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PRELIMINARY CONSERVATION TABLES FROM  
THE NATIONAL INTERIM ENERGY CONSUMPTION SURVEY

OFFICE OF THE CONSUMPTION DATA SYSTEM  
OFFICE OF PROGRAM DEVELOPMENT  
ENERGY INFORMATION ADMINISTRATION

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INTERIM ENERGY CONSUMPTION SURVEY

Attached is the first report of the Office of the Consumption Data System, Office of Program Development, Energy Information Administration, presenting preliminary data from the National Interim Energy Consumption Survey (NIECS). The focus of this report is the conservation activities performed by households since January 1977, and the status of households with respect to insulation, storm windows, and other energy conserving characteristics. These tables are from preliminary data files. Therefore, the tables are in weighted percentages rather than weighted numbers. The tables will be reissued in final form in the fall of 1979.

Included in the report is a summary, a description of how the survey was conducted, preliminary sampling errors, and a glossary of terms.

The following EIA staff members have contributed to this project: Kenneth Vagts--Director, Office of the Consumption Data System; Lynda Carlson--overall manager for the residential sector; Wendel Thompson--NIECS survey manager; Lynn Handler--packager for the report and analysis author; Bruce Egan, Leigh Carleton, and Mike Lawrence--table design and generation; Mike Maloney--systems design and data processing; Tom Woteki and Stuart Cohen--statistics; Diane Good and Dotty Tate--secretarial and clerical work. The survey fieldwork was conducted by Response Analysis Corporation.



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## Preliminary Conservation Findings

This report consists of four sets of conservation related tables. The first set presents statistics on the presence of storm windows and doors and insulation in the housing inventory for the winter of 1978-1979. The remaining three sets of tables are concerned with conservation additions made during three time periods: April 1977-December 1978 (the period of eligibility for a 1978 energy tax credit), and the two calendar years of 1977 and 1978.

Each set consists of eight tables. Conservation inventories and additions are crossed by: census region (plus rural/urban), type of heating fuel, weather zones, type of building structure, year house built, type and presence of air-conditioning, family income, and value of residence.

The sample base for this report is 3,448. This figure includes all occupied residential buildings containing between one and four housing units in the National Interim Energy Consumption Survey (NIECS). Although, buildings with five or more housing units were included in the survey, statistics on these units will be presented in future reports. Residents of these buildings were not asked about conservation additions or about the presence or absence of insulation. Therefore, they have been omitted from this report.

A series of weights was applied to the sample units to allow estimates to be made of the entire population. After weighting, the estimated population was equal to 67.6 million housing units. The 100 percent figure given in the upper left hand corner of each table represents this weighted number.

The first set of tables show household inventories of conservation items. Displayed here are statistics on storm windows and doors; presence, type, and quantity of attic insulation; wall insulation; and whether or not rooms were closed off (left unheated) during the winter of 1977. The inventory figures derived from the NIECS are not strictly comparable to those published in the latest (1976) Annual Housing Survey (AHS). The AHS data were for 1976 and the NIECS data were collected during the winter of 1978-79. In addition, the AHS limits its sample to occupied single-family homes. When the NIECS sample was adjusted to correspond to that used by the AHS, significant differences were found between the percentages of housing units with storm windows and doors. No significant difference was found in the two surveys between the percent of housing units with attic insulation.\*

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\*The estimates and sampling errors given here are preliminary and subject to revision. Sampling errors have been estimated conservatively. For a discussion of sampling errors and a table for their computation, see page 67

Forty percent (+ 3) of the NIECS households had storm windows on all of their windows, 36 percent (+ 3) had storm doors, and 68 percent (+ 3) had some attic insulation. Approximately one-third of the households had closed off one or more rooms during the winter.

The second set of tables gives statistics on conservation additions for the period of eligibility for an energy tax credit on 1978 Federal income taxes. In order to qualify for an energy tax credit, two criteria must be met. First, to be eligible, an addition had to have been made between April 20, 1977 and December 31, 1978. Second, additions were only considered to be eligible if they were made to houses built (or substantially completed) before April 20, 1977. The eight tables in the second section give three classifications of eligibility. Eligible additions were made in the appropriate time frame and to houses built in 1976 or earlier. Ineligible additions were made during the right time, but to houses built in 1977 or later. Eligibility could not be determined for those who did not know when their houses were built.

Some sort of conservation related equipment or insulation was added to nearly half of the housing units in the sample. Slightly more than 20 percent of the households had made more than one addition. Most additions were made in the area of inexpensive insulation, specifically: caulking (24 percent), plastic covering (15 percent), and weatherstripping (13 percent). Almost 40 percent (+ 3) of the households made an addition of this type. More expensive insulation additions or any kind of equipment additions were undertaken by very few respondents. Between 7 and 8 percent (+ 2) of the households had added roof or attic insulation, storm doors, or storm windows.

The third and fourth sets of tables present statistics on conservation-related additions made during 1977 and 1978. In each of the two calendar years presented here, approximately one-third of the households added some sort of insulation or equipment. Nearly all of the additions made were in the category termed "inexpensive insulation". Twenty-eight percent (+ 3) of the households made an addition of this type in 1977 and 25 percent (+ 3) added inexpensive insulation in 1978. Within this category, the most popular additions included caulking, plastic coverings, and weatherstripping. In each of the two years, approximately 4 percent (+ 1) of the households added storm windows, storm doors, or attic insulation.



When the NIECS sample was altered to correspond to that used in the AHS, differences in the percentages of storm windows and doors added became insignificant. With the exception of the previously mentioned, minor, very inexpensive additions, little was done in the way of conservation additions over the two year period.



These are preliminary figures subject to revision. Sampling errors have been calculated conservatively. Therefore, conclusions reached from these data may be subject to revision.

**TABLE 1:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY CENSUS REGIONS (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSING UNITS	CENSUS REGIONS											
		NORTHEAST			NORTH CENTRAL			SOUTH			WEST		
		TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
<b>TOTAL HOUSING UNITS 3/</b> .....	100%	21	17	4	29	21	8	33	20	13	16	13	4
<b>STORM WINDOWS 4/</b>													
ALL WINDOWS COVERED.....	40	14	11	3	18	13	6	6	4	3	2	1	1
SOME WINDOWS COVERED.....	19	5	4	2	8	6	2	5	3	2	2	1	1
NO WINDOWS COVERED.....	38	2	2	0	3	2	1	21	13	8	12	10	1
NOT REPORTED.....	2	0	0	0	1	1	0	1	1	0	0	0	0
<b>STORM DOORS 4/</b>													
ALL DOORS COVERED.....	36	10	8	2	18	12	5	7	4	3	2	1	1
SOME DOORS COVERED.....	24	6	5	2	7	5	2	8	5	3	3	2	1
NO DOORS COVERED.....	37	3	3	0	4	3	1	17	11	6	12	10	2
NOT REPORTED.....	3	1	1	0	1	1	0	0	0	0	0	0	0
<b>ATTIC INSULATION</b>													
<b>HAVE INSULATION</b> .....	68	14	10	3	22	16	7	22	14	8	10	7	3
<b>TYPE</b>													
BATTS ONLY.....	32	8	6	2	10	7	3	10	6	4	4	2	2
LOOSE FILL ONLY.....	21	3	2	1	7	5	3	7	4	3	4	3	1
BATTS AND LOOSE.....	3	1	0	0	1	1	0	1	1	0	0	0	0
OTHER.....	1	0	0	0	0	0	0	0	0	0	0	0	0
TYPE UNKNOWN.....	9	2	2	0	3	2	0	3	2	1	2	1	0
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>QUANTITY</b>													
LESS THAN 3 INCHES.....	3	1	1	0	1	1	0	1	1	0	1	0	0
3 TO 6 INCHES.....	32	6	4	2	11	7	4	11	6	5	5	3	2
MORE THAN 6 INCHES.....	10	2	1	1	4	2	2	2	1	1	1	1	0
QUANTITY UNKNOWN.....	23	5	4	1	6	5	1	8	5	3	4	3	1
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NO INSULATION.....	19	4	3	1	4	3	1	7	4	3	4	4	0
DONT KNOW.....	12	3	3	0	3	2	1	4	3	1	2	2	0
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>													
<b>YES</b> .....	50	11	8	3	16	10	6	16	9	7	7	4	3
<b>NO</b> .....	28	5	4	1	7	5	2	10	6	4	6	5	1
<b>DONT KNOW</b> .....	20	5	4	1	5	5	1	7	5	2	4	3	0
<b>NOT REPORTED</b> .....	2	0	0	0	1	1	0	0	0	0	0	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>													
<b>YES</b> .....	31	5	4	1	10	6	3	13	7	6	4	3	1
<b>NO</b> .....	58	14	11	3	17	12	4	17	11	6	10	8	2
<b>NOT APPLICABLE 2/</b> .....	11	3	2	0	3	2	1	4	3	1	2	1	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 2:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY PRIMARY HEATING FUEL (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSING UNITS	TYPE OF PRIMARY HEATING FUEL						
		NATURAL GAS	FUEL OIL, KEROSENE	LPG	ELECTRIC	WOOD	OTHER, NONE	NOT REPORTED 2/
<b>TOTAL HOUSING UNITS 3/</b> .....	100%	56	22	5	14	3	1	0
<b>STORM WINDOWS 4/</b>								
ALL WINDOWS COVERED.....	40	21	11	1	6	0	0	0
SOME WINDOWS COVERED.....	19	10	6	1	2	1	0	0
NO WINDOWS COVERED.....	38	23	5	3	6	2	0	0
NOT REPORTED.....	2	1	1	0	0	0	0	0
<b>STORM DOORS 4/</b>								
ALL DOORS COVERED.....	36	20	10	1	4	1	0	0
SOME DOORS COVERED.....	24	13	6	1	4	1	0	0
NO DOORS COVERED.....	37	21	5	3	6	2	0	0
NOT REPORTED.....	3	1	1	0	1	0	0	0
<b>ATTIC INSULATION</b>								
<b>HAVE INSULATION</b> .....	68	36	15	4	12	2	0	0
<b>TYPE</b>								
BATTs ONLY.....	32	16	8	2	5	1	0	0
LOOSE FILL ONLY.....	21	11	4	1	5	0	0	0
BATTs AND LOOSE.....	3	2	1	0	1	0	0	0
OTHER.....	1	1	0	0	0	0	0	0
TYPE UNKNOWN.....	9	5	2	1	2	0	0	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>QUANTITY</b>								
LESS THAN 3 INCHES.....	3	2	0	0	0	0	0	0
3 TO 6 INCHES.....	32	16	8	2	5	1	0	0
MORE THAN 6 INCHES.....	10	4	2	0	3	0	0	0
QUANTITY UNKNOWN.....	23	13	4	1	4	0	0	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
NO INSULATION.....	19	12	4	1	1	1	0	0
DONT KNOW.....	12	8	2	0	1	0	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>								
YES.....	50	25	11	3	10	1	0	0
NO.....	28	17	6	1	2	1	0	0
DONT KNOW.....	20	13	5	1	2	0	0	0
NOT REPORTED.....	2	1	0	0	0	0	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>								
YES.....	31	16	6	2	5	1	0	0
NO.....	58	34	13	2	7	1	0	0
NOT APPLICABLE 2/.....	11	5	2	1	2	0	0	0

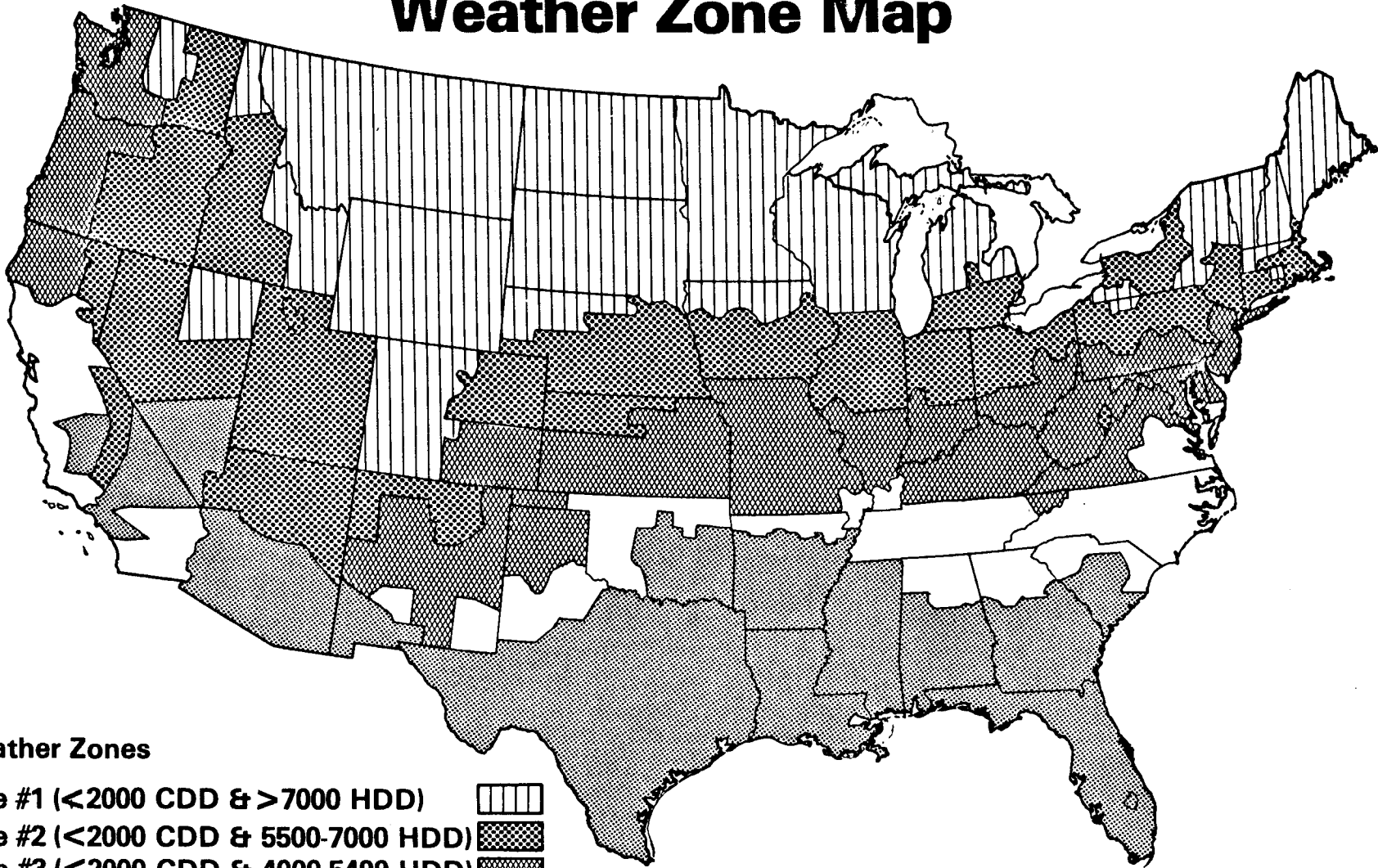
NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
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SEE NOTES FOLLOWING LAST TABLE.

