29	45	4	100	51	18	28	3
	1988	188	85	43	57	3	100	45	23	30	2
	1987	196	87	52	52	5	100	44	27	27	3
	1986	193	80	58	47	7	100	41	30	24	4
	1985	168	65	63	32	8	100	39	38	19	5
	1984	129	53	46	21	9	100	41	36	16	7
	1983	106	40	38	18	9	100	38	36	17	8
	1982	79	28	27	14	10	100	35	34	18	13
	1981	87	30	34	11	12	100	34	39	13	14
	1980	100	35	36	17	11	100	35	36	17	11
<b>Midwest</b>	1991	185	158	21	b	4	100	85	11	0	2
	1990	195	169	21	b	4	100	87	11	0	2
	1989	191	163	22	b	5	100	85	12	0	3
	1988	191	162	22	b	6	100	85	12	0	3
	1987	201	166	26	3	6	100	83	13	1	3
	1986	170	132	30	b	6	100	78	18	0	4
	1985	151	111	31	b	7	100	74	21	0	5
	1984	156	110	30	b	14	100	71	19	0	9
	1983	142	92	35	b	15	100	65	25	0	11
	1982	92	53	24	3	13	100	58	26	3	14
	1981	140	87	37	b	13	100	62	26	0	9
	1980	170	101	46	6	16	100	59	27	4	9

## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b><i>SINGLE FAMILY HOMES (cont'd)</i></b>											
<b>South</b>	1991	348	153	186	b	8	100	44	53	0	2
	1990	389	161	220	3	5	100	41	57	1	1
	1989	420	158	252	3	7	100	38	60	1	2
	1988	457	164	282	3	8	100	36	62	1	2
	1987	467	154	303	b	8	100	33	65	0	2
	1986	505	153	335	b	14	100	30	66	0	3
	1985	514	146	354	b	11	100	28	69	0	2
	1984	508	170	325	b	12	100	33	64	0	2
	1983	476	163	296	b	15	100	34	62	0	3
	1982	340	112	214	b	13	100	33	63	0	4
	1981	408	128	262	b	16	100	31	64	0	4
1980	455	136	303	5	11	100	30	67	1	2	
<b>West</b>	1991	205	144	44	b	16	100	70	21	0	8
	1990	255	186	53	b	15	100	73	21	0	6
	1989	257	194	49	b	13	100	75	19	0	5
	1988	248	176	53	b	18	100	71	21	0	7
	1987	259	176	64	b	19	100	68	25	0	7
	1986	253	162	74	b	17	100	64	29	0	7
	1985	239	144	79	b	16	100	60	33	0	7
	1984	233	127	91	b	14	100	55	39	0	6
	1983	200	105	79	b	16	100	53	40	0	8
	1982	121	59	50	b	12	100	49	41	0	10
	1981	183	94	74	b	15	100	51	40	0	8
1980	233	121	97	b	14	100	52	42	0	6	

## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b>UNITS IN MULTIFAMILY HOUSING (PRIVATELY OWNED)</b>											
<b>U.S.</b>	1991	253	103	139	3	9	100	41	55	1	4
	1990	342	150	182	3	7	100	44	53	1	2
	1989	397	167	215	5	11	100	42	54	1	3
	1988	445	196	238	4	7	100	44	53	1	2
	1987	546	223	307	5	12	100	41	56	1	2
	1986	636	221	400	8	7	100	35	63	1	1
	1985	631	197	425	3	5	100	31	67	0	1
	1984	627	165	452	5	5	100	26	72	1	1
	1983	467	133	327	3	4	100	28	70	1	1
	1982	374	103	255	9	7	100	28	68	2	2
	1981	447	142	293	7	4	100	32	66	2	1
	1980	545	165	362	12	6	100	30	66	2	1
<b>N'east</b>	1991	21	11	7	2	b	100	52	33	10	0
	1990	31	22	7	2	b	100	71	23	6	0
	1989	60	38	16	4	1	100	63	27	7	2
	1988	62	40	18	3	1	100	65	29	5	2
	1987	62	36	18	5	2	100	58	29	8	3
	1986	61	33	19	7	2	100	54	31	11	3
	1985	46	25	17	3	1	100	54	37	7	2
	1984	40	16	18	s	1	100	40	45	0	3
	1983	33	21	9	s	b	100	64	27	0	0
	1982	41	15	17	8	1	100	37	41	20	2
	1981	40	23	11	5	b	100	58	28	13	0
	1980	46	16	20	10	b	100	35	43	22	0
<b>Midwest</b>	1991	55	37	18	b	b	100	67	33	0	0
	1990	68	50	17	b	2	100	74	25	0	3
	1989	76	51	22	b	s	100	67	29	0	0
	1988	89	56	32	b	1	100	63	36	0	1
	1987	101	62	37	b	s	100	61	37	0	0
	1986	100	43	56	b	1	100	43	56	0	1
	1985	79	36	42	b	1	100	46	53	0	1
	1984	65	34	32	s	b	100	52	49	0	0
	1983	59	37	22	s	1	100	63	37	0	2
	1982	51	32	17	s	2	100	63	33	0	4
	1981	78	42	36	b	b	100	54	46	0	0
	1980	104	46	57	b	1	100	44	55	0	1

## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b>UNITS IN MULTIFAMILY HOUSING (PRIVATELY OWNED) (cont'd)</b>											
<b>South</b>	1991	91	21	68	b	2	100	23	75	0	2
	1990	121	20	100	1	1	100	17	83	1	1
	1989	129	19	109	1	b	100	15	84	1	0
	1988	138	20	118	b	b	100	14	86	0	0
	1987	193	29	162	b	2	100	15	84	0	1
	1986	259	33	224	1	1	100	13	86	0	0
	1985	298	34	263	b	1	100	11	88	0	0
	1984	358	46	312	s	z	100	13	87	0	0
	1983	270	31	238	s	1	100	11	88	0	0
	1982	199	21	176	s	1	100	11	88	0	1
	1981	218	33	184	1	b	100	15	84	0	0
	1980	242	36	203	2	b	100	15	84	1	0
<b>West</b>	1991	87	34	46	b	6	100	39	53	0	7
	1990	121	58	59	b	4	100	48	49	0	3
	1989	131	57	68	b	s	100	44	52	0	0
	1988	156	80	70	b	5	100	51	45	0	3
	1987	190	89	95	b	6	100	47	50	0	3
	1986	216	112	101	b	3	100	52	47	0	1
	1985	207	101	103	b	3	100	49	50	0	1
	1984	164	70	90	s	4	100	43	55	0	2
	1983	104	44	58	s	3	100	42	56	0	3
	1982	82	34	45	s	3	100	41	55	0	4
	1981	111	44	63	b	4	100	40	57	0	4
	1980	153	67	81	b	5	100	44	53	0	3

## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b><i>SUMMARY OF TOTAL HOUSING ADDITIONS, 1980-1991</i></b>											
<b>U.S.</b>	1991	1091	608	406	40	38	100	56	37	4	3
	1990	1310	723	500	51	34	100	55	38	4	3
	1989	1423	763	567	55	39	100	54	40	4	3
	1988	1530	783	640	64	43	100	51	42	4	3
	1987	1669	806	747	63	50	100	48	45	4	3
	1986	1756	748	897	60	52	100	43	51	3	3
	1985	1703	663	953	39	47	100	39	56	2	3
	1984	1652	625	944	29	54	100	38	57	2	3
	1983	1391	533	775	25	57	100	38	56	2	4
	1982	1006	355	570	26	55	100	35	57	3	5
	1981	1266	481	700	23	61	100	38	55	2	5
	1980	1502	559	844	41	58	100	37	56	3	4
<b>N'east</b>	1991	121	61	23	34	0	100	50	19	28	0
	1990	158	79	31	45	3	100	50	20	28	2
	1989	219	119	45	49	5	100	54	21	22	2
	1988	250	125	61	60	4	100	50	24	24	2
	1987	258	123	70	57	7	100	48	27	22	3
	1986	254	113	77	54	9	100	44	30	21	4
	1985	214	90	80	35	9	100	42	37	16	4
	1984	169	69	64	21	10	100	41	38	12	6
	1983	139	61	47	18	9	100	44	34	13	6
	1982	120	43	44	22	11	100	36	37	18	9
	1981	127	53	45	16	12	100	42	35	13	9
	1980	146	51	56	27	11	100	35	38	18	8
<b>Midwest</b>	1990	240	195	39	0	4	100	81	16	0	2
	1990	263	219	38	0	6	100	83	14	0	2
	1989	267	214	44	0	5	100	80	16	0	2
	1988	280	218	54	0	7	100	78	19	0	3
	1987	302	228	63	3	6	100	75	21	1	2
	1986	270	175	86	0	7	100	65	32	0	3
	1985	230	147	73	0	8	100	64	32	0	3
	1984	221	144	62	0	14	100	65	28	0	6
	1983	201	129	57	0	16	100	64	28	0	8
	1982	143	85	41	3	15	100	59	29	2	10
	1981	218	129	73	0	13	100	59	33	0	6
	1980	274	147	103	6	17	100	54	38	2	6



## HEATING FUELS IN NEW HOMES, 1980-1991

		Number of Homes (000)					Percentage Distribution (%)				
		Total	Gas	Elec.	Oil	Other	Total	Gas	Elec.	Oil	Other
<b>SUMMARY OF TOTAL HOUSING ADDITIONS, 1980-1991 (cont'd)</b>											
<b>South</b>	1991	439	174	254	0	10	100	40	58	0	2
	1990	510	181	320	4	6	100	35	63	1	1
	1989	549	177	361	4	7	100	32	66	1	1
	1988	595	184	400	3	8	100	31	67	1	1
	1987	660	183	465	0	10	100	28	70	0	2
	1986	764	186	559	1	15	100	24	73	0	2
	1985	812	180	617	0	12	100	22	76	0	1
	1984	866	216	637	0	12	100	25	74	0	1
	1983	746	194	534	0	16	100	26	72	0	2
	1982	539	133	390	0	14	100	25	72	0	3
	1981	626	161	446	1	16	100	26	71	0	3
	1980	697	172	506	7	11	100	25	73	1	2
<b>West</b>	1991	292	178	90	0	22	100	61	31	0	8
	1990	376	244	112	0	19	100	65	30	0	5
	1989	388	251	117	0	13	100	65	30	0	3
	1988	404	256	123	0	23	100	63	30	0	6
	1987	449	265	159	0	25	100	59	35	0	6
	1986	469	274	175	0	20	100	58	37	0	4
	1985	446	245	182	0	19	100	55	41	0	4
	1984	397	197	181	0	18	100	50	46	0	5
	1983	304	149	137	0	19	100	49	45	0	6
	1982	203	93	95	0	15	100	46	47	0	7
	1981	294	138	137	0	19	100	47	47	0	6
	1980	386	188	178	0	19	100	49	46	0	5