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energy center

Research Report

199-2

Energy and Housing in Wisconsin

A Study of Single-Family Owner-Occupied Homes

Volume 2: Data Book

November 2000



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199-2

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A Study of Single-Family Owner-Occupied Homes

November 2000

Volume II: Data Book

Prepared by

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Prepared for



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Organization of the Report

The report is divided into two volumes. The first volume contains the major results of the study, along with appendices that detail how some of the analysis was conducted. This volume provides statistics and tabulations of most of the data that was collected as part of the study. Statistics and tabulations of the data collected by the auditors on the physical characteristics of the buildings are listed first, followed by the survey data.

Data Collected Onsite

House Type, Age and Size

House Type

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Single-story	46% ± 5	48% ± 6	33% ± 15	44% ± 15
Multi-story	45% ± 7	44% ± 7	49% ± 16	43% ± 18
Bi/Tri-level	5% ± 2	6% ± 3	0% ±	6% ± 7
Mobile home	3% ± 2	1% ± 1	18% ± 9	7% ± 8
Attached Townhouse	0% ± 1	0% ± 1	0% ±	0% ±

Decade of Construction

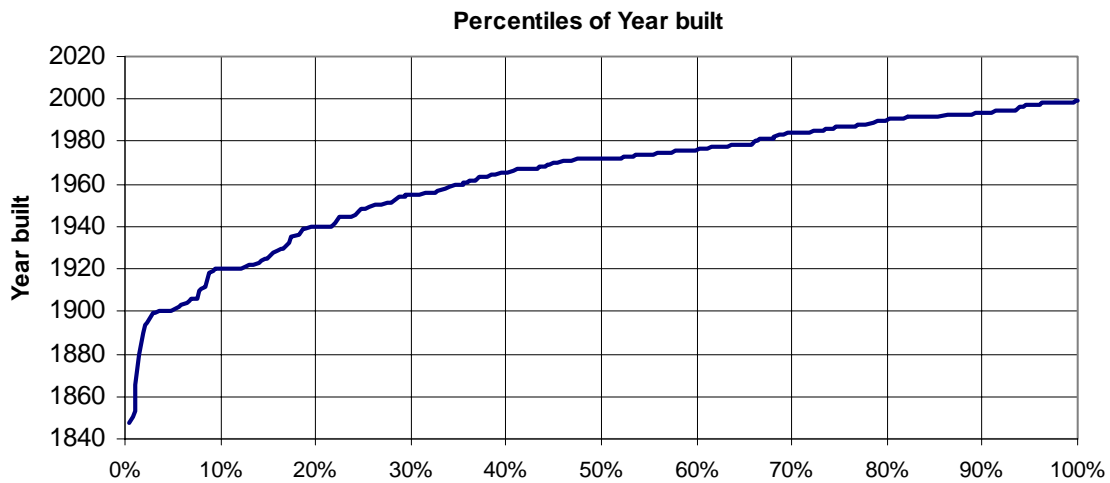
	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
<1930	18.3% ± 5.4	18.2% ± 6.3	36.0% ± 14.5	0.0% ± 0.0
1930's	3.6% ± 2.5	4.5% ± 3.0	0.0% ± 0.0	0.0% ± 0.0
1940's	8.1% ± 3.4	9.6% ± 4.1	4.5% ± 2.5	0.0% ± 0.0
1950's	9.8% ± 4.3	10.7% ± 4.6	12.3% ± 8.5	0.0% ± 0.0
1960's	9.8% ± 3.6	11.2% ± 4.1	8.6% ± 7.6	0.0% ± 0.0
1970's	20.3% ± 6.4	22.4% ± 8.2	23.2% ± 6.4	0.0% ± 0.0
1980's	10.7% ± 4.1	12.1% ± 5.2	10.7% ± 7.7	0.0% ± 0.0
1990's	19.4% ± 6.0	11.3% ± 3.9	4.7% ± 5.5	100.0% ± 0.0

decade of construction unknown for 4 houses

Year built

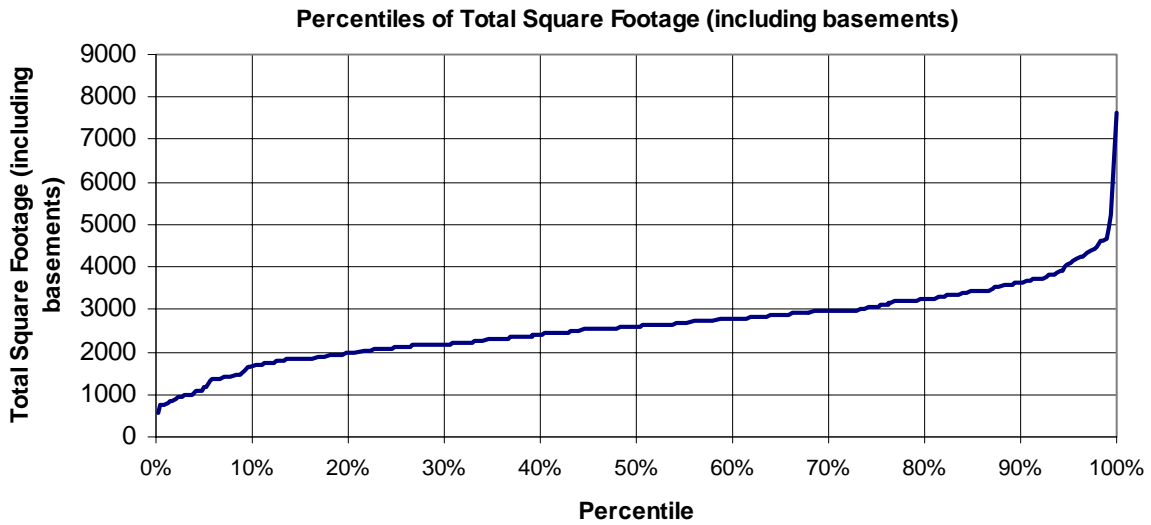
	Overall (n=257)	General (n=173)	Low income (n=42)	New construction (n=42)
mean	1963.3 ±5.4	1961.6 ±5.6	1945.9 ±9.5	1996.3 ±0.2
minimum	1848	1848	1850	1994
5th percentile	1902	1904	1899	1994
25th percentile	1948	1947	1920	1995
median	1972	1972	1955	1997
75th percentile	1987	1983	1973	1998
95th percentile	1997	1992	1986	1998
maximum	1999	1995	1993	1999

Year built unknown for 32 homes



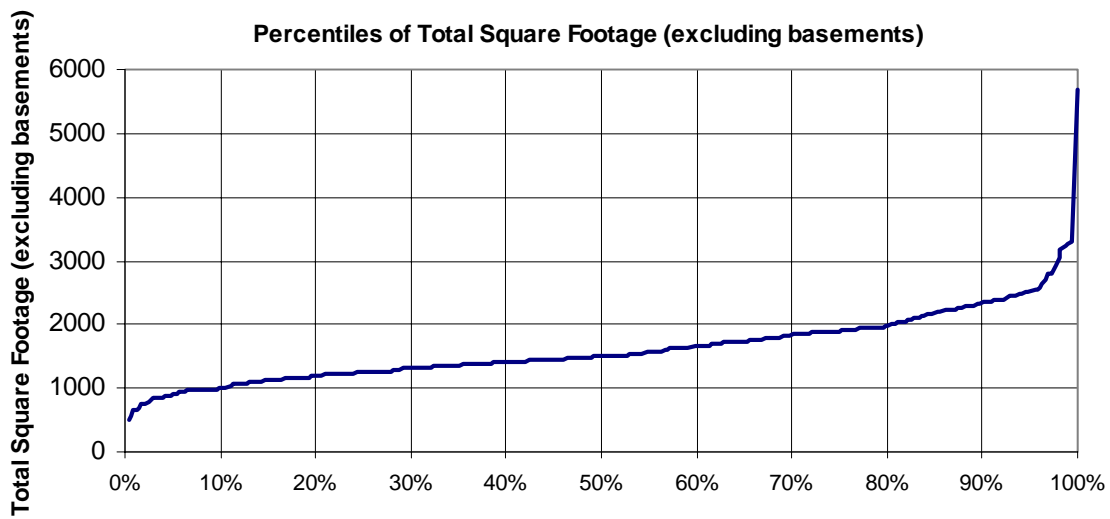
Total Square Footage (including basements)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	2638 ±101	2658 ±114	1984 ±184	3230 ±232
minimum	560	784	560	992
5th percentile	1186	1440	756	1431
25th percentile	2124	2142	1172	2808
median	2607	2590	2002	3188
75th percentile	3084	2984	2654	3744
95th percentile	4122	4122	3428	4636
maximum	7648	7648	3584	5253



Total Square Footage (excluding basements)

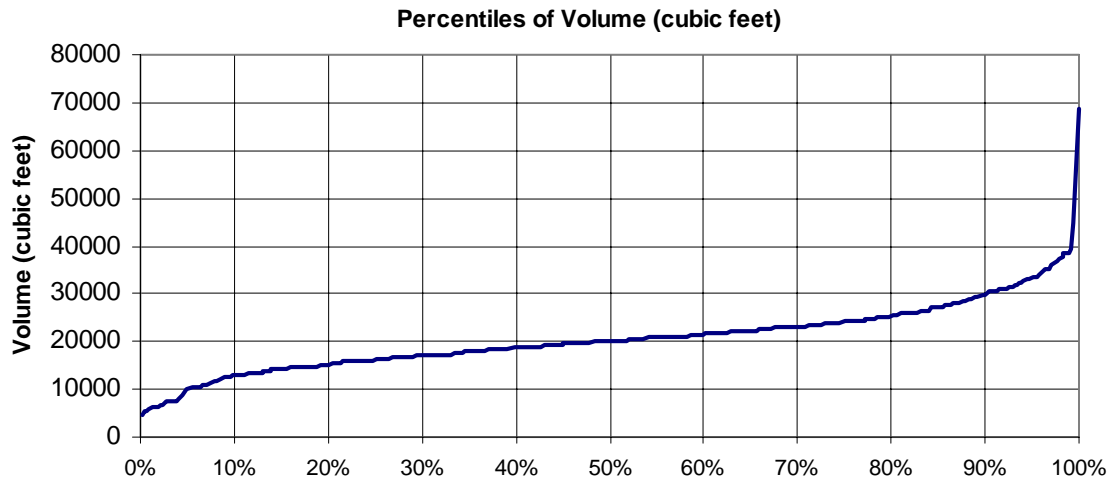
	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	1632 ±59	1629 ±63	1371 ±135	1952 ±156
minimum	506	506	560	992
5th percentile	912	943	744	1284
25th percentile	1260	1260	980	1502
median	1502	1488	1310	1916
75th percentile	1912	1884	1676	2334
95th percentile	2560	2512	2220	2806
maximum	5676	5676	2380	3174



Volume (cubic feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	20,807 ±806	20,856 ±850	15,193 ±1,703	26,890 ±2,180
minimum	4,480	5,880	4,480	7,301
5th percentile	10,380	11,520	5,452	11,269
25th percentile	16,128	16,608	8,958	23,852
median	20,160	20,160	14,700	28,212
75th percentile	24,309	23,544	19,452	31,409
95th percentile	33,416	32,256	27,069	36,056
maximum	68,716	68,716	32,903	45,024

includes basements



Walls and Wall Insulation

Definitions:

Nominal insulation R-value — the R-value of the insulation without regard to framing members, air films, etc.

Section R-value — the estimated R-value of the wall, ceiling, or other area including the effects of framing members, air films, etc.

Area weighted — denotes statistics that pertain to the aggregate study sample for variables that can take on multiple values within each house.

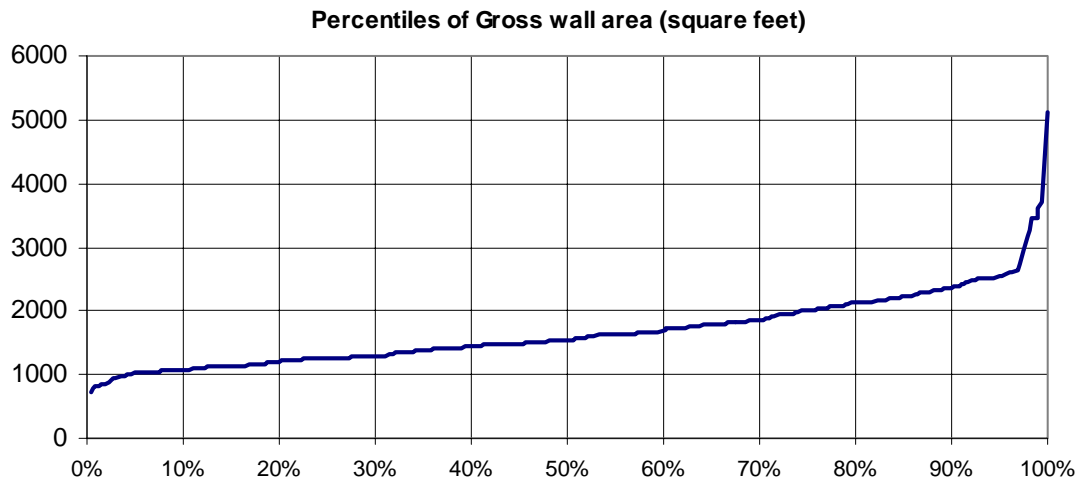
Notes:

Homes typically have more than one wall, ceiling, or other section defined as part of the audit, and these may differ in their insulation level or in other ways. We report both *aggregate-average* and *house-average* statistics for some of these. Aggregate average statistics refer to the aggregate area in the study sample: for example, 14% of the aggregate total wall area in the study sample is uninsulated. House-average statistics first average multiple areas within each home, then look across the homes in the sample

Gross wall area (square feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	1679 ±59	1675 ±57	1432 ±166	1989 ±228
minimum	720	720	795	1129
5th percentile	1024	1040	841	1173
25th percentile	1264	1264	1056	1487
median	1544	1544	1288	1870
75th percentile	2016	2006	1719	2334
95th percentile	2536	2508	2249	3461
maximum	5122	5122	2615	3712

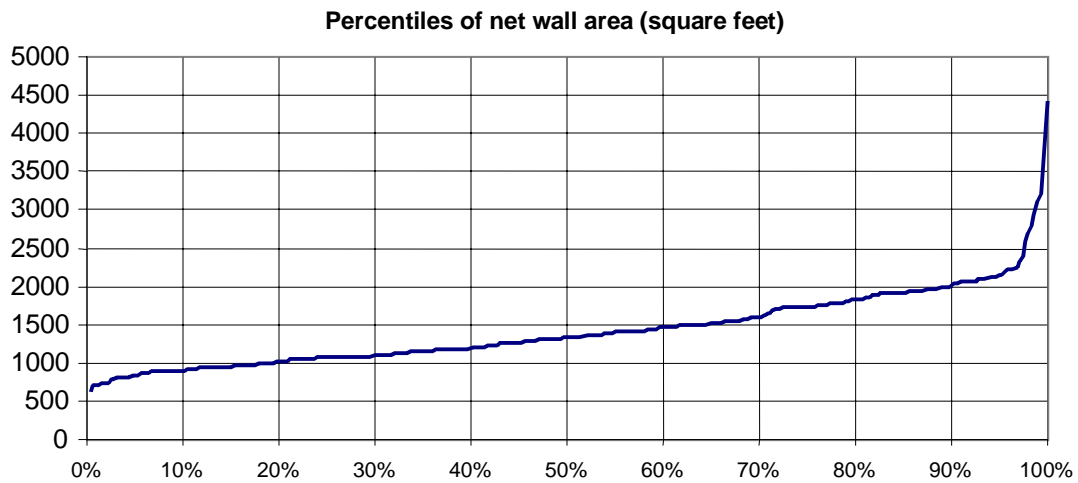
Includes window and door areas



Net wall area (square feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	1429 ±56	1423 ±56	1245 ±146	1684 ±194
minimum	622	622	696	973
5th percentile	849	878	746	1043
25th percentile	1069	1074	893	1284
median	1339	1339	1139	1629
75th percentile	1734	1724	1517	1992
95th percentile	2158	2121	1979	2599
maximum	4423	4423	2257	3213

Excludes window and door areas



Wall construction (area weighted)

	Overall (n=638)	General (n=453)	Low income (n=80)	New construction (n=105)
2x2	0.1% ± 0.2	0.0% ± 0.1	0.9% ± 1.7	0.0% ± 0.0
2x4	77.0% ± 9.0	82.3% ± 8.9	91.5% ± 6.2	28.4% ± 13.7
2x6	22.7% ± 8.9	17.4% ± 8.8	7.6% ± 6.9	71.6% ± 13.7
Double 2x4	0.2% ± 0.4	0.3% ± 0.5	0.0% ± 0.0	0.0% ± 0.0

Wall exposure (area weighted)

	Overall (n=637)	General (n=452)	Low income (n=80)	New construction (n=105)
Outdoors	87.3% ± 0.9	87.3% ± 1.2	93.3% ± 1.4	82.4% ± 1.8
Buffer zone	12.7% ± 0.9	12.7% ± 1.2	6.7% ± 1.4	17.6% ± 1.8

buffer zones include garages, porches and attic areas

Type of insulation present (area weighted)

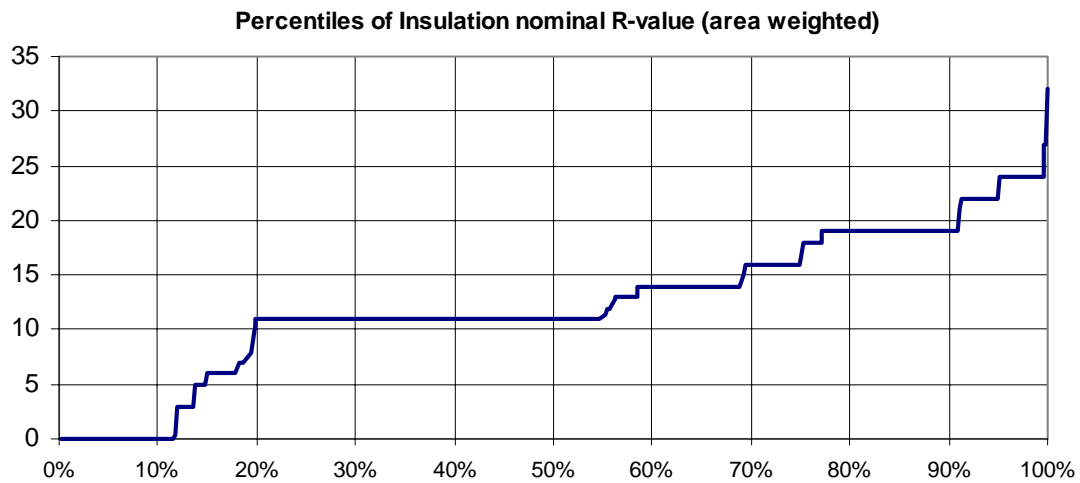
	Overall (n=638)	General (n=453)	Low income (n=80)	New construction (n=105)
None	11.5% ± 7.8	11.8% ± 8.3	22.8% ± 14.1	0.0% ± 0.0
Continuous only	2.6% ± 1.3	2.8% ± 1.6	3.2% ± 3.5	0.0% ± 0.0
Cavity only	57.0% ± 8.1	57.6% ± 9.0	55.9% ± 12.9	54.1% ± 10.0
Both	28.9% ± 5.1	27.8% ± 5.9	18.1% ± 7.5	45.9% ± 10.0

wall insulation was visually verified for 77% of wall areas

Insulation nominal R-value (area weighted)

	Overall (n=637)	General (n=452)	Low income (n=80)	New construction (n=105)
mean	12.3 ±1.7	11.7 ±1.8	9.4 ±1.5	19.0 ±1.1
minimum	0	0	0	11
5th percentile	0	0	0	11
25th percentile	11	11	3	18
median	11	11	11	19
75th percentile	18	16	13	22
95th percentile	22	22	19	24
maximum	32	32	24	24

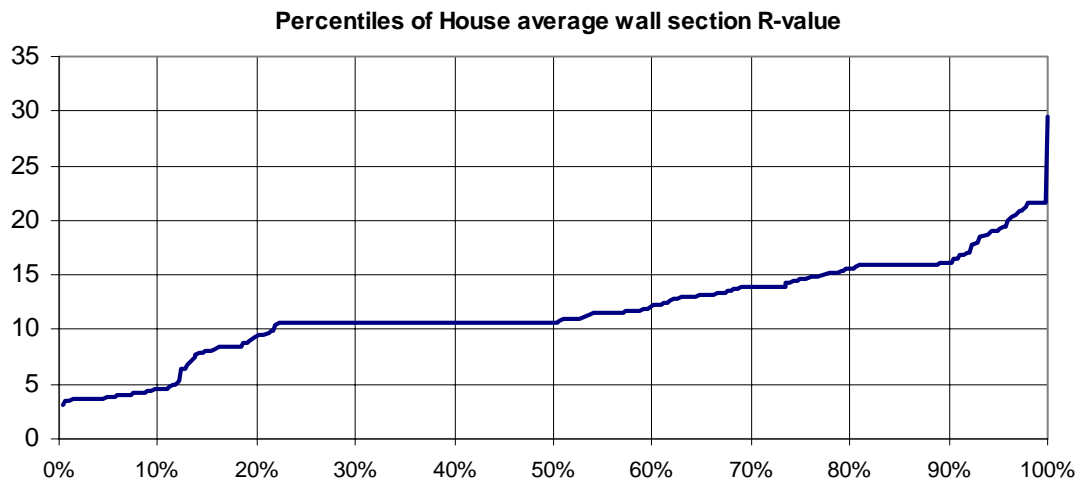
Represents the sum of cavity and continuous insulation



House average wall section R-value

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	11.8 ±0.9	11.5 ±1.0	9.8 ±0.8	16.6 ±0.7
minimum	3	3	4	11
5th percentile	4	4	4	13
25th percentile	11	11	5	16
median	11	11	11	16
75th percentile	15	14	13	18
95th percentile	19	19	16	21
maximum	30	30	20	22

Calculated as the inverse of the area-weighted average wall section U-values for each house



Ceilings and Ceiling Insulation

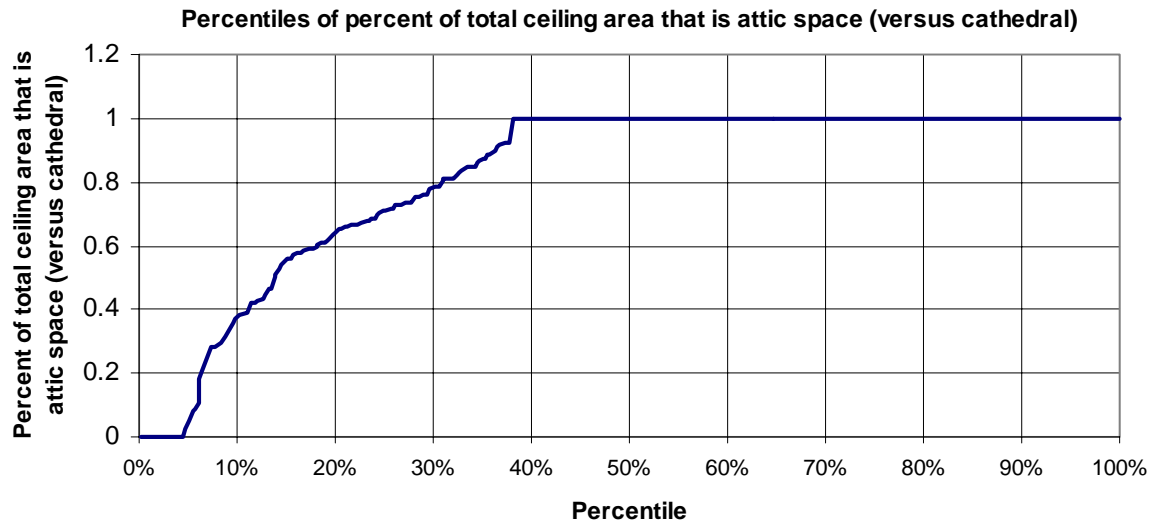
Ceilings can be divided into attic areas, which are flat ceilings that have room for insulation above the ceiling joists and cathedral ceilings, which are sloped and usually can only be insulated within closed cavities.

Ceiling types present in home

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Attic ceilings only	62.2% ± 8.9	62.3% ± 9.3	57.7% ± 15.0	65.8% ± 12.8
Cathedral ceilings only	4.6% ± 2.0	3.4% ± 2.3	8.7% ± 8.4	9.0% ± 9.6
Both	33.3% ± 9.5	34.2% ± 10.0	33.6% ± 15.6	25.1% ± 12.6

Percent of total ceiling area that is attic space (versus cathedral)

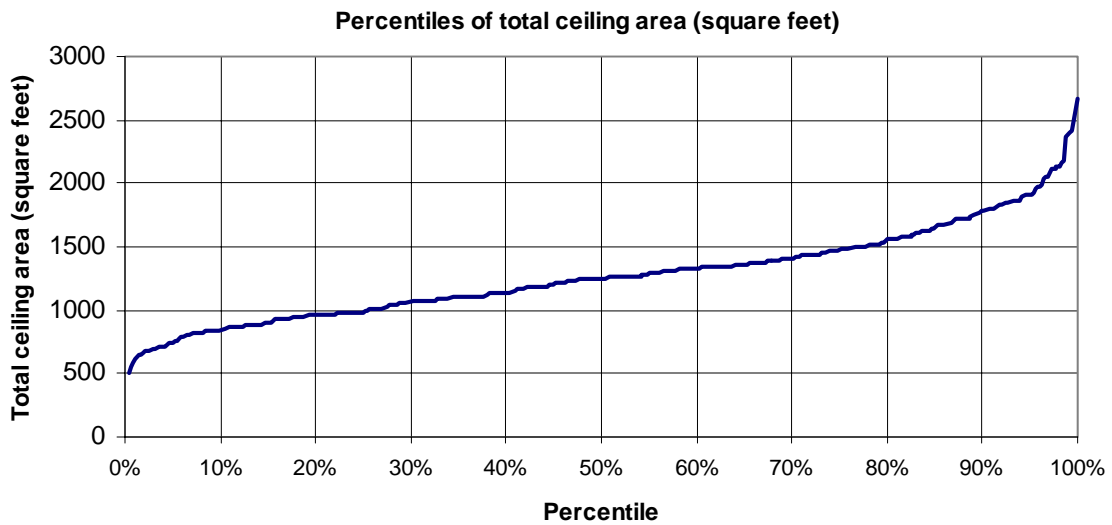
	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	82.5% ±0.0	83.4% ±0.0	77.5% ±0.1	81.9% ±0.1
minimum	0%	0%	0%	0%
5th percentile	5%	28%	0%	0%
25th percentile	71%	72%	66%	75%
median	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%
maximum	100%	100%	100%	100%



Total ceiling area (square feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	1278 ±40	1275 ±38	1045 ±55	1571 ±78
minimum	506	506	560	997
5th percentile	747	784	672	1103
25th percentile	991	1014	864	1312
median	1249	1248	980	1519
75th percentile	1483	1472	1197	1780
95th percentile	1915	1869	1632	2133
maximum	2666	2666	1681	2421

Excludes skylight areas

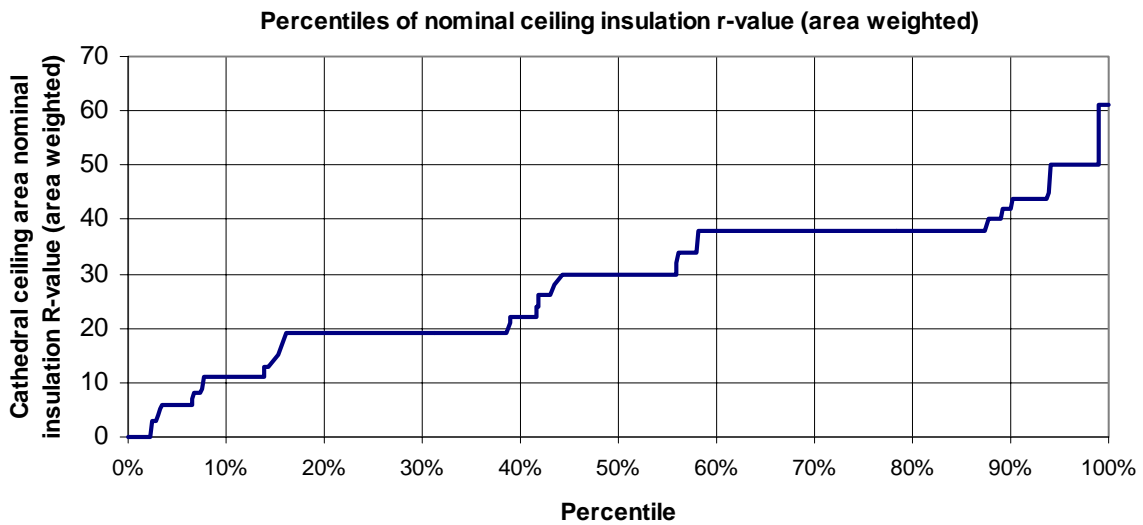


Nominal ceiling insulation R-value (area weighted)

	Overall (n=482)	General (n=358)	Low income (n=65)	New construction (n=59)
mean	28.3 ±2.6	27.4 ±2.7	22.1 ±4.8	39.4 ±2.7
minimum	0	0	0	19
5th percentile	6	6	6	22
25th percentile	19	19	11	38
median	30	30	19	38
75th percentile	38	38	30	42
95th percentile	50	50	44	61
maximum	61	61	44	61

combines attic and cathedral ceiling areas

represents the sum of cavity and continuous insulation

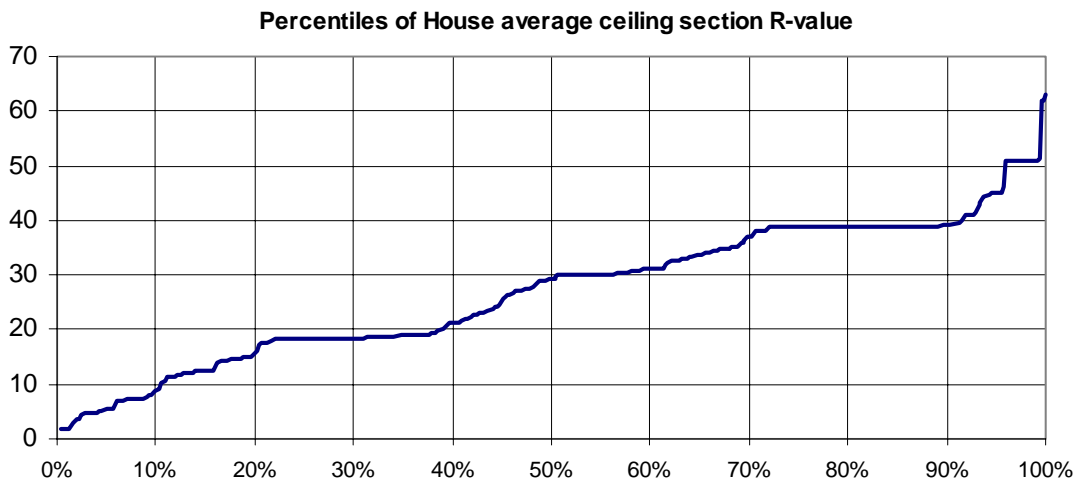


House average ceiling section R-value

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	27.0 ±3.1	26.2 ±3.2	21.3 ±4.1	39.7 ±2.6
minimum	2	2	3	21
5th percentile	5	5	5	26
25th percentile	18	18	12	35
median	29	28	19	39
75th percentile	39	39	30	41
95th percentile	45	44	39	62
maximum	63	51	45	63

combines attic and cathedral ceiling areas

R-value includes framing, air films, etc.

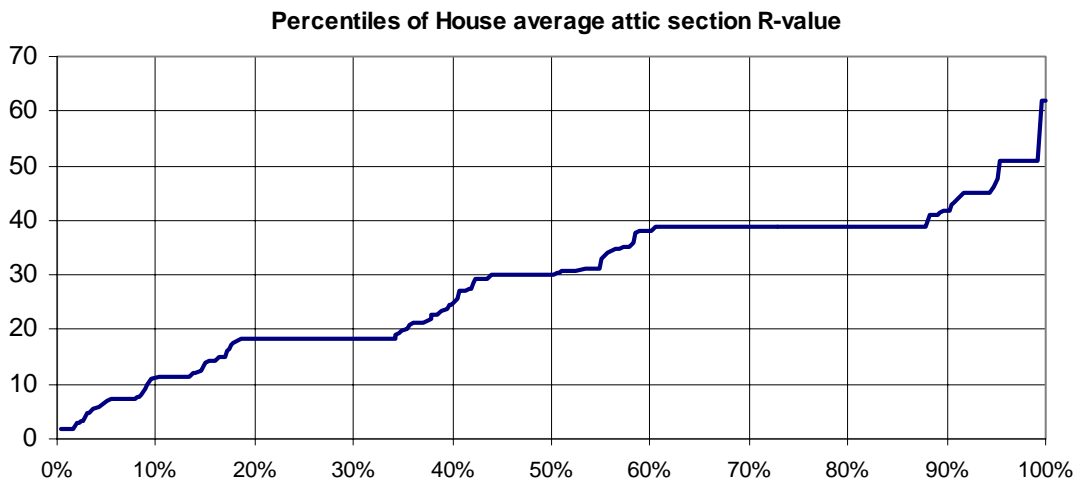


House average attic section R-value

	Overall (n=281)	General (n=201)	Low income (n=39)	New construction (n=41)
mean	28.8 ±3.3	28.2 ±3.5	22.6 ±5.4	41.2 ±1.7
minimum	2	2	3	21
5th percentile	7	7	7	33
25th percentile	18	18	12	39
median	30	30	18	39
75th percentile	39	39	31	43
95th percentile	48	46	45	51
maximum	62	62	45	62

Excludes houses with no attic ceiling areas

R-value includes framing, air films, etc.

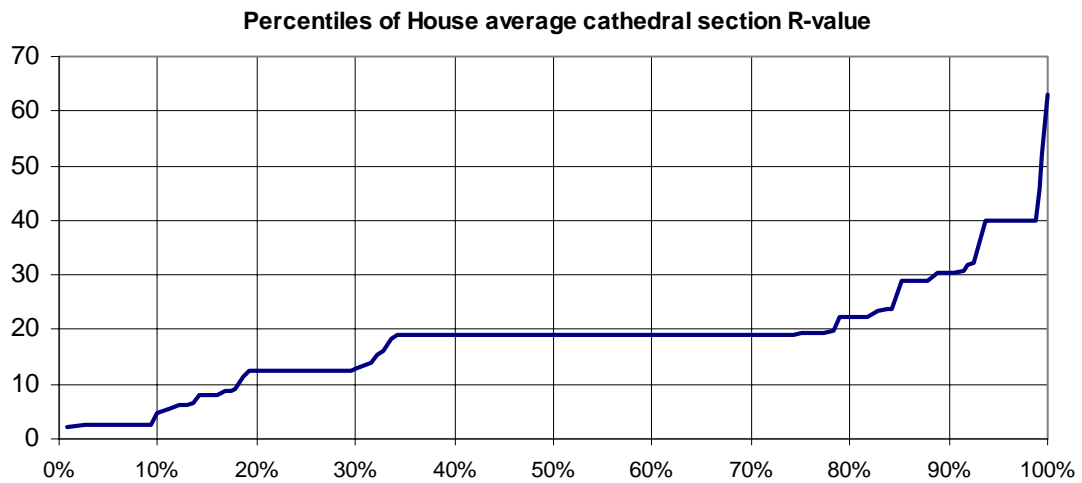


House average cathedral section R-value

	Overall (n=115)	General (n=84)	Low income (n=17)	New construction (n=14)
mean	18.6 ±3.4	17.5 ±3.7	16.5 ±2.6	30.9 ±4.8
minimum	2	2	3	19
5th percentile	3	3	3	19
25th percentile	12	12	14	19
median	19	19	19	29
75th percentile	19	19	19	40
95th percentile	40	40	19	63
maximum	63	46	32	63

Excludes houses with no cathedral ceiling areas

R-value includes framing, air films, etc.