**TABLE 3:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY DEGREE DAYS (WINTER 1978-79)**






(N = 3448)	TOTAL HOUSING UNITS	HEATING AND COOLING DEGREE DAYS 5/				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500-7000 HDD	<2000 CDD AND 4000-5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	9	29	26	22	15
<b>STORM WINDOWS 4/</b>						
ALL WINDOWS COVERED.....	40	6	17	13	4	1
SOME WINDOWS COVERED.....	19	2	7	7	3	1
NO WINDOWS COVERED.....	38	0	5	5	15	13
NOT REPORTED.....	2	0	1	1	0	0
<b>STORM DOORS 4/</b>						
ALL DOORS COVERED.....	36	4	16	11	4	1
SOME DOORS COVERED.....	24	2	7	8	4	3
NO DOORS COVERED.....	37	1	5	6	13	11
NOT REPORTED.....	3	1	0	1	0	0
<b>ATTIC INSULATION</b>						
○ HAVE INSULATION.....	68	7	22	17	13	9
TYPE						
BATTS ONLY.....	32	3	12	9	5	4
LOOSE FILL ONLY.....	21	3	6	4	5	3
BATTS AND LOOSE.....	3	0	1	1	0	0
OTHER.....	1	0	0	0	0	0
TYPE UNKNOWN.....	9	1	3	2	2	2
NOT REPORTED.....	1	0	0	0	0	0
QUANTITY						
LESS THAN 3 INCHES.....	3	0	1	1	1	0
3 TO 6 INCHES.....	32	3	11	9	6	4
MORE THAN 6 INCHES.....	10	2	4	2	1	1
QUANTITY UNKNOWN.....	23	2	7	5	5	4
NOT REPORTED.....	1	0	0	0	0	0
NO INSULATION.....	19	1	4	5	6	4
DONT KNOW.....	12	1	3	3	2	2
NOT REPORTED.....	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>						
YES.....	50	6	17	12	10	6
NO.....	28	2	6	7	7	6
DONT KNOW.....	20	1	6	5	4	3
NOT REPORTED.....	2	0	1	0	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>						
YES.....	31	2	8	8	8	5
NO.....	58	5	19	15	11	8
NOT APPLICABLE 2/.....	11	2	3	2	2	2

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
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SEE NOTES FOLLOWING LAST TABLE.

# United States Weather Zone Map



## Weather Zones

- Zone #1 (<2000 CDD & >7000 HDD) 
- Zone #2 (<2000 CDD & 5500-7000 HDD) 
- Zone #3 (<2000 CDD & 4000-5499 HDD) 
- Zone #4 (<2000 CDD & <4000 HDD) 
- Zone #5 (>2000 CDD & <4000 HDD) 

**TABLE 4:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY TYPE OF HOUSING STRUCTURE (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSING UNITS	SINGLE FAMILY DETACHED					SINGLE FAMILY ATTACHED	BUILDING WITH 2-4 UNITS	MOBILE HOME	NOT REPORTED 2/
		TOTAL	1-4 ROOMS	5 ROOMS	6 ROOMS	7 OR MORE ROOMS				
<b>TOTAL HOUSING UNITS 3/</b> .....	100%	71	13	18	17	23	4	16	7	2
<b>STORM WINDOWS 4/</b>										
ALL WINDOWS COVERED.....	40	29	4	7	7	11	2	6	2	1
SOME WINDOWS COVERED.....	19	15	2	3	4	5	0	3	1	0
NO WINDOWS COVERED.....	38	26	6	7	6	6	1	6	4	1
NOT REPORTED.....	2	1	0	0	0	0	0	1	0	0
<b>STORM DOORS 4/</b>										
ALL DOORS COVERED.....	36	28	5	8	7	8	2	4	1	1
SOME DOORS COVERED.....	24	19	2	5	5	8	1	2	2	0
NO DOORS COVERED.....	37	23	5	6	5	6	1	7	4	1
NOT REPORTED.....	3	1	0	0	0	0	0	2	0	0
<b>ATTIC INSULATION</b>										
HAVE INSULATION.....	68	55	7	14	14	20	2	6	5	1
∞ TYPE										
BATTS ONLY.....	32	26	4	7	6	9	1	2	2	1
LOOSE FILL ONLY.....	21	18	2	4	5	7	1	2	0	0
BATTS AND LOOSE.....	3	3	0	1	1	1	0	0	0	0
OTHER.....	1	1	0	0	0	0	0	0	0	0
TYPE UNKNOWN.....	9	6	1	2	2	2	0	1	2	0
NOT REPORTED.....	1	1	0	0	0	0	0	0	0	0
QUANTITY										
LESS THAN 3 INCHES.....	3	2	0	0	1	1	0	0	0	0
3 TO 6 INCHES.....	32	27	4	7	7	9	1	2	2	1
MORE THAN 6 INCHES.....	10	8	1	2	2	3	0	1	0	0
QUANTITY UNKNOWN.....	23	17	2	4	4	6	1	3	2	0
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
NO INSULATION.....	19	12	4	3	3	2	1	4	1	0
DONT KNOW.....	12	5	2	2	1	1	1	5	1	0
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>										
YES.....	50	38	5	10	10	14	2	4	5	1
NO.....	28	21	5	5	5	5	1	4	1	1
DONT KNOW.....	20	12	2	3	2	4	1	6	1	0
NOT REPORTED.....	2	1	0	0	0	0	0	1	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>										
YES.....	31	25	4	6	7	9	1	2	2	0
NO.....	58	40	8	11	10	12	3	10	4	1
NOT APPLICABLE 2/.....	11	5	1	2	1	2	0	4	1	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
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SEE NOTES FOLLOWING LAST TABLE.



**TABLE 5:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY YEAR HOUSE BUILT (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSING UNITS	YEAR HOUSE BUILT							
		1975 OR LATER	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER	NOT REPORTED 2/
<b>TOTAL HOUSING UNITS 3/</b> .....	100%	7	10	9	9	18	10	31	5
<b>STORM WINDOWS 4/</b>									
ALL WINDOWS COVERED.....	40	4	5	3	3	7	4	12	2
SOME WINDOWS COVERED.....	19	1	1	1	2	4	2	8	1
NO WINDOWS COVERED.....	38	2	4	5	4	7	4	10	2
NOT REPORTED.....	2	0	0	0	0	0	0	1	0
<b>STORM DOORS 4/</b>									
ALL DOORS COVERED.....	36	1	3	2	3	8	4	13	2
SOME DOORS COVERED.....	24	2	3	2	3	5	2	7	1
NO DOORS COVERED.....	37	3	5	5	4	5	3	10	2
NOT REPORTED.....	3	1	0	0	0	0	0	1	0
<b>ATTIC INSULATION</b>									
<b>HAVE INSULATION</b> .....	68	6	8	7	8	14	7	16	3
<b>TYPE</b>									
BATTS ONLY.....	32	2	3	3	3	8	3	8	1
LOOSE FILL ONLY.....	21	3	2	2	2	4	2	5	1
BATTS AND LOOSE.....	3	0	0	0	0	1	0	1	0
OTHER.....	1	0	0	0	0	0	0	0	0
TYPE UNKNOWN.....	9	1	1	1	1	1	1	2	1
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>QUANTITY</b>									
LESS THAN 3 INCHES.....	3	0	0	0	0	1	0	1	0
3 TO 6 INCHES.....	32	2	3	3	3	8	4	8	2
MORE THAN 6 INCHES.....	10	2	2	1	1	2	0	1	0
QUANTITY UNKNOWN.....	23	2	3	2	3	4	2	6	1
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
NO INSULATION.....	19	0	1	1	1	2	2	10	1
DONT KNOW.....	12	0	1	1	1	1	1	4	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>									
YES.....	50	6	7	6	5	9	4	11	2
NO.....	28	0	1	2	2	6	3	13	2
DONT KNOW.....	20	1	2	2	2	3	2	7	1
NOT REPORTED.....	2	0	0	0	0	0	0	1	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>									
YES.....	31	2	3	2	3	6	3	10	1
NO.....	58	4	6	6	5	11	6	18	3
NOT APPLICABLE 2/.....	11	2	2	1	1	1	1	3	1

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 6:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY TYPE OF AIR CONDITIONING (WINTER 1978-79)**

	TOTAL HOUSING UNITS	NUMBER OF ROOMS WITH AIR CONDITIONING				CENTRAL AIR CONDITIONING ONLY	INDIVIDUAL ROOM UNITS ONLY	CENTRAL A/C AND ROOM UNITS
		NONE	SOME	ALL	NOT REPORTED			
<b>(N = 3448)</b>								
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	44	25	29	1	22	33	0
<b>STORM WINDOWS 4/</b>								
ALL WINDOWS COVERED.....	40	17	12	12	1	9	14	0
SOME WINDOWS COVERED.....	19	9	6	5	0	3	7	0
NO WINDOWS COVERED.....	38	18	7	12	0	9	11	0
NOT REPORTED.....	2	1	1	1	0	1	1	0
<b>STORM DOORS 4/</b>								
ALL DOORS COVERED.....	36	15	11	9	0	7	14	0
SOME DOORS COVERED.....	24	9	6	8	0	6	8	0
NO DOORS COVERED.....	37	18	7	11	0	9	10	0
NOT REPORTED.....	3	2	1	0	0	0	1	0
<b>ATTIC INSULATION</b>								
HAVE INSULATION.....	68	27	17	24	1	19	22	0
<b>TYPE</b>								
BATTS ONLY.....	32	13	9	10	0	8	11	0
LOOSE FILL ONLY.....	21	8	5	9	0	7	6	0
BATTS AND LOOSE.....	3	1	1	1	0	1	1	0
OTHER.....	1	1	0	0	0	0	0	0
TYPE UNKNOWN.....	9	4	3	3	0	2	3	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>QUANTITY</b>								
LESS THAN 3 INCHES.....	3	1	1	1	0	1	1	0
3 TO 6 INCHES.....	32	13	8	11	0	9	11	0
MORE THAN 6 INCHES.....	10	4	2	4	0	3	2	0
QUANTITY UNKNOWN.....	23	8	7	8	0	6	8	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
NO INSULATION.....	19	12	5	2	0	1	6	0
DONT KNOW.....	12	6	3	3	0	2	4	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>								
YES.....	50	20	12	18	0	14	15	0
NO.....	28	14	8	6	0	4	10	0
DONT KNOW.....	20	9	5	6	0	4	7	0
NOT REPORTED.....	2	1	0	0	0	0	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>								
YES.....	31	13	9	8	0	6	12	0
NO.....	58	26	14	17	1	14	18	0
NOT APPLICABLE 2/.....	11	6	2	3	0	3	3	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZERGS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 7:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY FAMILY INCOME (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSEHOLDS 1/	FAMILY INCOME						
		LESS THAN \$5,000	\$5,000 TO \$9,999	\$10,000 TO \$14,999	\$15,000 TO \$19,999	\$20,000 TO \$24,999	\$25,000 OR MORE	NOT REPORTED 2/
<b>TOTAL 3/.....</b>	100%	12	16	16	14	12	18	11
<b>STORM WINDOWS 4/</b>								
ALL WINDOWS COVERED.....	40	3	5	6	7	5	9	5
SOME WINDOWS COVERED.....	19	2	3	3	2	3	4	2
NO WINDOWS COVERED.....	38	7	7	7	5	4	5	4
NOT REPORTED.....	2	0	0	1	0	0	0	0
<b>STORM DOORS 4/</b>								
ALL DOORS COVERED.....	36	3	6	6	6	4	6	4
SOME DOORS COVERED.....	24	2	3	3	3	3	6	3
NO DOORS COVERED.....	37	6	6	7	4	4	5	4
NOT REPORTED.....	3	0	0	0	0	0	1	0
<b>ATTIC INSULATION</b>								
HAVE INSULATION.....	68	5	9	11	10	10	16	8
TYPE								
TT BATT ONLY.....	32	2	4	6	5	4	7	3
LOOSE FILL ONLY.....	21	1	2	3	3	3	6	2
BATTS AND LOOSE.....	3	0	0	0	1	1	1	0
OTHER.....	1	0	0	0	0	0	0	0
TYPE UNKNOWN.....	9	1	2	2	1	1	1	1
NOT REPORTED.....	1	0	0	0	0	0	0	0
QUANTITY								
LESS THAN 3 INCHES.....	3	0	0	0	0	1	1	0
3 TO 6 INCHES.....	32	2	4	6	5	5	7	4
MORE THAN 6 INCHES.....	10	0	1	1	2	2	3	1
QUANTITY UNKNOWN.....	23	3	3	4	3	3	4	3
NOT REPORTED.....	1	0	0	0	0	0	0	0
NO INSULATION.....	19	5	5	3	2	1	2	2
DONT KNOW.....	12	3	2	2	1	1	1	1
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>								
YES.....	50	4	7	8	8	7	11	6
NO.....	28	6	6	4	3	3	3	3
DONT KNOW.....	20	3	4	4	2	2	3	3
NOT REPORTED.....	2	0	0	0	0	0	0	0
<b>ROOM(S) CLOSED OFF DURING WINTER</b>								
YES.....	31	3	5	5	4	4	6	4
NO.....	58	7	9	9	8	7	11	7
NOT APPLICABLE 2/.....	11	2	2	2	1	1	2	1

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 8:  
EXISTING ENERGY-RELATED CHARACTERISTICS BY VALUE OF RESIDENCE (WINTER 1978-79)**

(N = 3448)	TOTAL HOUSING UNITS	VALUE OF RESIDENCE						
		LESS THAN \$20,000	\$20,000 TO \$39,999	\$40,000 TO \$59,999	\$60,000 TO \$79,999	\$80,000 TO \$99,999	\$100,000 OR MORE	NOT APPLICABLE 2/
<b>TOTAL HOUSING UNITS 3/</b> .....	100%	10	21	18	9	4	6	32
<b>STORM WINDOWS 4/</b>								
ALL WINDOWS COVERED.....	40	3	9	10	5	2	2	10
SOME WINDOWS COVERED.....	19	2	5	4	2	1	1	5
NO WINDOWS COVERED.....	38	5	7	4	2	2	3	16
NOT REPORTED.....	2	0	0	0	0	0	0	1
<b>STORM DOORS 4/</b>								
ALL DOORS COVERED.....	36	3	9	9	4	1	2	8
SOME DOORS COVERED.....	24	2	6	5	2	1	1	6
NO DOORS COVERED.....	37	5	6	3	3	2	3	16
NOT REPORTED.....	3	0	0	1	0	0	0	1
<b>ATTIC INSULATION</b>								
<b>HAVE INSULATION.....</b>	68	5	16	17	8	4	5	13
<b>TYPE</b>								
12 BATT ONLY.....	32	3	8	8	4	2	2	6
LOOSE FILL ONLY.....	21	1	5	6	3	2	2	3
BATTS AND LOOSE.....	3	0	1	1	0	0	0	0
OTHER.....	1	0	0	0	0	0	0	0
TYPE UNKNOWN.....	9	1	2	1	1	0	1	3
NOT REPORTED.....	1	0	0	0	0	0	0	1
<b>QUANTITY</b>								
LESS THAN 3 INCHES.....	3	0	1	1	0	0	0	0
3 TO 6 INCHES.....	32	2	8	9	4	2	2	5
MORE THAN 6 INCHES.....	10	0	2	3	1	1	1	1
QUANTITY UNKNOWN.....	23	2	5	4	2	1	2	7
NOT REPORTED.....	1	0	0	0	0	0	0	0
NO INSULATION.....	19	3	4	1	1	0	1	9
DONT KNOW.....	12	1	1	1	0	0	0	9
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>HAVE WALL INSULATION</b>								
YES.....	50	5	12	12	6	3	3	10
NO.....	28	4	6	4	2	1	1	10
DONT KNOW.....	20	1	3	2	1	1	1	11
NOT REPORTED.....	2	0	0	0	0	0	0	1
<b>ROOM(S) CLOSED OFF DURING WINTER</b>								
YES.....	31	3	8	6	3	2	2	7
NO.....	58	6	12	11	6	3	3	18
NOT APPLICABLE 2/.....	11	1	1	2	0	0	0	7

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 9A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY CENSUS REGIONS**

	TOTAL HOUSING UNITS	CENSUS REGION											
		NORTH EAST			NORTH CENTRAL			SOUTH			WEST		
		TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
(N = 3448)													
<b>TOTAL HOUSING UNITS 2/.....</b>	1002	21	17	4	29	21	8	33	20	13	16	13	4
<b>ANY INSULATION OR EQUIPMENT ADDED</b>													
<b>YES, ELIGIBLE.....</b>	46	11	9	3	16	11	4	14	9	5	5	4	1
<b>YES, INELIGIBLE.....</b>	1	0	0	0	0	0	0	1	0	0	0	0	0
<b>YES, ELIGIBILITY UNKNOWN.....</b>	2	0	0	0	1	0	0	1	0	1	0	0	0
<b>NO.....</b>	50	9	8	2	12	9	3	17	11	6	11	9	2
<b>NOT REPORTED.....</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>													
<b>YES, ELIGIBLE.....</b>	38	10	7	2	13	10	4	11	7	4	4	3	1
<b>WEATHERSTRIPPING.....</b>	13	3	2	1	6	4	2	3	2	1	1	1	0
<b>AROUND HOT WATER PIPES.....</b>	3	1	0	0	1	1	0	1	1	1	0	0	0
<b>AROUND HOT WATER HEATER.....</b>	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>CAULKING.....</b>	24	7	5	2	9	7	2	5	3	2	2	2	1
<b>PLASTIC COVERING.....</b>	15	4	3	1	5	3	2	5	3	2	1	1	0
<b>OTHER.....</b>	2	0	0	0	1	0	0	1	0	0	0	0	0
<b>YES, INELIGIBLE.....</b>	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>YES, ELIGIBILITY UNKNOWN.....</b>	2	0	0	0	1	0	0	1	0	1	0	0	0
<b>NO.....</b>	58	11	9	2	15	11	4	20	13	7	12	10	2
<b>NOT REPORTED.....</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>													
<b>YES, ELIGIBLE.....</b>	10	3	2	1	4	2	1	2	1	1	1	1	0
<b>ROOF OR ATTIC.....</b>	7	2	1	0	3	2	1	2	1	1	1	1	0
<b>BASEMENT OR CRAWL SPACE.....</b>	2	1	1	0	1	1	0	0	0	0	0	0	0
<b>OUTSIDE WALLS.....</b>	3	1	1	0	1	1	1	1	0	0	0	0	0
<b>YES, INELIGIBLE.....</b>	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>YES, ELIGIBILITY UNKNOWN.....</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>NO.....</b>	88	18	15	4	25	18	7	30	19	11	15	11	3
<b>NOT REPORTED.....</b>	1	0	0	0	0	0	0	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 9A  
CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978  
AND ELIGIBILITY FOR 1978 TAX CREDIT BY CENSUS REGIONS**

(N = 3448)	TOTAL HOUSING UNITS	CENSUS REGION											
		NORTH EAST			NORTH CENTRAL			SOUTH			WEST		
		TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>													
YES, ELIGIBLE.....	11	2	2	0	4	3	1	3	2	1	1	1	0
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0	0	0	0	0	0
STORM DOORS.....	6	1	1	0	2	2	1	2	1	1	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	0	0	0	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT....	4	1	1	0	1	1	0	1	1	0	1	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	1	0	0	0	0	0
NO.....	37	19	15	4	24	17	7	29	18	11	15	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>													
YES, ELIGIBLE.....	8	2	2	1	3	2	1	3	2	1	1	1	0
STORM WINDOWS/INSULATING GLASS	6	2	1	0	2	1	1	2	1	1	1	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	1	1	0	1	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NO.....	90	19	15	4	26	19	7	30	19	11	15	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 9B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY CENSUS REGIONS**

	TOTAL HOUSING UNITS (N = 3448)	CENSUS REGION											
		NORTH EAST			NORTH CENTRAL			SOUTH			WEST		
		TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	21	17	4	29	21	8	33	20	13	16	13	4
<b>ANY INSULATION OR EQUIPMENT ADDED</b>													
YES.....	32	8	6	2	11	8	3	9	6	4	4	3	1
NO.....	68	14	11	3	18	13	5	24	15	9	13	10	3
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>													
YES.....	25	6	5	2	9	6	3	7	4	3	2	2	1
WEATHERSTRIPPING.....	7	2	1	0	3	2	1	2	1	1	1	0	0
AROUND HOT WATER PIPES.....	2	0	0	0	0	0	0	1	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0	0	0	0	0
CAULKING.....	15	4	3	1	6	4	2	4	2	1	2	1	0
PLASTIC COVERING.....	8	2	2	1	2	2	1	2	1	1	1	0	0
OTHER.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NO.....	75	15	12	3	20	15	6	26	16	10	14	11	3
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>													
YES.....	6	1	1	0	2	1	1	1	1	1	1	1	0
ROOF OR ATTIC.....	4	1	1	0	1	1	0	1	1	0	1	1	0
BASEMENT OR CRAWL SPACE.....	2	1	0	0	1	0	0	0	0	0	0	0	0
OUTSIDE WALLS.....	2	0	0	0	1	0	0	0	0	0	0	0	0
NO.....	93	20	16	4	27	19	8	32	20	12	15	12	4
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>													
YES.....	7	1	1	0	2	2	1	2	2	1	1	1	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	1	0	0	1	1	0	1	1	0	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	0	0	0	1	1	0	1	1	0	0	0	0
NO.....	92	20	15	4	26	19	8	31	19	12	16	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>													
YES.....	5	1	1	0	2	1	1	1	1	1	0	0	0
STORM WINDOWS/INSULATING GLASS.....	4	1	1	0	1	1	0	1	0	1	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NO.....	95	20	16	4	27	20	8	32	20	12	16	12	4
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

TABLE 9C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY CENSUS REGIONS

(N = 3448)	TOTAL HOUSING UNITS	CENSUS REGION											
		NORTH EAST			NORTH CENTRAL			SOUTH			WEST		
		TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL	TOTAL	URBAN	RURAL
TOTAL HOUSING UNITS 2/.....	100%	21	17	4	29	21	8	33	20	13	16	13	4
ANY INSULATION OR EQUIPMENT ADDED													
YES.....	34	8	6	2	12	8	3	10	6	4	4	3	1
NO.....	65	13	11	2	17	12	5	23	15	8	12	10	2
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (INEXPENSIVE)													
YES.....	28	7	5	2	10	7	3	8	5	4	3	2	1
WEATHERSTRIPPING.....	9	2	1	1	4	3	1	2	1	1	1	1	0
AROUND HOT WATER PIPES.....	2	0	0	0	1	1	0	1	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0	0	0	0	0
CAULKING.....	14	4	3	1	5	4	1	3	2	1	2	1	0
PLASTIC COVERING.....	12	3	2	1	4	3	1	4	2	2	2	1	0
OTHER.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NO.....	72	14	12	3	20	14	6	25	16	9	13	10	3
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (EXPENSIVE)													
YES.....	6	2	1	0	2	1	1	2	1	1	1	1	0
ROOF OR ATTIC.....	4	1	1	0	2	1	1	1	1	1	1	0	0
BASEMENT OR CRAWL SPACE.....	1	0	0	0	1	0	0	0	0	0	0	0	0
OUTSIDE WALLS.....	2	1	0	0	1	1	0	1	0	0	0	0	0
NO.....	93	19	15	4	27	19	7	31	20	12	16	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (INEXPENSIVE)													
YES.....	7	1	1	0	3	2	1	2	1	1	1	1	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	1	0	0	1	1	0	1	1	1	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	0	0	0	1	1	0	0	0	0	0	0	0
NO.....	93	20	16	4	26	19	8	31	19	12	16	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (EXPENSIVE)													
YES.....	5	1	1	0	2	1	1	2	1	1	1	0	0
STORM WINDOWS/INSULATING GLASS.....	4	1	1	0	1	1	1	1	1	1	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	1	0	0	1	0	0	0	0	0
NO.....	94	20	16	4	27	20	8	31	19	12	16	12	3
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.



**TABLE 10A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY PRIMARY HEATING FUEL**

(N = 3448)	TOTAL HOUSING UNITS	TYPE OF PRIMARY HEATING FUEL						
		NATURAL GAS	FUEL OIL, KEROSENE	LPG	ELECTRICITY	WOOD	OTHER, NONE	NOT REPORTED 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	56	22	5	14	3	1	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES, ELIGIBLE.....	46	25	12	2	6	1	0	0
YES, INELIGIBLE.....	1	0	0	0	1	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	1	1	0	0	0	0	0
NO.....	50	29	10	2	7	1	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	38	20	10	2	5	1	0	0
WEATHERSTRIPPING.....	13	7	4	0	2	0	0	0
AROUND HOT WATER PIPES.....	3	1	1	0	1	0	0	0
AROUND HOT WATER HEATER.....	1	1	0	0	0	0	0	0
CAULKING.....	24	13	7	1	2	0	0	0
PLASTIC COVERING.....	15	7	4	1	2	1	0	0
OTHER.....	2	1	0	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	1	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	1	0	0	0	0	0	0
NO.....	58	34	11	3	8	2	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	10	5	3	1	1	0	0	0
ROOF OR ATTIC.....	7	4	2	0	1	0	0	0
BASEMENT OR CRAWL SPACE.....	2	1	1	0	0	0	0	0
OUTSIDE WALLS.....	3	2	1	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0
NO.....	88	49	19	4	13	2	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 10A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY PRIMARY HEATING FUEL**

(N = 3448)	TOTAL HOUSING UNITS	TYPE OF PRIMARY HEATING FUEL						
		NATURAL GAS	FUEL OIL, KEROSENE	LPG	ELECTRICITY	WOOD	OTHER, NONE	NOT REPORTED 2/
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	11	7	2	0	2	0	0	0
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0
STORM DOORS.....	6	3	1	0	1	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	1	1	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	4	2	1	0	1	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	1	0	0	0	0	0	0
NO.....	87	48	19	4	12	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	8	4	2	0	1	0	0	0
STORM WINDOWS/INSULATING GLASS.....	6	3	2	0	1	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	1	0	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	90	50	20	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
 DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
 SEE NOTES FOLLOWING LAST TABLE.

**TABLE 10B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY PRIMARY HEATING FUEL**

	TOTAL HOUSING UNITS	TYPE OF PRIMARY HEATING FUEL						
		NATURAL GAS	FUEL OIL, KEROSENE	LPG	ELECTRICITY	WOOD	OTHER, NONE	NOT REPORTED 2/
(N = 3448)								
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	56	22	5	14	3	1	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	32	17	7	2	4	1	0	0
NO.....	68	38	15	3	10	2	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	25	13	6	1	3	1	0	0
WEATHERSTRIPPING.....	7	4	2	0	1	0	0	0
AROUND HOT WATER PIPES.....	2	1	0	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	15	9	4	1	2	0	0	0
PLASTIC COVERING.....	8	4	2	1	1	0	0	0
OTHER.....	1	1	0	0	0	0	0	0
NO.....	75	42	16	3	11	2	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	3	1	0	1	0	0	0
ROOF OR ATTIC.....	4	2	1	0	1	0	0	0
BASEMENT OR CRAWL SPACE.....	2	1	0	0	0	0	0	0
OUTSIDE WALLS.....	2	1	0	0	0	0	0	0
NO.....	93	52	21	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	4	1	0	1	0	0	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	2	1	0	1	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	1	1	0	1	0	0	0
NO.....	92	51	20	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	2	1	0	1	0	0	0
STORM WINDOWS/INSULATING GLASS.....	4	2	1	0	1	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	1	0	0	0	0	0	0
NO.....	95	52	21	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0

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NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 10C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY PRIMARY HEATING FUEL**

	TOTAL HOUSING UNITS	TYPE OF PRIMARY HEATING FUEL						
		NATURAL GAS	FUEL OIL, KEROSENE	LPG	ELECTRICITY	WOOD	OTHER, NONE	NOT REPORTED 2/
(N = 3448)								
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	56	22	5	14	3	1	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	34	17	9	2	4	1	0	0
NO.....	65	38	13	3	9	2	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	28	14	7	1	4	1	0	0
WEATHERSTRIPPING.....	9	5	2	0	1	0	0	0
AROUND HOT WATER PIPES.....	2	1	1	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	14	7	4	1	1	0	0	0
PLASTIC COVERING.....	12	6	3	1	2	1	0	0
OTHER.....	1	0	0	0	0	0	0	0
NO.....	72	41	15	3	10	2	0	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	3	2	0	1	0	0	0
ROOF OR ATTIC.....	4	2	1	0	0	0	0	0
BASEMENT OR CRAWL SPACE.....	1	1	0	0	0	0	0	0
OUTSIDE WALLS.....	2	1	1	0	0	0	0	0
NO.....	93	52	20	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	4	2	0	1	0	0	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	2	1	0	1	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	1	1	0	0	0	0	0
NO.....	93	51	20	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	3	2	0	1	0	0	0
STORM WINDOWS/INSULATING GLASS.....	4	2	1	0	1	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	1	0	0	0	0	0	0
NO.....	94	52	20	4	13	3	1	0
NOT REPORTED.....	1	1	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 11A  
CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978  
AND ELIGIBILITY FOR 1978 TAX CREDIT BY DEGREE DAYS**