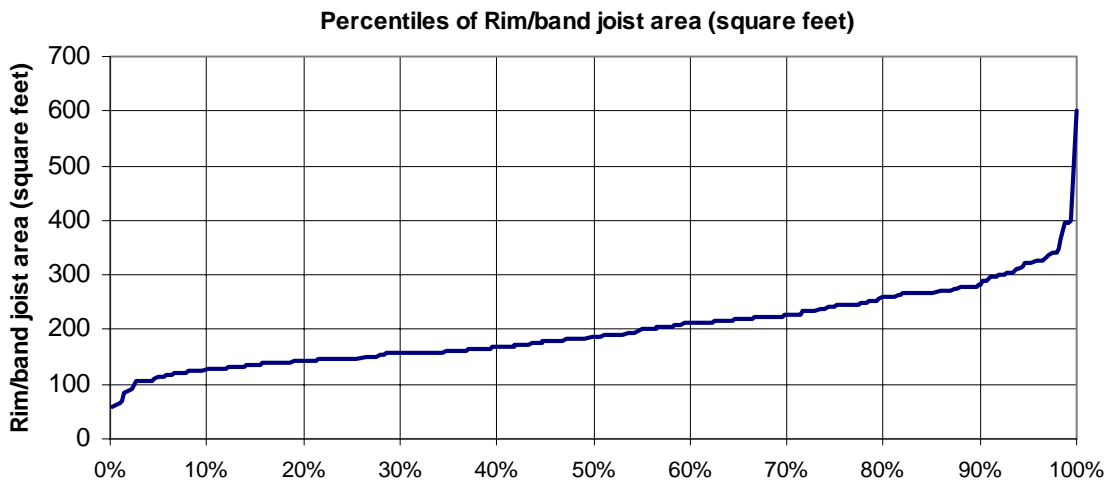


Rim and Band Joists

Rim/band joist area (square feet)

	Overall (n=281)	General (n=205)	Low income (n=34)	New construction (n=42)
mean	200.7 ±12.8	198.6 ±14.4	186.0 ±26.6	232.8 ±22.8
minimum	60	63	60	134
5th percentile	114	118	100	148
25th percentile	148	148	124	172
median	186	186	182	208
75th percentile	244	238	225	296
95th percentile	323	306	323	396
maximum	602	602	323	399

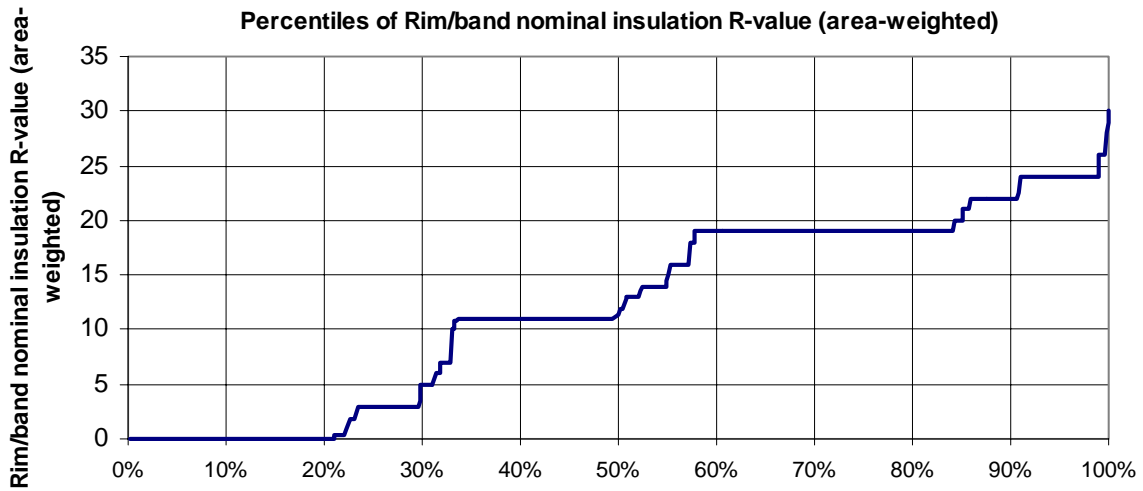
excludes 18 homes with no rim/band joist area



Rim/band nominal insulation R-value (area-weighted)

	Overall (n=679)	General (n=482)	Low income (n=80)	New construction (n=117)
mean	12.1 ±2.2	11.6 ±2.3	7.1 ±3.2	20.2 ±0.8
minimum	0	0	0	0
5th percentile	0	0	0	11
25th percentile	3	3	0	19
median	11	11	3	19
75th percentile	19	19	11	24
95th percentile	24	24	22	24
maximum	30	30	24	24

excludes 18 homes with no rim/band joist area



Foundations and Foundation Insulation

Foundation Type (Area Weighted)

	Overall (n=383)	General (n=276)	Low income (n=57)	New construction (n=50)
Basement	85.9% ± 3.4	88.1% ± 4.6	63.2% ± 16.1	89.3% ± 8.8
Enclosed crawl space	5.4% ± 1.5	4.2% ± 1.7	16.5% ± 8.2	4.1% ± 4.2
Open crawl space	2.7% ± 1.8	0.8% ± 0.9	14.5% ± 13.5	5.9% ± 8.0
Slab	6.0% ± 3.3	6.9% ± 3.9	5.9% ± 5.0	0.7% ± 0.8

Number of foundation types under home

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Single type	72.4% ± 4.9	71.5% ± 5.3	67.2% ± 15.5	84.9% ± 8.7
Multiple types	27.6% ± 4.9	28.5% ± 5.3	32.8% ± 15.5	15.1% ± 8.7

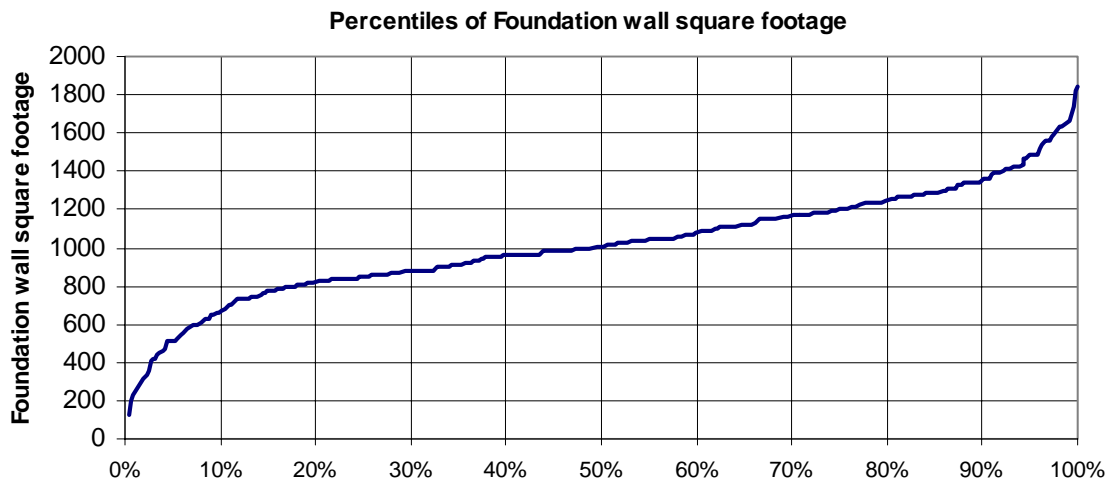
Basement present for home?

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Yes	90.9% ± 2.2	93.5% ± 3.4	72.0% ± 13.6	91.7% ± 8.9
No	9.1% ± 2.2	6.5% ± 3.4	28.0% ± 13.6	8.3% ± 8.9

Foundation wall square footage

	Overall (n=281)	General (n=205)	Low income (n=34)	New construction (n=42)
mean	1018 ±40	1020 ±45	830 ±53	1194 ±81
minimum	130	130	200	404
5th percentile	516	543	228	740
25th percentile	848	868	728	1008
median	1008	1008	841	1238
75th percentile	1204	1185	1020	1388
95th percentile	1488	1484	1220	1588
maximum	1840	1736	1365	1840

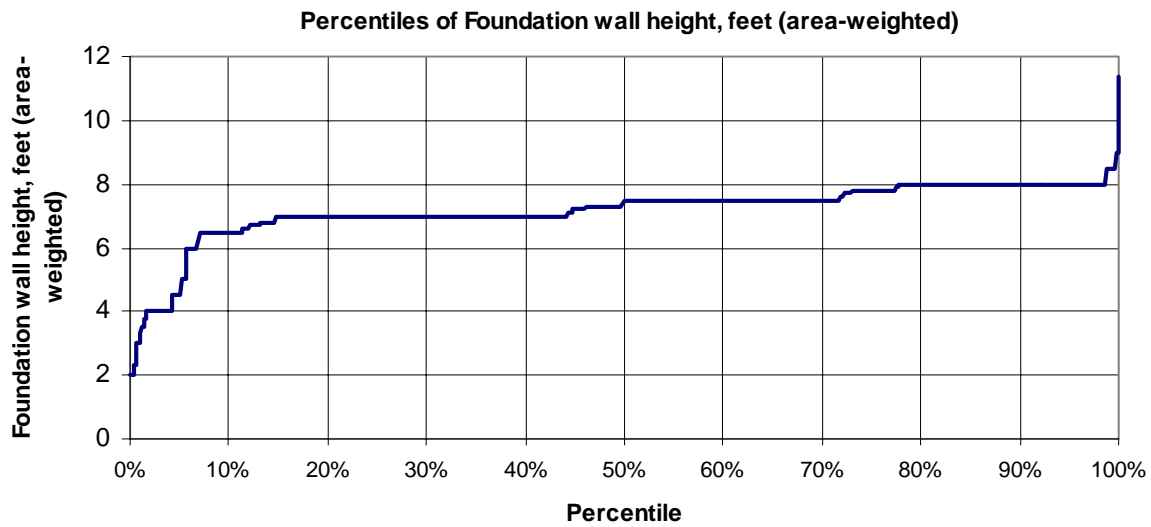
excludes 18 homes with no foundation walls



Foundation wall height, feet (area-weighted)

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	7.2 ±0.1	7.2 ±0.1	6.8 ±0.2	7.6 ±0.2
minimum	2	2	2	2
5th percentile	5	5	3	5
25th percentile	7	7	7	8
median	8	7	7	8
75th percentile	8	8	8	8
95th percentile	8	8	9	9
maximum	11	11	9	9

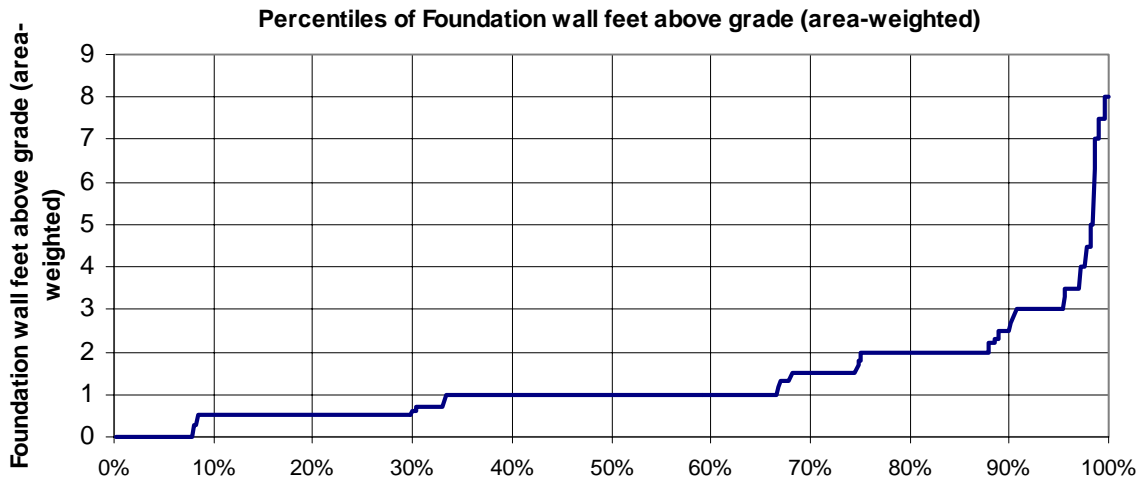
excludes 18 homes with no foundation walls



Foundation wall feet above grade (area-weighted)

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	1.3 ±0.1	1.3 ±0.2	1.5 ±0.3	1.4 ±0.3
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	1	1	1	1
median	1	1	2	1
75th percentile	2	2	2	1
95th percentile	3	3	3	7
maximum	8	8	8	8

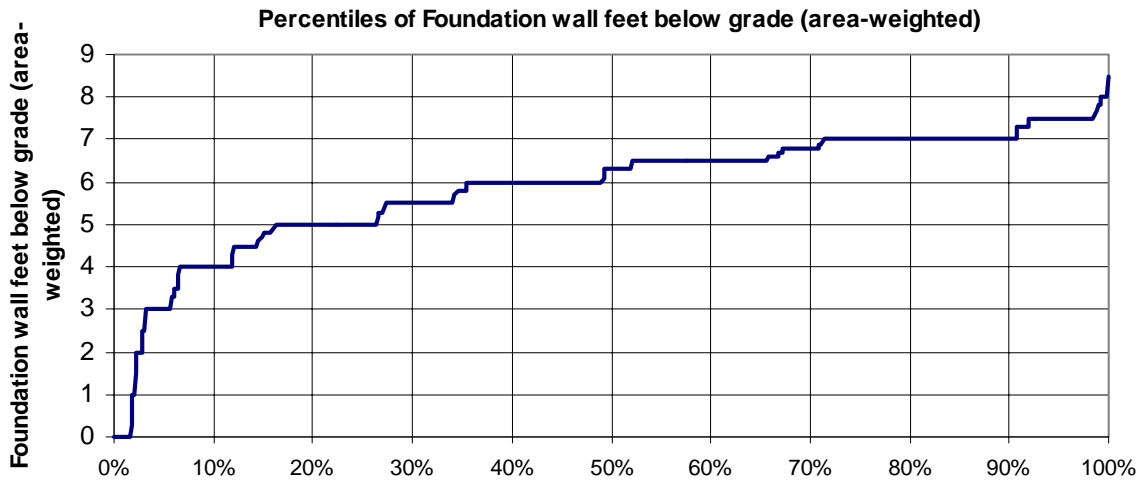
excludes 18 homes with no foundation walls



Foundation wall feet below grade (area-weighted)

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	5.9 ±0.2	5.9 ±0.3	5.3 ±0.3	6.3 ±0.2
minimum	0	0	0	0
5th percentile	3	3	1	0
25th percentile	5	5	5	7
median	6	6	6	7
75th percentile	7	7	7	7
95th percentile	8	8	7	8
maximum	9	8	7	9

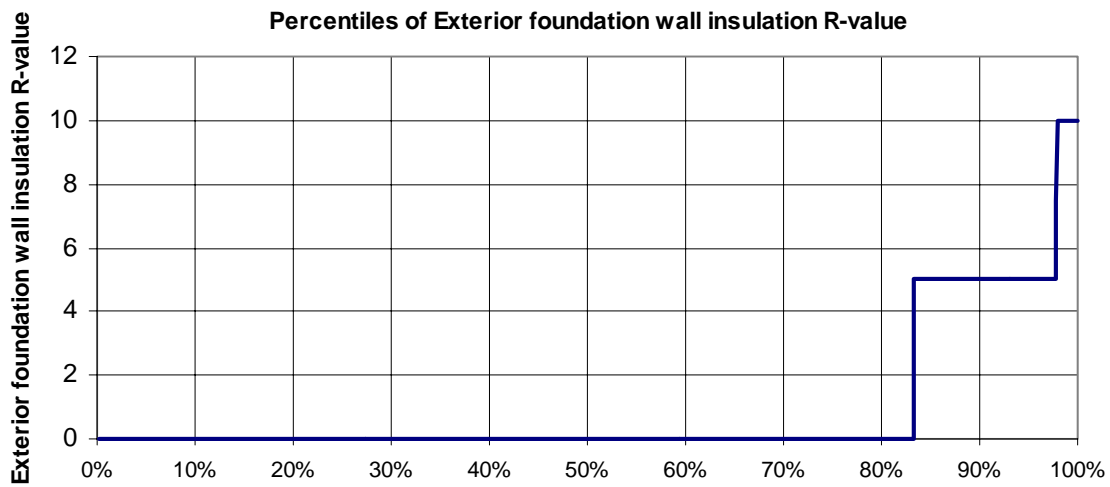
excludes 18 homes with no foundation walls



Exterior foundation wall insulation R-value (area weighted)

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	0.9 ±0.3	0.9 ±0.4	0.4 ±0.4	2.0 ±0.8
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	0	0	0	0
75th percentile	0	0	0	5
95th percentile	5	5	5	5
maximum	10	10	5	8

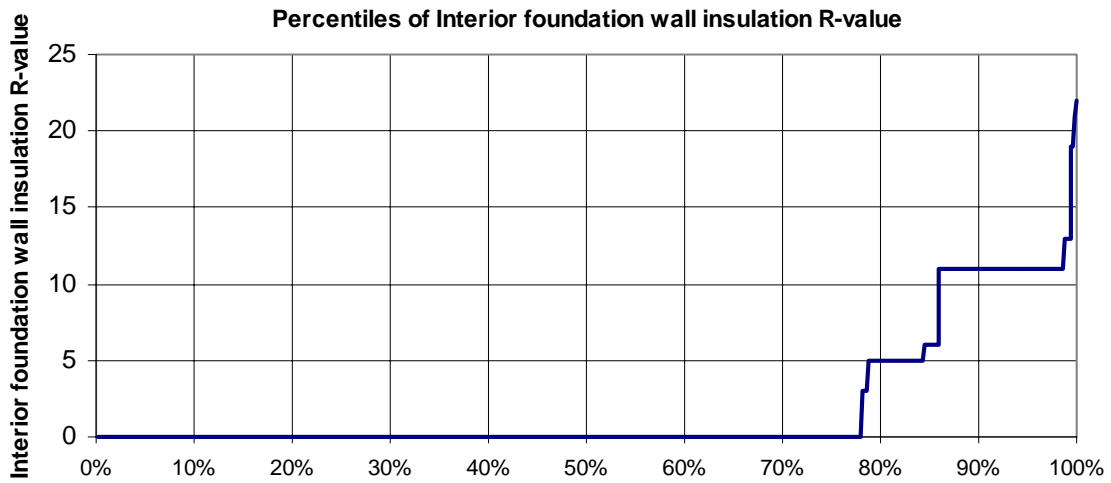
excludes 18 homes with no foundation walls



Interior foundation wall insulation R-value

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	2.0 ±0.6	2.0 ±0.5	1.6 ±1.6	2.8 ±1.2
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	0	0	0	0
75th percentile	0	0	0	5
95th percentile	11	11	11	11
maximum	22	21	19	22

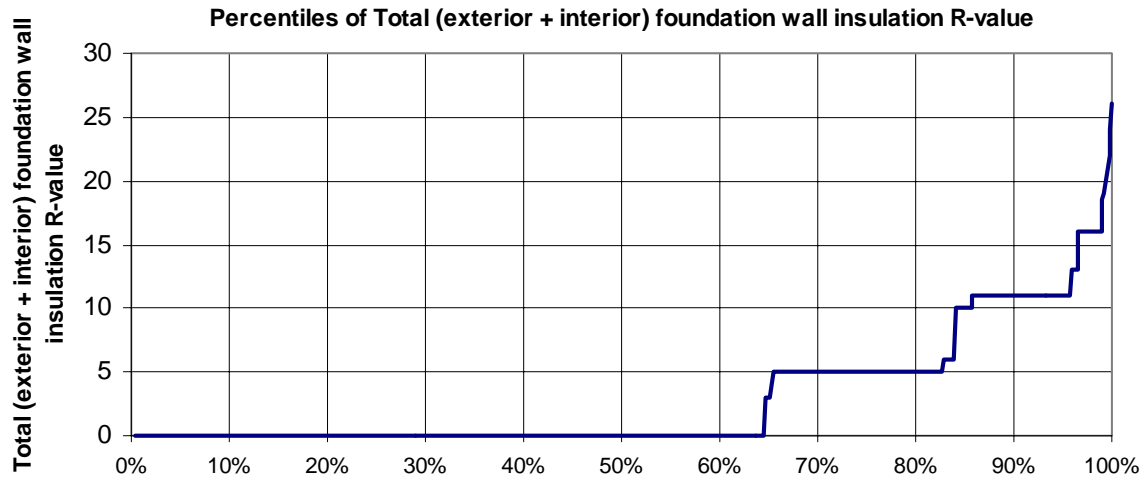
excludes 18 homes with no foundation walls



Total (exterior + interior) foundation wall insulation R-value (area weighted)

	Overall (n=644)	General (n=466)	Low income (n=66)	New construction (n=112)
mean	3.0 ±0.6	2.8 ±0.6	1.9 ±1.4	4.8 ±1.1
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	0	0	0	5
75th percentile	5	5	0	5
95th percentile	11	11	11	16
maximum	26	26	19	24

excludes 18 homes with no foundation walls



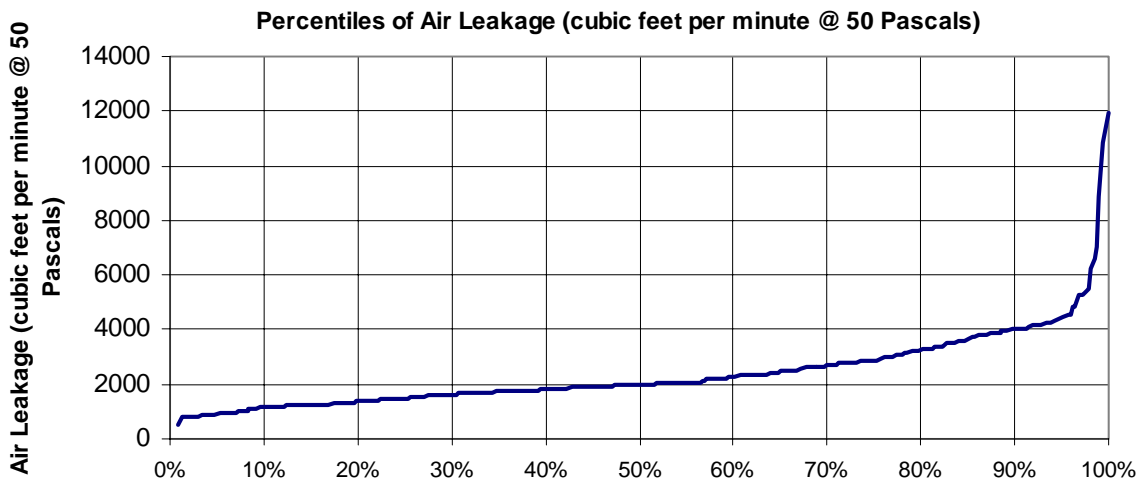
Infiltration

Air Leakage (cubic feet per minute @ 50 Pascals)

	Overall (n=288)	General (n=204)	Low income (n=41)	New construction (n=43)
mean	2401 ±280	2377 ±347	2873 ±435	2061 ±497
minimum	535	535	803	800
5th percentile	917	917	898	1018
25th percentile	1476	1476	1715	1327
median	1992	1991	2322	1821
75th percentile	2894	2864	3625	2203
95th percentile	4478	4400	8881	4575
maximum	11982	11982	10864	7036

based on blower door tests

test not conducted on 11 homes

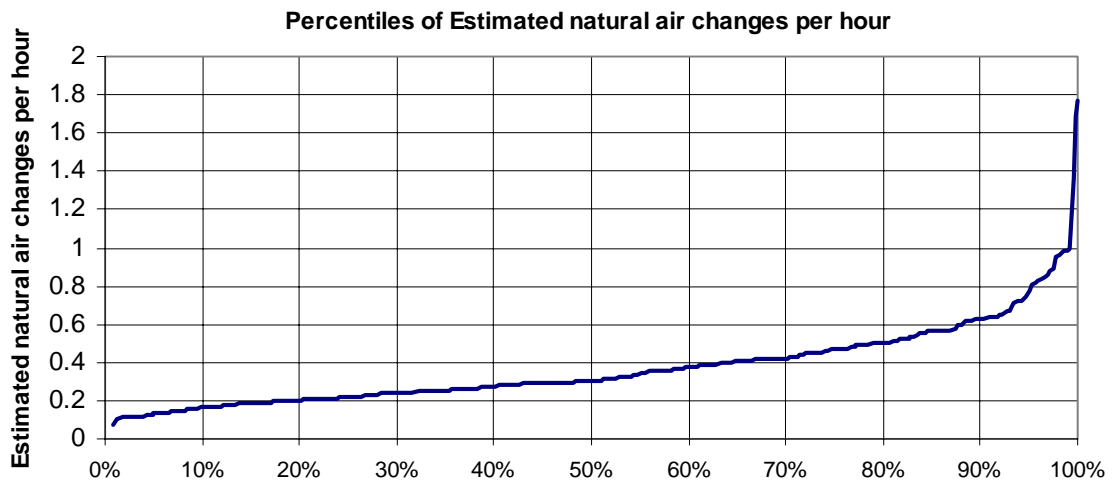


Estimated natural air changes per hour

	Overall (n=288)	General (n=204)	Low income (n=41)	New construction (n=43)
mean	0.37 ±0.04	0.35 ±0.05	0.60 ±0.10	0.25 ±0.04
minimum	0.08	0.08	0.20	0.11
5th percentile	0.13	0.13	0.23	0.11
25th percentile	0.22	0.23	0.35	0.14
median	0.30	0.30	0.52	0.20
75th percentile	0.47	0.45	0.73	0.28
95th percentile	0.80	0.67	1.36	0.60
maximum	1.77	0.99	1.77	0.83

estimated as $CFM_{50}/20 \times 60 / (\text{total volume})$, where total volume includes basements

blower door test not conducted on 11 homes

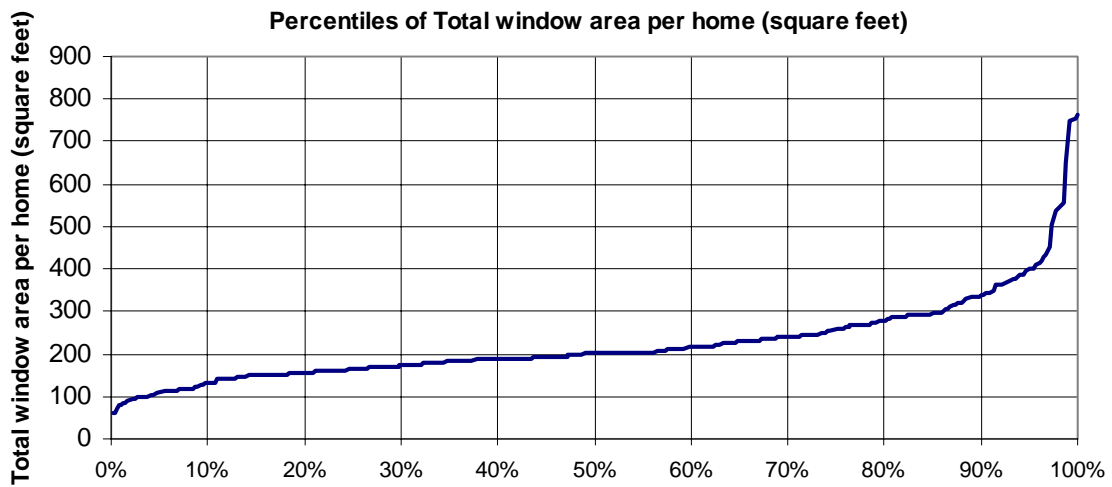


Windows and Doors

Windows

Total window area per home (square feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	225 ±7	227 ±10	166 ±21	275 ±39
minimum	61	61	63	94
5th percentile	111	117	79	113
25th percentile	164	170	115	167
median	201	202	158	270
75th percentile	259	250	194	341
95th percentile	399	396	293	504
maximum	766	756	333	766



Operable window? (area weighted)

	Overall (n=3043)	General (n=2232)	Low income (n=394)	New construction (n=376)
Yes	72.5% ± 3.3	71.4% ± 3.9	82.1% ± 5.3	73.2% ± 3.7
No	27.5% ± 3.3	28.6% ± 3.9	17.9% ± 5.3	26.8% ± 3.7

Number of panes (area-weighted)

	Overall (n=3043)	General (n=2232)	Low income (n=394)	New construction (n=376)
Single, w/ storm	3.7% ± 1.2	3.7% ± 1.0	7.3% ± 5.0	1.0% ± 0.5
Single, w/o storm	31.0% ± 11.2	33.3% ± 12.9	50.6% ± 10.2	1.7% ± 1.9
Double, w/ storm	50.4% ± 9.3	48.0% ± 11.1	36.2% ± 8.0	76.1% ± 14.3
Double, w/o storm	13.0% ± 4.2	13.0% ± 4.1	5.3% ± 4.1	18.2% ± 11.8
Triple	1.2% ± 1.0	1.1% ± 0.9	0.0% ± 0.0	3.0% ± 3.9
Glass block	0.8% ± 0.3	0.9% ± 0.4	0.6% ± 0.4	0.0% ± 0.0

Frame material (area weighted)

	Overall (n=3043)	General (n=2232)	Low income (n=394)	New construction (n=376)
Wood	93.7% ± 2.3	93.8% ± 2.6	86.1% ± 8.5	98.1% ± 1.4
Metal	6.3% ± 2.3	6.2% ± 2.6	13.9% ± 8.5	1.9% ± 1.4

Low-e window? (area weighted)

	Overall (n=3043)	General (n=2232)	Low income (n=394)	New construction (n=376)
No	81.0% ± 6.5	84.0% ± 7.6	95.9% ± 3.9	50.6% ± 13.9
Yes	19.0% ± 6.5	16.0% ± 7.6	4.1% ± 3.9	49.4% ± 13.9

Argon filled window? (area weighted)

	Overall (n=3043)	General (n=2232)	Low income (n=394)	New construction (n=376)
No	84.4% ± 5.5	87.3% ± 6.7	98.5% ± 2.4	55.4% ± 12.4
Yes	15.6% ± 5.5	12.7% ± 6.7	1.5% ± 2.4	44.6% ± 12.4

Summer shading (area weighted)

	Overall (n=3002)	General (n=2232)	Low income (n=394)	New construction (n=376)
None	43.5% ± 4.5	40.7% ± 5.1	45.8% ± 10.9	60.5% ± 4.7
Some	39.9% ± 6.0	42.4% ± 6.9	38.0% ± 11.4	24.3% ± 3.6
Most	9.6% ± 3.4	9.7% ± 4.1	8.9% ± 3.7	8.9% ± 4.5
Full	7.0% ± 1.9	7.1% ± 1.9	7.3% ± 3.5	6.3% ± 3.5

Winter shading (area weighted)

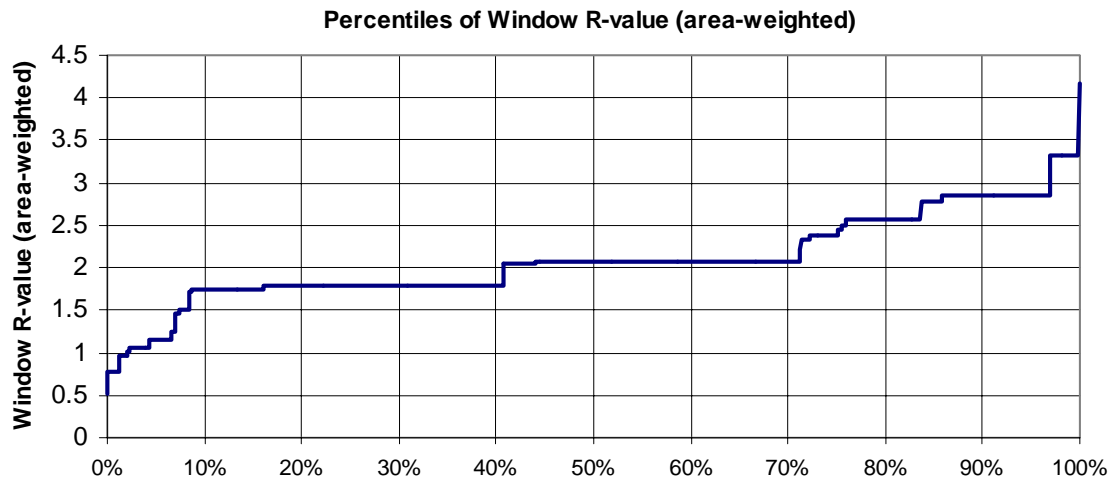
	Overall (n=3002)	General (n=2232)	Low income (n=394)	New construction (n=376)
None	53.2% ± 5.8	52.5% ± 6.8	45.7% ± 9.9	62.9% ± 4.8
Some	33.8% ± 6.4	34.7% ± 7.4	41.7% ± 11.5	22.3% ± 3.4
Most	6.5% ± 2.5	6.3% ± 3.1	5.4% ± 1.5	8.5% ± 4.2
Full	6.5% ± 1.6	6.5% ± 1.6	7.1% ± 3.5	6.3% ± 3.5

Window orientation (area-weighted)

	Overall (n=3002)	General (n=2232)	Low income (n=394)	New construction (n=376)
North	20.9% ± 1.7	21.3% ± 1.5	23.9% ± 3.7	15.9% ± 5.0
East	22.8% ± 2.3	22.9% ± 2.9	22.7% ± 3.5	21.6% ± 5.7
South	24.8% ± 2.3	25.1% ± 3.1	27.6% ± 4.8	21.2% ± 4.6
West	21.1% ± 2.4	20.9% ± 2.3	19.7% ± 3.1	23.4% ± 6.7
Northeast	2.4% ± 1.3	2.0% ± 1.4	2.9% ± 5.2	4.4% ± 2.2
Southeast	2.9% ± 1.4	2.9% ± 1.8	1.9% ± 2.3	3.3% ± 2.4
Southwest	3.2% ± 1.8	3.2% ± 2.1	0.9% ± 1.5	5.1% ± 3.5
Northwest	1.9% ± 0.9	1.6% ± 0.8	0.4% ± 0.5	5.1% ± 5.0

Window R-value (area-weighted)

	Overall (n=3002)	General (n=2232)	Low income (n=394)	New construction (n=376)
mean	2.1 ±0.1	2.1 ±0.1	1.9 ±0.1	2.4 ±0.1
minimum	0.5	0.7	0.8	0.5
5th percentile	1.1	1.1	1.1	1.8
25th percentile	1.8	1.8	1.8	1.8
median	2.1	2.1	2.1	2.6
75th percentile	2.4	2.4	2.1	2.8
95th percentile	2.9	2.9	2.9	3.3
maximum	4.2	4.2	2.9	4.2



Doors

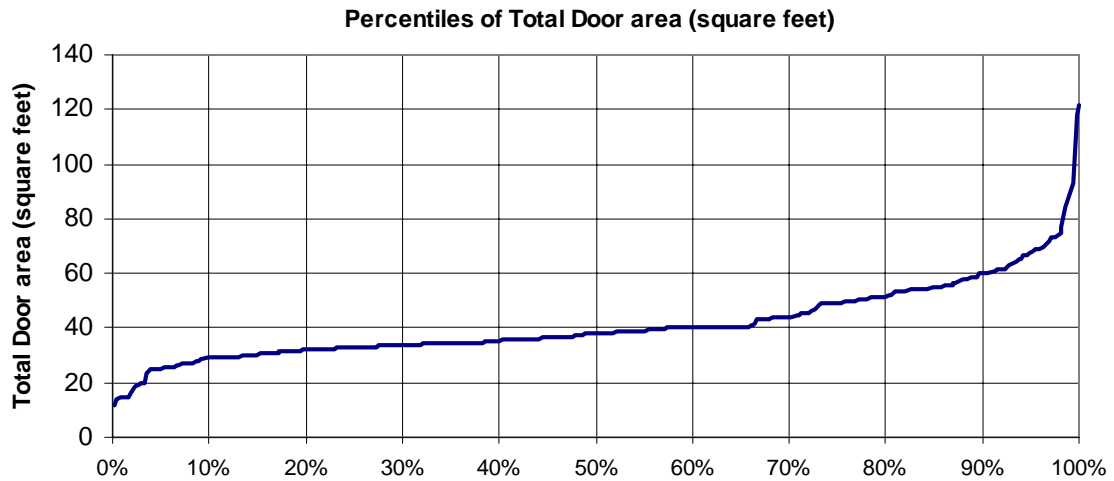
Door type (area-weighted)

	Overall (n=709)	General (n=510)	Low income (n=90)	New construction (n=109)
Steel	46.7% ± 10.6	41.9% ± 11.0	49.4% ± 13.8	78.6% ± 14.3
Wood, solid	29.4% ± 8.3	32.4% ± 8.6	20.5% ± 15.4	15.6% ± 11.7
Wood, hollow or panel	23.9% ± 5.9	25.7% ± 7.0	30.1% ± 6.5	5.8% ± 3.5

Total door area (square feet)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	41.5 ±2.2	41.9 ±2.4	34.0 ±3.3	46.9 ±3.9
minimum	12	12	14	15
5th percentile	26	26	19	31
25th percentile	33	33	27	37
median	38	38	34	40
75th percentile	49	50	39	56
95th percentile	68	68	51	73
maximum	122	118	67	122

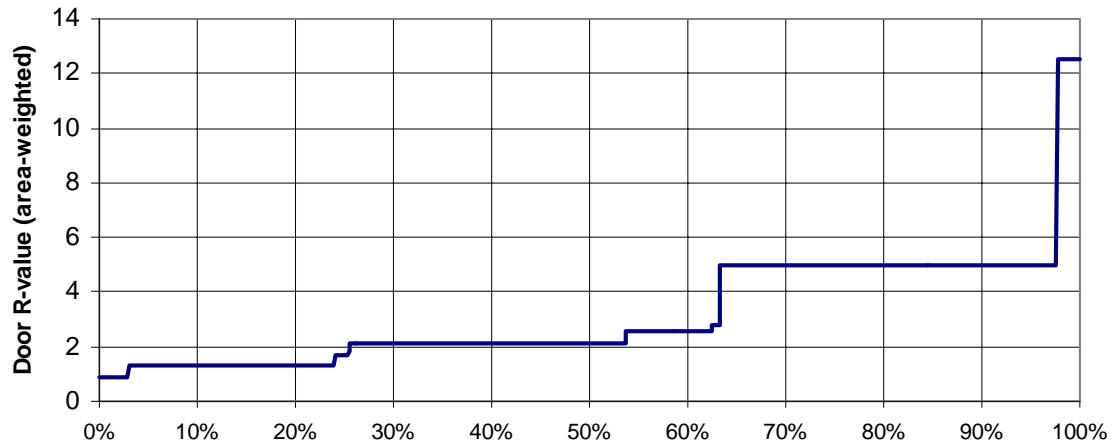
includes door opaque area only



Door R-value (area-weighted)

	Overall (n=709)	General (n=510)	Low income (n=90)	New construction (n=109)
mean	3.2 ±0.4	3.1 ±0.4	2.7 ±0.4	4.4 ±0.9
minimum	0.9	0.9	0.9	1.3
5th percentile	1.3	1.3	1.3	1.3
25th percentile	1.7	1.3	1.3	2.6
median	2.1	2.1	2.1	5.0
75th percentile	5.0	5.0	5.0	5.0
95th percentile	5.0	5.0	5.0	12.5
maximum	12.5	12.5	5.0	12.5

Percentiles of Door R-value (area-weighted)



Heating Systems

The tables below distinguish between main and auxiliary heating equipment. Main heating systems are used regularly during the heating season, and are modeled as part of the HERS. Auxiliary heating systems are used only occasionally, and are not taken into account in the HERS.

Main Heating Systems

Number of heating systems present in house

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
One	90.9% ± 3.0	90.4% ± 3.5	90.7% ± 10.9	95.1% ± 5.9
Two	8.9% ± 2.9	9.4% ± 3.3	9.3% ± 10.9	4.9% ± 5.9
Three	0.2% ± 0.3	0.2% ± 0.4	0.0% ± 0.0	0.0% ± 0.0

Heating system type

	Overall (n=319)	General (n=228)	Low income (n=46)	New construction (n=45)
Fuel-fired forced air furnace	76.8% ± 3.8	76.2% ± 4.2	66.9% ± 8.8	93.5% ± 6.0
Fuel-fired boiler	15.6% ± 4.9	16.2% ± 5.0	21.1% ± 9.9	3.5% ± 4.7
Fuel-fired stove or unit heater	2.5% ± 1.2	1.7% ± 1.5	10.3% ± 6.6	0.0% ± 0.0
Electric baseboard or radiant	2.4% ± 1.5	2.4% ± 1.4	1.6% ± 3.1	2.9% ± 4.6
Electric forced-air furnace	0.8% ± 1.5	1.0% ± 1.9	0.0% ± 0.0	0.0% ± 0.0
Air-source heat pump	0.7% ± 0.9	0.9% ± 1.1	0.0% ± 0.0	0.0% ± 0.0
Ground-source heat pump	0.3% ± 0.6	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0
Solar	0.9% ± 1.2	1.2% ± 1.5	0.0% ± 0.0	0.0% ± 0.0

Heating system fuel type

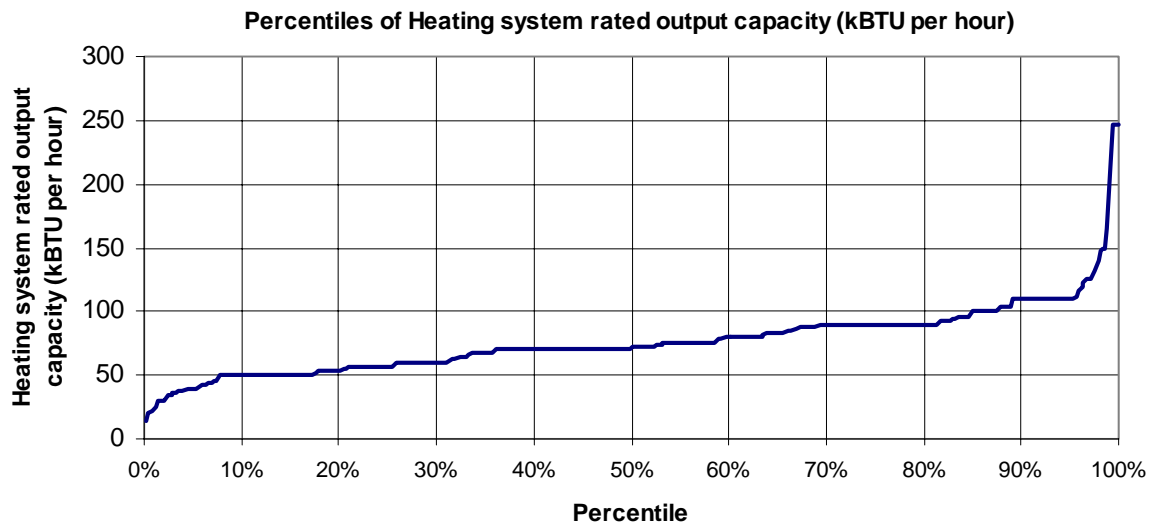
	Overall (n=319)	General (n=228)	Low income (n=46)	New construction (n=45)
Natural gas	63.9% ± 6.6	66.1% ± 8.2	46.7% ± 6.8	66.4% ± 15.2
Propane	15.5% ± 5.1	11.6% ± 6.1	30.1% ± 9.5	30.6% ± 15.8
Fuel oil	9.6% ± 2.8	11.2% ± 3.2	6.4% ± 6.2	0.0% ± 0.0
Electricity	4.2% ± 1.8	4.7% ± 2.0	1.6% ± 3.1	2.9% ± 4.6
Wood	5.9% ± 2.9	5.3% ± 3.6	15.2% ± 6.5	0.0% ± 0.0
Solar	0.9% ± 1.2	1.2% ± 1.5	0.0% ± 0.0	0.0% ± 0.0

Rated output capacity of heating system (kBTU per hour)

	Overall (n=322)	General (n=230)	Low income (n=46)	New construction (n=46)
mean	76.7 ±2.6	79.2 ±3.1	66.3 ±2.7	69.1 ±3.7
minimum	14	14	30	36
5th percentile	40	40	35	50
25th percentile	57	60	50	57
median	72	75	60	70
75th percentile	90	90	79	75
95th percentile	110	117	110	92
maximum	247	247	150	92

Excludes solar systems

Note: The largest house in the study is heated by two 247 kBTU/hr boilers, which also serve a separate rental carriage house that is not part of the study

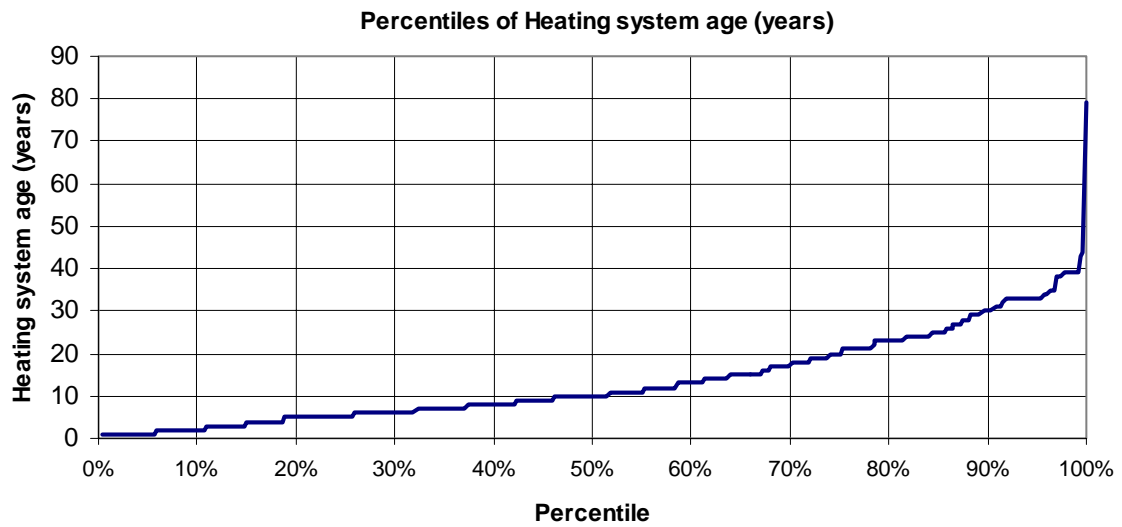


Heating system age (years)

	Overall (n=296)	General (n=210)	Low income (n=41)	New construction (n=45)
mean	13.6 ±1.2	14.8 ±1.2	14.4 ±3.3	3.1 ±0.6
minimum	1	1	1	1
5th percentile	1	2	1	1
25th percentile	5	7	6	2
median	10	12	10	3
75th percentile	20	21	24	5
95th percentile	33	34	38	6
maximum	79	79	39	6

Age not estimated for 23 of 319 heating systems

Source of age estimates: nameplate (62%); owner (26%); auditor estimate (12%)



Have you installed or purchased a furnace or other main heating system in the past two years? (survey question 9)

	Overall (n=293)	General (n=207)	Low income (n=42)	New construction (n=44)
No	84.8% ± 3.3	90.7% ± 3.8	78.6% ± 14.0	44.4% ± 8.0
Yes	15.2% ± 3.3	9.3% ± 3.8	21.4% ± 14.0	55.6% ± 8.0
(if yes) Did it replace an old unit?				
	(n=53)	(n=21)	(n=10)	(n=22)
No	39.4% ± 11.4	7.6% ± 10.2	26.5% ± 27.0	90.6% ± 11.0
Yes	60.6% ± 11.4	92.4% ± 10.2	73.5% ± 27.0	9.4% ± 11.0

How likely is it that you will purchase or replace a furnace or other main heating system in the next year? (survey question 10)

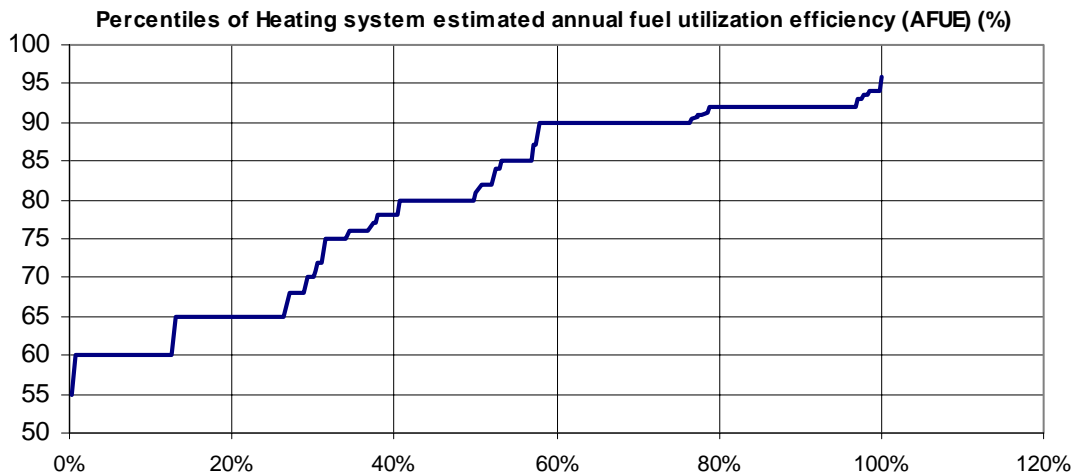
	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Very unlikely	82.8% ± 5.3	81.0% ± 5.7	88.9% ± 9.9	90.5% ± 7.4
Somewhat unlikely	5.8% ± 3.0	6.7% ± 3.5	4.5% ± 6.2	0.0% ± 0.0
Somewhat likely	5.2% ± 2.5	6.0% ± 3.4	1.7% ± 3.1	2.5% ± 4.5
Very likely	6.2% ± 2.7	6.3% ± 2.9	4.9% ± 6.4	7.0% ± 7.4

Estimated annual fuel utilization efficiency (AFUE) of primary heating system (%)

	Overall (n=291)	General (n=207)	Low income (n=39)	New construction (n=45)
mean	79.6 ±1.0	79.1 ±1.2	74.5 ±4.3	88.7 ±1.4
minimum	55	60	55	80
5th percentile	60	60	60	80
25th percentile	65	65	60	87
median	81	80	76	92
75th percentile	90	90	85	92
95th percentile	92	92	90	92
maximum	96	96	92	93

Electric, wood, and solar systems not included

AFUE source: auditor estimate based on heating system age (66%); Energy Guide label (13%); GAMA lookup (20%); owner 1%



Furnace AFUE category

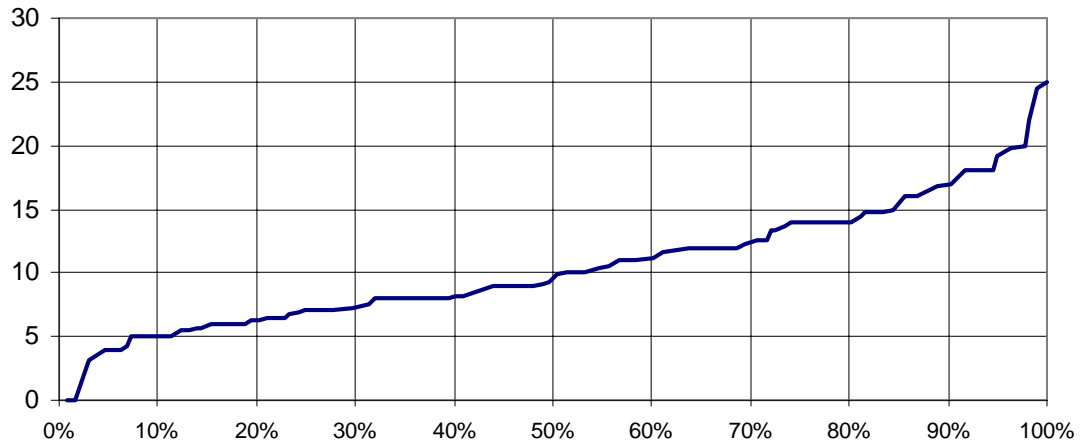
	Overall (n=255)	General (n=180)	Low income (n=32)	New construction (n=43)
<90%	50.6% ± 4.6	52.4% ± 7.0	69.5% ± 17.2	22.4% ± 12.6
90%+	49.4% ± 4.6	47.6% ± 7.0	30.5% ± 17.2	77.6% ± 12.6

Heating system flue draft (negative Pa)

	Overall (n=102)	General (n=85)	Low income (n=17)	New construction (n=0)
mean	10.5 ±1.2	10.8 ±1.3	8.7 ±1.6	---
minimum	0	3	0	---
5th percentile	4	4	0	---
25th percentile	7	7	6	---
median	10	10	8	---
75th percentile	14	14	13	---
95th percentile	19	20	18	---
maximum	25	25	18	---

Draft tests conducted on atmospheric, fuel-fired systems only (excluding wood)

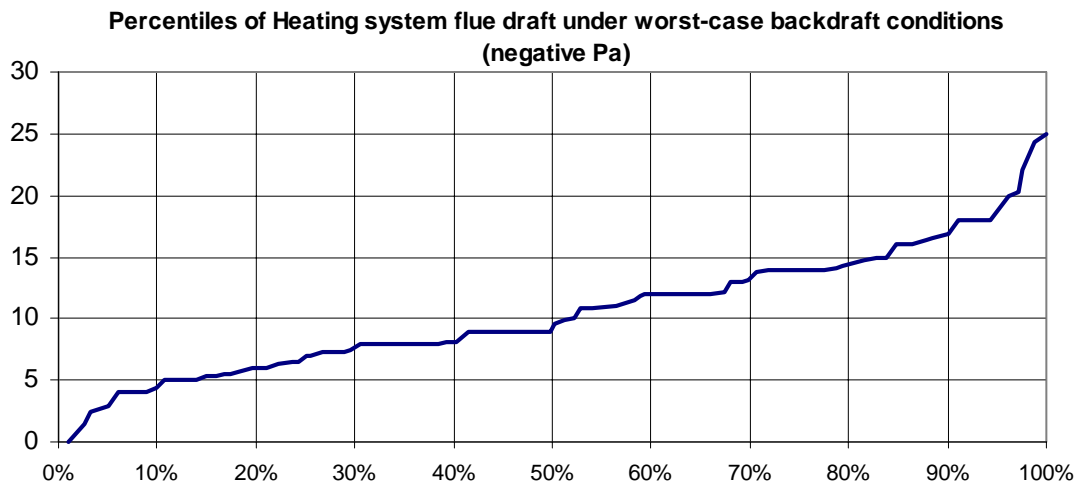
Percentiles of Heating system flue draft (negative Pa)



Heating system flue draft under worst-case backdraft conditions (negative Pa)

	Overall (n=84)	General (n=72)	Low income (n=12)	New construction (n=0)
mean	10.6 ±1.3	10.7 ±1.4	9.2 ±2.9	---
minimum	0	2	0	---
5th percentile	4	4	0	---
25th percentile	7	7	5	---
median	10	10	8	---
75th percentile	14	14	14	---
95th percentile	20	20	18	---
maximum	25	25	18	---

Draft tests conducted on atmospheric, fuel-fired systems only (excluding wood)

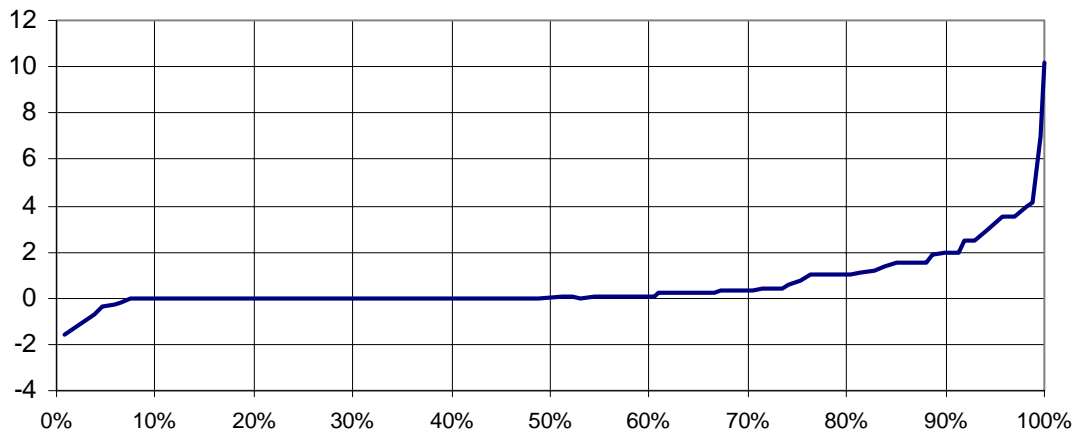


Heating system draft minus backdraft test pressure (negative Pa)

	Overall (n=83)	General (n=72)	Low income (n=11)	New construction (n=0)
mean	0.6 ±0.5	0.6 ±0.5	0.5 ±0.4	---
minimum	-2	-2	0	---
5th percentile	0	0	0	---
25th percentile	0	0	0	---
median	0	0	0	---
75th percentile	1	1	1	---
95th percentile	4	4	3	---
maximum	10	10	3	---

Draft tests conducted on atmospheric, fuel-fired systems only (excluding wood)

Percentiles of Heating system draft minus backdraft test pressure (negative Pa)



Heating system carbon monoxide level in flue gas (ppm)

	Overall (n=124)	General (n=99)	Low income (n=17)	New construction (n=8)
<10 ppm	66.2% ± 10.7	66.5% ± 12.0	60.2% ± 13.1	78.7% ± 20.6
10-99	24.0% ± 7.4	24.0% ± 8.3	24.7% ± 18.7	21.3% ± 20.6
100-499	4.7% ± 4.1	5.5% ± 4.7	0.0% ± 0.0	0.0% ± 0.0
500+	5.1% ± 3.8	4.0% ± 3.1	15.1% ± 13.6	0.0% ± 0.0

CO tests conducted on non-condensing, fuel-fired heating systems (excluding wood) only

Heating System Maintenance—households with furnaces

How often do you clean or replace furnace filters? (survey question 64):

	Overall (n=257)	General (n=183)	Low income (n=33)	New construction (n=41)
More than once a year	62.6% ± 6.1	64.0% ± 6.4	44.5% ± 18.1	68.9% ± 11.4
Once a year	25.4% ± 6.4	23.0% ± 7.0	43.6% ± 19.4	27.0% ± 11.3
Every other year	2.9% ± 1.4	3.6% ± 1.7	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	2.2% ± 2.1	2.7% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	1.0% ± 1.4	0.8% ± 1.2	2.8% ± 5.1	0.0% ± 0.0
Never	3.0% ± 1.8	3.0% ± 2.4	3.1% ± 5.6	2.5% ± 4.6
Don't know	3.1% ± 1.5	2.9% ± 1.6	5.9% ± 7.5	1.6% ± 3.0

Who does it?

	(n=215)	(n=150)	(n=28)	(n=37)
Done by self, someone in household, or someone for free	93.3% ± 3.6	93.3% ± 4.3	96.2% ± 6.2	91.3% ± 7.2
Pay to have it done	6.7% ± 3.6	6.7% ± 4.3	3.8% ± 6.2	8.7% ± 7.2

"Never" and "don't know's" not included

How often do you lubricate the fan? (survey question 64)

	Overall (n=254)	General (n=181)	Low income (n=32)	New construction (n=41)
More than once a year	12.6% ± 3.5	13.4% ± 4.3	12.6% ± 11.5	6.8% ± 5.1
Once a year	25.8% ± 6.2	24.9% ± 8.7	31.2% ± 13.4	27.5% ± 16.6
Every other year	9.8% ± 5.5	10.7% ± 6.7	7.9% ± 7.6	4.5% ± 5.9
Every 3-6 years	2.2% ± 1.8	2.8% ± 2.2	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	9.7% ± 3.5	11.1% ± 4.5	6.6% ± 10.9	1.8% ± 3.1
Never	27.1% ± 6.8	26.3% ± 8.2	25.2% ± 18.1	35.3% ± 15.4
Don't know	12.8% ± 4.1	10.8% ± 3.7	16.6% ± 12.3	24.1% ± 16.8

Who does it?

	(n=124)	(n=95)	(n=16)	(n=13)
Done by self, someone in household, or someone for free	65.1% ± 7.5	63.7% ± 8.9	82.5% ± 11.4	57.2% ± 25.5
Pay to have it done	34.9% ± 7.5	36.3% ± 8.9	17.5% ± 11.4	42.8% ± 25.5

"Never" and "don't know's" not included

How often do you clean and tune the furnace? (survey question 64)

	Overall (n=238)	General (n=165)	Low income (n=34)	New construction (n=39)
More than once a year	7.0% ± 3.8	7.4% ± 4.0	5.8% ± 6.7	5.9% ± 10.3
Once a year	36.8% ± 4.9	35.7% ± 4.7	32.4% ± 16.3	48.8% ± 13.9
Every other year	18.6% ± 4.2	18.9% ± 4.6	19.1% ± 9.8	15.7% ± 11.3
Every 3-6 years	13.8% ± 3.0	16.4% ± 3.9	3.0% ± 5.5	5.7% ± 6.6
Hardly ever	8.2% ± 3.4	7.4% ± 3.3	20.0% ± 12.9	1.9% ± 3.3
Never	10.3% ± 4.2	8.8% ± 4.5	11.1% ± 10.6	20.0% ± 15.2
Don't know	5.4% ± 3.2	5.4% ± 3.9	8.6% ± 10.2	2.1% ± 4.0

Who does it?

	(n=180)	(n=129)	(n=25)	(n=26)
Done by self, someone in household, or someone for free	48.3% ± 9.5	47.9% ± 12.6	69.7% ± 13.9	28.8% ± 18.4
Pay to have it done	51.7% ± 9.5	52.1% ± 12.6	30.3% ± 13.9	71.2% ± 18.4

"Never" and "don't know's" not included

Heating System Maintenance—households with boilers

How often do you drain the boiler sediments? (survey question 65)

	Overall (n=47)	General (n=36)	Low income (n=8)	New construction (n=3)
More than once a year	8.6% ± 6.9	8.3% ± 7.9	13.1% ± 24.2	0.0% ± 0.0
Once a year	11.1% ± 7.8	9.5% ± 8.4	18.1% ± 27.6	21.4% ± 84.7
Every other year	6.3% ± 6.0	7.7% ± 7.6	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	8.8% ± 7.0	10.7% ± 8.8	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	16.8% ± 9.3	18.1% ± 11.0	13.5% ± 24.5	0.0% ± 0.0
Never	30.2% ± 11.4	27.4% ± 12.7	55.3% ± 35.6	0.0% ± 0.0
Don't know	18.1% ± 9.5	18.3% ± 11.1	0.0% ± 0.0	78.6% ± 84.7

Who does it?

	(n=16)	(n=12)	(n=3)	(n=1)
Done by self, someone in household, or someone for free	70.3% ± 20.7	80.7% ± 21.4	30.2% ± 94.8	0.0% ± 0.0
Pay to have it done	29.7% ± 20.7	19.3% ± 21.4	69.8% ± 94.8	100.0% ± 0.0

*Never" and "don't know's" not included

How often do you flush the boiler reservoir? (survey question 65)

	Overall (n=47)	General (n=36)	Low income (n=8)	New construction (n=3)
More than once a year	6.8% ± 6.2	8.3% ± 7.9	0.0% ± 0.0	0.0% ± 0.0
Once a year	12.9% ± 8.3	9.5% ± 8.4	31.2% ± 33.2	21.4% ± 84.7
Every other year	3.3% ± 4.4	4.0% ± 5.6	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	6.7% ± 6.2	8.1% ± 7.8	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	20.6% ± 10.0	22.8% ± 12.0	13.5% ± 24.5	0.0% ± 0.0
Never	27.0% ± 11.0	25.4% ± 12.4	44.0% ± 35.5	0.0% ± 0.0
Don't know	22.7% ± 10.4	22.0% ± 11.8	11.2% ± 22.6	78.6% ± 84.7

Who does it?

	(n=14)	(n=10)	(n=3)	(n=1)
Done by self, someone in household, or someone for free	79.8% ± 19.7	87.1% ± 20.5	59.5% ± 101.3	0.0% ± 0.0
Pay to have it done	20.2% ± 19.7	12.9% ± 20.5	40.5% ± 101.3	100.0% ± 0.0

*Never" and "don't know's" not included

Confidence intervals based on simple random sampling assumptions

How often do you add water treatment? (survey question 65)

	Overall (n=57)	General (n=41)	Low income (n=12)	New construction (n=4)
More than once a year	6.5% ± 5.5	6.3% ± 6.5	0.0% ± 0.0	34.3% ± 64.5
Once a year	4.2% ± 4.5	0.0% ± 0.0	22.4% ± 22.6	16.1% ± 50.0
Every other year	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	0.7% ± 1.9	0.9% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	11.7% ± 7.2	11.6% ± 8.5	15.0% ± 19.4	0.0% ± 0.0
Never	58.8% ± 11.0	59.9% ± 13.0	62.5% ± 26.2	24.8% ± 58.7
Don't know	18.1% ± 8.6	21.3% ± 10.9	0.0% ± 0.0	24.8% ± 58.6

Who does it?

	(n=12)	(n=7)	(n=3)	(n=2)
Done by self, someone in household, or someone for free	73.4% ± 23.9	92.5% ± 20.9	30.2% ± 94.8	68.0% ± 294.5
Pay to have it done	26.6% ± 23.9	7.5% ± 20.9	69.8% ± 94.8	32.0% ± 294.5

"Never" and "don't know's" not included

Confidence intervals based on simple random sampling assumptions

How often do you lubricate the pump? (survey question 65)

	Overall (n=56)	General (n=41)	Low income (n=11)	New construction (n=4)
More than once a year	15.8% ± 8.2	17.6% ± 10.1	10.5% ± 17.5	0.0% ± 0.0
Once a year	28.0% ± 10.1	29.3% ± 12.1	24.1% ± 24.5	16.1% ± 50.0
Every other year	6.6% ± 5.6	8.1% ± 7.3	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	2.7% ± 3.7	2.3% ± 4.0	5.8% ± 13.3	0.0% ± 0.0
Hardly ever	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Never	32.6% ± 10.6	31.1% ± 12.3	43.3% ± 28.4	24.8% ± 58.7
Don't know	14.3% ± 7.9	11.6% ± 8.5	16.4% ± 21.2	59.0% ± 66.8

Who does it?

	(n=21)	(n=16)	(n=4)	(n=1)
Done by self, someone in household, or someone for free	65.5% ± 18.3	74.7% ± 19.7	25.9% ± 59.5	0.0% ± 0.0
Pay to have it done	34.5% ± 18.3	25.3% ± 19.7	74.1% ± 59.5	100.0% ± 0.0

"Never" and "don't know's" not included

Confidence intervals based on simple random sampling assumptions

How often do you clean and tune the boiler? (survey question 65)

	Overall (n=52)	General (n=37)	Low income (n=11)	New construction (n=4)
More than once a year	4.0% ± 4.6	5.1% ± 6.2	0.0% ± 0.0	0.0% ± 0.0
Once a year	19.6% ± 9.3	16.6% ± 10.5	34.6% ± 27.3	16.1% ± 50.0
Every other year	16.9% ± 8.8	19.6% ± 11.2	8.7% ± 16.1	0.0% ± 0.0
Every 3-6 years	12.9% ± 7.9	16.4% ± 10.4	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	1.6% ± 2.9	2.0% ± 4.0	0.0% ± 0.0	0.0% ± 0.0
Never	27.8% ± 10.5	23.1% ± 11.9	51.0% ± 28.7	24.8% ± 58.7
Don't know	17.2% ± 8.9	17.1% ± 10.6	5.8% ± 13.3	59.0% ± 66.8

Who does it?

	(n=20)	(n=15)	(n=4)	(n=1)
Done by self, someone in household, or someone for free	46.3% ± 19.8	52.4% ± 23.5	24.2% ± 58.2	0.0% ± 0.0
Pay to have it done	53.7% ± 19.8	47.6% ± 23.5	75.8% ± 58.2	100.0% ± 0.0

"Never" and "don't know's" not included

Confidence intervals based on simple random sampling assumptions

Auxiliary Heating Systems and Fireplaces

Percent of households with...

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Fireplace	35.2% ± 8.0	36.1% ± 7.9	10.0% ± 9.0	58.1% ± 7.9
Wood stove	8.8% ± 4.5	8.9% ± 4.3	15.1% ± 13.9	0.0% ± 0.0
Auxiliary electric baseboard	7.4% ± 4.8	8.8% ± 6.0	3.7% ± 0.9	0.0% ± 0.0
Portable electric space heater	8.1% ± 4.4	9.1% ± 4.8	6.8% ± 8.9	1.8% ± 3.4
Fuel-fired wall unit	2.1% ± 0.9	2.3% ± 0.7	1.9% ± 3.4	0.0% ± 0.0

Fireplace data not collected for 40 pilot households

Thirty households have more than one of the above.

Fireplace type

	Overall (n=92)	General (n=63)	Low income (n=5)	New construction (n=24)
Wood	67.9% ± 11.1	72.9% ± 10.8	100.0% ± 0.0	36.7% ± 32.2
Natural gas	26.9% ± 10.7	23.3% ± 10.8	0.0% ± 0.0	50.2% ± 28.5
Electric	2.0% ± 2.9	2.4% ± 3.5	0.0% ± 0.0	0.0% ± 0.0
Propane	3.2% ± 3.6	1.4% ± 2.4	0.0% ± 0.0	13.1% ± 17.7

Thirty households have more than one of the above.

Air Conditioning

Type of air conditioning present

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
None	26.7% ± 8.1	25.4% ± 7.7	36.6% ± 17.0	25.9% ± 10.4
Central	51.2% ± 7.0	53.4% ± 7.7	19.7% ± 12.0	70.2% ± 10.2
Room	20.4% ± 6.6	19.4% ± 7.3	41.3% ± 17.8	3.9% ± 4.4
Both	1.7% ± 1.3	1.8% ± 1.2	2.4% ± 4.6	0.0% ± 0.0

Central systems include two houses with heat pumps.

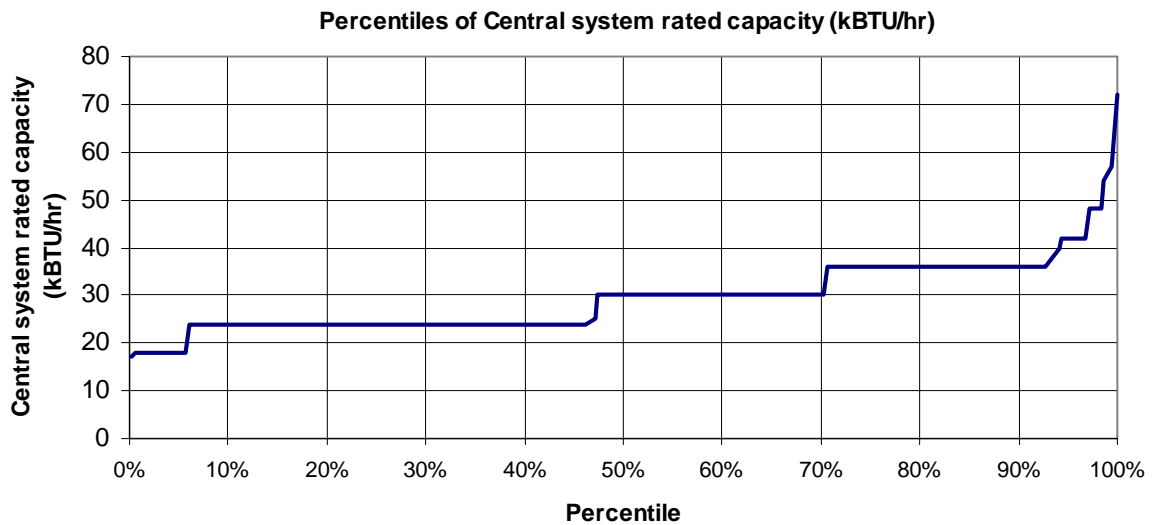
Central Systems

Central system rated capacity (kBTU/hr)

	Overall (n=154)	General (n=113)	Low income (n=10)	New construction (n=31)
mean	29.5 ±1.1	29.1 ±1.4	23.0 ±1.6	34.2 ±3.6
minimum	17	17	18	18
5th percentile	18	18	18	24
25th percentile	24	24	24	30
median	30	30	24	30
75th percentile	36	36	24	36
95th percentile	42	40	24	54
maximum	72	72	24	57

Combined output used for two houses with two central systems.