(N = 3448)	TOTAL HOUSING UNITS	HEATING AND COOLING DEGREE DAYS 5/				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500-7000 HDD	<2000 CDD AND 4000-5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	9	29	26	22	15
<b>ANY INSULATION OR EQUIPMENT ADDED</b>						
YES, ELIGIBLE.....	46	4	15	13	8	5
YES, INELIGIBLE.....	1	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	1	0	0	0
NO.....	50	4	12	12	13	9
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>						
YES, ELIGIBLE.....	38	3	13	11	7	4
WEATHERSTRIPPING.....	13	1	5	4	2	2
AROUND HOT WATER PIPES.....	3	0	1	1	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0
CAULKING.....	24	2	9	8	3	2
PLASTIC COVERING.....	15	1	4	5	3	1
OTHER.....	2	0	1	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	1	0	0	0
NO.....	58	5	15	14	14	11
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>						
YES, ELIGIBLE.....	10	1	4	2	2	1
ROOF OR ATTIC.....	7	1	3	2	1	1
BASEMENT OR CRAWL SPACE.....	2	0	1	1	0	0
OUTSIDE WALLS.....	3	0	1	1	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0
NO.....	88	7	25	23	20	14
NOT REPORTED.....	1	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 11A  
CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978  
AND ELIGIBILITY FOR 1978 TAX CREDIT BY DEGREE DAYS**

(N = 3448)	TOTAL HOUSING UNITS	HEATING AND COOLING DEGREE DAYS 5/				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500-7000 HDD	<2000 CDD AND 4000-5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>						
YES, ELIGIBLE.....	11	1	4	3	2	2
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0
STORM DOORS.....	6	1	2	2	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	0	1	0	0	0
NEW WATER HEATING EQUIPMENT.....	4	0	1	1	1	1
YES, INELIGIBLE.....	1	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0
NO.....	87	7	24	22	19	13
NOT REPORTED.....	1	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>						
YES, ELIGIBLE.....	8	1	3	3	1	1
STORM WINDOWS/INSULATING GLASS.....	6	1	2	2	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0
NEW FURNACE.....	2	0	1	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0
NO.....	90	7	26	23	20	14
NOT REPORTED.....	1	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 11B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY DEGREE DAYS**

(N = 3448)	TOTAL HOUSING UNITS	HEATING AND COOLING DEGREE DAYS 5/				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500-7000 HDD	<2000 CDD AND 4000-5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	9	29	26	22	15
<b>ANY INSULATION OR EQUIPMENT ADDED</b>						
YES.....	32	3	11	9	5	4
NO.....	68	6	18	17	16	11
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>						
YES.....	25	2	9	7	4	3
WEATHERSTRIPPING.....	7	1	3	2	1	1
AROUND HOT WATER PIPES.....	2	0	1	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0
CAULKING.....	15	1	6	5	2	1
PLASTIC COVERING.....	8	1	2	3	2	1
OTHER.....	1	0	0	0	0	0
NO.....	75	6	20	18	17	12
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>						
YES.....	6	1	2	1	1	0
ROOF OR ATTIC.....	4	0	2	1	1	0
BASEMENT OR CRAWL SPACE.....	2	0	1	0	0	0
OUTSIDE WALLS.....	2	0	1	0	0	0
NO.....	93	8	26	24	21	15
NOT REPORTED.....	1	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>						
YES.....	7	1	3	2	1	1
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0
STORM DOORS.....	4	0	2	1	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	0	1	1	0	1
NO.....	92	8	26	24	20	14
NOT REPORTED.....	1	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>						
YES.....	5	1	2	1	1	0
STORM WINDOWS/INSULATING GLASS.....	4	0	1	1	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0
NEW FURNACE.....	1	0	1	0	0	0
NO.....	95	8	27	24	21	15
NOT REPORTED.....	1	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

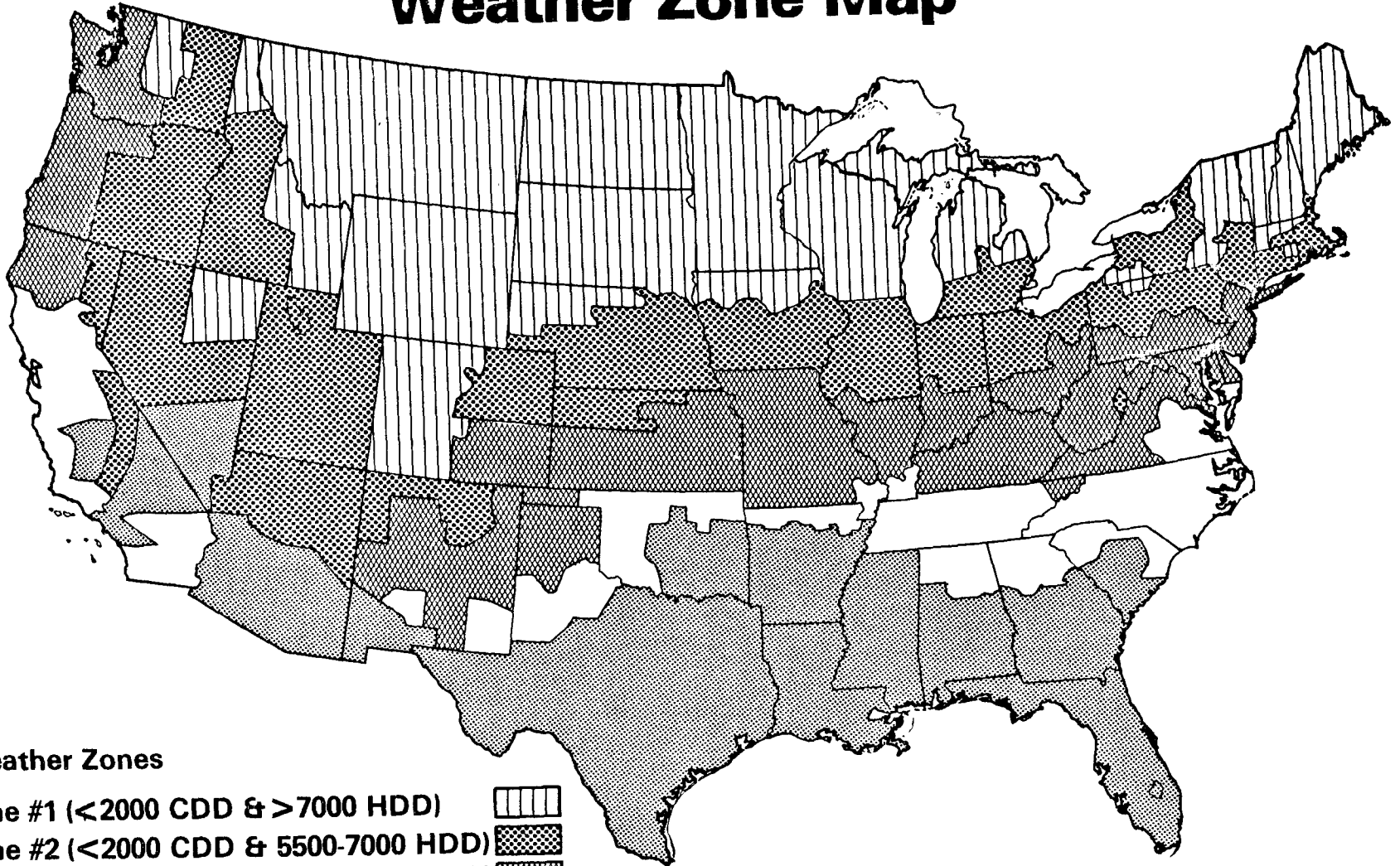
TABLE 11C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY DEGREE DAYS

(N = 3448)	TOTAL HOUSING UNITS	HEATING AND COOLING DEGREE DAYS 5/				
		<2000 CDD AND >7000 HDD	<2000 CDD AND 5500-7000 HDD	<2000 CDD AND 4000-5499 HDD	<2000 CDD AND <4000 HDD	>2000 CDD AND <4000 HDD
TOTAL HOUSING UNITS 3/.....	100%	9	29	26	22	15
<b>ANY INSULATION OR EQUIPMENT ADDED</b>						
YES.....	34	3	11	10	6	3
NO.....	65	5	18	15	15	12
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>						
YES.....	28	3	9	8	5	3
WEATHERSTRIPPING.....	9	1	3	3	1	1
AROUND HOT WATER PIPES.....	2	0	1	1	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0
CAULKING.....	14	1	5	5	2	1
PLASTIC COVERING.....	12	1	4	4	3	1
OTHER.....	1	0	0	0	0	0
NO.....	72	6	20	17	17	12
NOT REPORTED.....	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>						
YES.....	6	1	2	2	1	0
ROOF OR ATTIC.....	4	1	2	1	1	0
BASEMENT OR CRAWL SPACE.....	1	0	1	0	0	0
OUTSIDE WALLS.....	2	0	1	1	0	0
NO.....	93	8	27	24	21	15
NOT REPORTED.....	1	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>						
YES.....	7	1	2	2	1	1
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0
STORM DOORS.....	4	0	1	1	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	0	1	1	0	0
NO.....	93	8	27	24	20	14
NOT REPORTED.....	1	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>						
YES.....	5	1	2	2	1	1
STORM WINDOWS/INSULATING GLASS.....	4	0	1	1	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	0	0
NO.....	94	8	27	24	21	15
NOT REPORTED.....	1	0	0	0	0	0






NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.



# United States Weather Zone Map



## Weather Zones

- Zone #1 (<2000 CDD & >7000 HDD) 
- Zone #2 (<2000 CDD & 5500-7000 HDD) 
- Zone #3 (<2000 CDD & 4000-5499 HDD) 
- Zone #4 (<2000 CDD & <4000 HDD) 
- Zone #5 (>2000 CDD & <4000 HDD) 

**TABLE 12A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY TYPE OF HOUSING STRUCTURE**

(N = 3448)	TOTAL HOUSING UNITS	SINGLE FAMILY DETACHED					SINGLE FAMILY ATTACHED	BUILDING WITH 2-4 UNITS	MOBILE HOME	NOT REPORTED 2/
		TOTAL	1-4 ROOMS	5 ROOMS	6 ROOMS	7 OR MORE ROOMS				
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	71	13	18	17	23	4	16	7	2
<b>ANY INSULATION OR EQUIPMENT ADDED</b>										
YES, ELIGIBLE.....	46	35	6	9	9	12	2	5	3	1
YES, INELIGIBLE.....	1	1	0	0	0	1	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	2	0	0	0	0	0	0	0	0
NO.....	50	33	7	9	8	10	2	10	3	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>										
YES, ELIGIBLE.....	38	29	5	8	7	9	2	4	3	1
WEATHERSTRIPPING.....	13	10	2	3	2	4	0	2	1	0
AROUND HOT WATER PIPES.....	3	2	0	1	1	1	0	0	1	0
AROUND HOT WATER HEATER.....	1	1	0	0	0	0	0	0	0	0
CAULKING.....	24	19	3	5	5	6	1	2	1	0
PLASTIC COVERING.....	15	11	2	3	3	3	0	2	1	0
OTHER.....	2	1	0	0	0	0	0	0	0	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	1	0	0	0	0	0	0	0	0
NO.....	58	40	8	10	10	13	2	11	4	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>										
YES, ELIGIBLE.....	10	8	1	2	2	3	0	1	1	0
ROOF OR ATTIC.....	7	6	1	2	2	2	0	0	0	0
BASEMENT OR CRAWL SPACE.....	2	2	0	1	0	1	0	0	0	0
OUTSIDE WALLS.....	3	3	0	1	1	1	0	0	0	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0	0	0
NO.....	88	62	12	16	15	19	4	15	6	1
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 12A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY TYPE OF HOUSING STRUCTURE**

(N = 3448)	TOTAL HOUSING UNITS	SINGLE FAMILY DETACHED					SINGLE FAMILY ATTACHED	BUILDING WITH 2-4 UNITS	MOBILE HOME	NOT REPORTED 2/
		TOTAL	1-4 ROOMS	5 ROOMS	6 ROOMS	7 OR MORE ROOMS				
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>										
YES, ELIGIBLE.....	11	9	1	2	2	3	0	1	1	0
CLOSEABLE SHUTTERS.....	1	1	0	0	0	0	0	0	0	0
STORM DOORS.....	6	5	1	1	1	2	0	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	4	3	1	0	1	1	0	1	0	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	1	0	0	0	0	0	0	0	0
NO.....	87	61	11	16	15	19	4	14	6	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>										
YES, ELIGIBLE.....	8	6	1	2	2	2	0	1	0	0
STORM WINDOWS/INSULATING GLASS.....	6	5	1	1	1	2	0	1	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	2	0	0	1	1	0	0	0	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0	0	0
NO.....	90	64	12	17	15	20	4	14	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
 DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
 SEE NOTES FOLLOWING LAST TABLE.