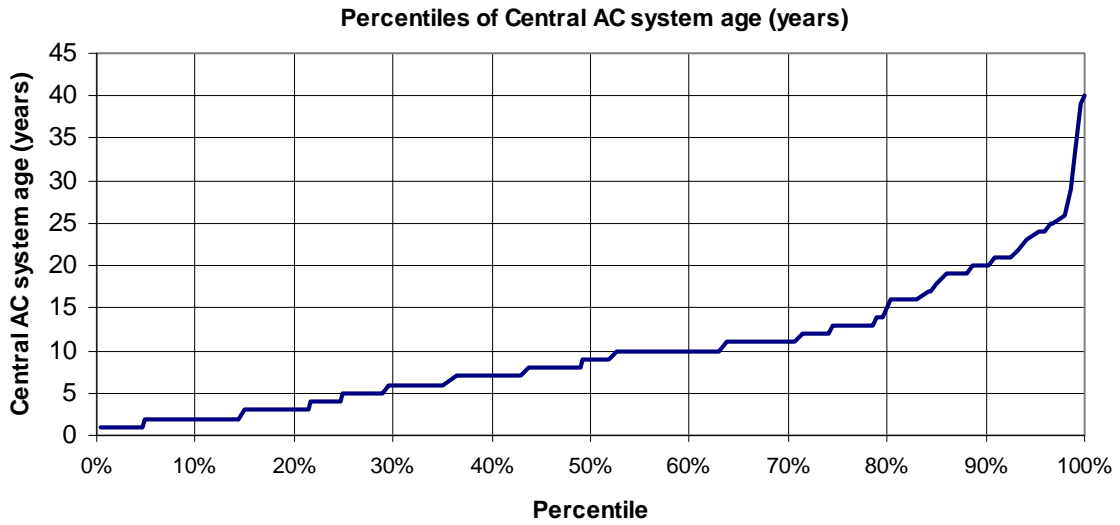
Two houses with heat pumps not included.



Central AC system age (years)

	Overall (n=154)	General (n=113)	Low income (n=10)	New construction (n=31)
mean	10.0 ±1.0	11.1 ±1.3	9.5 ±4.9	2.8 ±0.5
minimum	1	1	1	1
5th percentile	2	2	1	1
25th percentile	5	7	3	2
median	9	10	9	2
75th percentile	13	13	16	4
95th percentile	24	24	25	5
maximum	40	40	25	6

Source of age: nameplate (70%); owner (23%); auditor estimate (7%)



Have you installed or purchased a central air conditioner in the past two years? (survey question 9)

	Overall (n=291)	General (n=204)	Low income (n=43)	New construction (n=44)
No	86.8% ± 3.4	91.2% ± 4.0	88.2% ± 9.0	50.1% ± 7.5
Yes	13.2% ± 3.4	8.8% ± 4.0	11.8% ± 9.0	49.9% ± 7.5
(if yes) Did it replace an old unit?				
	(n=42)	(n=17)	(n=5)	(n=20)
No	78.2% ± 10.9	70.0% ± 20.0	83.5% ± 39.5	89.4% ± 12.2
Yes	21.8% ± 10.9	30.0% ± 20.0	16.5% ± 39.5	10.6% ± 12.2

How likely is it that you will purchase or replace a central air conditioning system in the next year? (survey question 10)

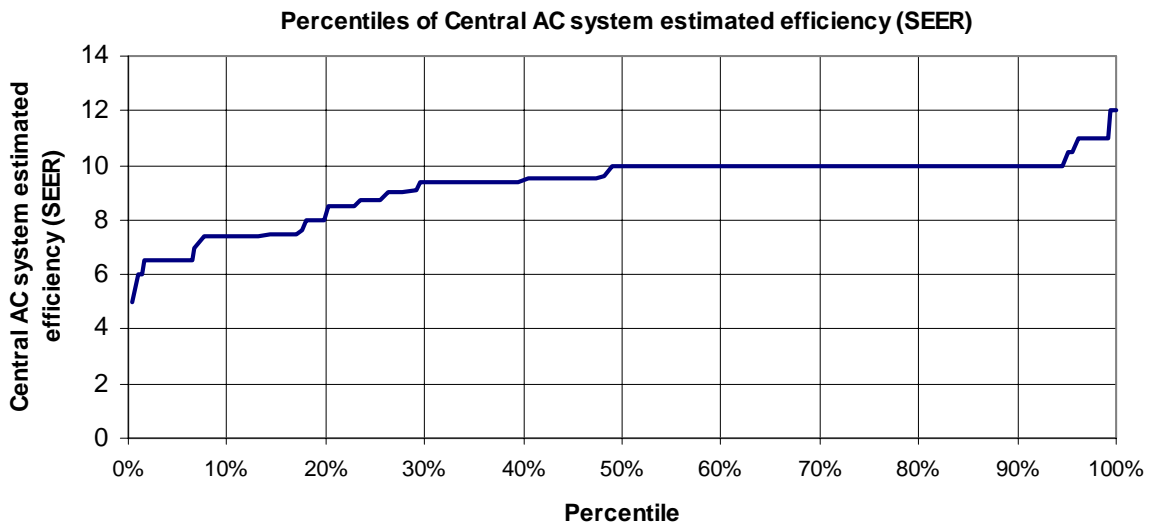
	Overall (n=293)	General (n=206)	Low income (n=43)	New construction (n=44)
Very unlikely	81.4% ± 3.6	80.4% ± 4.7	90.1% ± 9.6	79.5% ± 8.2
Somewhat unlikely	3.5% ± 2.2	3.7% ± 2.4	2.8% ± 5.0	3.1% ± 5.0
Somewhat likely	6.8% ± 2.2	6.9% ± 2.4	4.3% ± 2.5	8.5% ± 9.5
Very likely	8.3% ± 4.8	9.0% ± 5.4	2.8% ± 5.3	8.9% ± 8.4

Central AC system estimated efficiency (SEER)

	Overall (n=156)	General (n=114)	Low income (n=10)	New construction (n=32)
mean	9.3 ±0.2	9.1 ±0.2	9.1 ±0.8	10.2 ±0.2
minimum	5.0	5.0	6.5	10.0
5th percentile	6.5	6.5	6.5	10.0
25th percentile	8.7	8.5	7.4	10.0
median	10.0	9.5	9.5	10.0
75th percentile	10.0	10.0	10.0	10.0
95th percentile	10.5	10.0	10.0	11.0
maximum	12.0	12.0	10.0	12.0

Two houses with heat pumps not included.

source of SEER estimate: auditor estimate based on age (75%); nameplate or reference lookup (20%); owner (5%)



How many rooms do you cool with your air conditioning equipment? (homes with Central AC only) (survey question 17)

	Overall (n=153)	General (n=113)	Low income (n=10)	New construction (n=30)
Only some of the rooms	14.8% ± 5.5	17.0% ± 7.2	11.3% ± 19.0	2.3% ± 4.3
All the rooms	85.2% ± 5.5	83.0% ± 7.2	88.7% ± 19.0	97.7% ± 4.3

Which of the statements below best describes the way you used your air conditioner(s) last summer? (homes with central AC only) (survey question 18)

	Overall (n=150)	General (n=113)	Low income (n=10)	New construction (n=27)
Not used at all	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0	3.3% ± 6.9
Turned on only a few days or nights when really needed	44.5% ± 8.6	46.5% ± 9.5	62.1% ± 38.9	22.2% ± 15.9
Turned on a few times each week	19.5% ± 6.6	21.3% ± 8.3	0.0% ± 0.0	14.1% ± 11.8
Turned on just about all summer	12.5% ± 5.5	12.7% ± 5.2	20.5% ± 29.6	7.5% ± 12.7
Let the thermostat control how much it ran	23.2% ± 5.6	19.5% ± 6.1	17.5% ± 27.4	52.8% ± 17.2

Percent who kept central AC turned off last summer... (survey question 20)

	Overall (n=152)	General (n=114)	Low income (n=10)	New construction (n=28)
...when no one was home	22.0% ± 6.4	20.8% ± 7.5	18.4% ± 19.4	32.2% ± 16.9
...when someone was awake at home	1.4% ± 0.2	1.7% ± 0.3	0.0% ± 0.0	0.0% ± 0.0
...during sleeping hours	10.2% ± 4.9	11.1% ± 5.5	0.0% ± 0.0	7.5% ± 8.3

Who cleans or services AC equipment? (homes with central AC only) (survey question 67)

	Overall (n=152)	General (n=113)	Low income (n=10)	New construction (n=29)
Yourself or someone in your household	23.5% ± 6.5	23.5% ± 7.3	18.9% ± 20.6	25.3% ± 15.2
A friend or neighbor (not for hire)	4.4% ± 2.8	4.4% ± 3.1	15.8% ± 17.0	0.0% ± 0.0
Someone for hire	51.8% ± 3.6	53.1% ± 5.3	34.4% ± 27.3	49.6% ± 16.1
Nobody	20.3% ± 4.2	19.0% ± 4.6	30.9% ± 16.6	25.1% ± 15.9

**How often is each of the following done? (homes with central AC only)
(survey question 68)**

(n=118)	Clean filters	Clean other air conditioning parts	Check refrigerant (freon)	Lubricate air conditioner parts	Do a general air conditioning checkup
More than once per year	37.4% ± 8.3	4.9% ± 5.0	3.2% ± 4.3	5.0% ± 5.0	6.1% ± 3.6
Once per year	23.5% ± 10.1	37.6% ± 9.5	21.5% ± 6.1	24.3% ± 8.9	33.7% ± 7.2
Every other year	13.6% ± 6.7	12.2% ± 5.0	15.1% ± 6.3	15.4% ± 7.4	14.8% ± 5.4
Every 3-6 years	3.8% ± 2.8	4.5% ± 3.5	13.2% ± 5.3	10.7% ± 4.9	13.8% ± 5.2
Rarely or never	12.3% ± 6.3	22.2% ± 6.2	27.0% ± 6.6	25.5% ± 9.5	19.7% ± 6.0
Don't know	9.5% ± 4.4	18.6% ± 5.3	20.0% ± 5.4	19.2% ± 5.6	12.0% ± 4.9

Room Air Conditioners

Number of room air conditioners in home

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Zero	77.9% ± 6.3	78.8% ± 7.1	56.3% ± 18.2	96.1% ± 4.4
One	14.2% ± 2.3	13.5% ± 3.4	28.2% ± 16.0	3.9% ± 4.4
Two	5.9% ± 4.0	5.8% ± 4.9	11.8% ± 12.3	0.0% ± 0.0
Three	1.6% ± 1.8	1.5% ± 1.5	3.7% ± 5.9	0.0% ± 0.0
Four	0.4% ± 0.7	0.5% ± 0.9	0.0% ± 0.0	0.0% ± 0.0

Includes 24 (of 94 total) units reported by homeowner on survey, but not recorded by auditor

Location of room air conditioner(s)

	Overall (n=70)	General (n=51)	Low income (n=18)	New construction (n=1)
Bedroom	44.6% ± 9.9	44.4% ± 11.8	48.0% ± 21.1	0.0% ± 0.0
Dining room	9.1% ± 5.7	9.1% ± 6.8	9.6% ± 12.4	0.0% ± 0.0
Kitchen	5.3% ± 4.5	4.3% ± 4.8	9.1% ± 12.1	0.0% ± 0.0
Living room	28.0% ± 8.9	31.4% ± 11.0	17.9% ± 16.2	0.0% ± 0.0
Other/Unknown	13.0% ± 6.7	10.8% ± 7.4	15.5% ± 15.3	100.0% ± 0.0

Confidence interval for mean based on simple random sampling assumptions.

Does not include 24 units reported by homeowner on survey, but not recorded by auditor

Room AC rated output capacity (kBTU/hour)

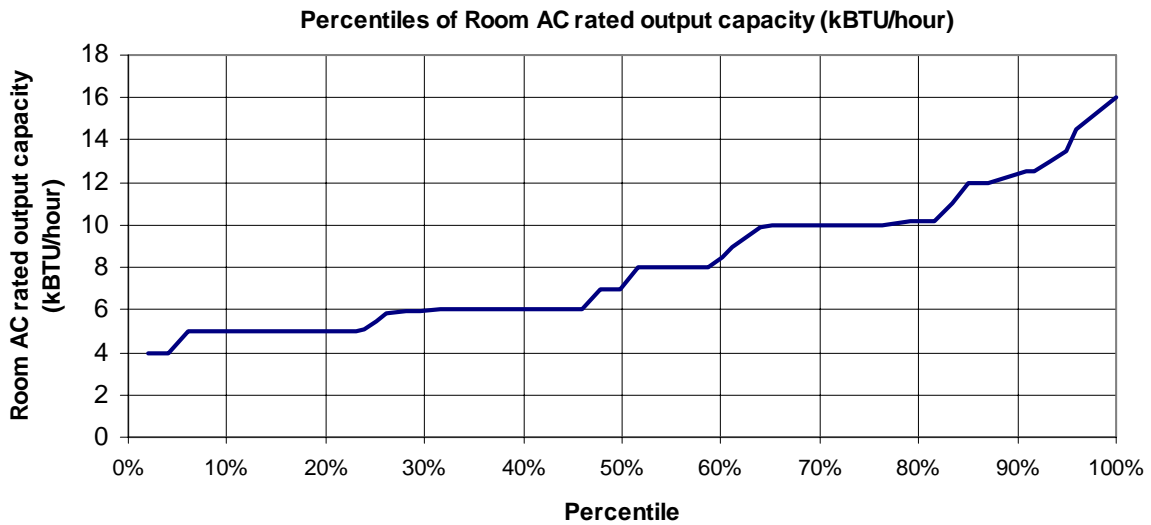
	Overall (n=55)	General (n=37)	Low income (n=17)	New construction (n=1)
mean	8.2 ±0.7	8.3 ±0.9	8.0 ±1.1	5.1 ±0.0
minimum	4.0	4.0	5.0	5.1
5th percentile	5.0	4.0	5.0	5.1
25th percentile	5.5	5.9	5.0	5.1
median	8.0	7.0	8.0	5.1
75th percentile	10.0	10.2	10.0	5.1
95th percentile	14.5	16.0	13.0	5.1
maximum	16.0	16.0	13.0	5.1

One unit with reported output capacity of 25000 BTU/hour not included.

Confidence interval for mean based on simple random sample assumptions.

Output capacity not recorded for 15 units recorded by auditor

Does not include 24 units reported by homeowner on survey, but not recorded by auditor



Room AC age (years)

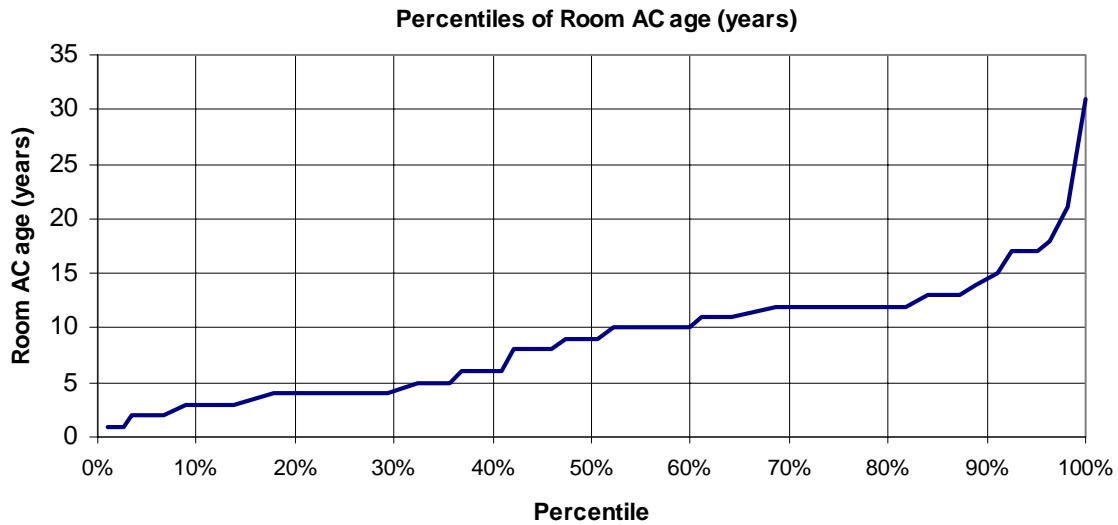
	Overall (n=52)	General (n=34)	Low income (n=17)	New construction (n=1)
mean	9.0 ±1.3	8.8 ±1.8	9.7 ±1.5	1.0 ±0.0
minimum	1	2	1	1
5th percentile	2	2	1	1
25th percentile	4	4	9	1
median	9	6	10	1
75th percentile	12	12	12	1
95th percentile	17	21	13	1
maximum	31	31	17	1

Confidence interval for mean based on simple random sampling assumptions.

Source of age: nameplate (48%); owner (48%); auditor estimate (4%)

Age not recorded for 18 units recorded by auditor.

Does not include 24 units reported by homeowner on survey, but not recorded by auditor



**Have you installed or purchased a room air conditioner in the past two years?
(survey question 9)**

	Overall (n=285)	General (n=201)	Low income (n=42)	New construction (n=42)
No	93.7% ± 2.4	93.8% ± 2.8	90.9% ± 7.6	96.6% ± 4.8
Yes	6.3% ± 2.4	6.2% ± 2.8	9.1% ± 7.6	3.4% ± 4.8
(if yes) Did it replace an old unit?				
	(n=19)	(n=14)	(n=3)	(n=2)
No	50.7% ± 20.4	58.3% ± 24.2	0.0% ± 0.0	100.0% ± 0.0
Yes	49.3% ± 20.4	41.7% ± 24.2	100.0% ± 0.0	0.0% ± 0.0

How likely is it that you will purchase or replace a room air conditioner in the next year? (survey question 10)

	Overall (n=284)	General (n=201)	Low income (n=42)	New construction (n=41)
Very unlikely	82.2% ± 3.8	81.5% ± 4.5	79.6% ± 10.6	90.7% ± 7.7
Somewhat unlikely	4.5% ± 2.0	5.3% ± 2.6	2.4% ± 4.1	0.0% ± 0.0
Somewhat likely	6.0% ± 2.3	5.9% ± 2.8	8.4% ± 7.3	3.3% ± 4.8
Very likely	7.4% ± 2.6	7.2% ± 3.0	9.5% ± 7.7	5.9% ± 6.3

Room AC efficiency (EER)

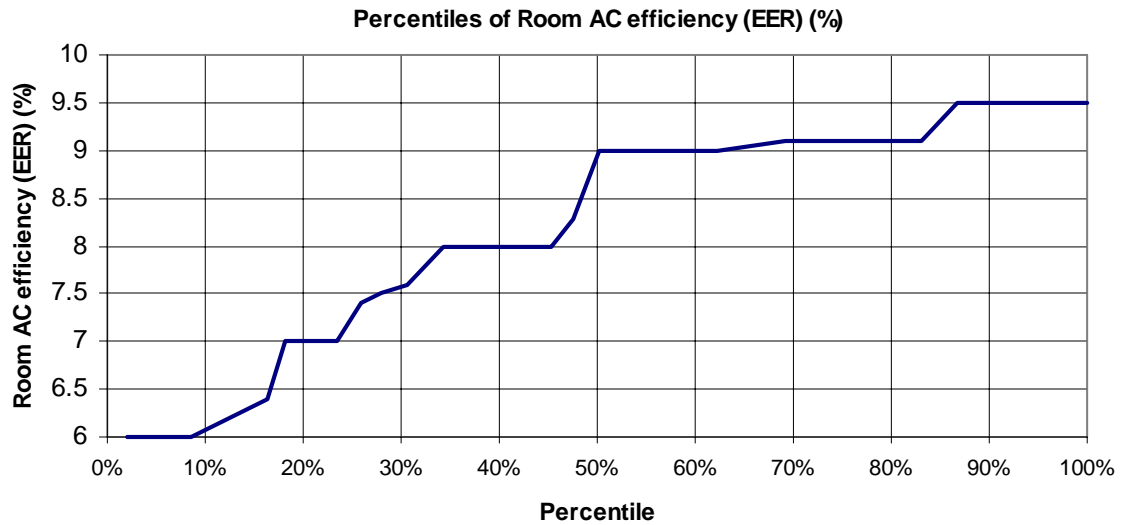
	Overall (n=28)	General (n=20)	Low income (n=7)	New construction (n=1)
mean	8.2 ±0.4	8.3 ±0.5	7.7 ±0.8	9.0 ±0.0
minimum	6.0	6.0	6.0	9.0
5th percentile	6.0	6.0	6.0	9.0
25th percentile	7.4	8.0	7.0	9.0
median	9.0	9.0	7.5	9.0
75th percentile	9.1	9.1	9.0	9.0
95th percentile	9.5	9.5	9.0	9.0
maximum	9.5	9.5	9.0	9.0

Confidence interval for mean based on simple random sampling assumptions.

Source of EER: nameplate (69%); auditor estimate (25%); owner (6%)

EER not recorded for 42 units recorded by auditor.

Does not include 24 units reported by homeowner on survey, but not recorded by auditor



How many rooms do you cool with your air conditioning equipment? (homes with room AC only) (survey question 17)

	Overall (n=55)	General (n=38)	Low income (n=15)	New construction (n=2)
None of the rooms	5.4% ± 7.8	7.3% ± 10.6	0.0% ± 0.0	0.0% ± 0.0
Only some of the rooms	76.0% ± 9.9	78.7% ± 15.0	65.6% ± 19.1	100.0% ± 0.0
All the rooms	18.6% ± 8.3	14.0% ± 12.8	34.4% ± 19.1	0.0% ± 0.0

Which of the statements below best describes the way you used your air conditioner(s) last summer? (homes with room AC only) (survey question 18)

	Overall (n=55)	General (n=38)	Low income (n=15)	New construction (n=2)
Not used at all	10.9% ± 5.9	14.7% ± 6.4	0.0% ± 0.0	0.0% ± 0.0
Turned on only a few days or nights when really needed	63.6% ± 12.8	65.2% ± 15.7	64.2% ± 10.3	0.0% ± 0.0
Turned on a few times each week	8.3% ± 3.6	6.9% ± 4.3	4.5% ± 7.7	100.0% ± 0.0
Turned on just about all summer	10.3% ± 7.8	3.8% ± 7.2	31.3% ± 11.9	0.0% ± 0.0
Let the thermostat control how much it ran	6.9% ± 6.4	9.3% ± 9.0	0.0% ± 0.0	0.0% ± 0.0

Who cleans or services AC equipment? (homes with room AC only) (survey question 67)

	Overall (n=44)	General (n=32)	Low income (n=10)	New construction (n=2)
Yourself or someone in your household	70.7% ± 11.7	68.7% ± 14.1	87.5% ± 20.2	0.0% ± 0.0
A friend or neighbor (not for hire)	2.6% ± 4.1	1.6% ± 3.8	6.6% ± 15.2	0.0% ± 0.0
Someone for hire	12.5% ± 8.5	14.2% ± 10.6	0.0% ± 0.0	57.7% ± 311.9
Nobody	14.3% ± 9.0	15.5% ± 11.0	5.9% ± 14.4	42.3% ± 311.9

What do you do with room AC units in the winter? (survey question 66)

	Overall (n=56)	General (n=39)	Low income (n=15)	New construction (n=2)
Take the air conditioner(s) out of the window	78.7% ± 10.2	84.8% ± 7.9	57.2% ± 20.3	100.0% ± 0.0
Leave the air conditioner(s) in the window, but with a cover on	16.8% ± 10.7	14.2% ± 7.8	27.0% ± 25.3	0.0% ± 0.0
Leave the air conditioner(s) in the window, with no cover	4.5% ± 3.8	1.1% ± 2.0	15.8% ± 14.3	0.0% ± 0.0

Respondents with room AC only

Respondents with multiple room AC units instructed to select the category that best describes what they do with the majority of their units

How often is each of the following done? (homes with room AC only) (survey question 68)

(n=118)	Clean filters	Clean other air conditioning parts	Check refrigerant (freon)	Lubricate air conditioner parts	Do a general air conditioning checkup
More than once per year	31.8% ± 13.1	7.1% ± 7.2	0.0% ± 0.0	2.4% ± 4.3	4.9% ± 6.1
Once per year	56.2% ± 14.0	62.5% ± 13.6	15.0% ± 10.1	35.1% ± 13.4	34.0% ± 13.3
Every other year	8.6% ± 7.9	10.0% ± 8.4	11.1% ± 8.8	5.8% ± 6.6	11.2% ± 8.9
Every 3-6 years	0.0% ± 0.0	2.4% ± 4.3	4.4% ± 5.8	5.8% ± 6.6	3.3% ± 5.0
Rarely or never	1.8% ± 3.7	16.5% ± 10.4	46.3% ± 14.0	45.1% ± 14.0	36.7% ± 13.6
Don't know	1.6% ± 3.6	1.6% ± 3.6	23.2% ± 11.9	5.8% ± 6.6	10.0% ± 8.4

Ducts and Boiler pipes

Ducts

Ductwork present in home?

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Yes	84.9% ± 4.7	85.5% ± 5.2	67.8% ± 13.2	100.0% ± 0.0
No	15.1% ± 4.7	14.5% ± 5.2	32.2% ± 13.2	0.0% ± 0.0

Duct location (area-weighted)

	Overall (n=544)	General (n=383)	Low income (n=67)	New construction (n=94)
Basement	80.2% ± 4.6	81.7% ± 5.1	60.3% ± 15.5	81.1% ± 10.3
Conditioned space	14.7% ± 5.2	14.1% ± 4.9	27.8% ± 14.2	12.0% ± 8.9
Attic, exposed	1.2% ± 1.5	1.1% ± 1.4	0.0% ± 0.0	2.1% ± 3.7
Attic, under insulation	1.1% ± 1.4	1.4% ± 1.8	0.0% ± 0.0	0.0% ± 0.0
Open crawlspace	0.9% ± 1.0	0.4% ± 0.7	2.4% ± 4.3	3.0% ± 5.4
Garage	0.7% ± 0.8	0.7% ± 0.9	0.0% ± 0.0	1.1% ± 1.4
Heated crawlspace	0.6% ± 0.5	0.5% ± 0.5	2.9% ± 5.5	0.0% ± 0.0
Enclosed crawlspace	0.6% ± 0.5	0.1% ± 0.1	6.6% ± 8.4	0.7% ± 1.3

Ducts insulated? (area-weighted)

	Overall (n=544)	General (n=383)	Low income (n=67)	New construction (n=94)
No	95.8% ± 1.9	96.6% ± 2.2	90.1% ± 8.7	93.8% ± 6.5
Yes	4.2% ± 1.9	3.4% ± 2.2	9.9% ± 8.7	6.2% ± 6.5

Significant supply leakage to outdoors?

	Overall (n=219)	General (n=148)	Low income (n=30)	New construction (n=41)
No	91.2% ± 3.4	92.8% ± 2.7	75.8% ± 13.7	92.1% ± 7.3
Yes	8.8% ± 3.4	7.2% ± 2.7	24.2% ± 13.7	7.9% ± 7.3

based on pressure pan tests conducted on selected supply registers in 194 of 219 homes with ducts with blower door running; not conducted for pilot homes

criterion for significant leakage was a pressure difference of 2 Pascals or more across pressure pan for any tested supply register

note: this test will only detect supply leaks that are near the tested register

Boiler Pipes

Boiler piping present in home?

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
No	85.3% ± 5.0	85.1% ± 5.2	76.9% ± 10.1	96.3% ± 4.9
Yes	14.7% ± 5.0	14.9% ± 5.2	23.1% ± 10.1	3.7% ± 4.9

Boiler pipes insulated?

	Overall (n=32)	General (n=22)	Low income (n=8)	New construction (n=2)
Yes	15.7% ± 11.1	17.4% ± 14.2	10.8% ± 22.2	0.0% ± 0.0
No	69.6% ± 14.0	66.5% ± 17.7	77.9% ± 29.7	100.0% ± 0.0
Partially	14.7% ± 10.8	16.1% ± 13.8	11.3% ± 22.6	0.0% ± 0.0

Water Heaters and Hot Water Use

Type of water heater

	Overall (n=305)	General (n=218)	Low income (n=43)	New construction (n=44)
Conventional (tank)	98.0% ± 1.9	97.5% ± 2.4	100.0% ± 0.0	100.0% ± 0.0
Integrated w/ heating system	1.0% ± 1.4	1.3% ± 1.8	0.0% ± 0.0	0.0% ± 0.0
Solar	1.0% ± 1.3	1.3% ± 1.6	0.0% ± 0.0	0.0% ± 0.0

Water heater fuel type

	Overall (n=305)	General (n=218)	Low income (n=43)	New construction (n=44)
Natural gas	61.9% ± 7.0	63.4% ± 7.7	46.1% ± 15.3	67.7% ± 15.9
Electric	28.0% ± 4.9	28.9% ± 6.2	37.2% ± 21.9	10.8% ± 9.7
Propane	8.7% ± 3.9	6.0% ± 3.7	16.7% ± 14.3	21.5% ± 8.3
Oil	0.4% ± 0.7	0.5% ± 0.8	0.0% ± 0.0	0.0% ± 0.0
Solar	1.0% ± 1.3	1.3% ± 1.6	0.0% ± 0.0	0.0% ± 0.0

Do survey respondent and auditor agree about water heater fuel type?

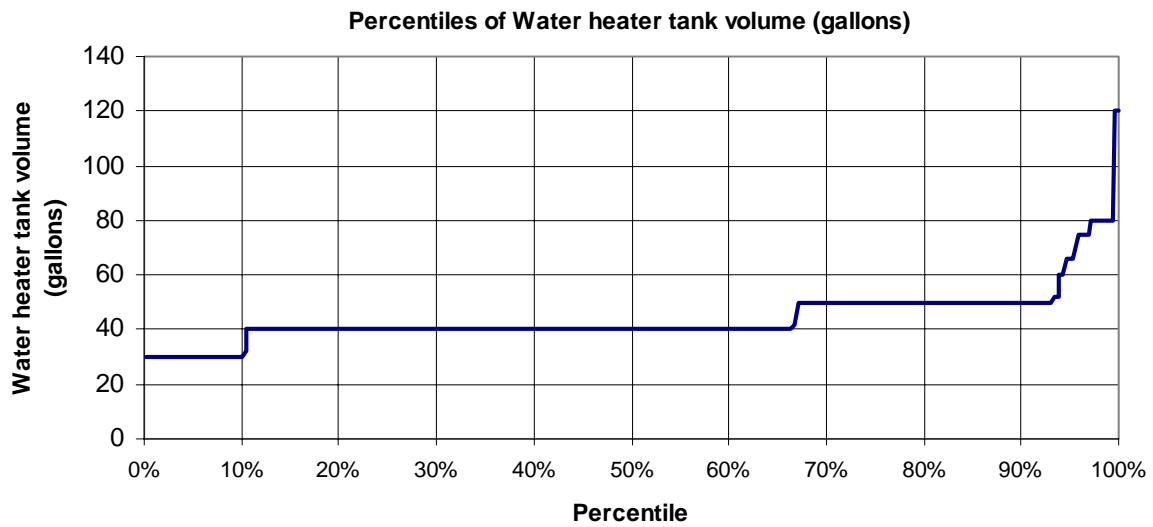
	Overall (n=290)	General (n=203)	Low income (n=43)	New construction (n=44)
Yes	92.0% ± 3.1	91.1% ± 3.9	93.1% ± 6.4	98.1% ± 3.6
No	8.0% ± 3.1	8.9% ± 3.9	6.9% ± 6.4	1.9% ± 3.6

for homes with a single water heater only

Water heater tank volume (gallons)

	Overall (n=301)	General (n=214)	Low income (n=43)	New construction (n=44)
mean	44.1 ±1.6	44.4 ±1.8	40.5 ±0.8	46.2 ±3.7
minimum	30	30	30	40
5th percentile	30	30	30	40
25th percentile	40	40	40	40
median	40	40	40	40
75th percentile	50	50	50	50
95th percentile	66	66	50	75
maximum	120	120	50	80

Volume not recorded for 4 solar systems



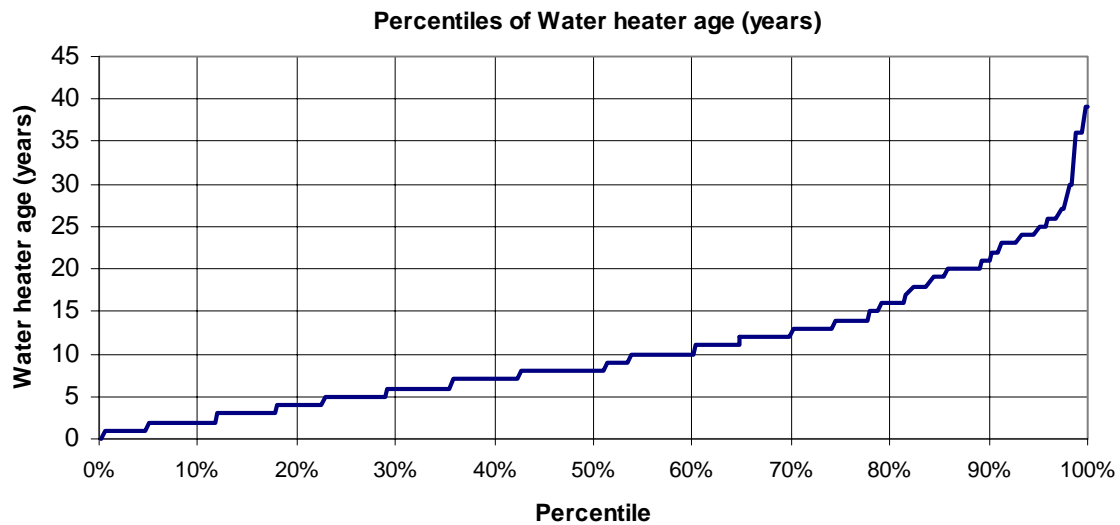
Water heater age (years)

	Overall (n=296)	General (n=211)	Low income (n=41)	New construction (n=44)
mean	10.4 ±1.1	11.3 ±0.9	10.7 ±2.4	3.4 ±0.5
minimum	0	1	1	0
5th percentile	2	2	2	1
25th percentile	5	6	4	2
median	8	10	8	3
75th percentile	14	14	13	5
95th percentile	25	25	26	6
maximum	39	39	36	17

Age not recorded for 9 water heaters

Source of age estimates: name plate (75%); owner (21%); auditor estimate (4%)

Seventeen year old water heater in new construction house explicitly noted by auditor



**Have you installed or purchased a water heater in the past two years?
(survey question 9)**

	Overall (n=292)	General (n=205)	Low income (n=43)	New construction (n=44)
no	85.6% ± 2.4	91.3% ± 1.8	82.7% ± 10.2	44.4% ± 8.0
yes	14.4% ± 2.4	8.7% ± 1.8	17.3% ± 10.2	55.6% ± 8.0
(if yes) Did it replace an old unit?				
	(n=49)	(n=20)	(n=7)	(n=22)
no	37.4% ± 11.7	8.3% ± 10.9	0.0% ± 0.0	90.6% ± 11.0
yes	62.6% ± 11.7	91.7% ± 10.9	100.0% ± 0.0	9.4% ± 11.0

How likely is it that you will purchase or replace a water heater in the next year? (survey question 10)

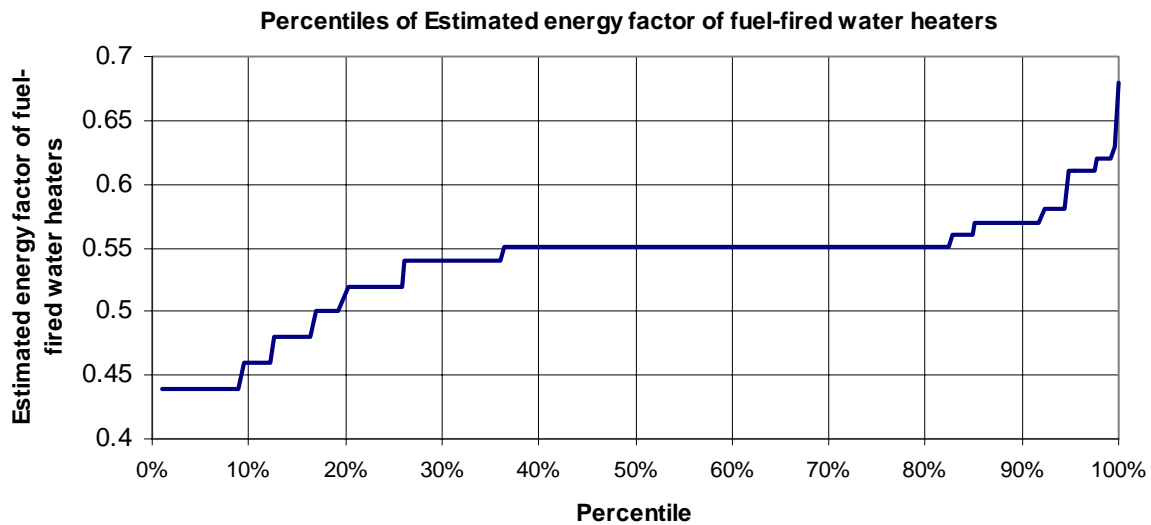
	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Very unlikely	71.2% ± 4.4	67.9% ± 5.4	77.1% ± 10.9	90.5% ± 7.5
Somewhat unlikely	15.8% ± 3.5	19.0% ± 4.5	7.2% ± 6.7	0.0% ± 0.0
Somewhat likely	3.4% ± 1.7	3.1% ± 2.0	6.0% ± 6.2	2.5% ± 4.0
Very likely	9.6% ± 2.8	9.9% ± 3.4	9.7% ± 7.7	7.0% ± 6.5

Estimated energy factor of fuel-fired water heaters

	Overall (n=213)	General (n=148)	Low income (n=26)	New construction (n=39)
mean	0.54 ±0.004	0.53 ±0.005	0.53 ±0.010	0.55 ±0.005
minimum	0.44	0.44	0.44	0.54
5th percentile	0.44	0.44	0.44	0.54
25th percentile	0.52	0.52	0.54	0.55
median	0.55	0.55	0.55	0.55
75th percentile	0.55	0.55	0.55	0.55
95th percentile	0.61	0.61	0.61	0.61
maximum	0.68	0.68	0.62	0.61

Integrated space and water heating appliances not included

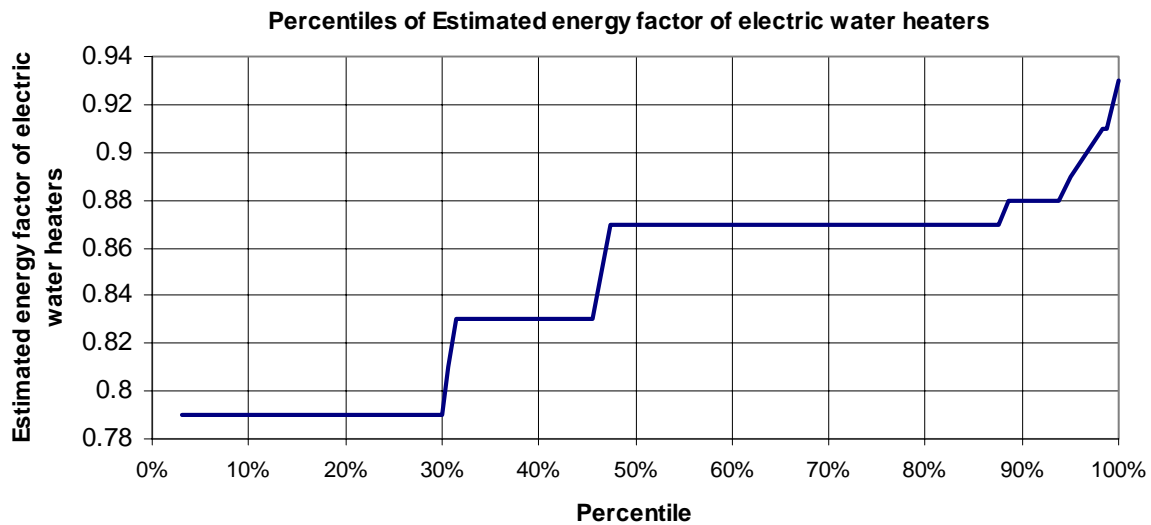
Source of EF estimates: auditor estimate based on age (74%); Energy Guide label or GAMA lookup (26%)



Estimated energy factor of electric water heaters

	Overall (n=84)	General (n=62)	Low income (n=17)	New construction (n=5)
mean	0.84 ±0.009	0.84 ±0.009	0.84 ±0.017	0.85 ±0.017
minimum	0.79	0.79	0.79	0.81
5th percentile	0.79	0.79	0.79	0.81
25th percentile	0.79	0.79	0.79	0.83
median	0.87	0.87	0.87	0.87
75th percentile	0.87	0.87	0.87	0.87
95th percentile	0.89	0.91	0.87	0.87
maximum	0.93	0.93	0.87	0.87

Source of EF estimates: auditor estimate based on age (89%); Energy Guide label or GAMA lookup (11%)

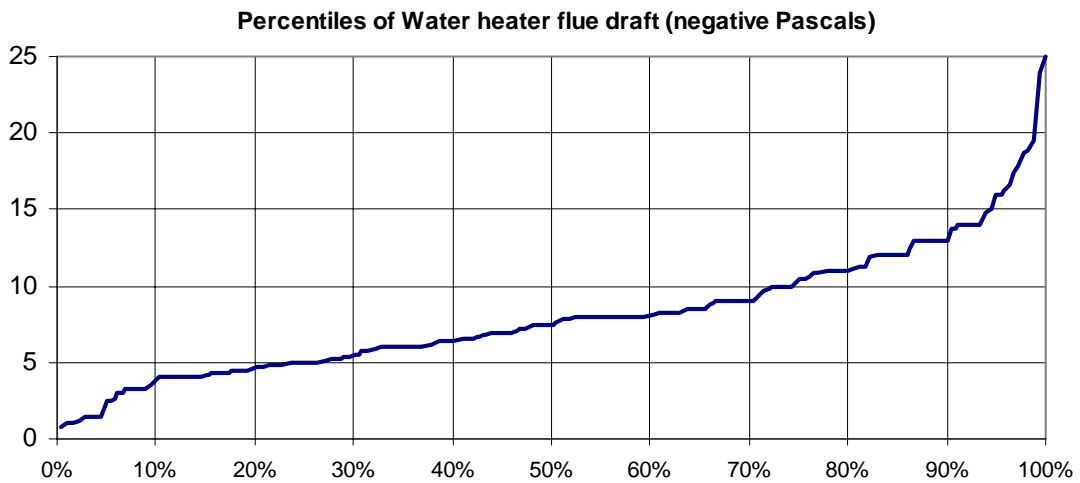


Water heater flue draft (negative Pascals)

	Overall (n=184)	General (n=132)	Low income (n=21)	New construction (n=31)
mean	8.1 ±0.5	8.0 ±0.7	8.7 ±1.6	8.3 ±1.5
minimum	1	1	4	2
5th percentile	3	3	4	2
25th percentile	5	5	5	7
median	8	8	9	8
75th percentile	11	10	12	11
95th percentile	16	16	15	16
maximum	25	25	15	18

Draft measurements made only on fuel-fired atmospheric water heaters.

One water heater with draft of -40Pa measured under windy conditions omitted.

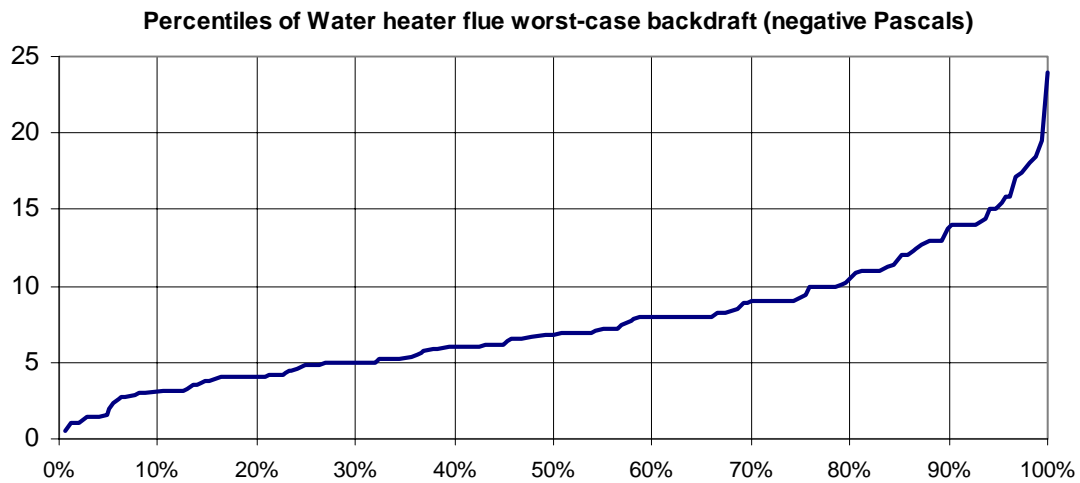


Water heater flue worst-case backdraft (negative Pascals)

	Overall (n=158)	General (n=116)	Low income (n=13)	New construction (n=29)
mean	7.6 ±0.6	7.5 ±0.7	8.0 ±2.1	7.6 ±1.4
minimum	1	1	3	1
5th percentile	2	2	3	2
25th percentile	5	5	4	5
median	7	7	7	7
75th percentile	9	9	13	10
95th percentile	16	16	15	16
maximum	24	24	15	16

Draft measurements made only on fuel-fired atmospheric water heaters.

Backdraft test conducted with all exhaust devices running

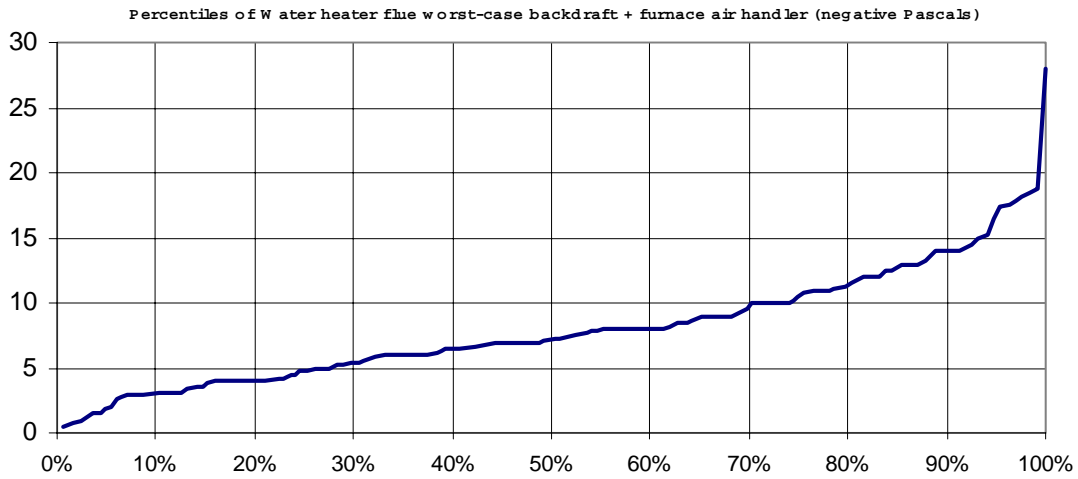


Water heater flue worst-case backdraft + furnace air handler (negative Pascals)

	Overall (n=126)	General (n=92)	Low income (n=8)	New construction (n=26)
mean	8.1 ±1.0	8.0 ±1.2	8.6 ±2.4	8.3 ±1.6
minimum	1	1	3	3
5th percentile	2	2	3	4
25th percentile	5	4	5	5
median	7	7	8	7
75th percentile	11	10	13	11
95th percentile	17	17	15	17
maximum	28	28	15	18

Draft measurements made only on fuel-fired atmospheric water heaters.

Backdraft test conducted with all exhaust devices running plus furnace air handler



Water heater flue gas carbon monoxide level (ppm)

	Overall (n=188)	General (n=135)	Low income (n=21)	New construction (n=32)
<10 ppm	83.2% ± 8.1	80.3% ± 9.1	100.0% ± 0.0	90.6% ± 11.8
10-99	12.5% ± 6.5	14.4% ± 7.1	0.0% ± 0.0	9.4% ± 11.8
100-499	1.9% ± 2.1	2.3% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
500+	2.4% ± 2.3	3.0% ± 2.8	0.0% ± 0.0	0.0% ± 0.0

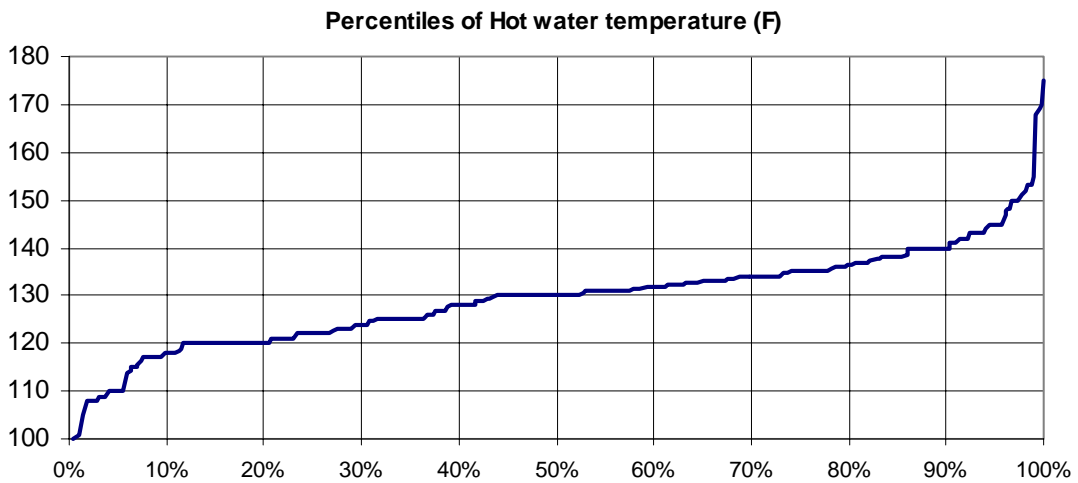
CO measured for fuel-fired atmospheric or power-vented water heaters only

Extra insulation wrapped on water heater?

	Overall (n=301)	General (n=214)	Low income (n=43)	New construction (n=44)
No	88.8% ± 3.7	87.3% ± 4.3	90.9% ± 8.0	98.4% ± 2.9
Yes	11.2% ± 3.7	12.7% ± 4.3	9.1% ± 8.0	1.6% ± 2.9

Hot water temperature (F)

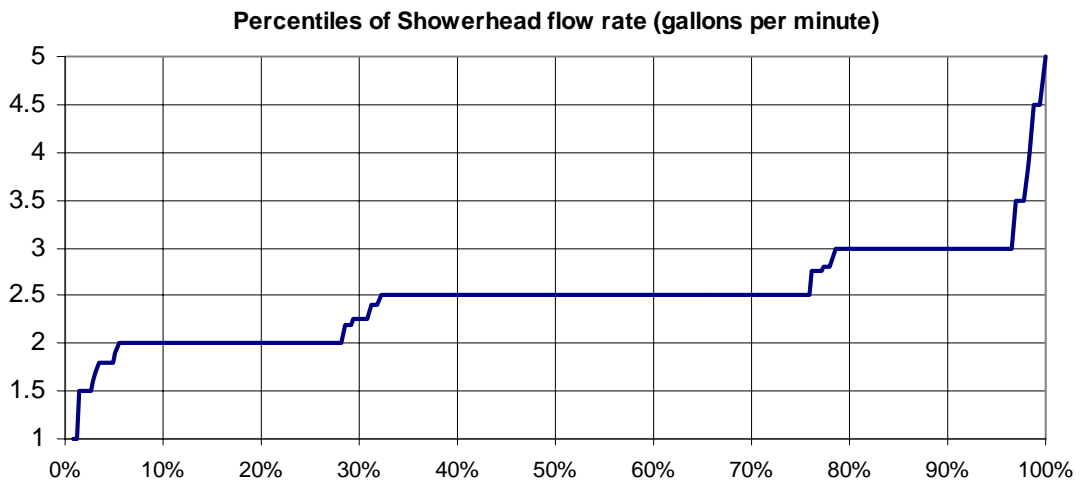
	Overall (n=296)	General (n=210)	Low income (n=43)	New construction (n=43)
mean	129.4 ±1.0	128.8 ±1.2	132.6 ±2.6	130.7 ±2.6
minimum	100	100	116	110
5th percentile	110	110	118	114
25th percentile	122	122	123	125
median	130	130	131	131
75th percentile	135	135	140	137
95th percentile	145	144	153	148
maximum	175	175	169	153



Showerhead flow rate (gallons per minute)

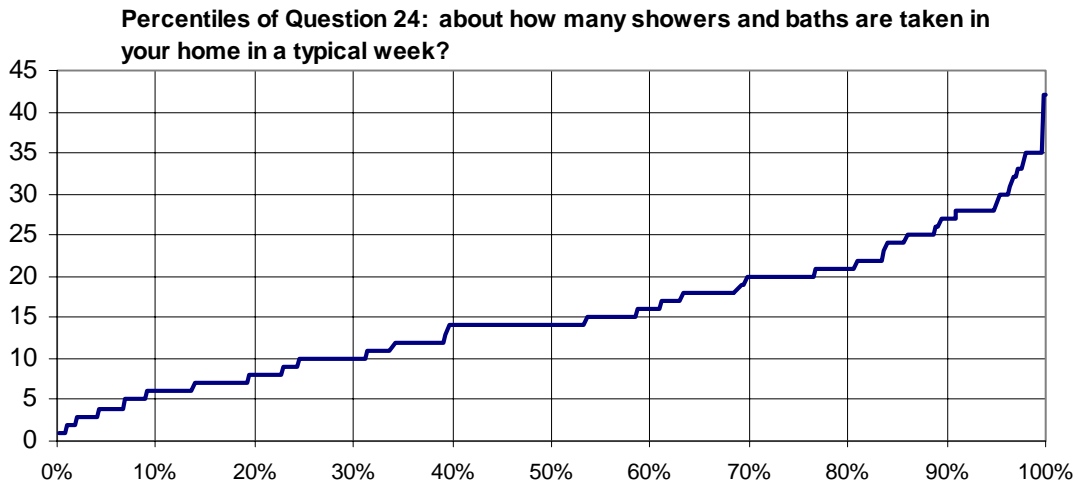
	Overall (n=294)	General (n=209)	Low income (n=41)	New construction (n=44)
mean	2.5 ±0.1	2.5 ±0.1	2.6 ±0.2	2.2 ±0.1
minimum	1.0	1.0	1.0	1.8
5th percentile	1.9	2.0	1.8	1.8
25th percentile	2.0	2.0	2.2	2.0
median	2.5	2.5	2.5	2.0
75th percentile	2.5	2.8	3.0	2.5
95th percentile	3.0	3.0	3.5	2.5
maximum	5.0	5.0	3.8	2.5

Based on 5 seconds of flow



**About how many showers and baths are taken in your home in a typical week?
(survey question 24)**

	Overall (n=292)	General (n=208)	Low income (n=41)	New construction (n=43)
mean	15.3 ±1.1	15.3 ±1.4	13.1 ±2.7	17.7 ±1.9
minimum	1	1	2	5
5th percentile	4	4	3	8
25th percentile	10	10	7	11
median	14	14	12	16
75th percentile	20	20	16	21
95th percentile	30	28	33	30
maximum	42	42	42	35

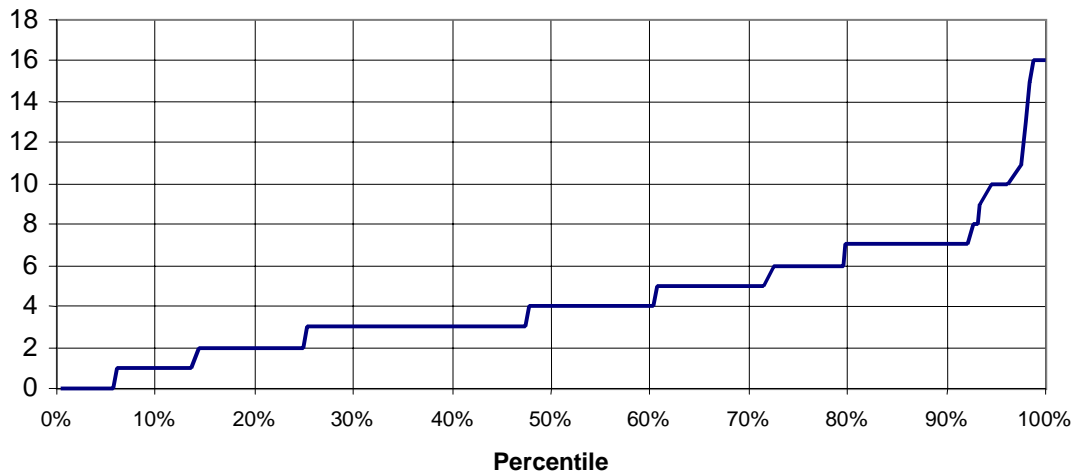


Do you have an automatic dishwasher? (survey question 24)

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	35.4% ± 7.3	33.0% ± 7.8	72.6% ± 11.7	11.2% ± 7.9
Yes	64.6% ± 7.3	67.0% ± 7.8	27.4% ± 11.7	88.8% ± 7.9

About how many times a week do you run your dishwasher? (survey question 25)

	Overall (n=179)	General (n=132)	Low income (n=10)	New construction (n=37)
mean	4.3 ±0.5	4.4 ±0.5	4.5 ±1.7	4.1 ±0.8
minimum	0	0	0	0
5th percentile	0	0	0	1
25th percentile	3	3	2	3
median	4	4	5	4
75th percentile	6	6	5	6
95th percentile	10	10	13	9
maximum	16	16	13	10



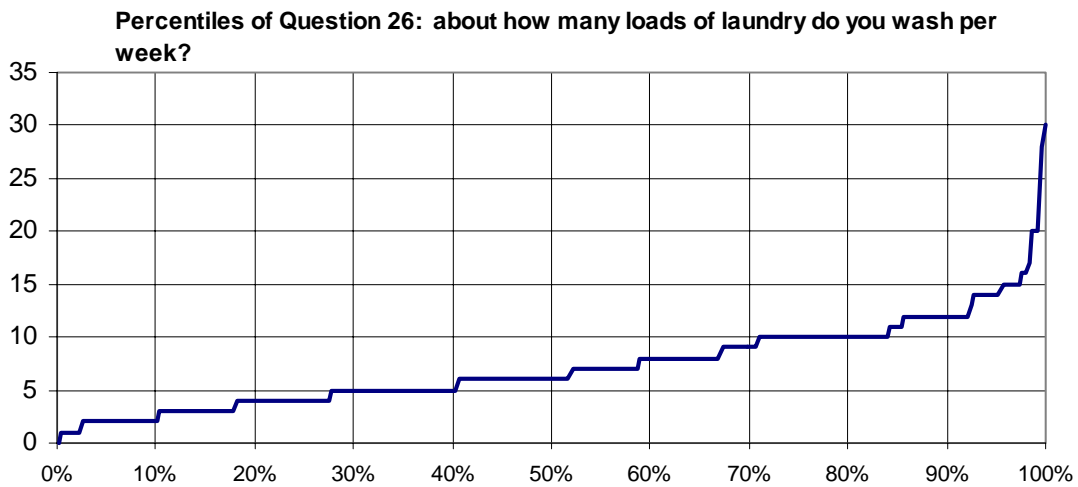
Do you have a clothes washing machine? (survey question 25)

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	2.3% ± 1.1	1.5% ± 1.6	9.2% ± 7.7	0.0% ± 0.0
Yes	97.7% ± 1.1	98.5% ± 1.6	90.8% ± 7.7	100.0% ± 0.0

About how many loads of laundry do you wash per week? (survey question 26)

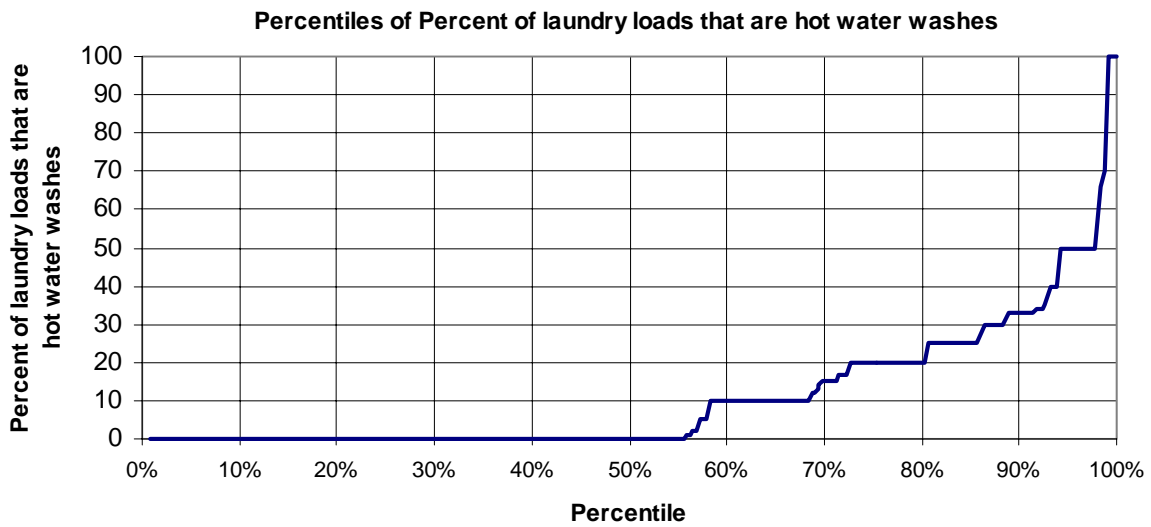
	Overall (n=283)	General (n=201)	Low income (n=39)	New construction (n=43)
mean	7.2 ±0.6	7.2 ±0.7	7.0 ±0.8	7.3 ±0.9
minimum	0	0	1	2
5th percentile	2	2	2	2
25th percentile	4	4	3	5
median	6	6	6	7
75th percentile	10	10	10	10
95th percentile	14	14	15	11
maximum	30	30	16	14

Excludes households that do not have a washing machine.



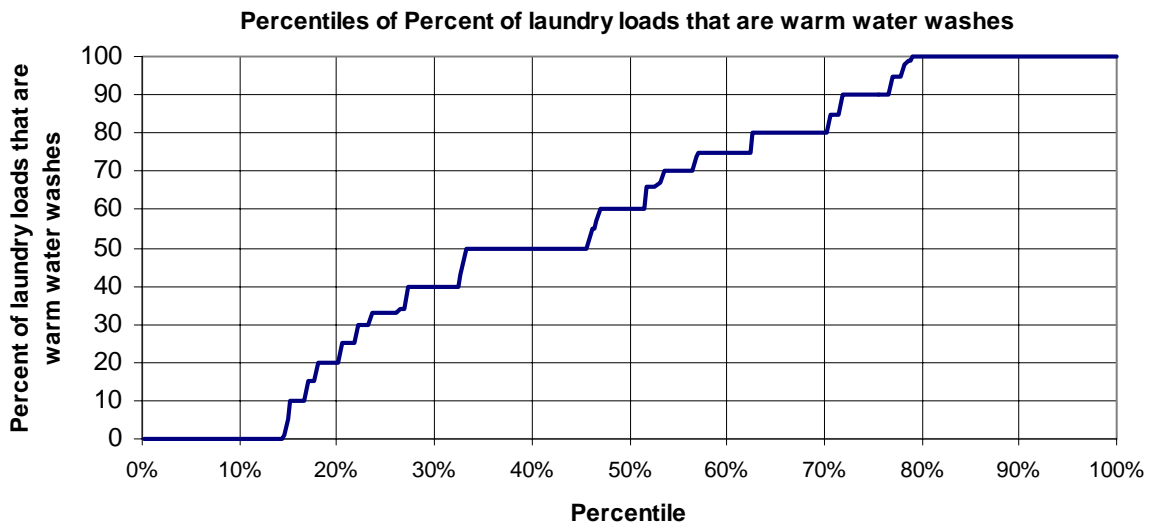
Percent of laundry loads that are hot water washes (survey question 26)

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	11.2 ±2.5	11.1 ±2.9	12.0 ±5.7	11.2 ±4.5
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	0	0	0	0
75th percentile	20	20	10	20
95th percentile	50	50	70	50
maximum	100	100	100	50



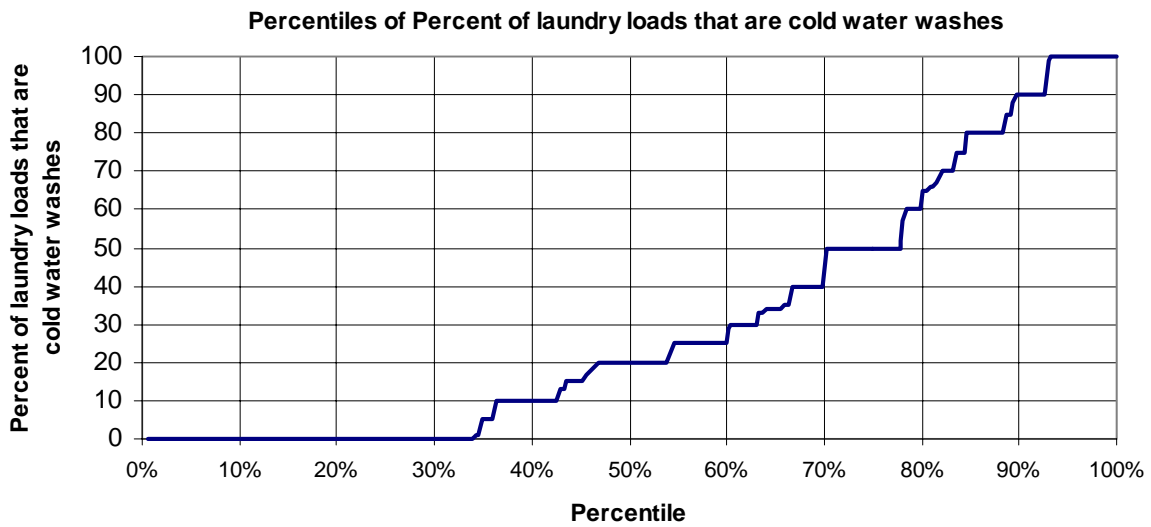
Percent of laundry loads that are warm water washes (survey question 26)

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	58.3 ±6.1	58.0 ±7.5	67.1 ±9.9	50.5 ±12.6
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	33	33	50	20
median	60	60	80	43
75th percentile	90	90	100	90
95th percentile	100	100	100	100
maximum	100	100	100	100



Percent of laundry loads that are cold water washes (survey question 26)

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	30.5 ±4.6	30.8 ±5.9	20.8 ±9.2	38.3 ±12.9
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	20	20	10	34
75th percentile	50	50	20	65
95th percentile	100	100	90	90
maximum	100	100	100	100



Refrigerators and Freezers

Refrigerators

Number of refrigerators in household

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
One	78.1% ± 6.1	76.9% ± 7.0	84.1% ± 11.6	80.7% ± 11.0
Two	21.9% ± 6.1	23.1% ± 7.0	15.9% ± 11.6	19.3% ± 11.0

Type of refrigerator

	Overall (n=349)	General (n=252)	Low income (n=45)	New construction (n=52)
Top defrost	74.7% ± 6.0	73.3% ± 7.5	91.7% ± 4.8	68.6% ± 9.5
Side by side	17.0% ± 5.1	16.8% ± 6.1	6.0% ± 2.9	30.1% ± 10.0
Bottom defrost	6.8% ± 2.7	8.2% ± 3.3	2.3% ± 4.0	0.0% ± 0.0
Mini	1.5% ± 1.6	1.7% ± 2.0	0.0% ± 0.0	1.2% ± 2.3

Type not recorded for 9 refrigerators

"Mini" defined as <5 cubic feet

Refrigerator defrost type

	Overall (n=316)	General (n=226)	Low income (n=42)	New construction (n=48)
Automatic	93.4% ± 2.9	93.9% ± 2.4	84.8% ± 16.4	98.7% ± 2.4
Manual	6.6% ± 2.9	6.1% ± 2.4	15.2% ± 16.4	1.3% ± 2.4

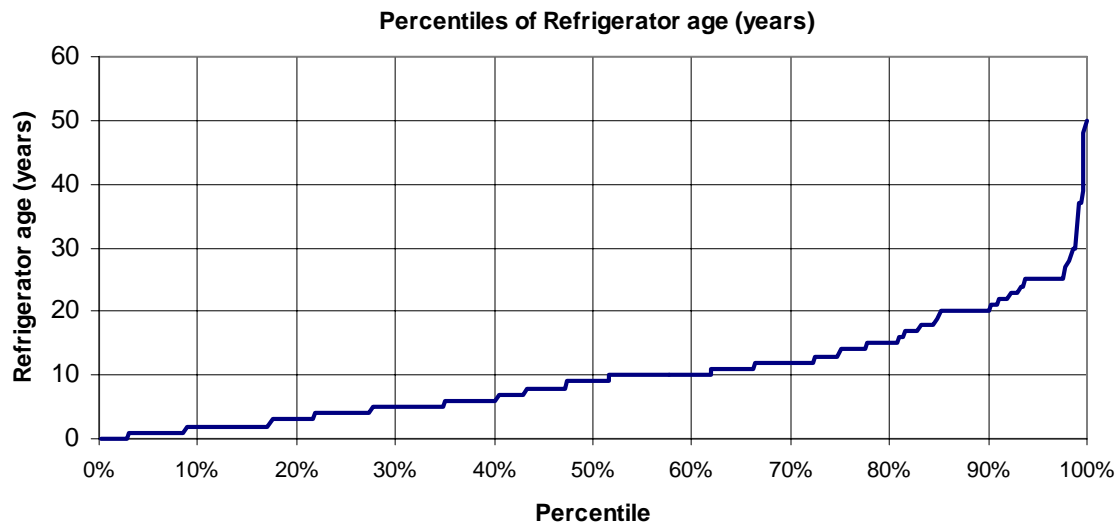
defrost type unknown for 42 of 358 refrigerators

Refrigerator age (years)

	Overall (n=344)	General (n=244)	Low income (n=48)	New construction (n=52)
mean	10.0 ±1.0	10.6 ±1.2	10.3 ±2.1	5.4 ±1.2
minimum	0	0	0	0
5th percentile	1	1	1	0
25th percentile	4	5	4	2
median	9	10	10	4
75th percentile	14	14	13	8
95th percentile	25	25	25	15
maximum	50	50	37	20

Age not recorded for 14 of 358 refrigerators

Source of age estimates: 76% owner, 23% nameplate; 1% auditor estimate



Have you installed or purchased a refrigerator in the past two years? (survey question 9)

	Overall (n=289)	General (n=203)	Low income (n=43)	New construction (n=43)
No	78.7% ± 4.1	82.9% ± 5.2	70.8% ± 13.1	54.5% ± 14.2
Yes	21.3% ± 4.1	17.1% ± 5.2	29.2% ± 13.1	45.5% ± 14.2

(if yes) Did it replace an old unit?