TABLE 12B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY TYPE OF HOUSING STRUCTURE

(N = 3448)	TOTAL HOUSING UNITS	SINGLE FAMILY DETACHED					SINGLE FAMILY ATTACHED	BUILDING WITH 2-4 UNITS	MOBILE HOME	NOT REPORTED 2/
		TOTAL	1-4 ROOMS	5 ROOMS	6 ROOMS	7 OR MORE ROOMS				
TOTAL HOUSING UNITS 3/.....	100%	71	13	18	17	23	4	16	7	2
ANY INSULATION OR EQUIPMENT ADDED										
YES.....	32	24	4	6	6	8	1	3	2	1
NO.....	68	47	9	12	11	15	3	12	5	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (INEXPENSIVE)										
YES.....	25	19	3	5	5	6	1	3	2	0
WEATHERSTRIPPING.....	7	5	1	1	1	2	0	1	0	0
AROUND HOT WATER PIPES.....	2	1	0	0	0	0	0	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0	0
CAULKING.....	15	12	2	3	3	4	1	1	1	0
PLASTIC COVERING.....	8	5	1	2	1	1	0	1	1	0
OTHER.....	1	1	0	0	0	0	0	0	0	0
NO.....	75	52	10	13	12	16	3	13	5	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (EXPENSIVE)										
YES.....	6	5	1	1	1	2	0	0	0	0
ROOF OR ATTIC.....	4	3	0	1	1	1	0	0	0	0
BASEMENT OR CRAWL SPACE.....	2	1	0	0	0	1	0	0	0	0
OUTSIDE WALLS.....	2	2	0	0	1	0	0	0	0	0
NO.....	93	66	12	17	16	21	4	15	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (INEXPENSIVE)										
YES.....	7	5	1	1	1	2	0	1	0	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	3	0	1	1	1	0	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	2	0	0	0	1	0	0	0	0
NO.....	92	66	12	17	16	21	4	14	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (EXPENSIVE)										
YES.....	5	4	0	1	1	1	0	1	0	0
STORM WINDOWS/INSULATING GLASS.....	4	3	0	1	1	1	0	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	1	0	0	0	0	0	0	0	0
NO.....	95	67	12	17	16	21	4	15	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

TABLE 12C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY TYPE OF HOUSING STRUCTURE

(N = 3448)	TOTAL HOUSING UNITS	SINGLE FAMILY DETACHED					SINGLE FAMILY ATTACHED	BUILDING WITH 2-4 UNITS	MOBILE HOME	NOT REPORTED 2/
		TOTAL	1-4 ROOMS	5 ROOMS	6 ROOMS	7 OR MORE ROOMS				
TOTAL HOUSING UNITS 3/.....	100%	71	13	18	17	23	4	16	7	2
ANY INSULATION OR EQUIPMENT ADDED										
YES.....	34	27	5	6	7	9	2	3	2	1
NO.....	65	45	8	12	11	14	3	12	5	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (INEXPENSIVE)										
YES.....	28	21	4	5	5	7	1	3	2	0
WEATHERSTRIPPING.....	9	7	1	2	1	3	0	1	0	0
AROUND HOT WATER PIPES.....	2	2	0	1	0	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	1	0	0	0	0	0	0	0	0
CAULKING.....	14	11	2	3	3	4	1	1	0	0
PLASTIC COVERING.....	12	9	2	2	2	3	0	1	1	0
OTHER.....	1	1	0	0	0	0	0	0	0	0
NO.....	72	50	9	13	12	16	3	13	5	1
NOT REPORTED.....	0	0	0	0	0	0	0	0	0	0
INSULATION ADDED (EXPENSIVE)										
YES.....	6	5	1	1	1	2	0	0	0	0
ROOF OR ATTIC.....	4	4	1	1	1	1	0	0	0	0
BASEMENT OR CRAWL SPACE.....	1	1	0	0	0	1	0	0	0	0
OUTSIDE WALLS.....	2	2	0	0	0	1	0	0	0	0
NO.....	93	66	12	17	16	20	4	15	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (INEXPENSIVE)										
YES.....	7	6	1	1	2	2	0	0	0	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	3	0	1	1	1	0	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	2	0	0	1	0	0	0	0	0
NO.....	93	65	12	17	16	21	4	15	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0
EQUIPMENT ADDED (EXPENSIVE)										
YES.....	5	5	1	1	1	2	0	0	0	0
STORM WINDOWS/INSULATING GLASS.....	4	3	1	1	1	1	0	0	0	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	1	0	0	0	1	0	0	0	0
NO.....	94	66	12	17	16	21	4	15	7	2
NOT REPORTED.....	1	0	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 13A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY YEAR HOUSE BUILT**

(N = 3448)	TOTAL HOUSING UNITS	YEAR HOUSE BUILT							
		1975 OR LATER	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER	NOT REPORTED 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	7	10	9	9	18	10	31	5
<b>ANY INSULATION OR EQUIPMENT ADDED</b>									
YES, ELIGIBLE.....	46	1	5	4	5	10	5	16	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	0	2
NO.....	50	4	5	6	4	8	5	15	3
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>									
YES, ELIGIBLE.....	38	1	4	3	4	8	4	14	0
WEATHERSTRIPPING.....	13	1	2	1	1	3	2	4	0
AROUND HOT WATER PIPES.....	3	0	1	0	0	1	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0
CAULKING.....	24	0	2	2	3	5	3	8	0
PLASTIC COVERING.....	15	0	1	1	1	2	2	6	0
OTHER.....	2	0	0	0	0	0	0	0	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	0	2
NO.....	58	5	6	7	5	10	6	18	4
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>									
YES, ELIGIBLE.....	10	0	1	1	1	3	1	3	0
ROOF OR ATTIC.....	7	0	0	0	1	2	1	2	0
BASEMENT OR CRAWL SPACE.....	2	0	0	0	0	0	0	1	0
OUTSIDE WALLS.....	3	0	0	0	0	1	0	1	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0	0
NO.....	88	6	9	9	8	15	9	28	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

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**TABLE 13A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY YEAR HOUSE BUILT**

	TOTAL HOUSING UNITS	YEAR HOUSE BUILT							
		1975 OR LATER	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER	NOT REPORTED 2/
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>									
YES, ELIGIBLE.....	11	1	1	1	1	2	1	4	0
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0	0
STORM DOORS.....	6	0	1	0	0	1	1	2	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	0	0	0	0	0	0	1	0
NEW WATER HEATING EQUIPMENT.....	4	0	0	0	1	1	0	1	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0	1
NO.....	87	6	9	8	8	15	9	27	4
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>									
YES, ELIGIBLE.....	8	0	1	1	1	2	1	3	0
STORM WINDOWS/INSULATING GLASS.....	6	0	1	0	1	1	1	3	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	0	1	0	1	0
YES, INELIGIBLE.....	1	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0	1
NO.....	90	6	9	9	8	16	9	28	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
 DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
 SEE NOTES FOLLOWING LAST TABLE.

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**TABLE 138  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY YEAR HOUSE BUILT**

(N = 3448)	TOTAL HOUSING UNITS	YEAR HOUSE BUILT							
		1975 OR LATER	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER	NOT REPORTED 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	7	10	9	9	18	10	31	5
<b>ANY INSULATION OR EQUIPMENT ADDED</b>									
YES.....	32	2	3	2	3	6	3	10	1
NO.....	68	5	7	7	6	12	7	21	4
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>									
YES.....	25	2	2	2	3	5	3	8	1
WEATHERSTRIPPING.....	7	1	1	0	1	1	1	2	0
AROUND HOT WATER PIPES.....	2	0	0	0	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0
CAULKING.....	15	1	1	1	2	3	2	5	1
PLASTIC COVERING.....	8	0	1	0	1	1	1	4	0
OTHER.....	1	0	0	0	0	0	0	0	0
NO.....	75	5	8	8	7	13	7	23	4
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>									
YES.....	6	1	1	0	0	1	1	2	0
ROOF OR ATTIC.....	4	0	0	0	0	1	0	1	0
BASEMENT OR CRAWL SPACE.....	2	0	0	0	0	0	0	1	0
OUTSIDE WALLS.....	2	0	0	0	0	0	0	1	0
NO.....	93	6	10	9	9	16	9	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>									
YES.....	7	1	1	1	1	1	1	2	1
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	0	0	0	0	1	0	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	0	0	0	0	0	0	1	0
NO.....	92	6	9	9	9	17	9	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>									
YES.....	5	0	0	0	0	1	0	2	0
STORM WINDOWS/INSULATING GLASS.....	4	0	0	0	0	1	0	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	0	0	0	0	0	0	0	0
NO.....	95	7	10	9	9	17	10	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0

DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
 DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
 SEE NOTES FOLLOWING LAST TABLE.



TABLE 13C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY YEAR HOUSE BUILT

(N = 3448)	TOTAL HOUSING UNITS	YEAR HOUSE BUILT							
		1975 OR LATER	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER	NOT REPORTED 2/
TS 3/.....	100%	7	10	9	9	18	10	31	5
<b>INSULATION OR EQUIPMENT ADDED</b>									
YES.....	34	1	3	2	4	7	4	12	1
NO.....	65	5	7	7	6	11	6	19	4
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>									
YES.....	28	1	3	2	3	5	3	10	1
WEATHERSTRIPPING.....	9	1	1	1	1	2	1	3	0
AROUND HOT WATER PIPES.....	2	0	0	0	0	0	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	0
CAULKING.....	14	0	1	1	2	3	2	5	0
PLASTIC COVERING.....	12	0	1	1	1	2	1	5	1
OTHER.....	1	0	0	0	0	0	0	0	0
NO.....	72	6	7	8	6	12	7	21	4
NOT REPORTED.....	0	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>									
YES.....	6	0	1	0	1	2	0	2	0
ROOF OR ATTIC.....	4	0	0	0	1	1	0	1	0
BASEMENT OR CRAWL SPACE.....	1	0	0	0	0	0	0	0	0
OUTSIDE WALLS.....	2	0	0	0	0	0	0	1	0
NO.....	53	6	10	9	8	16	9	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>									
YES.....	7	1	1	1	1	2	0	2	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	0
STORM DOORS.....	4	0	0	0	0	1	0	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	0	0	0	0	1	0	1	0
NO.....	93	6	9	9	9	16	9	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>									
YES.....	5	0	0	0	1	1	0	2	0
STORM WINDOWS/INSULATING GLASS.....	4	0	0	0	1	1	0	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	0	0	0	0	0
NO.....	54	7	10	9	8	17	10	29	5
NOT REPORTED.....	1	0	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 14A  
CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978  
AND ELIGIBILITY FOR 1978 TAX CREDIT BY TYPE OF AIR CONDITIONING**

(N = 3448)	TOTAL HOUSING UNITS	NUMBER OF ROOMS WITH AIR CONDITIONING				CENTRAL AIR CONDITIONING ONLY	INDIVIDUAL ROOM UNITS ONLY	CENTRAL A/C AND ROOM UNITS
		NONE	SOME	ALL	NOT REPORTED			
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	44	25	29	1	22	33	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES, ELIGIBLE.....	46	19	14	13	0	10	17	0
YES, INELIGIBLE.....	1	1	0	1	0	1	0	0
YES, ELIGIBILITY UNKNOWN.....	2	1	0	1	0	0	1	0
NO.....	50	24	11	15	0	11	15	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	38	16	12	10	0	7	15	0
WEATHERSTRIPPING.....	13	5	4	4	0	3	5	0
AROUND HOT WATER PIPES.....	3	2	1	1	0	1	1	0
AROUND HOT WATER HEATER.....	1	1	0	0	0	0	0	0
CAULKING.....	24	9	7	7	0	5	9	0
PLASTIC COVERING.....	15	7	4	3	0	2	6	0
OTHER.....	2	1	1	0	0	0	1	0
YES, INELIGIBLE.....	1	1	0	1	0	1	0	0
YES, ELIGIBILITY UNKNOWN.....	2	1	0	0	0	0	0	0
NO.....	58	27	13	18	1	14	18	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	10	4	2	3	0	2	3	0
ROOF OR ATTIC.....	7	3	1	2	0	2	2	0
BASEMENT OR CRAWL SPACE.....	2	1	1	1	0	1	1	0
OUTSIDE WALLS.....	3	2	1	1	0	1	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0
NO.....	88	39	23	26	1	19	30	0
NOT REPORTED.....	1	0	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 14A  
CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978  
AND ELIGIBILITY FOR 1978 TAX CREDIT BY TYPE OF AIR CONDITIONING**

(N = 3448)	TOTAL HOUSING UNITS	NUMBER OF ROOMS WITH AIR CONDITIONING				CENTRAL AIR CONDITIONING ONLY	INDIVIDUAL ROOM UNITS ONLY	CENTRAL A/C AND ROOM UNITS
		NONE	SOME	ALL	NOT REPORTED			
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	11	4	3	4	0	3	4	0
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0
STORM DOORS.....	6	2	2	2	0	1	2	0
AUTOMATIC OR CLOCK THERMOSTAT.....	2	1	0	1	0	1	0	0
NEW WATER HEATING EQUIPMENT.....	4	1	1	1	0	1	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	87	39	22	25	1	18	29	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	8	3	3	3	0	2	3	0
STORM WINDOWS/INSULATING GLASS.....	6	2	2	2	0	1	2	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	1	1	1	0	1	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	50	41	23	26	1	19	30	0
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 14B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY TYPE OF AIR CONDITIONING**

(N = 3448)	TOTAL HOUSING UNITS	NUMBER OF ROOMS WITH AIR CONDITIONING				CENTRAL AIR CONDITIONING ONLY	INDIVIDUAL ROOM UNITS ONLY	CENTRAL A/C AND ROOM UNITS
		NONE	SOME	ALL	NOT REPORTED			
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	44	25	29	1	22	33	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	32	13	9	10	0	7	11	0
NO.....	68	31	17	20	1	15	22	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	25	11	7	7	0	5	9	0
WEATHERSTRIPPING.....	7	3	2	2	0	1	3	0
AROUND HOT WATER PIPES.....	2	1	0	1	0	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	15	6	5	4	0	3	6	0
PLASTIC COVERING.....	8	4	2	2	0	1	3	0
OTHER.....	1	0	0	1	0	0	0	0
NO.....	75	34	18	22	1	17	24	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	3	1	2	0	2	1	0
ROOF OR ATTIC.....	4	2	1	1	0	1	1	0
BASEMENT OR CRAWL SPACE.....	2	1	0	0	0	0	0	0
OUTSIDE WALLS.....	2	1	0	1	0	1	0	0
NO.....	93	41	24	27	1	20	31	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	3	2	3	0	2	2	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	2	1	1	0	1	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	1	1	1	0	1	1	0
NO.....	92	41	23	27	1	20	31	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	2	1	2	0	1	1	0
STORM WINDOWS/INSULATING GLASS.....	4	1	1	1	0	1	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	1	0	1	0	1	0	0
NO.....	95	42	24	28	1	21	32	0
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 14C**  
**CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY TYPE OF AIR CONDITIONING**