	(n=64)	(n=35)	(n=12)	(n=17)
No	21.4% ± 8.6	5.3% ± 6.9	18.0% ± 23.9	78.5% ± 15.3
Yes	78.6% ± 8.6	94.7% ± 6.9	82.0% ± 23.9	21.5% ± 15.3

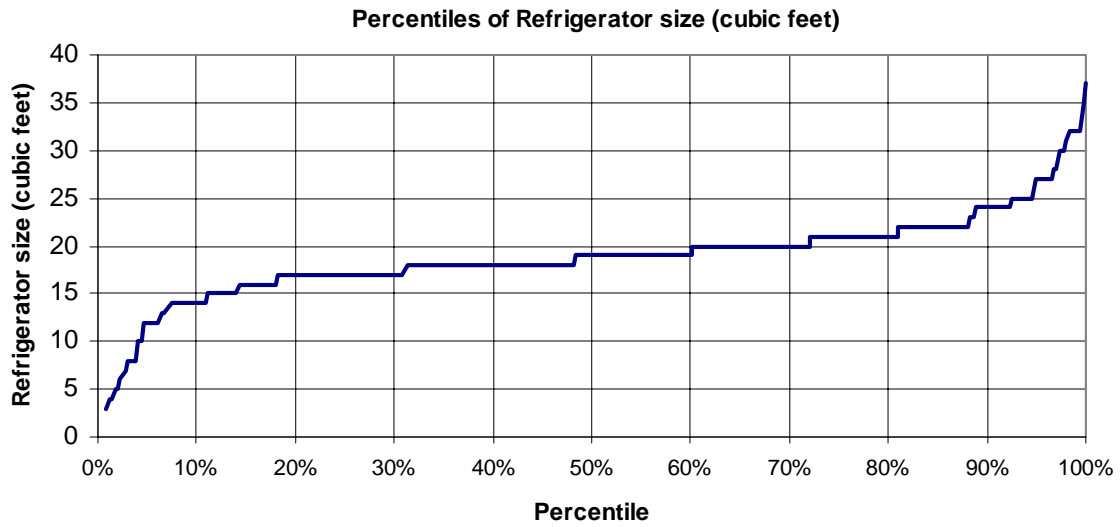
How likely is it that you will purchase or replace a refrigerator in the next year? (survey question 10)

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
Very unlikely	73.6% ± 4.4	73.9% ± 4.3	71.4% ± 12.7	73.4% ± 9.7
Somewhat unlikely	8.2% ± 3.8	8.4% ± 4.6	6.5% ± 6.8	7.9% ± 7.9
Somewhat likely	7.2% ± 3.0	6.1% ± 3.4	12.6% ± 7.7	9.5% ± 7.1
Very likely	11.1% ± 3.7	11.6% ± 4.1	9.5% ± 5.2	9.2% ± 8.1

Refrigerator size (cubic feet)

	Overall (n=352)	General (n=252)	Low income (n=48)	New construction (n=52)
mean	18.8 ±0.8	18.7 ±0.7	17.8 ±1.0	21.0 ±1.5
minimum	3	3	6	4
5th percentile	12	10	12	16
25th percentile	17	17	17	18
median	19	19	18	20
75th percentile	21	21	20	22
95th percentile	27	27	25	32
maximum	37	35	27	37

size not recorded for 6 of 358 refrigerators



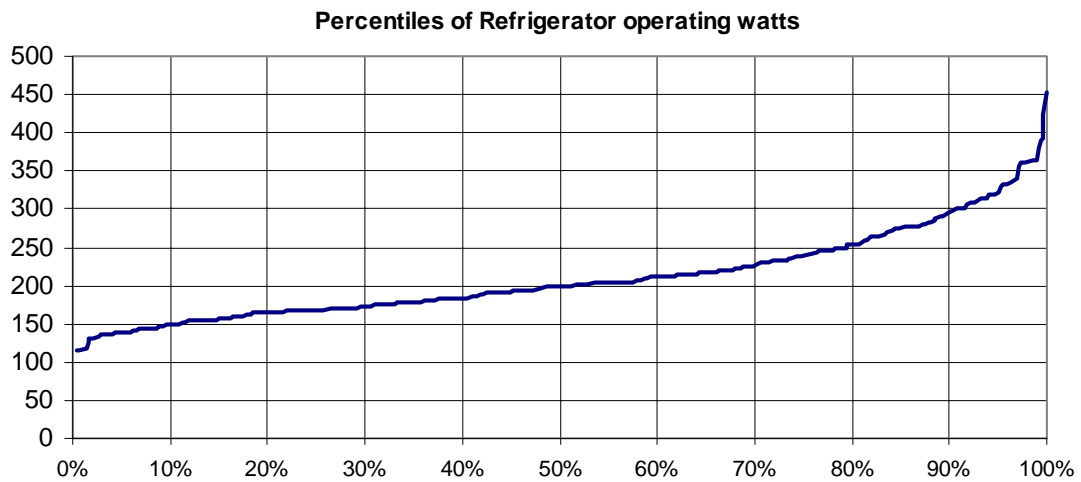
Refrigerator operating watts

	Overall (n=272)	General (n=201)	Low income (n=36)	New construction (n=35)
mean	211 ±7	215 ±9	199 ±17	180 ±10
minimum	114	114	137	115
5th percentile	140	140	140	125
25th percentile	168	170	158	164
median	200	203	184	175
75th percentile	240	248	220	195
95th percentile	330	333	299	236
maximum	452	452	380	274

wattage recorded during compressor operation

wattage not recorded for 83 of 358 refrigerators

wattage data discarded for 3 refrigerators (460W, 518W, 614W)



Refrigerator extrapolated annual kWh

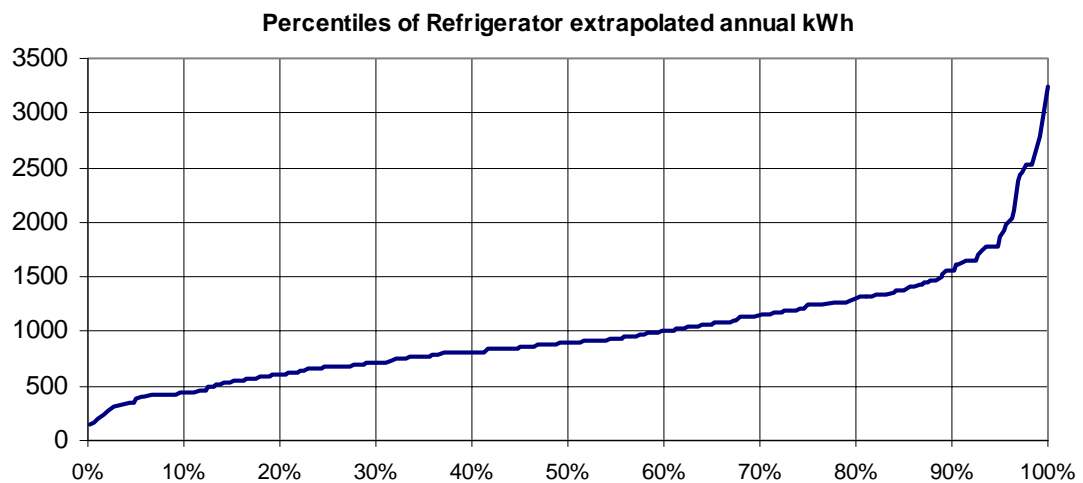
	Overall (n=246)	General (n=184)	Low income (n=30)	New construction (n=32)
mean	994 ±47	1035 ±51	788 ±123	812 ±116
minimum	152	174	206	152
5th percentile	392	400	266	415
25th percentile	677	686	569	616
median	896	915	810	805
75th percentile	1238	1257	931	1022
95th percentile	1917	2040	1237	1272
maximum	3243	3243	1464	1273

annual kWh calculated as (monitored kWh)/(monitored minutes)*(60 minutes/hour)*(8760 hours/year)

kWh based on minimum 90 minute monitoring time; average monitoring time: 141 minutes

kWh not measured for 78 refrigerators

recorded kWh for 34 refrigerators not used, mainly due to short monitoring interval



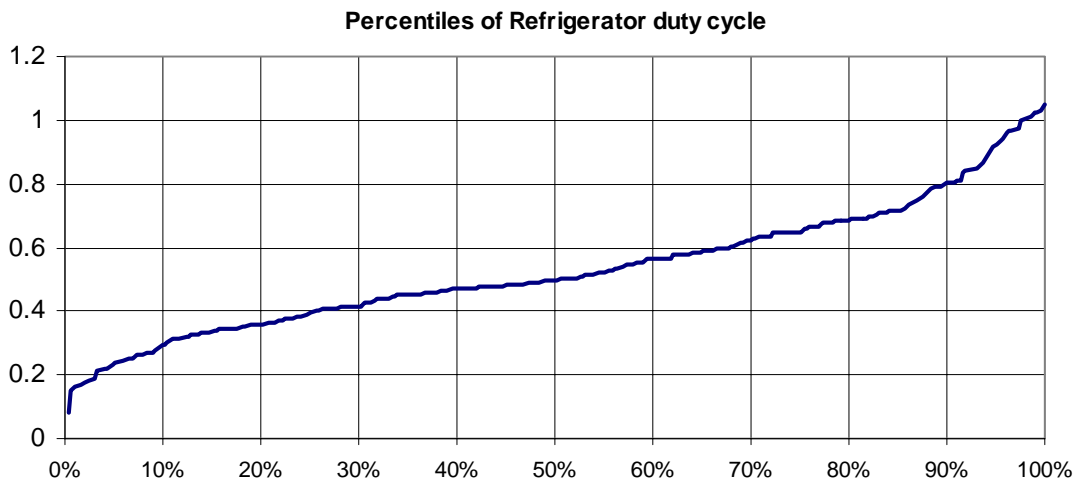
Refrigerator duty cycle

	Overall (n=241)	General (n=180)	Low income (n=30)	New construction (n=31)
mean	0.532 ±0.026	0.540 ±0.024	0.495 ±0.080	0.492 ±0.061
minimum	0.079	0.168	0.079	0.151
5th percentile	0.237	0.242	0.166	0.320
25th percentile	0.396	0.402	0.296	0.416
median	0.499	0.504	0.492	0.457
75th percentile	0.649	0.667	0.621	0.589
95th percentile	0.923	0.923	0.936	0.693
maximum	1.047	1.047	1.026	0.810

Duty cycle calculated as (monitored kWh)/[(monitored hours)*(recorded operating watts)/1000]

Based on minimum 90 minute monitoring time; average monitoring time: 141 minutes

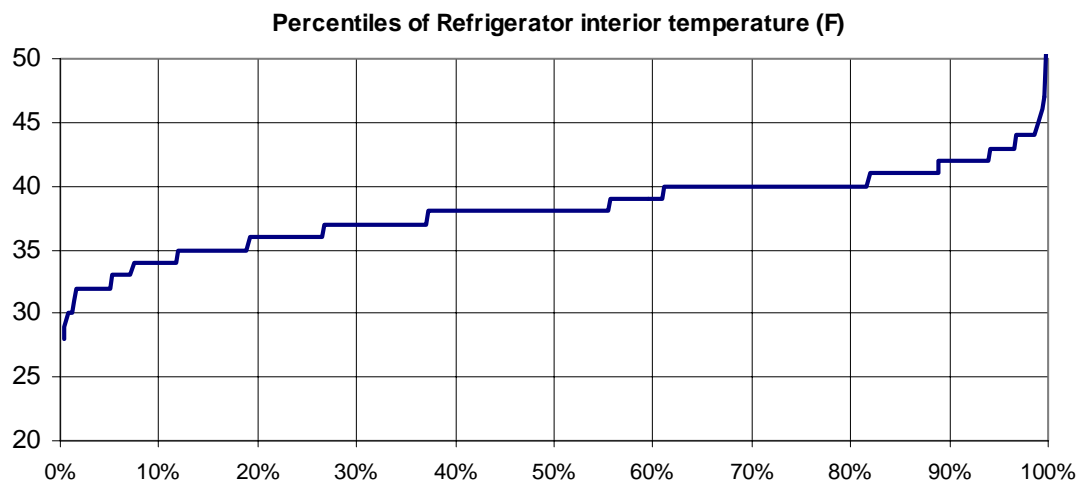
kWh or operating watts not measured (or not included) for 117 of 358 refrigerators



Refrigerator interior temperature (F)

	Overall (n=329)	General (n=236)	Low income (n=44)	New construction (n=49)
mean	38.2 ±0.4	38.4 ±0.5	38.0 ±0.7	36.7 ±0.8
minimum	28	28	30	30
5th percentile	32	33	33	32
25th percentile	36	36	37	34
median	38	38	38	37
75th percentile	40	40	40	39
95th percentile	43	43	42	41
maximum	52	52	43	43

Temperature not recorded for 29 refrigerators



Freezers

Number of freezers in household

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Zero	39.8% ± 6.4	42.2% ± 8.4	28.4% ± 16.4	33.7% ± 12.2
One	55.7% ± 5.1	54.0% ± 7.6	60.2% ± 20.4	64.1% ± 12.5
Two	4.4% ± 2.3	3.6% ± 2.6	11.5% ± 5.1	2.2% ± 3.7
Three	0.2% ± 0.3	0.2% ± 0.4	0.0% ± 0.0	0.0% ± 0.0

Type of freezer

	Overall (n=194)	General (n=131)	Low income (n=34)	New construction (n=29)
Chest	59.0% ± 8.0	56.7% ± 7.7	77.2% ± 12.8	50.4% ± 17.8
Upright	41.0% ± 8.0	43.3% ± 7.7	22.8% ± 12.8	49.6% ± 17.8

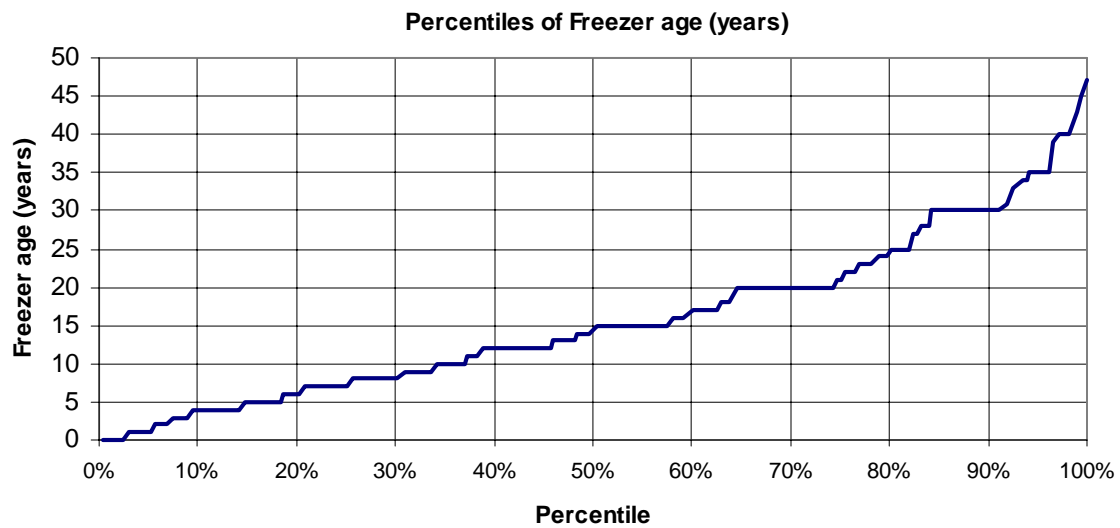
type not recorded for 6 of 200 freezers

Freezer age (years)

	Overall (n=193)	General (n=128)	Low income (n=35)	New construction (n=30)
mean	15.8 ±1.5	16.6 ±1.9	15.9 ±2.9	9.9 ±2.1
minimum	0	0	2	0
5th percentile	1	2	3	0
25th percentile	7	8	9	5
median	15	15	14	8
75th percentile	21	23	20	14
95th percentile	35	35	40	30
maximum	47	47	45	30

age not recorded for 7 of 200 freezers

source of age estimates: 74% owner, 21% nameplate; 5% auditor estimate



**Have you installed or purchased a stand-alone freezer in the past two years?
(survey question 9)**

	Overall (n=291)	General (n=204)	Low income (n=43)	New construction (n=44)
No	93.4% ± 2.9	96.8% ± 2.2	82.9% ± 17.3	79.1% ± 11.6
Yes	6.6% ± 2.9	3.2% ± 2.2	17.1% ± 17.3	20.9% ± 11.6
(if yes) Did it replace an old unit?				
	(n=24)	(n=10)	(n=7)	(n=7)
No	65.7% ± 17.0	56.5% ± 30.3	71.2% ± 35.9	72.2% ± 35.5
Yes	34.3% ± 17.0	43.5% ± 30.3	28.8% ± 35.9	27.8% ± 35.5

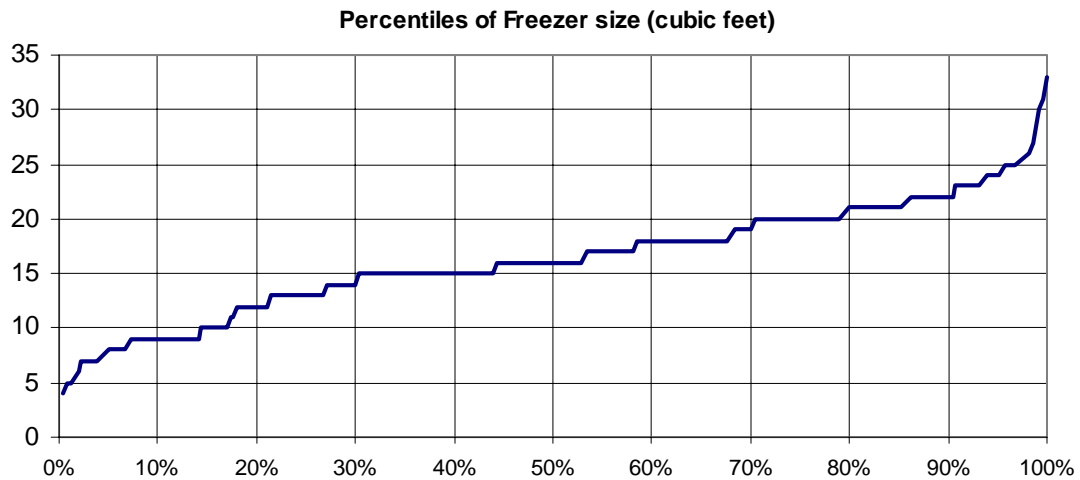
**How likely is it that you will purchase or replace a stand-alone freezer in the next year?
(survey question 10)**

	Overall (n=291)	General (n=205)	Low income (n=43)	New construction (n=43)
Very unlikely	76.4% ± 4.1	75.2% ± 5.3	83.2% ± 10.1	77.5% ± 9.6
Somewhat unlikely	10.3% ± 3.3	11.0% ± 4.7	9.7% ± 8.7	5.8% ± 4.3
Somewhat likely	7.3% ± 3.1	7.5% ± 3.6	4.3% ± 2.5	9.5% ± 6.0
Very likely	6.0% ± 3.8	6.3% ± 4.1	2.8% ± 5.3	7.1% ± 7.5

Freezer size (cubic feet)

	Overall (n=196)	General (n=133)	Low income (n=34)	New construction (n=29)
mean	16.3 ±1.1	16.8 ±1.1	15.2 ±1.7	14.8 ±1.7
minimum	4	5	4	7
5th percentile	8	9	5	7
25th percentile	13	14	9	12
median	16	16	16	16
75th percentile	20	20	20	17
95th percentile	24	25	27	22
maximum	33	33	31	23

Size not recorded for 4 of 200 freezers



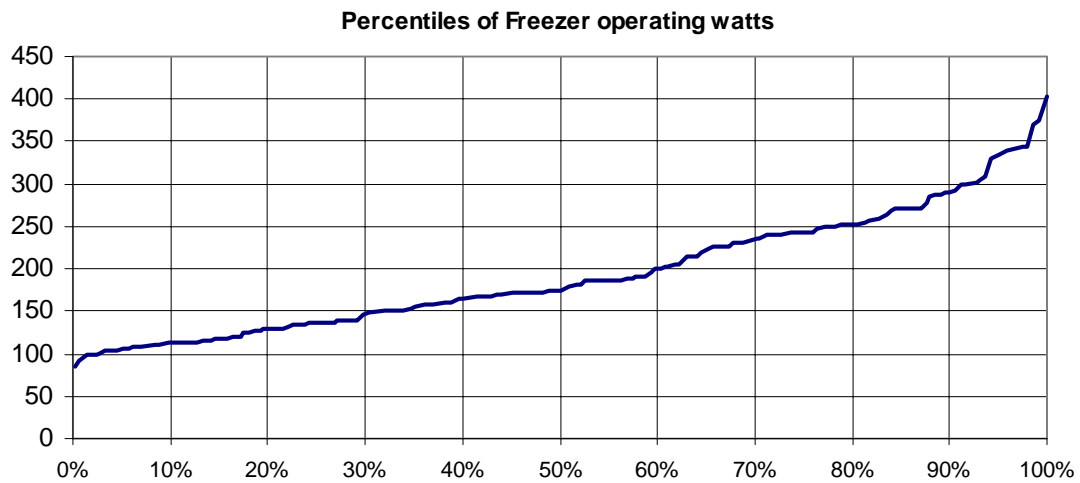
Freezer operating watts

	Overall (n=163)	General (n=111)	Low income (n=25)	New construction (n=27)
mean	194 ±15	201 ±18	183 ±19	162 ±18
minimum	85	85	104	98
5th percentile	105	110	105	98
25th percentile	136	139	128	116
median	175	185	164	146
75th percentile	243	250	250	215
95th percentile	335	340	288	290
maximum	404	404	345	300

wattage recorded during compressor operation

wattage not recorded for 36 of 200 freezers

wattage data discarded for one freezer (490W)



Freezer extrapolated annual kWh

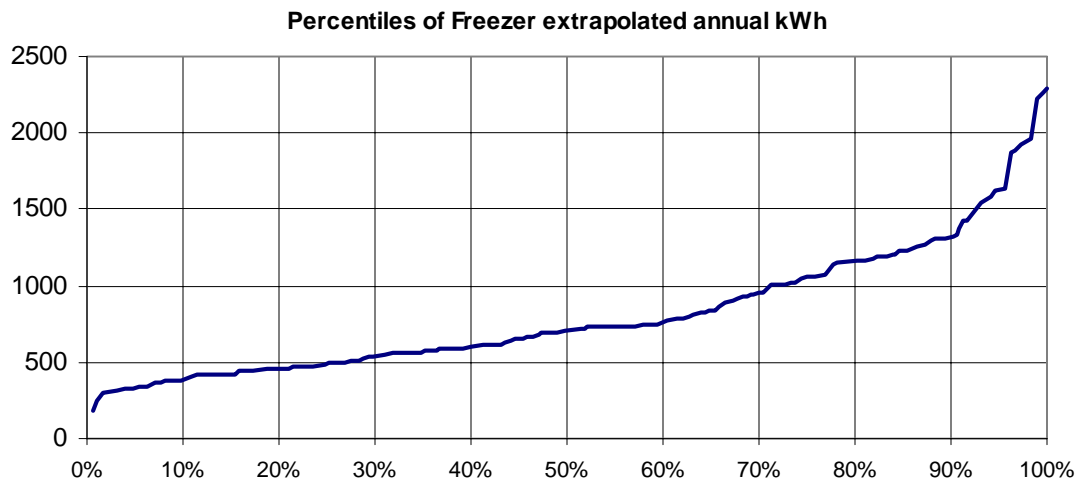
	Overall (n=142)	General (n=96)	Low income (n=22)	New construction (n=24)
mean	815 ±86	850 ±88	741 ±207	671 ±131
minimum	181	181	249	378
5th percentile	338	327	338	378
25th percentile	491	559	405	447
median	720	737	501	574
75th percentile	1055	1136	960	694
95th percentile	1642	1642	1619	1157
maximum	2297	2297	1930	2226

Annual kWh calculated as (monitored kWh)/(monitored minutes)*(60 minutes/hour)*(8760 hours/year)

kWh based on minimum 90 minute monitoring time; average monitoring time: 143 minutes

kWh not measured for 28 freezers

kWh data not used for 30 freezers, mainly due to short monitoring interval



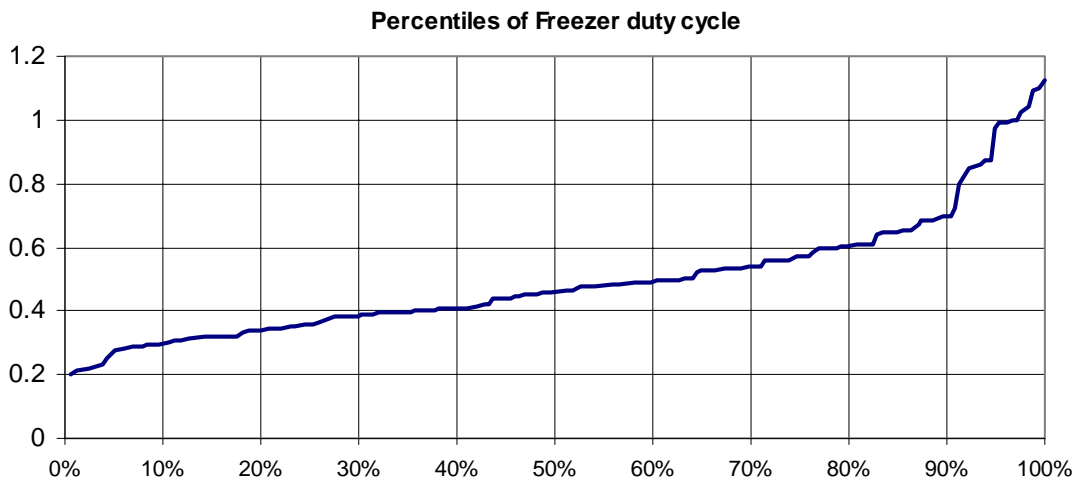
Freezer duty cycle

	Overall (n=134)	General (n=93)	Low income (n=19)	New construction (n=22)
mean	0.496 ±0.036	0.496 ±0.032	0.501 ±0.137	0.492 ±0.058
minimum	0.203	0.211	0.203	0.298
5th percentile	0.274	0.287	0.203	0.344
25th percentile	0.359	0.358	0.322	0.384
median	0.466	0.466	0.472	0.441
75th percentile	0.573	0.573	0.540	0.558
95th percentile	0.993	0.864	1.101	0.876
maximum	1.127	1.092	1.127	1.024

Duty cycle calculated as (monitored kWh)/[(monitored hours)*(recorded operating watts)/1000]

kWh based on minimum 90 minute monitoring time; average monitoring time: 143 minutes

kWh or operating watts not measured (or not used) for 66 of 200 freezers

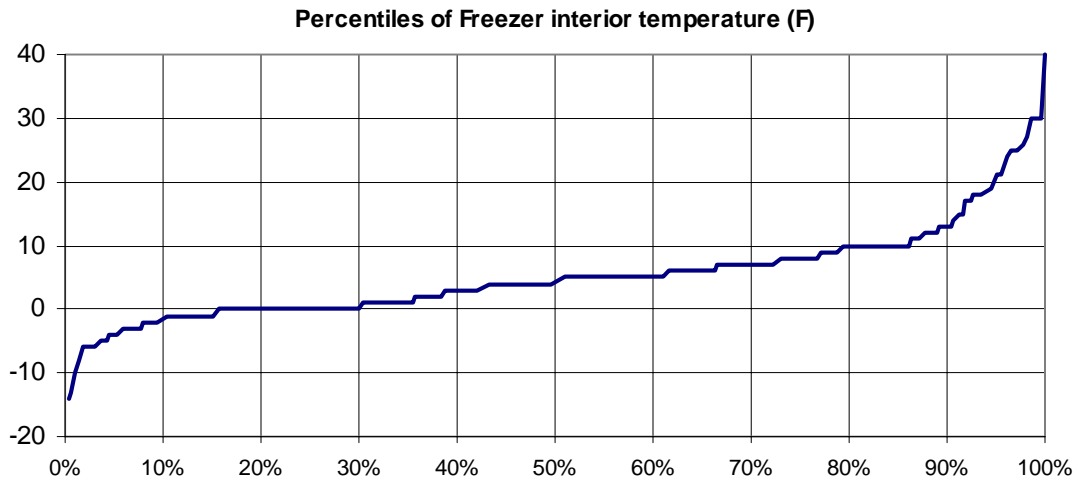


Freezer interior temperature (F)

	Overall (n=191)	General (n=129)	Low income (n=33)	New construction (n=29)
mean	5.3 ±1.5	5.5 ±1.7	5.5 ±2.7	3.6 ±2.6
minimum	-14	-13	-14	-10
5th percentile	-4	-3	-6	-2
25th percentile	0	0	2	0
median	5	4	5	3
75th percentile	8	9	7	7
95th percentile	21	21	27	13
maximum	40	30	40	15

temperature not recorded for 9 freezers

chest freezer measuring 40F located on front porch and measured at outdoor temperature of 60F



Lighting

Definitions:

luminaire — a self-contained lighting source, such as a ceiling fixture, table lamp, or floor lamp

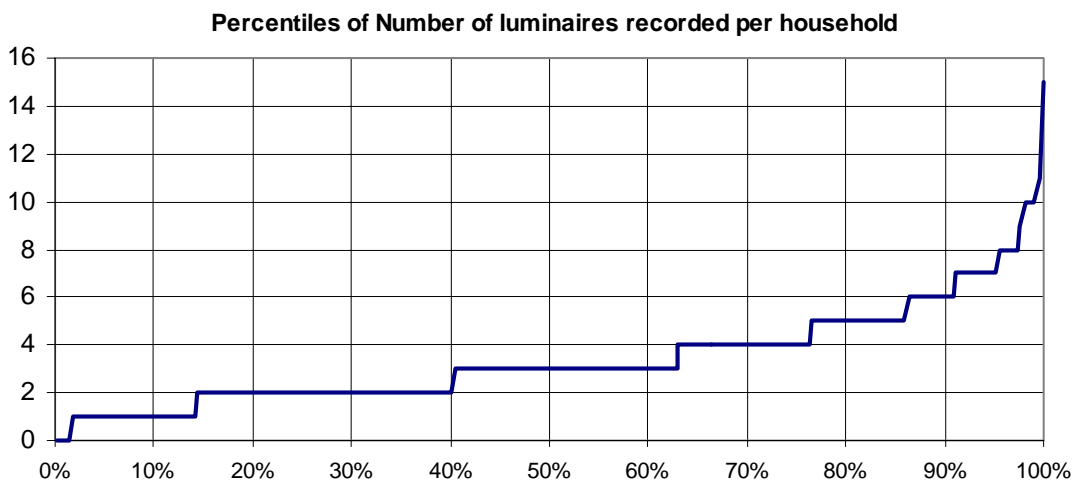
lamp — the type of “bulb” within a luminaire, such as incandescent, halogen, or compact fluorescent

Auditors collected data on luminaires within each home that met a loose criterion of two hours of use per day on average, based on consultation with the homeowner. A total of 1,029 luminaires were recorded in the 299 homes in the study. Eighteen of the recorded luminaires appear to be low-wattage nightlights; these are omitted from most of the tables that follow.

Number of luminaires recorded per household

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	3.4 ±0.2	3.6 ±0.3	2.5 ±0.4	3.0 ±0.3
minimum	0	0	1	1
5th percentile	1	1	1	1
25th percentile	2	2	1	2
median	3	3	2	3
75th percentile	4	5	3	3
95th percentile	7	8	5	5
maximum	15	15	6	8

18 probable nightlights excluded



Luminaire location

	Overall (n=996)	General (n=751)	Low income (n=112)	New construction (n=133)
Kitchen	29.7% ± 1.6	29.7% ± 2.1	32.2% ± 4.9	27.6% ± 5.9
Living room	22.4% ± 3.3	20.7% ± 3.9	30.7% ± 4.0	30.3% ± 7.5
Rec room	11.6% ± 2.9	12.5% ± 3.4	6.0% ± 3.5	9.2% ± 3.4
Bedroom	10.3% ± 4.3	10.5% ± 5.3	8.5% ± 5.1	10.2% ± 7.8
Dining room	9.0% ± 2.9	9.6% ± 3.3	6.2% ± 6.5	6.3% ± 4.6
Outdoor	7.3% ± 1.2	7.2% ± 1.6	7.0% ± 4.5	8.4% ± 5.3
Basement	4.0% ± 1.7	4.2% ± 2.2	3.3% ± 4.4	2.2% ± 2.9
Bathroom	3.1% ± 0.8	3.2% ± 1.0	3.1% ± 2.9	1.3% ± 1.4
Hallway	2.4% ± 0.6	2.2% ± 0.8	2.3% ± 2.0	4.4% ± 4.0
Garage	0.2% ± 0.3	0.2% ± 0.3	0.7% ± 1.3	0.0% ± 0.0

18 probable nightlights excluded

location not recorded for 15 luminaires

Luminaire type

	Overall (n=902)	General (n=684)	Low income (n=100)	New construction (n=118)
Ceiling fixture	54.7% ± 3.5	55.8% ± 3.6	55.3% ± 10.0	43.4% ± 9.0
Table lamp	24.6% ± 1.5	23.3% ± 1.8	29.1% ± 7.6	32.6% ± 7.4
Floor lamp	12.0% ± 2.2	12.5% ± 2.3	7.6% ± 5.5	11.1% ± 6.6
Wall fixture	5.2% ± 0.8	5.4% ± 1.0	6.9% ± 3.7	1.6% ± 1.9
Recessed ceiling fixture	2.4% ± 1.2	1.7% ± 1.0	0.0% ± 0.0	11.4% ± 7.7
Track lighting	1.1% ± 0.9	1.2% ± 0.9	1.1% ± 2.0	0.0% ± 0.0

nightlights, outdoor and garage lighting excluded

luminaire type not recorded for 1 luminaire

Lamp type

	Overall (n=980)	General (n=743)	Low income (n=109)	New construction (n=128)
Incandescent	76.9% ± 5.5	76.7% ± 6.2	73.5% ± 13.5	81.5% ± 8.5
Fluorescent	12.5% ± 2.5	12.8% ± 2.9	13.8% ± 5.5	9.0% ± 6.1
Compact fluorescent	5.0% ± 2.7	5.0% ± 2.8	8.6% ± 12.0	1.4% ± 1.8
Halogen	3.0% ± 1.7	3.1% ± 1.8	0.0% ± 0.0	4.9% ± 3.8
High pressure sodium	1.7% ± 0.6	1.5% ± 0.8	2.7% ± 2.5	2.6% ± 3.4
Mercury vapor	0.9% ± 0.6	0.8% ± 0.6	1.3% ± 1.7	0.6% ± 1.2
Metal halide	0.1% ± 0.2	0.2% ± 0.3	0.0% ± 0.0	0.0% ± 0.0

18 probable nightlights excluded

lamp type not recorded for 31 luminaires

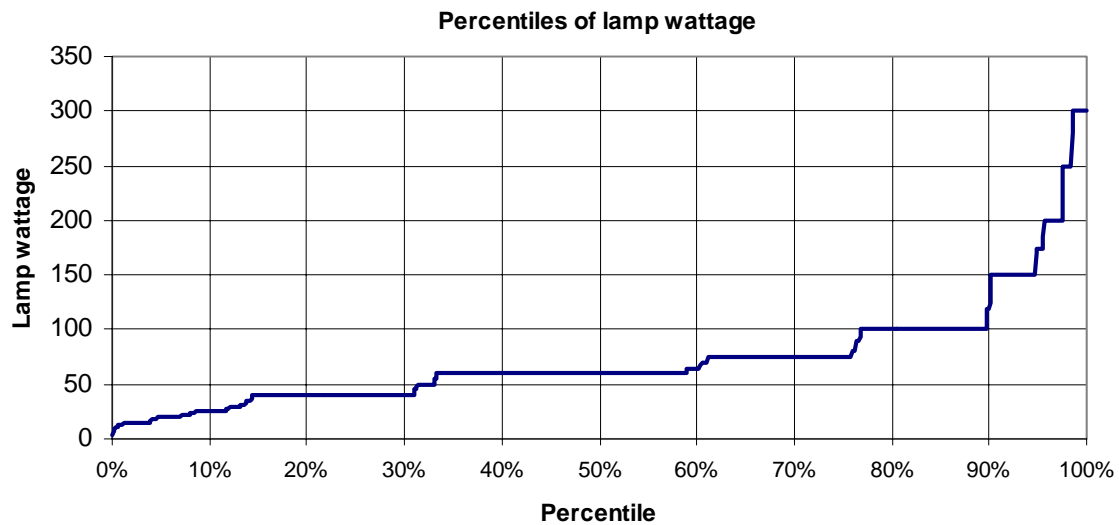
Lamp wattage

	Overall (n=992)	General (n=746)	Low income (n=112)	New construction (n=134)
mean	73.1 ±3.3	73.5 ±3.2	66.7 ±8.7	74.7 ±9.3
minimum	4	10	4	9
5th percentile	20	20	18	30
25th percentile	40	40	40	60
median	60	60	60	60
75th percentile	75	80	75	75
95th percentile	175	200	150	150
maximum	500	500	250	300