(N = 3448)	TOTAL HOUSING UNITS	NUMBER OF ROOMS WITH AIR CONDITIONING				CENTRAL AIR CONDITIONING ONLY	INDIVIDUAL ROOM UNITS ONLY	CENTRAL A/C AND ROOM UNITS
		NONE	SOME	ALL	NOT REPORTED			
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	44	25	29	1	22	33	0
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	34	14	10	9	0	7	13	0
NO.....	65	30	15	20	1	15	20	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	28	12	8	7	0	5	10	0
WEATHERSTRIPPING.....	9	4	3	3	0	2	3	0
AROUND HOT WATER PIPES.....	2	1	0	1	0	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	14	6	4	4	0	3	5	0
PLASTIC COVERING.....	12	6	3	3	0	1	4	0
OTHER.....	1	0	0	0	0	0	0	0
NO.....	72	32	17	22	1	17	23	0
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	3	2	2	0	1	2	0
ROOF OR ATTIC.....	4	2	1	1	0	1	1	0
BASEMENT OR CRAWL SPACE.....	1	0	0	0	0	0	1	0
OUTSIDE WALLS.....	2	1	1	0	0	0	1	0
NO.....	93	41	24	27	1	21	31	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	2	2	2	0	2	3	0
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	1	1	1	0	1	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	1	1	1	0	0	1	0
NO.....	53	42	23	27	1	20	30	0
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	2	2	2	0	1	2	0
STORM WINDOWS/INSULATING GLASS.....	4	2	1	1	0	1	2	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	1	1	1	0	1	1	0
NO.....	54	42	23	28	1	21	31	0
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 15A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY FAMILY INCOME**

(N = 3448)	TOTAL HOUSEHOLDS 1/	FAMILY INCOME						
		LFSS THAN \$5,000	\$5,000 TO \$9,999	\$10,000 TO \$14,999	\$15,000 TO \$19,999	\$20,000 TO \$24,999	\$25,000 OR MORE	NOT REPORTED 2/
<b>TOTAL 3/.....</b>	100%	12	16	16	14	12	18	11
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES, ELIGIBLE.....	46	4	7	8	8	6	9	5
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	0
NO.....	50	8	8	8	6	5	9	6
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	38	3	6	7	6	6	7	4
WEATHERSTRIPPING.....	13	1	1	3	2	2	3	1
AROUND HOT WATER PIPES.....	3	0	1	1	1	0	1	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	24	1	3	4	4	4	5	2
PLASTIC COVERING.....	15	2	3	3	2	2	2	1
OTHER.....	2	0	0	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	0
NO.....	58	8	10	9	7	6	11	7
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	10	1	1	1	2	2	3	1
ROOF OR ATTIC.....	7	0	1	1	1	1	2	1
BASEMENT OR CRAWL SPACE.....	2	0	0	0	0	1	0	0
OUTSIDE WALLS.....	3	0	0	1	1	0	1	1
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0
NO.....	88	11	15	15	12	10	15	10
NOT REPORTED.....	1	0	0	0	0	0	0	0

SEE FOOTNOTES AT END OF TABLE.

**TABLE 15A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY FAMILY INCOME**

(N = 3448)	TOTAL HOUSEHOLDS 1/	FAMILY INCOME						
		LESS THAN \$5,000	\$5,000 TO \$9,999	\$10,000 TO \$14,999	\$15,000 TO \$19,999	\$20,000 TO \$24,999	\$25,000 OR MORE	NOT REPORTED 2/
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	11	1	1	2	2	2	3	1
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0
STORM DOORS.....	6	0	1	1	1	1	2	0
AUTOMATIC OR CLOCK THERMOSTAT..	2	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT...	4	0	0	1	1	1	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	87	11	14	14	12	10	15	10
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	8	1	1	1	2	1	2	1
STORM WINDOWS/INSULATING GLASS	6	0	1	1	1	1	1	1
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	0	0	0	1	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	90	11	15	15	12	11	16	10
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
 DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
 SEE NOTES FOLLOWING LAST TABLE.

**TABLE 15B  
CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY FAMILY INCOME**

(N = 3448)	TOTAL HOUSEHOLDS 1/	FAMILY INCOME						
		LESS THAN \$5,000	\$5,000 TO \$9,999	\$10,000 TO \$14,999	\$15,000 TO \$19,999	\$20,000 TO \$24,999	\$25,000 OR MORE	NOT REPORTED 2/
<b>TOTAL 3/.....</b>	100%	12	16	16	14	12	18	11
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	32	3	4	5	5	5	6	3
NO.....	68	9	12	11	9	7	12	8
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	25	2	4	4	4	4	4	3
WEATHERSTRIPPING.....	7	0	1	1	1	1	1	1
AROUND HOT WATER PIPES.....	2	0	0	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	15	1	2	2	3	2	3	2
PLASTIC COVERING.....	8	1	2	2	1	1	1	1
OTHER.....	1	0	0	0	0	0	0	0
NO.....	75	10	12	12	10	8	14	9
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	0	0	1	1	1	1	0
ROOF OR ATTIC.....	4	0	0	1	1	1	1	0
BASEMENT OR CRAWL SPACE.....	2	0	0	0	0	0	0	0
OUTSIDE WALLS.....	2	0	0	0	0	0	0	0
NO.....	93	12	15	15	13	11	17	11
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	1	1	1	1	1	2	1
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	0	0	1	1	1	1	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	0	0	0	0	1	1	0
NO.....	92	11	15	15	13	11	16	11
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	0	0	1	1	1	1	1
STORM WINDOWS/INSULATING GLASS.....	4	0	0	1	1	1	1	0
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	0	0	0	0	0	0	0
NO.....	95	12	16	15	13	11	17	11
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.



**TABLE 15C  
CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY FAMILY INCOME**

(N = 3448)	TOTAL HOUSEHOLDS 1/	FAMILY INCOME							NOT REPORTED 2/
		LESS THAN \$5,000	\$5,000 TO \$9,999	\$10,000 TO \$14,999	\$15,000 TO \$19,999	\$20,000 TO \$24,999	\$25,000 OR MORE		
<b>TOTAL 3/.....</b>	100%	12	16	16	14	12	18	11	
<b>ANY INSULATION OR EQUIPMENT ADDED</b>									
YES.....	34	3	5	5	6	5	7	4	
NO.....	65	9	11	11	8	7	12	8	
NOT REPORTED.....	0	0	0	0	0	0	0	0	
<b>INSULATION ADDED (INEXPENSIVE)</b>									
YES.....	28	2	4	5	5	4	5	3	
WEATHERSTRIPPING.....	9	1	1	1	2	1	2	1	
AROUND HOT WATER PIPES.....	2	0	1	0	0	0	0	0	
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0	
CAULKING.....	14	1	2	2	2	2	3	1	
PLASTIC COVERING.....	12	2	2	2	2	1	2	1	
OTHER.....	1	0	0	0	0	0	0	0	
NO.....	72	10	12	12	9	8	13	8	
NOT REPORTED.....	0	0	0	0	0	0	0	0	
<b>INSULATION ADDED (EXPENSIVE)</b>									
YES.....	6	0	1	1	1	1	2	1	
ROOF OR ATTIC.....	4	0	1	0	1	1	1	1	
BASEMENT OR CRAWL SPACE.....	1	0	0	0	0	0	0	0	
OUTSIDE WALLS.....	2	0	0	0	0	0	0	0	
NO.....	93	12	15	15	13	11	17	10	
NOT REPORTED.....	1	0	0	0	0	0	0	0	
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>									
YES.....	7	0	1	1	1	1	2	0	
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0	
STORM DOORS.....	4	0	0	1	1	0	1	0	
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0	
NEW WATER HEATING EQUIPMENT.....	2	0	0	0	0	0	0	0	
NO.....	93	12	15	15	12	11	16	11	
NOT REPORTED.....	1	0	0	0	0	0	0	0	
<b>EQUIPMENT ADDED (EXPENSIVE)</b>									
YES.....	5	0	1	1	1	1	1	1	
STORM WINDOWS/INSULATING GLASS.....	4	0	1	0	1	0	1	1	
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0	
NEW FURNACE.....	2	0	0	0	0	0	0	0	
NO.....	94	12	15	15	13	11	17	11	
NOT REPORTED.....	1	0	0	0	0	0	0	0	

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

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**TABLE 16A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY VALUE OF RESIDENCE**

(N = 3448)	TOTAL HOUSING UNITS	VALUE OF RESIDENCE						
		LESS THAN \$20,000	\$20,000 TO \$39,999	\$40,000 TO \$59,999	\$60,000 TO \$79,999	\$80,000 TO \$99,999	\$100,000 OR MORE	NOT APPLICABLE 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	10	21	18	9	4	6	32
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES, ELIGIBLE.....	46	4	12	11	4	2	2	11
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	1
NO.....	50	5	9	7	4	2	3	20
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	38	4	10	9	3	1	2	9
WEATHERSTRIPPING.....	13	1	4	3	2	0	1	3
AROUND HOT WATER PIPES.....	3	1	1	1	0	0	0	1
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	24	2	7	7	2	1	1	4
PLASTIC COVERING.....	15	2	4	2	1	0	1	5
OTHER.....	2	0	0	0	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	2	0	0	0	0	0	0	0
NO.....	58	5	10	9	5	3	4	22
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	10	1	3	3	1	1	1	1
ROOF OR ATTIC.....	7	0	2	2	1	0	0	1
BASEMENT OR CRAWL SPACE.....	2	0	1	1	0	0	0	0
OUTSIDE WALLS.....	3	0	1	1	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	0	0	0	0	0	0	0	0
NO.....	88	9	18	16	8	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0

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SEE FOOTNOTES AT END OF TABLE.

**TABLE 16A**  
**CONSERVATION EFFORTS UNDERTAKEN BETWEEN APRIL 1977 AND DECEMBER 1978**  
**AND ELIGIBILITY FOR 1978 TAX CREDIT BY VALUE OF RESIDENCE**

(N = 3448)	TOTAL HOUSING UNITS	VALUE OF RESIDENCE						
		LESS THAN \$20,000	\$20,000 TO \$39,999	\$40,000 TO \$59,999	\$60,000 TO \$79,999	\$80,000 TO \$99,999	\$100,000 OR MORE	NOT APPLICABLE 2/
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES, ELIGIBLE.....	11	1	3	3	1	1	1	2
CLOSEABLE SHUTTERS.....	1	0	0	0	0	0	0	0
STORM DOORS.....	6	0	2	2	1	0	0	1
AUTOMATIC OR CLOCK THERMOSTAT.....	2	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	4	0	1	1	0	0	0	1
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	87	9	18	15	8	4	5	29
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES, ELIGIBLE.....	8	1	2	2	1	1	1	2
STORM WINDOWS/INSULATING GLASS.....	6	1	2	1	1	0	0	1
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	1	1	0	0	0	0
YES, INELIGIBLE.....	1	0	0	0	0	0	0	0
YES, ELIGIBILITY UNKNOWN.....	1	0	0	0	0	0	0	0
NO.....	90	9	19	16	8	4	5	29
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 16B**  
**CONSERVATION EFFORTS UNDERTAKEN DURING 1978 BY VALUE OF RESIDENCE**

(N = 3448)	TOTAL HOUSING UNITS	VALUE OF RESIDENCE						
		LESS THAN \$20,000	\$20,000 TO \$39,999	\$40,000 TO \$59,999	\$60,000 TO \$79,999	\$80,000 TO \$99,999	\$100,000 OR MORE	NOT APPLICABLE 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	100%	10	21	18	9	4	6	32
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	32	3	7	7	3	2	2	7
NO.....	68	6	14	11	6	3	4	24
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	25	3	6	6	3	1	1	6
WEATHERSTRIPPING.....	7	1	2	2	1	0	0	1
AROUND HOT WATER PIPES.....	2	1	0	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	15	1	4	4	2	1	1	3
PLASTIC COVERING.....	8	1	2	1	0	0	0	3
OTHER.....	1	0	0	0	0	0	0	0
NO.....	75	7	15	12	7	4	4	26
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	1	2	1	1	0	0	1
ROOF OR ATTIC.....	4	0	1	1	1	0	0	0
BASEMENT OR CRAWL SPACE.....	2	0	0	0	0	0	0	0
OUTSIDE WALLS.....	2	0	1	0	0	0	0	0
NO.....	53	9	19	17	8	4	5	31
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	1	1	2	0	0	1	2
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	0	1	1	0	0	0	1
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	3	0	0	1	0	0	0	1
NO.....	92	9	19	16	9	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	5	1	1	1	1	0	0	1
STORM WINDOWS/INSULATING GLASS.....	4	0	1	1	0	0	0	1
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	1	0	0	0	0	0	0	0
NO.....	95	9	20	17	9	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

**TABLE 16C**  
**CONSERVATION EFFORTS UNDERTAKEN DURING 1977 BY VALUE OF RESIDENCE**

	TOTAL HOUSING UNITS	VALUE OF RESIDENCE						
		LESS THAN \$20,000	\$20,000 TO \$39,999	\$40,000 TO \$59,999	\$60,000 TO \$79,999	\$80,000 TO \$99,999	\$100,000 OR MORE	NOT APPLICABLE 2/
<b>TOTAL HOUSING UNITS 3/.....</b>	1007	10	21	18	9	4	6	32
<b>ANY INSULATION OR EQUIPMENT ADDED</b>								
YES.....	34	3	9	8	3	1	2	7
NO.....	65	6	12	10	6	3	4	24
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (INEXPENSIVE)</b>								
YES.....	28	3	7	6	3	1	1	6
WEATHERSTRIPPING.....	9	1	3	2	1	0	1	2
AROUND HOT WATER PIPES.....	2	0	1	0	0	0	0	0
AROUND HOT WATER HEATER.....	1	0	0	0	0	0	0	0
CAULKING.....	14	1	4	4	2	1	1	2
PLASTIC COVERING.....	12	2	3	2	1	0	1	4
OTHER.....	1	0	0	0	0	0	0	0
NO.....	72	7	14	12	6	3	4	25
NOT REPORTED.....	0	0	0	0	0	0	0	0
<b>INSULATION ADDED (EXPENSIVE)</b>								
YES.....	6	0	2	2	1	0	0	1
ROOF OR ATTIC.....	4	0	1	1	1	0	0	1
BASEMENT OR CRAWL SPACE.....	1	0	0	1	0	0	0	0
OUTSIDE WALLS.....	2	0	1	1	0	0	0	0
NO.....	93	9	19	16	8	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (INEXPENSIVE)</b>								
YES.....	7	1	2	2	1	0	1	1
CLOSEABLE SHUTTERS.....	0	0	0	0	0	0	0	0
STORM DOORS.....	4	0	1	1	0	0	0	0
AUTOMATIC OR CLOCK THERMOSTAT.....	1	0	0	0	0	0	0	0
NEW WATER HEATING EQUIPMENT.....	2	0	1	1	0	0	0	0
NO.....	93	9	19	17	8	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0
<b>EQUIPMENT ADDED (EXPENSIVE)</b>								
YES.....	.5	0	2	1	1	0	0	1
STORM WINDOWS/INSULATING GLASS.....	4	0	1	1	1	0	0	1
ELECTRIC HEAT PUMP.....	0	0	0	0	0	0	0	0
NEW FURNACE.....	2	0	0	1	0	0	0	0
NO.....	94	9	19	17	8	4	5	30
NOT REPORTED.....	1	0	0	0	0	0	0	0

NOTE: DATA IN THIS TABLE ARE PRELIMINARY AND SUBJECT TO REVIEW.  
DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING. ZEROS INDICATE LESS THAN .5 PERCENT.  
SEE NOTES FOLLOWING LAST TABLE.

## Footnotes

### Preface

The tables presented are based on a sample size of 3,448 housing units. Percentages have been weighted to represent a universe of 67.6 million housing units. Each housing unit appears in more than one row, with the result that each subtotal will sum to 100 percent (taking rounding errors into consideration). In tables 9-16, the insulation and equipment items listed are not mutually exclusive. As a result, these items may sum to more than the "yes" and "yes, eligible" subtotals.

- 1/ HOUSEHOLD. Includes all the individuals who occupy a housing unit. By definition, the count of households is the same as the count of occupied housing units.
- 2/ NOT APPLICABLE/NOT REPORTED. Not applicable indicates that the item was not relevant. (Renters did not report a value of residence, and households not occupying their housing unit during the previous winter did not report if any rooms were closed off.) "Not reported" includes any of the following responses: no answer, don't know, refused, and not applicable (when not shown separately).
- 3/ HOUSING UNITS. Includes only occupied housing units intended for year-round occupancy, and excludes buildings with five or more units. Please refer to the glossary for a more detailed definition of housing units.
- 4/ STORM WINDOWS/STORM DOORS. Includes storm doors or storm windows, as well as, thermopane glass, double glass, or any other kind of insulating glass.
- 5/ HEATING DEGREE DAYS (HDD)/COOLING DEGREE DAYS (CDD). Refers to the weather zones indicated on the map of the United States on pages 7 and 25. Please refer to the glossary for a more detailed explanation of heating and cooling degree days.

## NATIONAL INTERIM ENERGY CONSUMPTION SURVEY

### Introduction

The National Interim Energy Consumption Survey (NIECS)\* was designed by the Energy Information Administration (EIA) to provide information related to energy consumption by the residential sector. This survey, along with analogous studies for the commercial and industrial sectors, will enable the analysis of comprehensive consumption patterns for the United States.

Information on energy use in the residential sector was collected at the household level. A representative (national) sample of households was selected in the 48 contiguous states plus the District of Columbia. The data on actual energy consumption was obtained from fuel records maintained by the household's fuel suppliers. An inventory of motor vehicles used by the household was also included in the survey.

### Data Collection

Response Analysis Corporation (RAC), Princeton, New Jersey, conducted the interviews. A total of 4,849 housing units were drawn in the original sample. Of these, 342 were ineligible for this survey because they were either vacant or seasonal units (the occupants did not live in them for more than half of the year). Of the 4,507 eligible units, interviews were obtained from 3,843 households, yielding an initial response rate of about 85 percent. Subsequently, mail questionnaires were sent to the 664 households that were not interviewed. Completed mail questionnaires were received from 239 of these households. This additional effort increased the response rate by around 5 percent. The responses to the mail questionnaire are not included in the data presented here. Consequently, these results must be viewed as being preliminary. The primary reason for the lag in the processing of the mail questionnaires is that they are an abbreviated form of the regular questionnaire. An imputation process (hot decking) is being employed in order to obtain a completed version. This implementation will require some months of work.

Initial household contacts were begun in October 1978. The 50-minute interview covered: structural features related to energy, such as size, insulation, and openings; the heating and cooling systems and the fuels used in these systems;

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\*Not to be confused with NIEC--the National Energy Information Center which is EIA's public information office.

energy conservation efforts; information on household appliances and vehicles; and demographic data on household members. At the conclusion of the interview, respondents were asked to sign waivers authorizing RAC to obtain their records of fuel consumption from their fuel supplier.

Most of the 200 interviewers employed by Response Analysis Corporation had had previous survey experience. Training for NIECS was done by mail, using a 59-page instructional booklet. The booklet included specific procedures for conducting this survey and provided guidelines on how to handle various interpretations of questions. A practice interview and a quiz on the instructions were also parts of the training. Ten percent of the interviewers were checked to insure that they conducted an interview in person.

### Sample Design

The NIECS sample is a representative area probability sample consisting of 103 primary sampling units (PSU's). These PSU's were selected from approximately 1,140 PSU's that collectively form a mutually exclusive and exhaustive division of the contiguous United States. Each PSU is a well-defined geographic unit, usually consisting of one or more counties. Based on the 1970 Census, PSU sizes range from a population of 50,000 to approximately 3,300,000. Region, metropolitan status, and size classification were the primary considerations in the selection of the sampled PSU's.

Within each PSU, secondary sampling units (SSU's) were defined. Based upon 1970 Census counts, 400 SSU's were selected from the 103 PSU's. Each of these SSU's contained approximately 2,500 persons and consisted of one or more blocks in urban areas and one or more enumeration districts in the non-urban areas. An additional 56 SSU's were selected independently. These 56 SSU's comprised a probability selection of areas that had undergone substantial new construction since 1970. Independent sources (Rueben H. Donnelly address lists and county data) were used to update the population for these SSU's. Failure to update the estimated population for these areas would have increased the chance of selecting an inordinate number of households in an SSU.

Within each SSU, a subdivision was made. Census block statistics and rough field counts were used to break up each SSU into segments. These segments were formed so that they ultimately contained about 25 households. Finally, a sample of 10 or 11 households was selected to be visited. Thus, within each SSU 10 or 11 households were sampled, within each PSU an average of 40 to 45 households were sampled, and nationally, about 4,500 units were sampled.



Three checks were done to verify the coverage or completeness of the survey process. First, 100 prelisted sample locations were relisted by a third party to check the completeness of the original listing. Second, sample locations that had an unusually high vacancy rate were re-examined to determine whether interviewers misclassified a unit as vacant. Third, in order to increase the precision of our estimates, a technique called ratio estimation was employed. Ratio estimation uses known, accurate distributions of the population and revises survey estimates by applying a factor to each household.

These adjustments took place in two stages for the NIECS. The first stage factor was a ratio of the total number of households in each region by fuel type to an estimate of the number of households in each category. Only the PSU's in our sample and their appropriate weights were used. The figures used in both the numerator and denominator were based on the 1970 Census. The implementation of this factor reduced the amount of variance due to the sampling of PSU's. The second stage factor adjusted data from the survey to independently derived current estimates of the number of households for specified groups. The ratio adjustment was calculated for each region by type of community. The second stage factor reduced both the between PSU variance, as in the first stage, as well as, the within PSU variance.

#### Minimizing Nonresponse

The Office of Federal Statistical Policy and Standards encouraged an analysis of the effect of nonsampling error in the NIECS. The previously mentioned coverage check and an intensive effort to minimize nonresponse were the outcome of several meetings and memoranda dealing with the nonsampling error issue. Many of the following procedures were used to test the feasibility of a multi-wave, multi-contact approach and may or may not be used in the larger Residential Energy Consumption Surveys (RECS). Most households received two letters in October 1978, prior to the interview. An EIA letter stressed the importance of the survey and a RAC letter announced the upcoming arrival of the interviewer.

To elicit rapport and cooperation, a \$2 incentive was given to the respondent before the interview. Interviewers made up to three call-backs at different times of the day and week. They also queried neighbors as to the most opportune time to contact the respondent. The use of incentives will be analyzed in order to determine their utility and whether they should be used in the RECS.

A second wave was conducted in December 1978 to contact households that were not available during the first wave and to convince the first-wave refusals to reconsider. A second set of letters preceded the second-wave interview as well. A different interviewer was assigned and endeavored to complete the interview by making up to four contacts.

A third wave followed in January 1979. This was an effort to reach nonrespondents in 14 sample locations that had low interview completion rates.

In a final attempt to complete an interview, an abbreviated version of the questionnaire, adapted for self-administration, was mailed to nonrespondents in February 1979. The \$2 incentive was included in the mailing.

#### Additional Survey Components

One purpose of the NIECS was to test the procedures and methodology for RECS. Three small studies, in addition to the basic NIECS survey, are also being conducted. These studies will be used to determine what additions and modifications should be made for RECS.

A transportation panel consisting of a subset of the NIECS sample began in June 1979. Participating households are asked to keep a log of their fuel purchases and odometer readings for a two-month period. The panel consists of 500 to 1,000 households reporting each month. Separate tabulations of these data are planned.

Fifty NIECS households will be selected to be part of an energy assessment study. Trained technicians will analyze the energy-related components of a house. Exact square footage, temperature distribution in various parts of the house, presence of insulation, and features of major appliances (including heating and cooling equipment) will be surveyed. Precise procedures are still being developed for this study.

When renters did not pay directly for their fuel costs, an interviewer contacted the apartment manager by telephone to ask what space and water heating fuels were used in the apartment building. When these data become available, they will be incorporated into the NIECS data set.

### Data From Nonhousehold Sources (Fuel Suppliers)

Respondents in 95 percent of the interviewed households signed waivers to permit fuel suppliers to give Response Analysis Corporation the monthly record of their past year's fuel purchases. The data contained both the amount sold and the price of the fuel. The suppliers were contacted between March and May 1979 and were asked to supply fuel billing information for a 12-month period.

In order to attain the highest response rate possible, the following procedures were used:

- o Letters were sent to each company after RAC located the person who would act on the request for fuel bills. Followup telephone calls were made to insure the receipt of the letter and to help with any problems that may have arisen. Response Analysis Corporation also personally visited several companies to offer assistance.
- o Some fuel oil and liquid petroleum gas (LPG) suppliers provided the fuel purchase information over the telephone. The telephone was adequate for these types of suppliers because each company supplied data for only a few customers and the fuel records were not as detailed as records for electricity and natural gas sales. About 600 of the approximately 800 fuel suppliers contacted in this survey were fuel oil or LPG distributors.

One unique aspect of this survey was the opportunity to obtain electricity and natural gas data for households that did not complete the interview or did not sign the waiver. Utilities would not supply individual household data without a waiver, but did supply aggregate data for groups of nonrespondents. This information provided a rare opportunity to analyze the bias introduced by nonresponse and to improve the accuracy of consumption estimates in the residential sector.

Master-metered apartments presented a problem since the fuel consumption costs are embedded in the apartment building's fuel bill. To collect data concerning apartment buildings and their use of energy, 50 buildings in the NIECS sample were selected for additional followup. This information will be used to allocate energy costs to individual apartments.

## Weather Data

The first type of temperature data used was the 45-year annual average heating degree days (HDD) and cooling degree days (CDD) for the National Oceanic and Atmospheric Administration (NOAA) weather division in which the household was located.

These data will aid in analyzing the effects of weather on personal decisions to make changes in basic housing structure or equipment. The second type of data used were HDD and CDD totals for each billing period. These data will allow more complete analysis of fuel consumption.

Weather conditions will have to be calculated for the appropriate billing period. For example, one household may be billed on the 1st of every month, while another may be billed on the 5th. Obviously, there will be different 30-day averages of HDD and CDD.

## Editing Completed Questionnaires

Interviewers mailed the completed questionnaires to Princeton, New Jersey, where they were reviewed for completeness and correct identifying information. This manual edit was segmented and each part was worked on separately. Telephone calls were made to clarify ambiguities in the data.

A machine edit checked for reasonable values, proper skip patterns, and logical consistencies.

All key punching was verified.

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## NIECS Glossary

Air-Conditioning is cooling air by a refrigeration unit. It does not include fans, blowers, or evaporative cooling systems which are not connected to a refrigeration unit.

Air conditioning units which are not currently in working condition or not used, but are in place in the housing unit, are included.

Billing Period refers to the time between meter readings. It does not refer to the time the bill was sent or when the payment was to have been received. In some cases, the billing period is the same as the billing cycle which corresponds closely (within several days) to meter reading dates. For fuel oil and LPG, the billing period is the number of days between fuel deliveries.

Building with 5 or More Housing Units contains living quarters for 5 or more separate households or families.

Built-in Electric Units. Individual resistance electric heating units are permanently installed in the floors, walls, ceilings, or baseboards, and are part of the electrical installation of the building. Electric heating devices that are plugged into an electric socket or outlet are not considered built-in.

Caulking around windows or doors whether in a heated part of the house or an unheated part, such as an attic or basement. Caulking can be done from the inside or outside of the house. Caulking done by the previous owner or caulking done to the respondent's previous home is not included.

Central Warm Air Furnace with Ducts to Individual Rooms. A central furnace provides warm forced air through ducts leading to various rooms. Electric heat pumps are not included in this category.

Condominium Ownership. A condominium is a type of ownership that enables a person to own an apartment or house in a project of similar units. The owner has his or her own deed and, very likely, has a mortgage on the unit. The owner also holds common or joint ownership in all common areas such as hallways, entrances, and elevators.

Condominium ownership may cover single-family houses, row houses, townhouses, as well as apartments.



Conservation Efforts undertaken by respondents or respondent's family in the housing unit the family occupies. Efforts undertaken by a landlord are not included. Changes made before the respondent moved in are not included.

Continuous Cleaning Oven has a system that automatically dissolves any buildup as it occurs.

Cooling Degree Days are the number of degrees the daily average temperature is above 65 degrees Fahrenheit. Normally cooling is not required in a building when the outdoor average daily temperature is below 65 degrees. Cooling degree days are determined by subtracting the base of 65 from the daily average temperature. For example, a day with an average temperature of 85 degrees has 20 cooling degree days ( $85-65=20$ ), while one with an average temperature of 65 degrees or lower has none.

Doors that go outside or to an unheated area, such as an unheated porch, garage, attic, or basement, are included. Doors to a heated hallway in an apartment building or permanently sealed doors are not included. Double doors are counted as one door.

Education--Highest Grade Attended includes attendance at graded public, private, or parochial schools, colleges, universities, or professional schools, whether day or night school. Only schooling which advances a person toward an elementary or high school diploma, or a college, university, or professional school degree is included. Other schooling is included only if the credits obtained are acceptable in the regular school system.

Persons who have attended "post graduate" high school courses after completing high school, but have not attended college, are considered to be "Twelfth" grade graduates.

Persons who have attended more than four years of college, or who have attended professional schools (law, medicine, or dentistry, for example) are considered to have a college education plus graduate or professional schooling after completion of four years of college.

The equivalent grade of the regular American school system is assumed for a person who obtained his formal education through other systems.

For persons who skip or repeat grades, the highest grade attended is accepted.

Electric Heat Pump (Reverse Cycle System). A heat pump is a year-round heating heating-air-conditioning system in which refrigeration equipment supplies both heating and cooling through ducts leading to individual rooms. It generally consists of a compressor, both indoor and outdoor coils, and a thermostat. Heat pumps using any fuel other than electricity are excluded.