18 probable nightlights excluded

wattage not recorded for 19 lamps

wattage for 3-way incandescents generally recorded as middle value



Number of lamps per luminaire

	Overall (n=1011)	General (n=763)	Low income (n=114)	New construction (n=134)
One	50.8% ± 2.8	50.1% ± 3.2	58.3% ± 11.0	49.9% ± 7.9
Two	20.3% ± 2.8	19.2% ± 4.0	23.3% ± 8.9	28.5% ± 8.1
Three	11.0% ± 1.9	11.1% ± 2.1	10.9% ± 5.0	10.0% ± 4.5
Four	7.7% ± 1.6	8.4% ± 2.3	5.3% ± 3.2	4.1% ± 3.2
Five	4.7% ± 1.2	5.3% ± 1.5	0.0% ± 0.0	3.4% ± 4.2
Six +	5.5% ± 1.6	5.9% ± 2.1	2.1% ± 2.7	4.2% ± 3.3

18 probable nightlights excluded

number of lamps not recorded for 22 luminaires

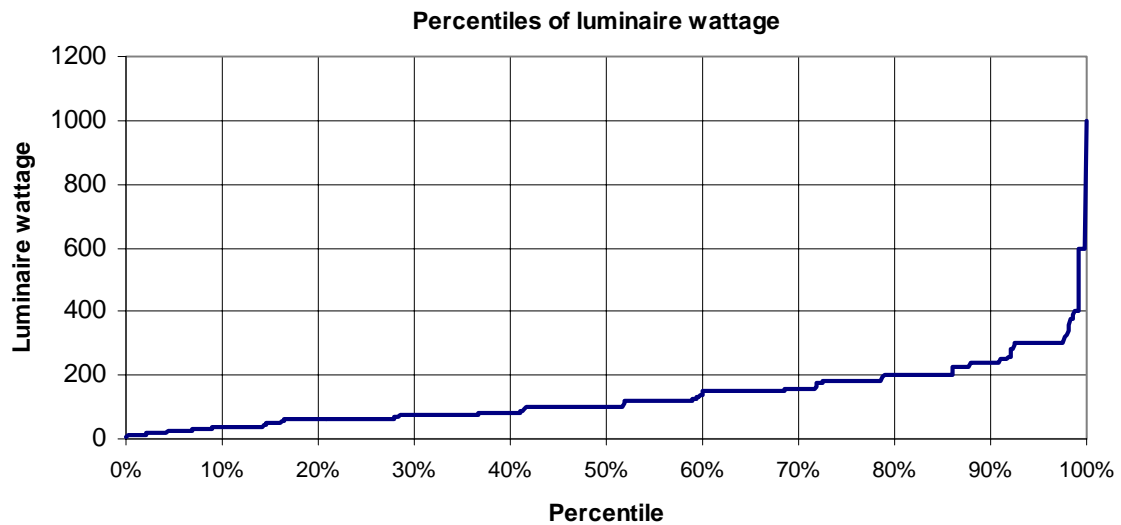
Luminaire wattage

	Overall (n=980)	General (n=737)	Low income (n=112)	New construction (n=131)
mean	130.3 ±5.8	133.2 ±6.9	104.0 ±18.0	129.3 ±14.7
minimum	9	11	11	9
5th percentile	22	22	18	45
25th percentile	60	60	60	60
median	100	100	80	120
75th percentile	180	180	150	150
95th percentile	300	300	240	300
maximum	1000	1000	400	600

calculated as lamp wattage*# lamps in luminaire

18 probable nightlights excluded

wattage or number of lamps not recorded for 31 luminaires

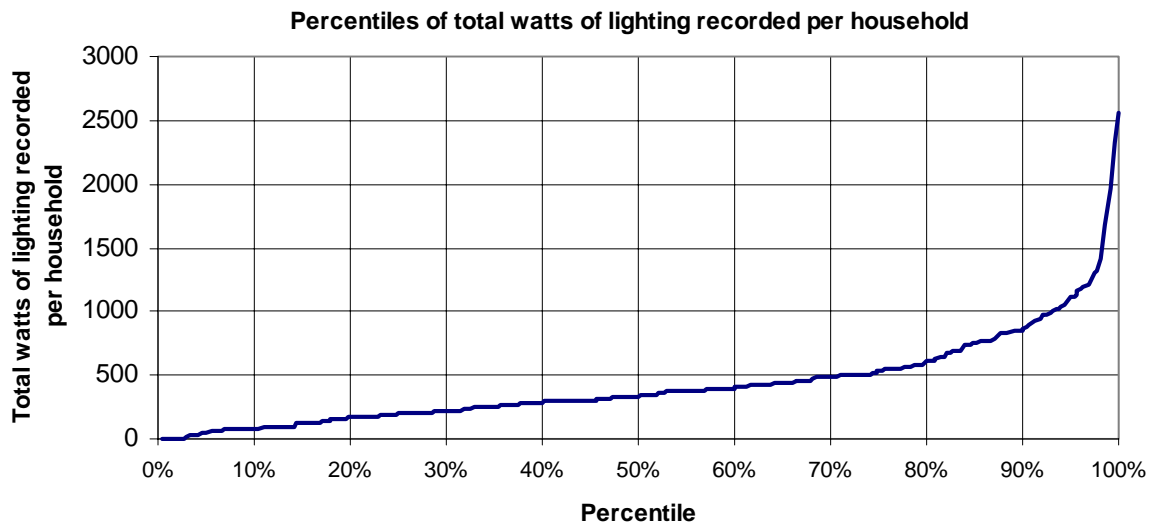


Total watts of lighting recorded per household

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	430 ±38	461 ±48	259 ±67	384 ±58
minimum	0	0	0	60
5th percentile	60	62	18	100
25th percentile	198	208	75	210
median	340	370	220	320
75th percentile	535	560	400	505
95th percentile	1120	1190	645	860
maximum	2557	2557	800	1000

calculated for each household as the sum of lamp wattage*# lamps in luminaire for all recorded luminaires

wattage or number of lamps not recorded for 31 luminaires

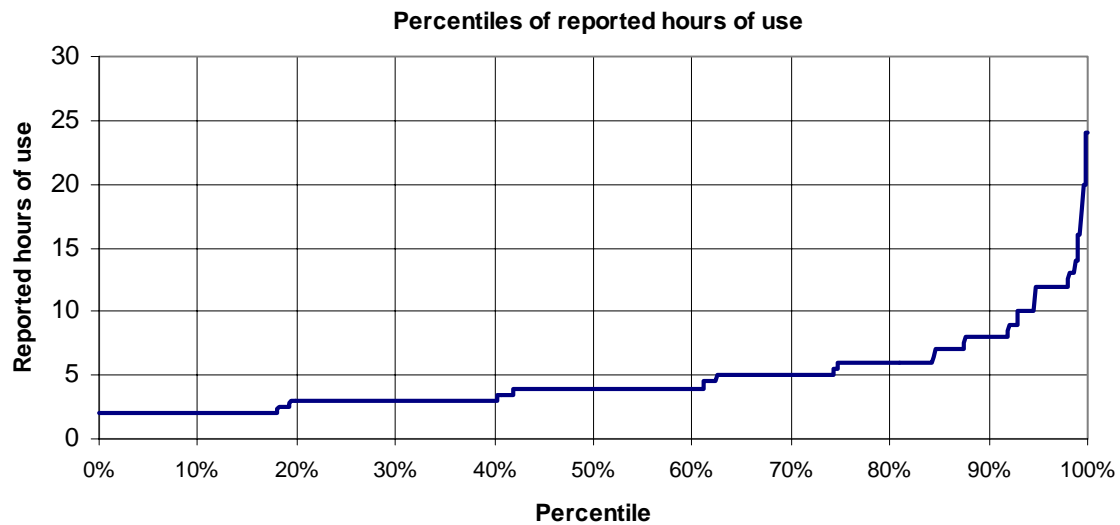


Reported hours of use

	Overall (n=1000)	General (n=754)	Low income (n=112)	New construction (n=134)
mean	4.9 ±0.2	4.9 ±0.3	5.4 ±1.2	4.1 ±0.4
minimum	2	2	2	2
5th percentile	2	2	2	2
25th percentile	3	3	3	3
median	4	4	4	4
75th percentile	6	6	6	5
95th percentile	12	12	16	9
maximum	24	24	24	12

18 probable nightlights excluded

hours of use not recorded for 11 luminaires

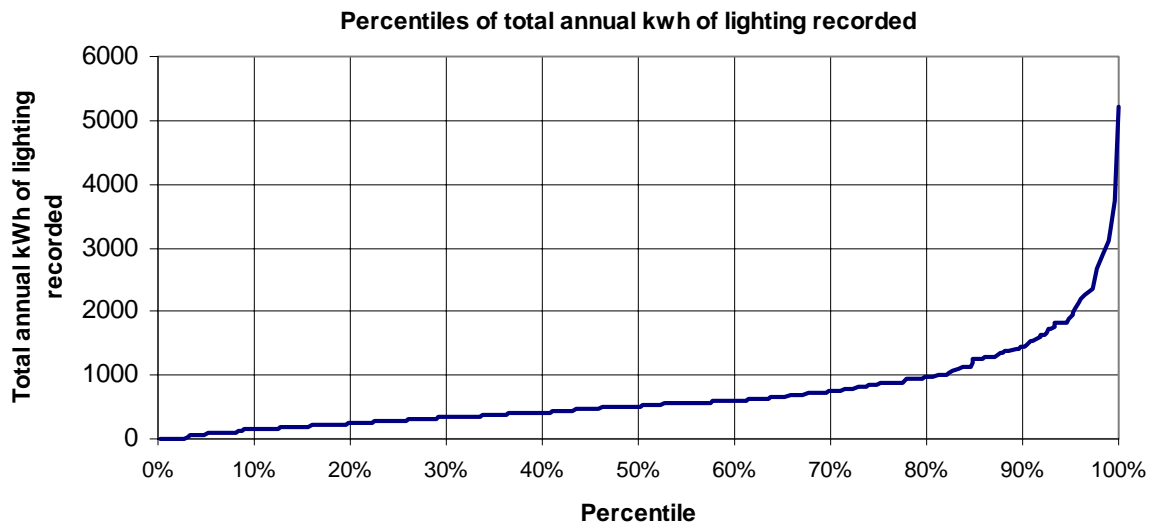


Total annual kWh of lighting recorded

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	698 ±58	751 ±70	427 ±99	580 ±108
minimum	0	0	0	88
5th percentile	82	83	55	146
25th percentile	292	307	214	285
median	515	558	391	462
75th percentile	865	927	511	635
95th percentile	1940	2195	1023	1564
maximum	5228	5228	1810	1752

calculated for each household as the sum of 365*lamp wattage*# lamps in luminaire*self-reported hours of use per day for all recorded luminaires

wattage or number of lamps not recorded for 31 luminaires



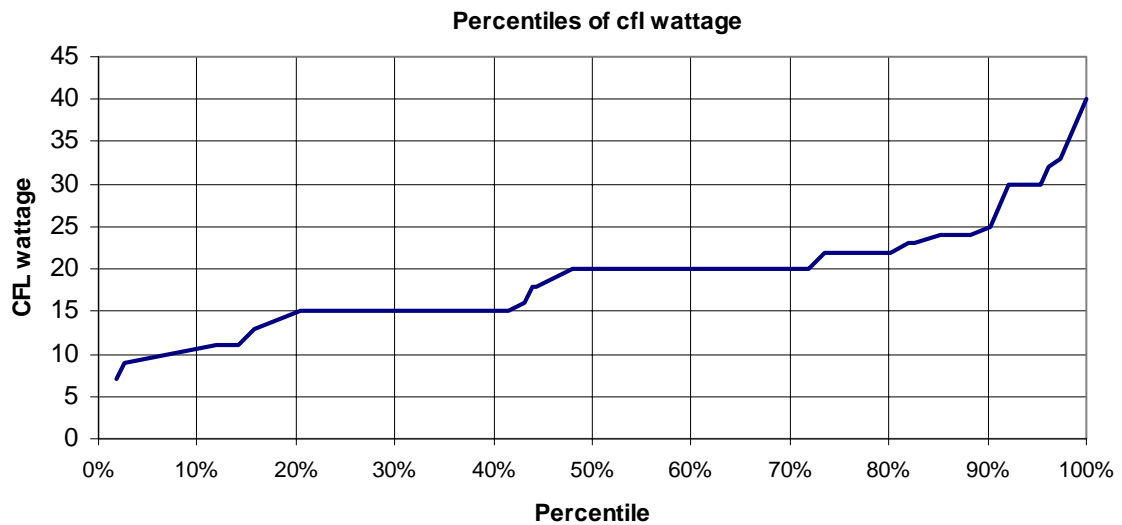
Number of CFLs recorded per home

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Zero	86.8% ± 6.9	85.2% ± 8.4	90.9% ± 10.5	95.8% ± 5.3
One	10.5% ± 6.2	12.2% ± 8.0	4.4% ± 5.8	4.2% ± 5.3
Two	2.4% ± 1.8	2.7% ± 2.2	2.4% ± 4.3	0.0% ± 0.0
More than two	0.3% ± 0.5	0.0% ± 0.0	2.4% ± 4.3	0.0% ± 0.0

One home was recorded as having more than two CFLs; five were recorded for this home.

CFL wattage

	Overall (n=48)	General (n=37)	Low income (n=9)	New construction (n=2)
mean	19 ± 2	19 ± 2	19 ± 4	15 ± 35
minimum	7	11	7	9
5th percentile	11	11	7	9
25th percentile	15	15	20	9
median	20	20	20	20
75th percentile	22	22	20	20
95th percentile	30	30	33	20
maximum	40	40	33	20



Luminaire controlled by a photocell?

	Overall (n=60)	General (n=39)	Low income (n=9)	New construction (n=12)
No	53.6% ± 10.8	53.4% ± 13.6	53.3% ± 32.8	55.5% ± 26.9
Yes	46.4% ± 10.8	46.6% ± 13.6	46.7% ± 32.8	44.5% ± 26.9

outdoor luminaires only

not recorded for pilot households with outdoor luminaires (13)

presence of a photocell not recorded for 2 outdoor luminaires in full-scale study

confidence intervals based on simple random sampling assumptions

Three-way incandescent lamp?

	Overall (n=637)	General (n=493)	Low income (n=57)	New construction (n=87)
No	86.2% ± 2.0	86.3% ± 2.2	81.7% ± 7.9	88.3% ± 4.8
Yes	13.8% ± 2.0	13.7% ± 2.2	18.3% ± 7.9	11.7% ± 4.8

incandescent lamps only; 16 probable nightlights excluded

not recorded for 117 luminaires with incandescent lamps

Other Appliances

Ranges and Stoves

Combination range/oven?

	Overall (n=262)	General (n=180)	Low income (n=40)	New construction (n=42)
Yes	94.6% ± 2.3	94.8% ± 2.8	93.3% ± 4.4	94.3% ± 5.9
No	5.4% ± 2.3	5.2% ± 2.8	6.7% ± 4.4	5.7% ± 5.9

not recorded for 28 homes

Range fuel

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Electricity	65.0% ± 9.4	69.2% ± 10.5	38.9% ± 14.2	62.0% ± 15.3
Natural gas	28.9% ± 10.6	28.0% ± 10.9	37.6% ± 17.8	25.8% ± 15.0
Propane	6.1% ± 3.2	2.8% ± 2.6	23.5% ± 10.4	12.2% ± 10.7

Oven fuel

	Overall (n=294)	General (n=209)	Low income (n=43)	New construction (n=42)
Electricity	66.9% ± 9.5	70.5% ± 10.9	38.9% ± 14.2	71.1% ± 16.1
Natural gas	27.3% ± 10.3	26.9% ± 10.9	37.6% ± 17.8	18.4% ± 15.3
Propane	5.7% ± 3.2	2.6% ± 2.6	23.5% ± 10.4	10.5% ± 9.2

Range vented to outside?

	Overall (n=278)	General (n=194)	Low income (n=42)	New construction (n=42)
Yes	27.0% ± 6.5	23.3% ± 8.5	26.2% ± 11.9	56.1% ± 16.5
No	73.0% ± 6.5	76.7% ± 8.5	73.8% ± 11.9	43.9% ± 16.5

not recorded for 21 units

Oven vented to outside?

	Overall (n=255)	General (n=174)	Low income (n=40)	New construction (n=41)
Yes	25.9% ± 6.1	22.8% ± 7.2	26.0% ± 12.2	47.9% ± 16.2
No	74.1% ± 6.1	77.2% ± 7.2	74.0% ± 12.2	52.1% ± 16.2

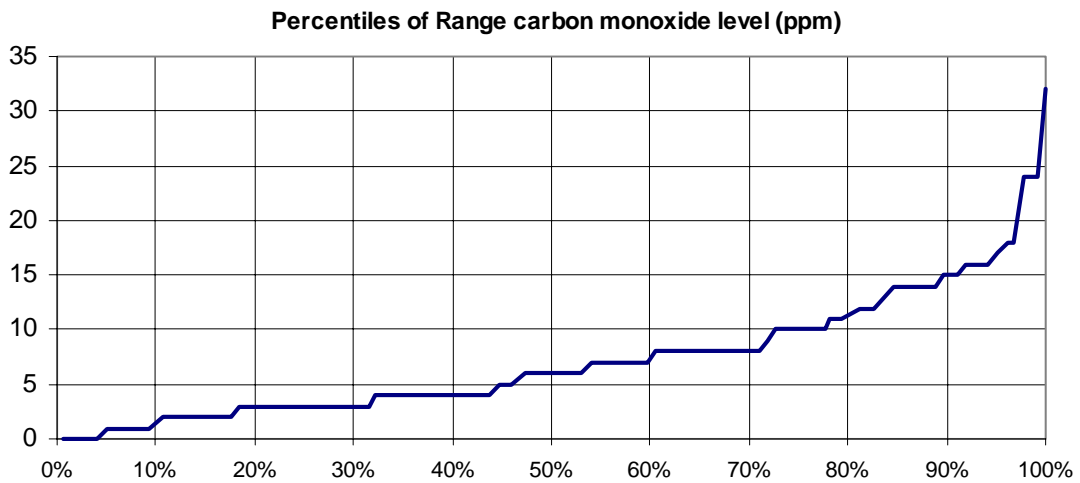
not recorded for 44 units

Range carbon monoxide level (ppm)

	Overall (n=97)	General (n=56)	Low income (n=25)	New construction (n=16)
mean	7.3 ±1.4	7.2 ±1.1	9.1 ±4.5	4.1 ±1.3
minimum	0	0	0	1
5th percentile	1	1	0	1
25th percentile	3	3	3	3
median	6	7	6	4
75th percentile	10	10	16	6
95th percentile	17	16	24	8
maximum	32	24	32	8

for fuel-fired ranges only

not recorded for 5 units

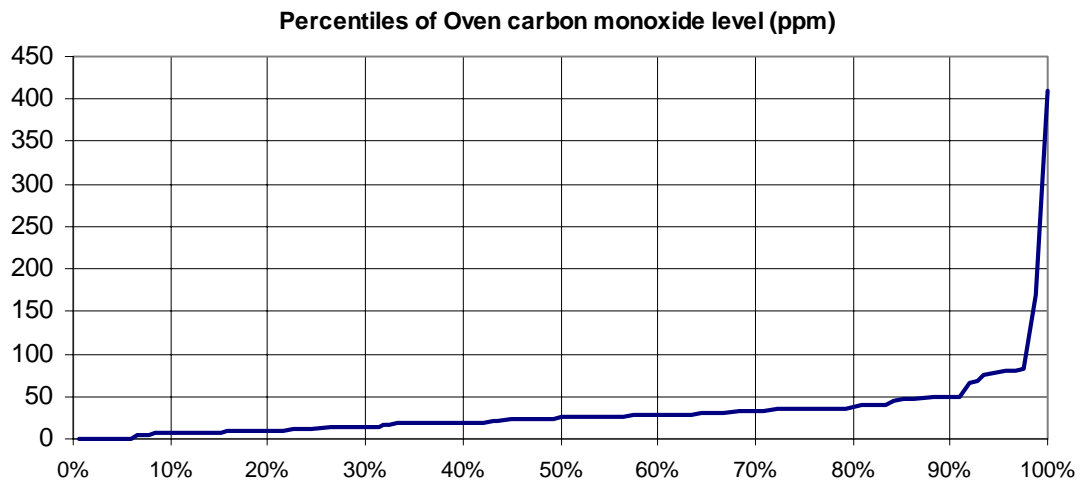


Oven carbon monoxide level (ppm)

	Overall (n=94)	General (n=57)	Low income (n=25)	New construction (n=12)
mean	32.5 ±7.2	34.0 ±11.6	33.2 ±14.7	18.0 ±10.3
minimum	0	0	0	1
5th percentile	1	5	0	1
25th percentile	13	14	15	9
median	25	25	28	10
75th percentile	35	35	35	27
95th percentile	80	80	170	68
maximum	409	409	170	68

for fuel-fired ovens only

not recorded for 2 units



Clothes Dryers

Clothes dryer present?

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Yes	96.1% ± 1.5	97.4% ± 2.2	84.0% ± 5.9	100.0% ± 0.0
No	3.9% ± 1.5	2.6% ± 2.2	16.0% ± 5.9	0.0% ± 0.0

Dryer fuel

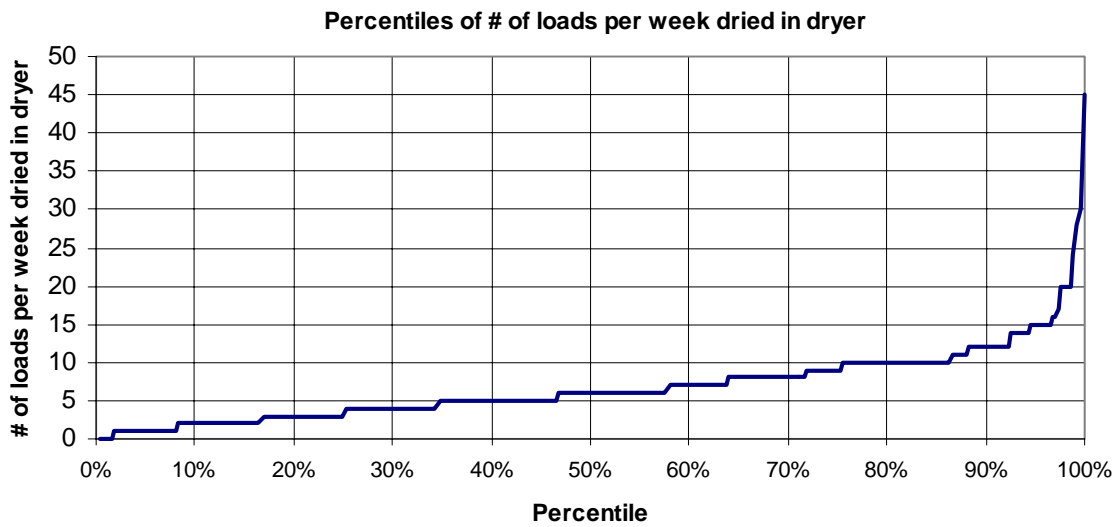
	Overall (n=287)	General (n=207)	Low income (n=36)	New construction (n=44)
Electricity	73.9% ± 5.7	73.9% ± 4.9	74.5% ± 15.4	73.1% ± 15.3
Natural gas	23.3% ± 5.7	23.6% ± 5.1	19.1% ± 10.5	25.5% ± 15.0
Propane	2.8% ± 1.6	2.5% ± 1.6	6.4% ± 8.0	1.5% ± 2.7

Dryer venting

	Overall (n=283)	General (n=203)	Low income (n=36)	New construction (n=44)
Outside	86.9% ± 5.9	85.3% ± 6.3	85.9% ± 9.0	100.0% ± 0.0
Inside	7.7% ± 5.0	7.9% ± 5.2	14.1% ± 9.0	0.0% ± 0.0
Switch valve	5.4% ± 1.8	6.8% ± 2.2	0.0% ± 0.0	0.0% ± 0.0

How many loads of laundry do you dry per week in the dryer? (survey question 27)

	Overall (n=276)	General (n=197)	Low income (n=37)	New construction (n=42)
mean	6.8 ±0.9	6.8 ±1.0	6.4 ±1.8	6.8 ±1.0
minimum	0	0	1	1
5th percentile	1	1	1	2
25th percentile	4	4	2	4
median	6	6	6	7
75th percentile	9	9	9	10
95th percentile	15	15	15	11
maximum	45	45	24	12



Dishwashers

Automatic dishwasher present?

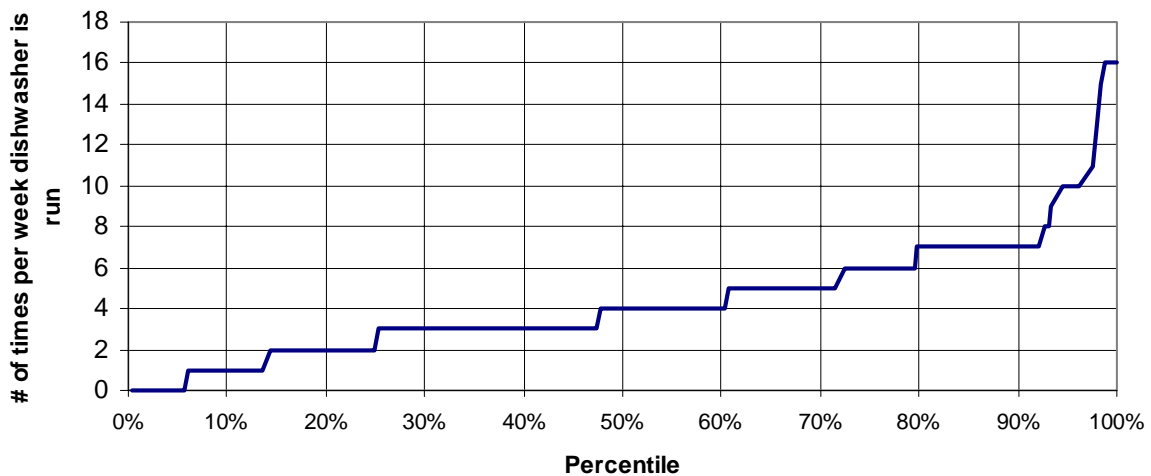
	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	36.0% ± 7.1	34.3% ± 7.8	72.5% ± 11.7	7.0% ± 4.8
Yes	64.0% ± 7.1	65.7% ± 7.8	27.5% ± 11.7	93.0% ± 4.8

not recorded for 3 homes

About how many times a week do you run [your dishwasher]? (survey question 25)

	Overall (n=179)	General (n=132)	Low income (n=10)	New construction (n=37)
mean	4.3 ± 0.5	4.4 ± 0.5	4.5 ± 1.7	4.1 ± 0.8
minimum	0	0	0	0
5th percentile	0	0	0	1
25th percentile	3	3	2	3
median	4	4	5	4
75th percentile	6	6	5	6
95th percentile	10	10	13	9
maximum	16	16	13	10

Percentiles of # of times per week dishwasher is run

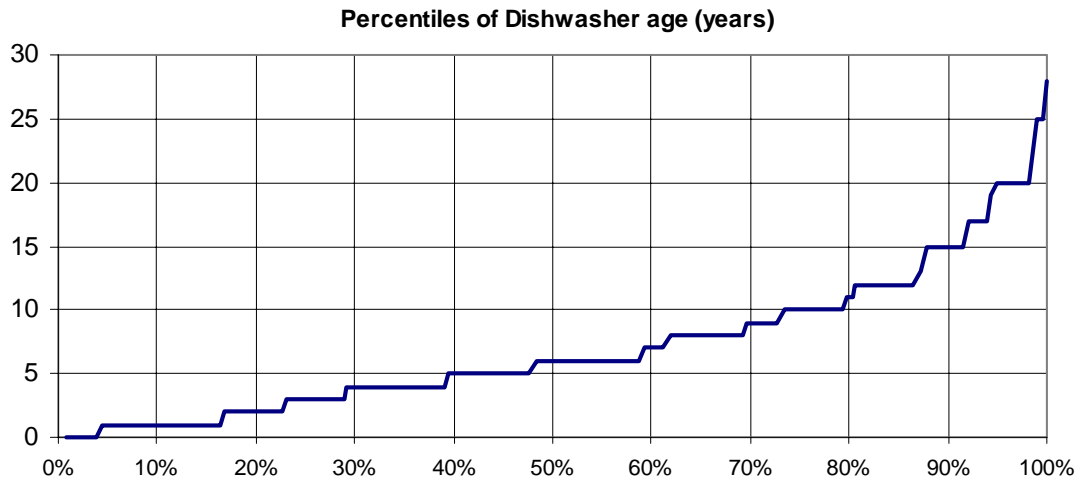


Dishwasher age (years)

	Overall (n=160)	General (n=111)	Low income (n=11)	New construction (n=38)
mean	7.0 ±0.8	7.9 ±1.0	7.8 ±3.4	2.6 ±0.4
minimum	0	0	3	0
5th percentile	1	1	3	0
25th percentile	3	4	5	1
median	6	6	6	2
75th percentile	10	11	8	4
95th percentile	20	20	20	5
maximum	28	28	20	10

not recorded for 28 units

source of age estimates: homeowner (95%); nameplate (2%); auditor estimate (3%)



Hot tubs/Jacuzzis

Hot tub or jacuzzi present?

	Overall (n=278)	General (n=192)	Low income (n=42)	New construction (n=44)
Yes	9.9% ± 4.9	7.8% ± 3.8	9.7% ± 12.1	25.9% ± 15.9
No	90.1% ± 4.9	92.2% ± 3.8	90.3% ± 12.1	74.1% ± 15.9

not recorded for 21 homes

Hot tub/jacuzzi location

	Overall (n=26)	General (n=13)	Low income (n=3)	New construction (n=10)
Bathroom	53.9% ± 17.0	60.5% ± 25.2	0.0% ± 0.0	61.9% ± 29.7
Deck/outdoors	17.8% ± 13.1	26.2% ± 22.6	16.8% ± 77.2	0.0% ± 0.0
Basement	13.2% ± 11.6	13.3% ± 17.5	31.0% ± 95.5	5.6% ± 14.1
Heated porch	9.3% ± 9.9	0.0% ± 0.0	52.2% ± 103.1	11.9% ± 19.8
Bedroom	5.7% ± 7.9	0.0% ± 0.0	0.0% ± 0.0	20.6% ± 24.7

Heating source for hot tub/jacuzzi

	Overall (n=26)	General (n=13)	Low income (n=3)	New construction (n=10)
Water heater	54.5% ± 17.0	56.0% ± 25.5	0.0% ± 0.0	73.8% ± 26.9
Separate electric heater	45.5% ± 17.0	44.0% ± 25.5	100.0% ± 0.0	26.2% ± 26.9

Water Beds

Number of waterbeds present

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
Zero	89.9% ± 4.0	90.1% ± 4.2	90.8% ± 9.2	87.9% ± 8.9
One	8.5% ± 3.5	8.4% ± 3.9	9.2% ± 9.2	7.8% ± 6.9
Two	1.3% ± 1.1	1.1% ± 1.1	0.0% ± 0.0	4.3% ± 5.4
Three	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Four	0.3% ± 0.6	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0

Insulating blanket present on waterbed?

	Overall (n=42)	General (n=29)	Low income (n=5)	New construction (n=8)
Yes	56.0% ± 13.0	61.6% ± 15.6	19.2% ± 42.0	46.0% ± 35.7
No	44.0% ± 13.0	38.4% ± 15.6	80.8% ± 42.0	54.0% ± 35.7

Waterbed heater on a timer?

	Overall (n=42)	General (n=29)	Low income (n=5)	New construction (n=8)
Yes	16.9% ± 9.9	21.6% ± 13.2	0.0% ± 0.0	0.0% ± 0.0
No	83.1% ± 9.9	78.4% ± 13.2	100.0% ± 0.0	100.0% ± 0.0

Energy Use and Cost

Two separate sets of energy use statistics are reported here: the first is derived from actual utility billing histories for electricity and natural gas, using PRISM analysis (see Appendix {?}). The second set of statistics adds in statistically imputed estimates of energy use for other fuels to derive overall estimates of overall energy use and cost.