Electricity refers to electric power supplied by a central utility to a residence via underground or above ground power lines. It does not refer to electricity generated on-site for the exclusive use of the residence. In this case, the fuel used for the generator will be indicated.

Estimated Bill is calculated by the fuel supplier when the meter is not read. The estimate may be based on one or more of the following factors: past usage of the household, usage of similar households, weather data.

Family Income includes wages, salaries, tips, commissions, social security, pensions, interest, dividends, rent, public assistance, unemployment insurance benefits, and the like. Income is calculated before taxes and deductions. Income is obtained for all members of the family who lived in the household in 1977, regardless of whether they were living there at the time of the interview. Income of non-family members of the household is not included.

Fireplaces or Heating Stoves that burn wood or coal are included.

Floor, Wall, or Pipeless Furnace. A floor furnace is located below the floor and delivers heated air to the room immediately above or, if under a partition, to the room on each side.

A wall furnace is installed in a partition or in an outside wall and delivers heated air to the rooms on one or both sides of the wall.

A pipeless furnace is installed in a basement and delivers heated air through a large register in the floor of the room or hallway immediately above.

Fuels refers to primary delivered fuel at the residential site. It may be converted at the site to some other energy form.

Fuel Oil is any grade fuel oil which might be burned by the dwelling for space heating or water heating purposes.

Heating Degree Days are the number of degrees of daily average temperature is below 65 degrees Fahrenheit. Normally, heating is not required in a building when the outdoor average daily temperature is above 65 degrees. Heating degree days are determined by subtracting the average daily temperature below 65 degrees from the base 65. For example, a day with an average temperature of 50 degrees has 15 heating degree days ( $65-50=15$ ), while one with an average temperature of 65 or higher has none.

Home-Owner/Renter. Own means the owner or co-owner is a household member of the unit, even if the unit is mortgaged or not fully paid for. Own/rent refers to the structure itself, not the land on which it is located.

Hot Water Pipes Running Through a Slab Floor. A central radiant system supplies hot water to pipes inlaid in concrete.

House or Building with 2-4 Housing Units is divided into living quarters for 2, 3, or 4 families or households. This category also includes houses originally intended for occupancy by one family or for some other use, but have since been converted to a separate dwelling for 2 to 4 families. Typical arrangements in these types of living quarters are separate apartments, downstairs and upstairs, or one apartment on each of three or four floors.

Household includes all persons who occupy a housing unit. By definition, the count of households is the same as the count of occupied housing units.

Household Appliances. The following appliances are included if they are used in the home: refrigerator, cooking appliances (small electric appliances, oven, range, or grill), washing machine, dishwasher, freezer, dryer, outdoor gas light. Air conditioning units are included whether or not they are used or are in working order.

Housing Unit is a structure or part of a structure where a household (family or individual) lives or could live. It has a separate entrance from the outside or from a common hall or lobby, or it has cooking facilities for the exclusive use of the occupants. Housing units do not include group quarters such as prisons, hospitals, dormitories, nursing homes, fraternity houses or convents. Hotel rooms, motel, mobile homes, or trailers are considered housing units if occupied.

Insulation. Insulation is any material which, when placed between the interior of the dwelling and the outdoor environment, reduces the rate of heat (cold) loss to the environment.

*Blankets or Batts--Rolls or Pieces* are nailed or stapled between the roof rafters.

*Foam* is initially a liquid that solidifies after being sprayed on a surface or poured into a cavity to be insulated.

*Loose Fill or Blown Material* is loose insulation which is poured between the attic floor joists (beams) or blown into open spaces.

*Plastic Foam Boards* are rigid boards (such as styrofoam), that can be cut to size and either edged, nailed, or glued in place.

Insulation Added, Equipment Added does not include additions that were in the process of being completed but were not completed at the time of the survey.

Kerosene is a distilled product of oil or coal with the generic name kerosene and used for space heating, water heating, cooking or lighting.

LPG or Liquid Petroleum Gas is any fuel gas supplied to a residence in liquid form. It is usually delivered by tank truck and stored near the residence in a tank or cylinder until used. Propane and butane are liquified petroleum gases.

Metropolitan refers to locations within Standard Metropolitan Statistical Areas as defined in the 1970 census.

Migratory Housing Unit is intended for occupancy by migratory workers employed in farm work during the crop season.

Mobile Home or Trailer is a structure which has all the facilities of a dwelling unit, but is built on a movable chasis. It may be placed on a permanent or temporary foundation and contain one or more rooms. Even if additional rooms are added to the structure, it is still considered a mobile home.

Monthly Rent is rent paid for the sample unit only. If the rent actually paid by the household includes rent for a business unit or for living quarters occupied by others, that part of the total rent which the respondent estimates to be for his/her own unit only is reported.

The rent paid or scheduled to be paid to the landlord or rental agent is reported, without deduction for any payments received from lodgers or roomers, or for the cost of any furniture, utilities, or service provided by the landlord. Any part of the rent that may be paid by friends or relatives living elsewhere, a church, government agency, or similar organizations is not deducted.

Natural Gas is utility gas supplied by pipeline to individual housing units by a central utility company. It does not refer to privately owned gas wells operated by the household.

Number of Floors includes floors for all areas used as year-round living space. Unfinished areas used for workrooms, utility rooms, or laundry rooms are not included. Finished attics or basements are included. If the attic or basement is partially finished and the finished part is used as living space on a year-round basis, the area is counted as one-half floor. The basement level of an apartment building is not counted. Any level of a house that is more than one-half the length and width of the house is one floor. Any level that is less, is one-half floor.

Number of Rooms. Whole rooms are rooms such as living rooms, dining rooms, bedrooms, kitchens, lodger's rooms, finished basements, or attic rooms, recreation rooms, and permanently enclosed sun porches which are used year-round. Rooms used for offices by a person living in the unit are included.

Bathrooms, halls, foyers, or vestibules, balconies, closets, alcoves, pantries, strip or pullman kitchens, laundry or furnace rooms, unfinished attics or basements, open porches and unfinished space used for storage are not included.

A partially divided room, such as a dinette next to a kitchen or living room, is a separate room only if there is a partition from floor to ceiling, but not if the partition consists solely of shelves or cabinets. If a room is used by occupants of more than one unit, the room is included with the unit from which it is most easily reached.

Rooms are counted as year round living space if they are completely enclosed for the outside with permanently installed walls, windows, and roof and can be heated.

Occupied Housing Unit is occupied if someone was living in it as their usual or permanent place of residence at the time of the first field contact.

Plastic Coverings are placed over the doors or windows on either the outside or inside of the house. Plastic coverings installed by previous occupants of the housing unit or installed in the respondent's previous home are not included.

Portable Room or Space Heaters can be picked up and moved. Included are electric heaters that get current through a cord plugged into an electrical wall outlet.

Property Value for Owned Property consists of the entire building in which the owner lives, the land on which it stands, and any additional buildings such as garages on the same plot of land. The value of the land is included whether or not the land is on the same plot owned or owned jointly.

Refrigerator. A "temperature control" is usually a dial with a range such as 1 to 10 which designates the temperature range one can select inside the refrigerator.

*Automatic Defrost*--defrosts automatically after frost builds up (catch pan must be emptied).

*Automatic Ice-Maker* is a device in the freezer section of the refrigerator which is connected to the household water supply. It has a valve which regulates the amount of water taken in to be made into ice cubes.

*Automatic Ice-Water Dispenser* is connected to the household water supply. It has a valve which regulates the amount of water taken in for a constant supply of cold water.

*Energy Saver Switch (anti-sweat)* is a control which raises the temperature inside the refrigerator. It saves energy when the humidity is high and water is condensing on the inside walls of the refrigerator.

*Extra Insulation in Walls or Doors* is featured in some new refrigerators. The extra insulation retains the cold air and makes the refrigerator more energy efficient.

*Full Frost-Free*--frost does not build up.

*Manual Defrost*--freezer section or ice cube section must be defrosted periodically.

Room Heaters with Flue or Vent. Circulating heaters, convectors, radiant gas heaters, other nonportable room heaters that burn gas, oil, kerosene, or other liquid fuel, and are connected to a flue, vent, or chimney to remove smoke and fumes.

Room Heaters without Flue. Nonportable room heaters that burn gas, oil, or kerosene which are not connected to a flue, vent, or chimney.

Room(s) Closed Off During Winter includes households that completely closed off one more more rooms for a week or longer. A room is closed off if the door to the room is closed and the heat in that room is turned down, regardless of whether any heat from surrounding rooms can be felt.

Rural refers to nonurban areas.

Seasonal Housing Unit is intended for occupancy only at certain seasons of the year. Seasonal units include those intended for recreational use, for example, beach cottages and hunting cabins that have not been converted to year-round use.

Self-Cleaning Oven has a cleaning cycle that can be turned on when desired.

Single Family Housing Unit provides living space for one household or family. The structure may be detached, attached on one side (semi-detached), or attached on two sides. Attached houses are considered single family houses as long as the house itself is not divided into more than one housing unit and has an independent, outside entrance.

Solar Collectors refer to active, thermal, concentrating collectors using either air or liquid as the working fluid. They do not refer to passive collection of solar thermal energy.

Steam or Hot Water System with Radiators or Convectors. A central heating system supplying steam or hot water to conventional radiators, baseboard radiators, heating pipes embedded in the walls or ceilings, or heating coils or equipment which are part of a combined heating-ventilating or heating-air-conditioning system.

Storm Doors are made of double glass or insulating glass such as thermopane. Glass or plexiglass placed over a sliding glass door on either the exterior or interior is counted as a storm door. A plastic sheet covering the door is not a storm door.

Storm Windows are windows added to the exterior of existing windows. Windows made of double glass or insulating glass, such as thermopane, are storm windows. Glass or plexiglass placed over windows on either the exterior or interior side are included. Plastic sheets covering windows are not included.

Urban includes housing in places of 2,500 inhabitants or more as defined in the 1970 census.

Vacant Housing Unit is vacant if it was not occupied at the time of the first field contact. An occupied seasonal or migratory housing unit is classified as vacant at the time of the first field contact when all persons had a usual place of residence elsewhere.

Vehicles are automobiles, station wagons, passenger vans, cargo vans, motor homes, pickup trucks, other trucks, jeeps or similar vehicles, motorcycles, mopeds, and motorized bicycles.

Any motorized vehicle which is owned (being bought) by one or more members of the household is included. Company cars, trucks, taxicabs, and other motorized vehicles which are not owned by household members, but are regularly available to household members for their personal use and are ordinarily kept at home are included.

Vehicles of all members of the household, including lodgers or other nonrelatives living in the house (apartment) are included. Cars rented or leased for one month or more are included.

Not included are motorized vehicles used solely for business purposes, such as police cars or other government-owned vehicles. Dismantled or dilapidated vehicles in an early stage or being junked, or immobile vehicles used only as a source of power for some piece of machinery are not included. Vehicles used primarily for competition or display purposes such as racing cars, stock cars, or antique cars not used as passenger automobiles are not included.

Vehicle Types. Passenger vans or minibuses which are equipped for carrying passengers and have a seating capacity of from 5 to 15 passengers.

Pickup trucks include cars with an open load area (for example, a Ford El Rancho).



A jeep or similar vehicle has 4-wheel drive and is capable of off-road operation.

The miscellaneous category contains vehicles that do not fit into any of the designated categories.

Weatherstripping around outside doors or windows.

Windows to the Outside. All windows to the outside found in year-round living space are included. Windows in the basement, attic, garage, or porch are included if those areas are heated. Each windows that opens separately is counted as one window. Windows fixed in place are included. Windows in doors are not included.

Year-round Housing Unit is occupied or intended for occupancy at any time during the year. Mobile homes or trailers are considered year-round units if they also satisfy this condition.

## Use of the Generalized Variance Tables

The following tables allow the user to roughly estimate the standard error of estimated percents calculated on the National Interim Energy Consumption Survey (NIECS) data. The entries in the table were derived using a combination of design effects that resulted from Annual Housing Survey (AHS) figures (the AHS and the NIECS are quite similar in design), the average size of the ultimate sample within a primary sampling unit (PSU), the variation of this average, and the average number of secondary sample units selected in a PSU.

Two tables are shown. One is to be used for characteristics that are not substantially effected by the cluster design and the other is to be used for characteristics that are effected by clustering.

In order to use these tables, the following procedures should be followed:

- o Determine which table is to be used
- o Determine how many households in the sample are eligible to have the characteristic. This will determine the appropriate row to be used.
- o Using the table of estimates, determine what percentage was estimated for this characteristic. The appropriate entry in the table is now available.
- o Since these tables are based on one standard deviation, a 95 percent confidence interval would equal twice the value in the table.

An example is as follows:

Suppose, we discover that 500 households are in non-SMSA areas in the West and we wish to see how many have attic insulation. Using the appropriate table, we find out that 5 percent of the households have attic insulation. We also determine that attic insulation is effected significantly by the clustered design. We then use the lower table and the correct entry (using 500 for the row and 5 percent for the appropriate column) is 2.0. This means that there is a 95 percent probability that the percent of households having attic insulation in non-SMSA's in the West is between 1 and 9 ( $5 \pm 2(2.0)$ ).

Speculated Standard Errors of Estimated Percents,  
According to Likely Degree of Clustering of  
Characteristic, by Size of Base (Unweighted  
Interviewed Households) and Size of Percentage,  
Nationwide Interim Energy Consumption Survey  
(NIECS), 1978-1979

(68 chances out of 100)

Units: Not Moderately or Highly Clustered Characteristic

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Size of Base (unweighted interviewed households)	Percentage Estimated				
	2 or 98	5 or 95	10 or 90	25 or 75	50
100	2.0	3.1	4.3	6.2	7.2
250	1.3	2.0	2.7	3.9	4.5
500	0.9	1.4	1.9	2.8	3.2
1,000	0.6	1.0	1.4	2.0	2.3
2,000	0.5	0.7	1.0	1.4	1.6
3,000	0.4	0.6	0.8	1.1	1.3
3,448	0.3	0.5	0.7	1.0	1.2

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Units: Moderately or Highly Clustered Characteristic

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Size of Base (unweighted interviewed households)	Percentage Estimated				
	2 or 98	5 or 95	10 or 90	25 or 75	50
100	2.8	4.4	6.1	8.8	10.2
250	1.8	2.8	3.9	5.6	6.4
500	1.3	2.0	2.7	3.9	4.5
1,000	0.9	1.4	1.9	2.8	3.2
2,000	0.6	1.0	1.4	2.0	2.3
3,000	0.5	0.8	1.1	1.6	1.9
3,448	0.5	0.7	1.0	1.5	1.8

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