Natural gas and electricity use — utility billing histories

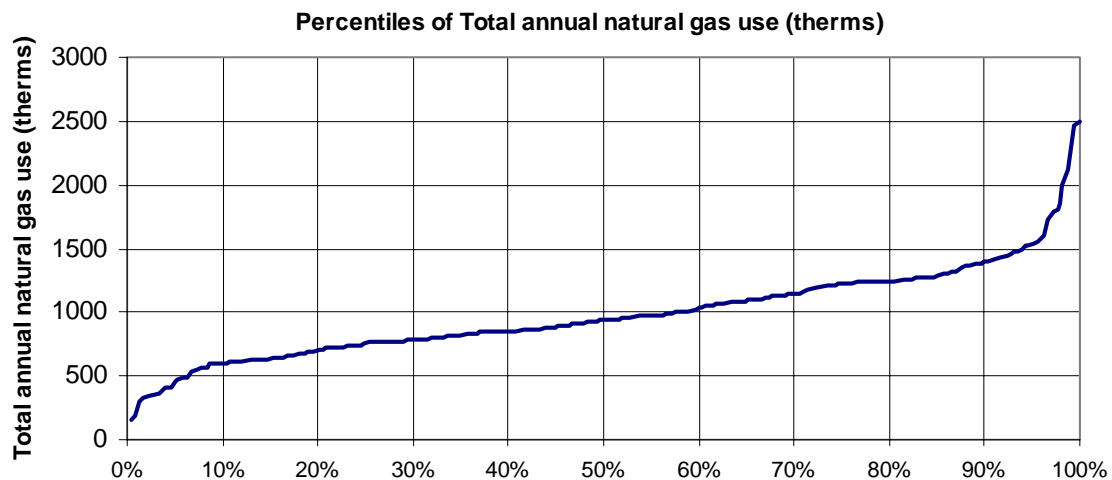
Total annual natural gas use (therms)

	Overall (n=198)	General (n=144)	Low income (n=24)	New construction (n=30)
mean	986 ±33	985 ±36	949 ±189	1030 ±89
minimum	152	185	152	613
5th percentile	476	538	326	652
25th percentile	767	774	489	767
median	940	940	893	967
75th percentile	1229	1229	1273	1153
95th percentile	1535	1476	2471	1556
maximum	2501	2501	2471	1811

gas use data not available of 7 of 206 homes that heat with natural gas

weather corrected estimates from PRISM analysis

total gas use of 7200 therms for one home excluded; this is the largest home in the study, and the heating system also supplies a separate rental property

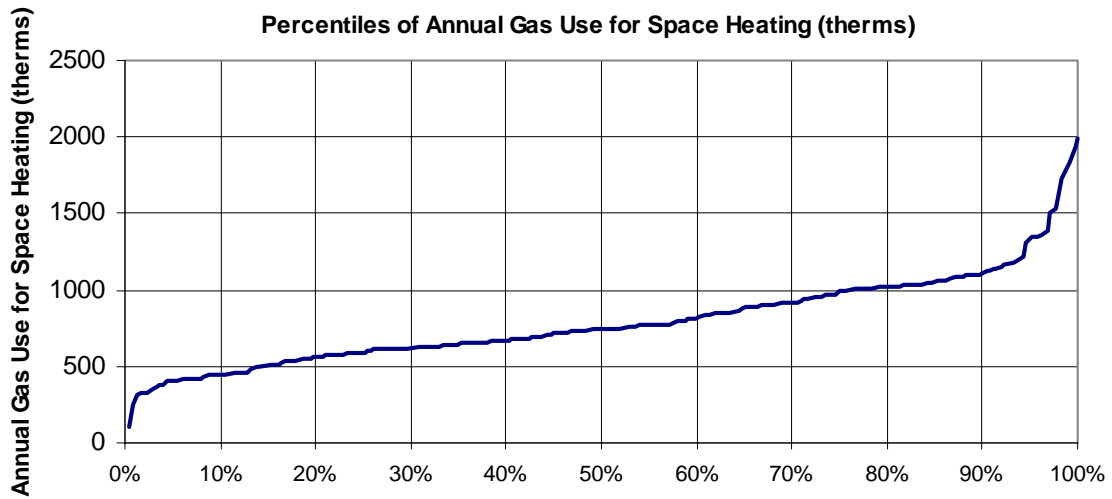


Annual Gas Use for Space Heating (therms)

	Overall (n=193)	General (n=142)	Low income (n=21)	New construction (n=30)
mean	793 ±41	793 ±36	787 ±146	802 ±85
minimum	99	99	320	485
5th percentile	406	406	381	502
25th percentile	594	612	574	594
median	744	745	652	767
75th percentile	999	1005	946	899
95th percentile	1345	1312	1935	1345
maximum	1993	1993	1935	1526

excludes houses without gas space heating

based on PRISM analysis



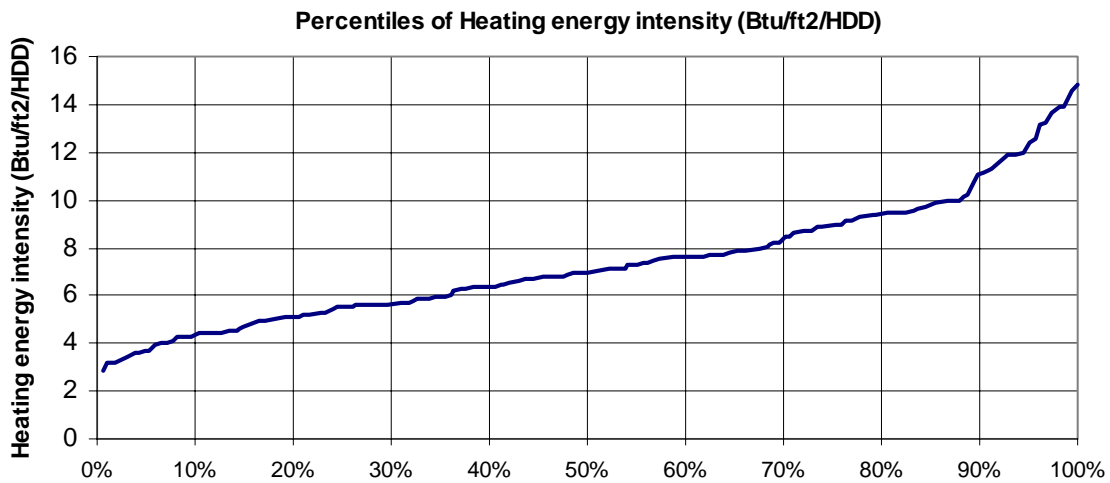
Heating energy intensity (Btu/ft²/HDD)

	Overall (n=147)	General (n=107)	Low income (n=17)	New construction (n=23)
mean	7.4 ±0.7	7.5 ±0.7	8.1 ±0.9	5.5 ±0.4
minimum	2.8	2.8	4.4	3.2
5th percentile	3.7	3.7	4.7	3.6
25th percentile	5.5	5.6	5.5	4.0
median	7.0	7.2	7.6	5.3
75th percentile	9.0	9.3	10.1	7.3
95th percentile	12.4	12.4	14.6	8.2
maximum	14.8	14.8	14.6	8.5

excludes homes without gas space heating, and homes that use multiple fuels for

based on PRISM estimate of annual heating use

square footage excludes basements

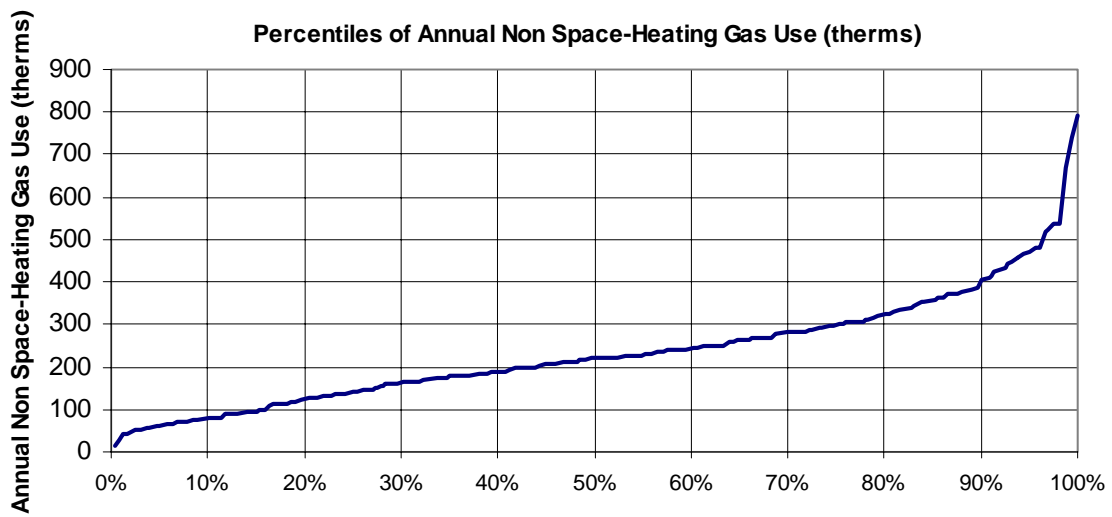


Annual Non Space-Heating Gas Use

	Overall (n=182)	General (n=132)	Low income (n=21)	New construction (n=29)
mean	236 ±16	227 ±14	312 ±98	235 ±64
minimum	15	41	15	31
5th percentile	63	64	41	31
25th percentile	142	142	152	138
median	221	213	314	225
75th percentile	301	283	470	289
95th percentile	470	432	536	525
maximum	791	791	740	536

excludes houses without non space heating gas appliances

based on PRISM analysis

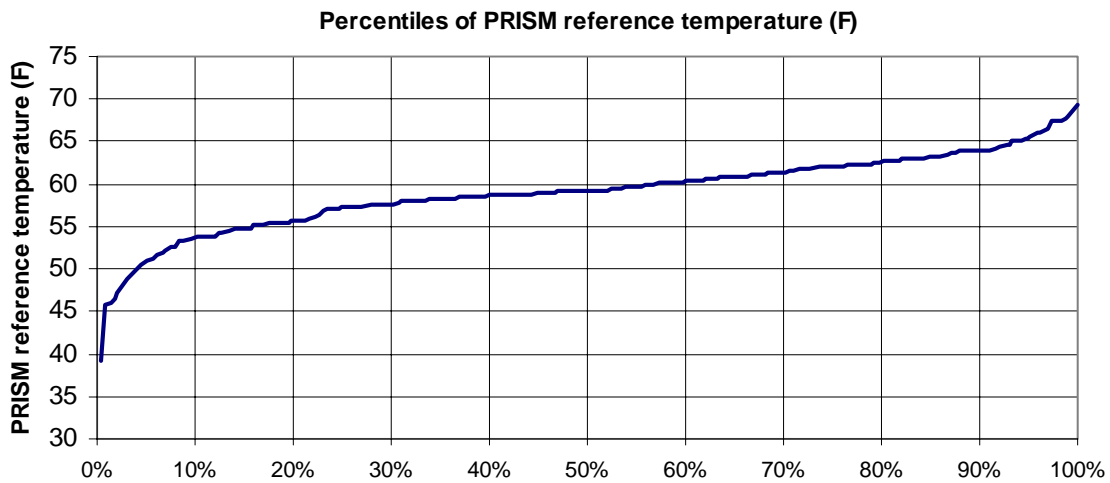


PRISM reference temperature (F)

	Overall (n=191)	General (n=140)	Low income (n=21)	New construction (n=30)
mean	59.1 ±0.9	59.1 ±1.0	59.2 ±1.5	59.0 ±1.7
minimum	39.3	39.3	51.6	46.5
5th percentile	51.0	50.6	51.6	52.1
25th percentile	57.3	57.4	56.3	57.0
median	59.2	59.3	59.2	58.8
75th percentile	62.0	62.0	62.8	61.6
95th percentile	65.6	66.0	65.3	65.0
maximum	69.3	69.3	67.4	67.9

excludes houses without gas space heating, and houses for which reference temperature could not be determined from billing data

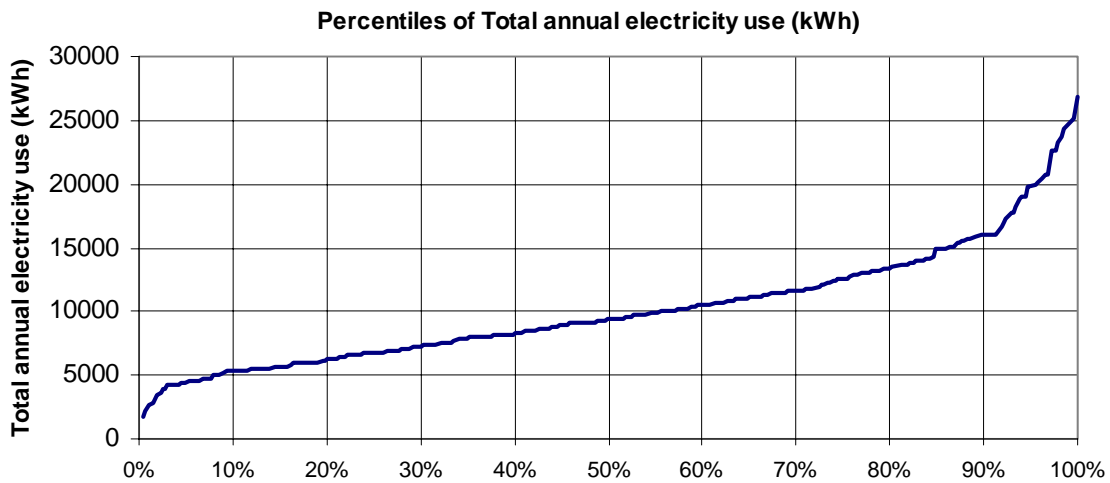
based on PRISM analysis



Total annual electricity use (kWh)

	Overall (n=270)	General (n=192)	Low income (n=35)	New construction (n=43)
mean	10,199 ±719	10,382 ±900	8,855 ±1,263	10,130 ±1,227
minimum	1,731	1,731	3,578	5,033
5th percentile	4,503	4,603	3,917	5,410
25th percentile	6,754	6,802	5,282	7,373
median	9,430	9,636	8,434	9,430
75th percentile	12,575	13,103	10,698	11,115
95th percentile	19,983	19,983	16,075	20,707
maximum	26,905	26,905	24,320	20,791

electricity data was not available for 29 homes

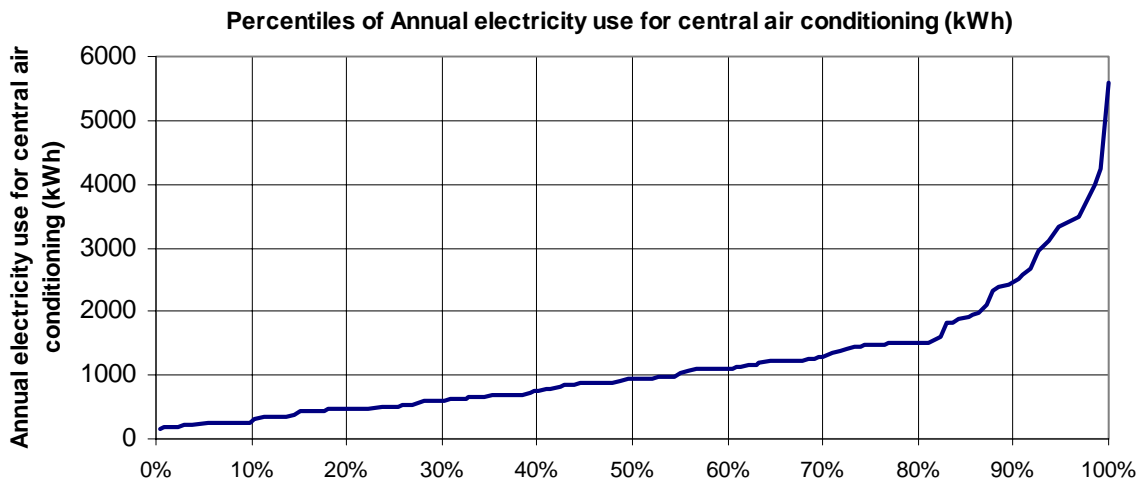


Estimated annual electricity use for central air conditioning (kWh)

	Overall (n=130)	General (n=96)	Low income (n=7)	New construction (n=27)
mean	1,191 ±189	1,162 ±193	1,721 ±1,037	1,226 ±313
minimum	151	151	539	259
5th percentile	236	236	539	314
25th percentile	509	488	1,158	658
median	949	894	1,275	953
75th percentile	1,486	1,477	1,516	1,492
95th percentile	3,495	3,495	4,246	3,330
maximum	5,579	5,579	4,246	3,330

excludes homes without central air conditioning, or for which no use was evident from billing data

based on PRISM analysis



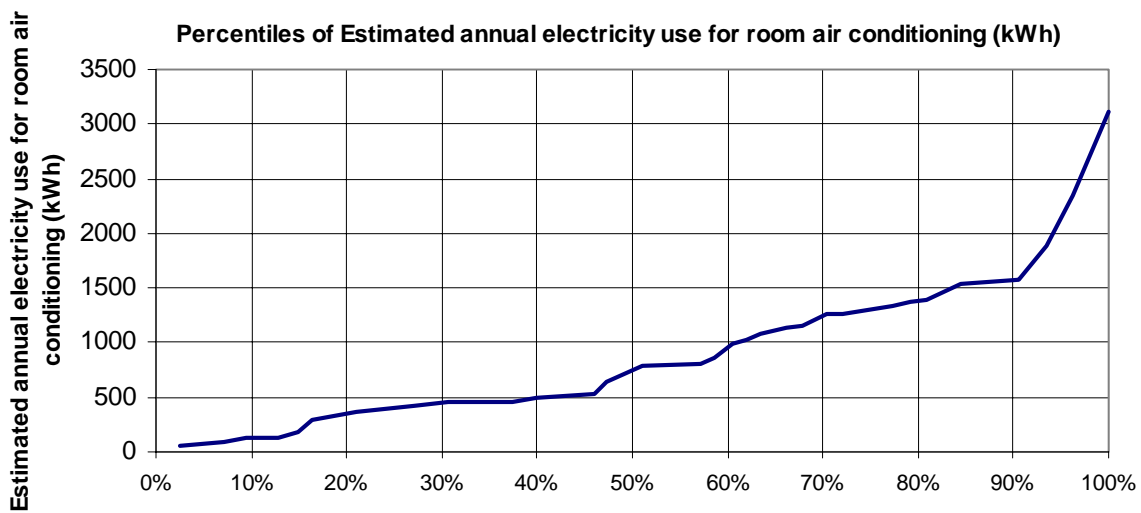
Estimated annual electricity use for room air conditioning (kWh)

	Overall (n=33)	General (n=22)	Low income (n=10)	New construction (n=1)
mean	914 ±211	866 ±270	1,088 ±395	301 ±
minimum	50	83	50	301
5th percentile	83	83	50	301
25th percentile	414	414	787	301
median	787	539	1,146	301
75th percentile	1,331	1,265	1,533	301
95th percentile	2,345	3,118	2,345	301
maximum	3,118	3,118	2,345	301

excludes homes without room air conditioning, or for which no use was evident from billing data

based on PRISM analysis

uncertainty based on simple random sampling assumptions



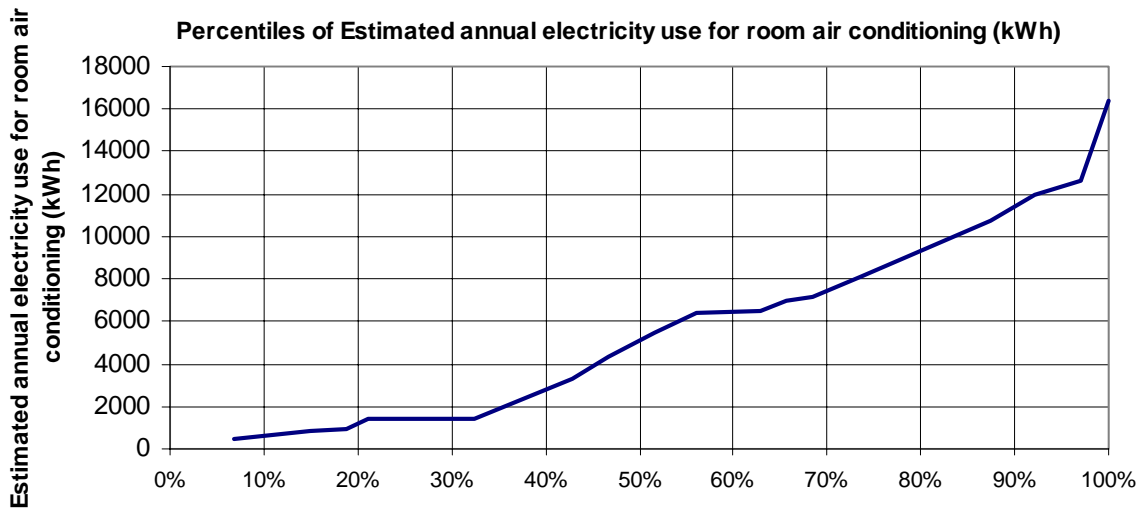
Estimated annual electricity use for room air conditioning (kWh)

	Overall (n=17)	General (n=15)	Low income (n=1)	New construction (n=1)
mean	5,802 ±1,928	5,138 ±1,826	16,402 ±	11,947 ±
minimum	443	443	16,402	11,947
5th percentile	443	443	16,402	11,947
25th percentile	1,399	1,399	16,402	11,947
median	5,488	4,315	16,402	11,947
75th percentile	10,729	8,139	16,402	11,947
95th percentile	12,595	12,595	16,402	11,947
maximum	16,402	12,595	16,402	11,947

excludes homes without electric heat

based on PRISM analysis

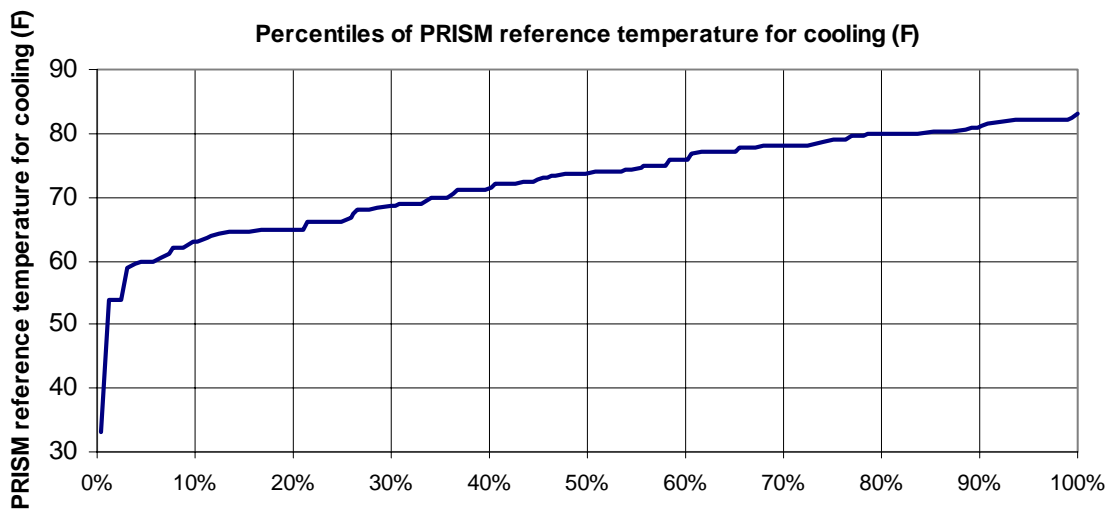
uncertainty based on simple random sampling assumptions



PRISM reference temperature for cooling (F)

	Overall (n=133)	General (n=96)	Low income (n=15)	New construction (n=22)
mean	73 ±2	73 ±3	73 ±3	73 ±2
minimum	33	33	60	64
5th percentile	60	60	60	65
25th percentile	67	66	69	69
median	74	74	74	73
75th percentile	79	80	78	78
95th percentile	82	82	80	80
maximum	83	83	81	83

based on PRISM analysis for homes with non-zero air conditioning use

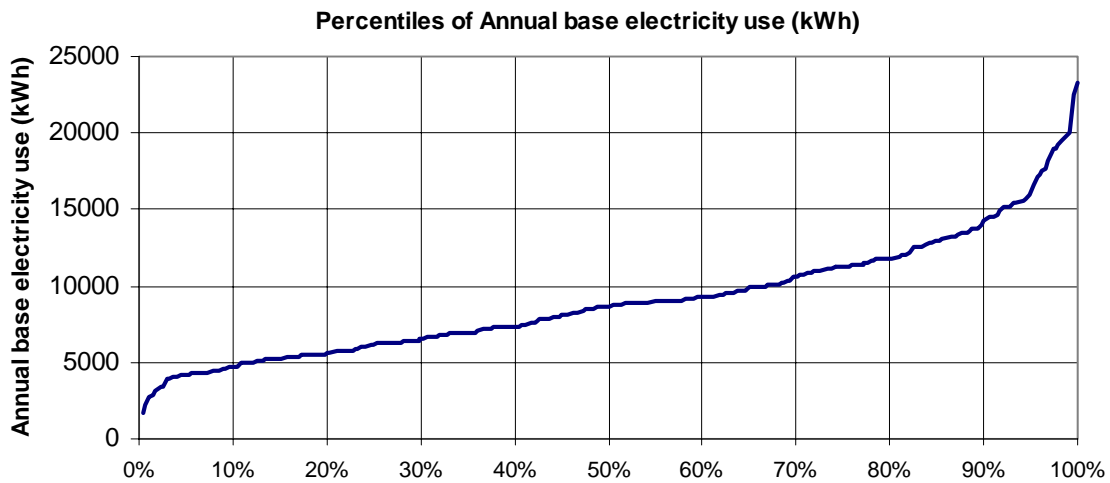


Annual base electricity use (kWh)

	Overall (n=270)	General (n=192)	Low income (n=35)	New construction (n=43)
mean	9,065 ±431	9,239 ±577	7,838 ±719	8,953 ±931
minimum	1,731	1,731	3,165	4,577
5th percentile	4,212	4,273	3,454	5,238
25th percentile	6,207	6,243	5,282	6,690
median	8,672	8,843	7,395	8,843
75th percentile	11,227	11,619	10,285	9,884
95th percentile	16,672	17,103	13,730	15,674
maximum	23,353	23,353	17,214	19,215

base use refers to electricity used for purposes other than space conditioning

based on PRISM analysis



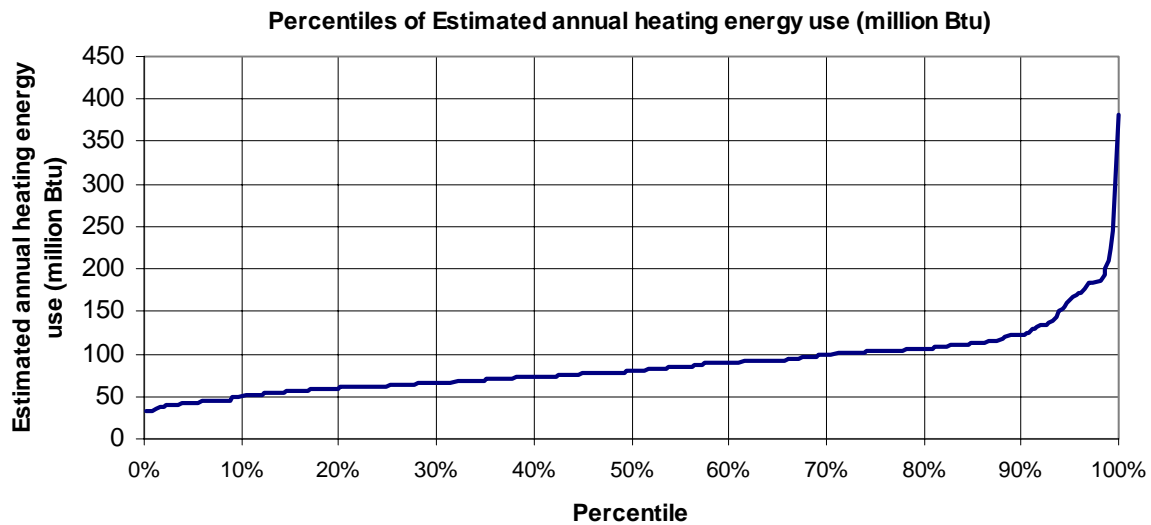
Estimated energy use and cost — all fuels

Estimated annual heating energy use (million Btu)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	87.9 ±6.7	88.8 ±7.7	87.1 ±7.0	82.2 ±7.3
minimum	32	33	32	48
5th percentile	42	42	41	52
25th percentile	63	64	57	61
median	81	82	74	77
75th percentile	103	104	104	93
95th percentile	167	167	193	135
maximum	381	381	223	153

based on actual utility data for 187 homes, and statistically adjusted estimates for 112.

includes all primary heating fuels



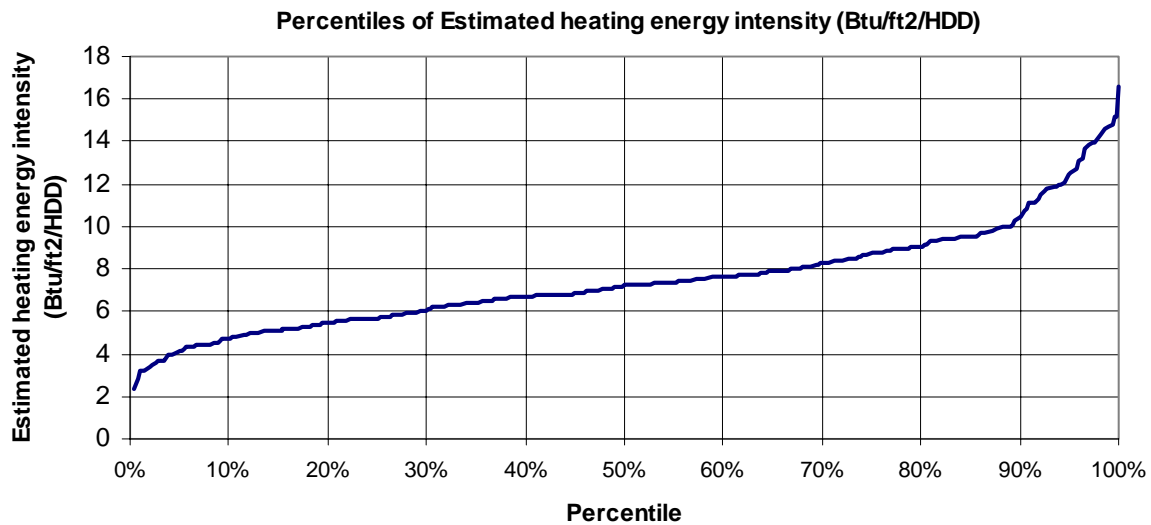
Estimated heating energy intensity (Btu/ft²/HDD)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	7.5 ±0.6	7.6 ±0.6	8.3 ±0.7	5.8 ±0.4
minimum	2.3	2.3	4.4	3.2
5th percentile	4.1	4.2	5.1	3.7
25th percentile	5.7	5.9	6.3	5.1
median	7.2	7.3	7.5	5.6
75th percentile	8.7	8.8	9.4	6.7
95th percentile	12.6	12.4	14.6	8.5
maximum	16.5	16.5	15.2	8.7

based on actual utility data for 187 homes, and statistically adjusted estimates for 112.

includes all primary heating fuels

square footage excludes basements

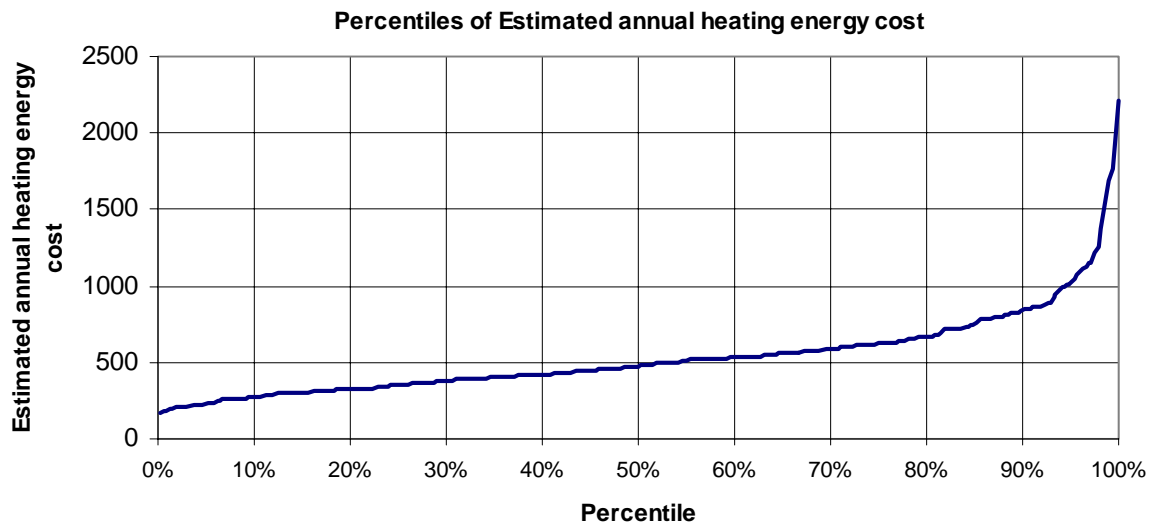


Estimated annual heating energy cost

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	537 ±32	542 ±39	514 ±41	530 ±77
minimum	168	168	186	251
5th percentile	230	229	232	282
25th percentile	349	350	330	359
median	479	494	438	443
75th percentile	625	625	661	571
95th percentile	1027	1027	1122	896
maximum	2212	2212	1370	1765

based on actual utility data for 187 homes, and statistically adjusted estimates for 112.

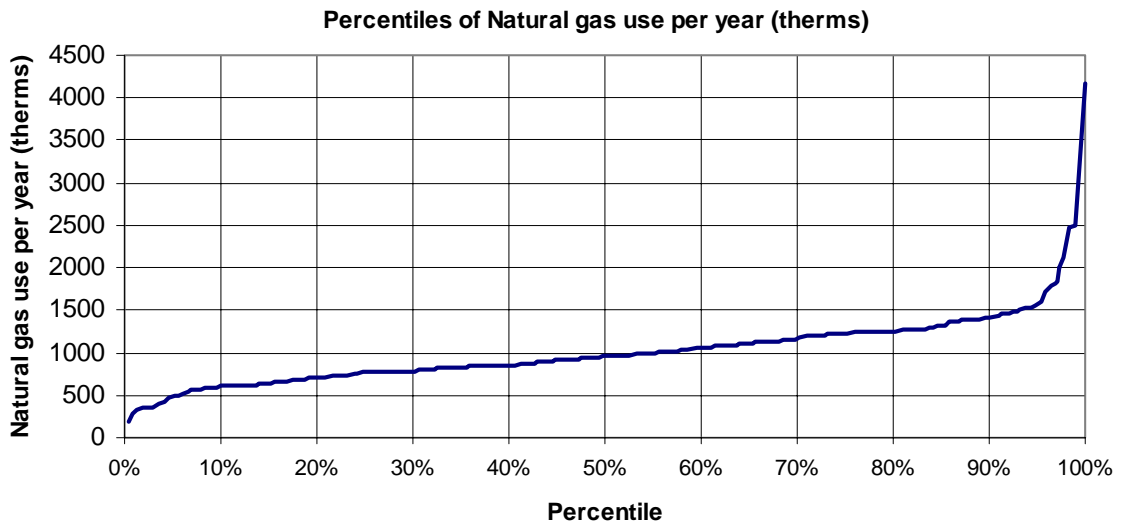
includes all primary heating fuels



Estimated natural gas use per year (therms)

	Overall (n=205)	General (n=150)	Low income (n=25)	New construction (n=30)
mean	1026 ±76	1033 ±81	952 ±169	1030 ±89
minimum	185	185	326	613
5th percentile	483	508	353	652
25th percentile	768	776	562	767
median	965	967	893	967
75th percentile	1235	1239	1273	1153
95th percentile	1603	1603	2471	1556
maximum	4176	4176	2471	1811

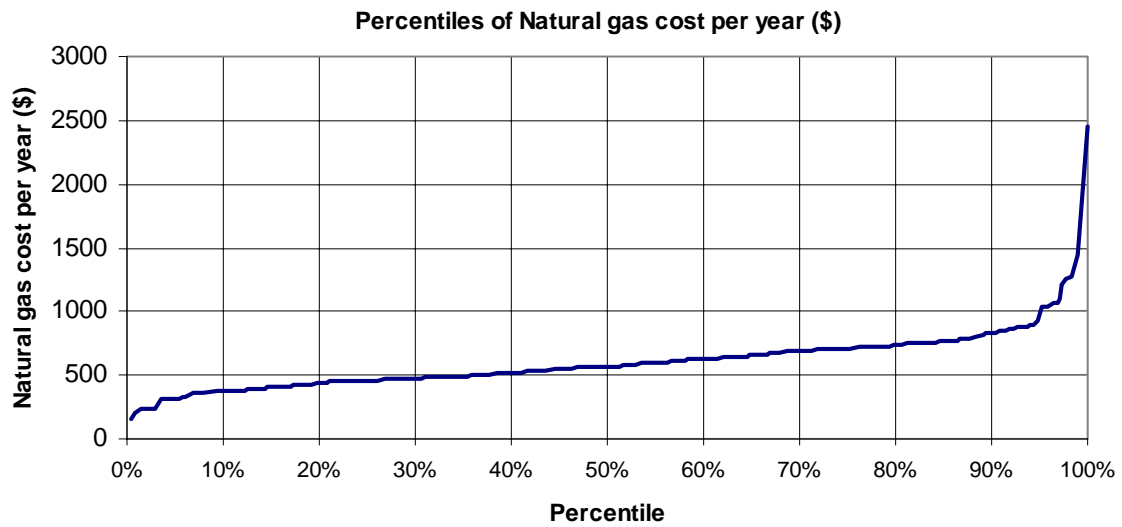
excludes homes without natural gas service



Estimated natural gas cost per year (\$)

	Overall (n=205)	General (n=150)	Low income (n=25)	New construction (n=30)
mean	612 ±46	618 ±50	565 ±90	605 ±50
minimum	165	165	234	386
5th percentile	315	324	234	406
25th percentile	460	463	339	469
median	570	580	544	598
75th percentile	710	716	727	661
95th percentile	1032	1032	1450	870
maximum	2451	2451	1450	1072

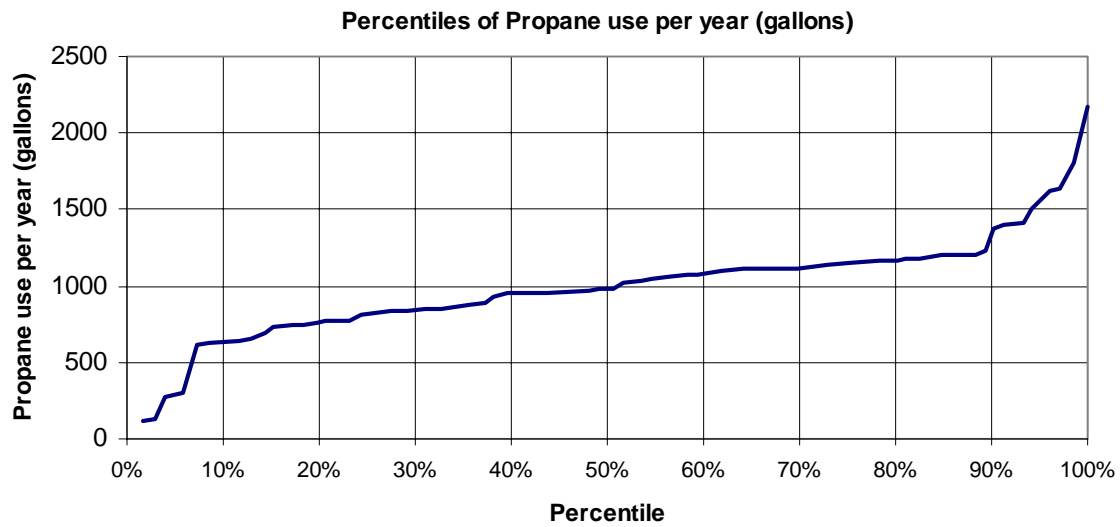
excludes homes without natural gas service



Estimated propane use per year (gallons)

	Overall (n=59)	General (n=31)	Low income (n=14)	New construction (n=14)
mean	994 ±74	1017 ±93	905 ±225	1032 ±115
minimum	119	270	119	635
5th percentile	305	621	119	635
25th percentile	837	846	757	857
median	987	1073	837	987
75th percentile	1151	1165	1109	1102
95th percentile	1625	1625	2179	1636
maximum	2179	1803	2179	1636

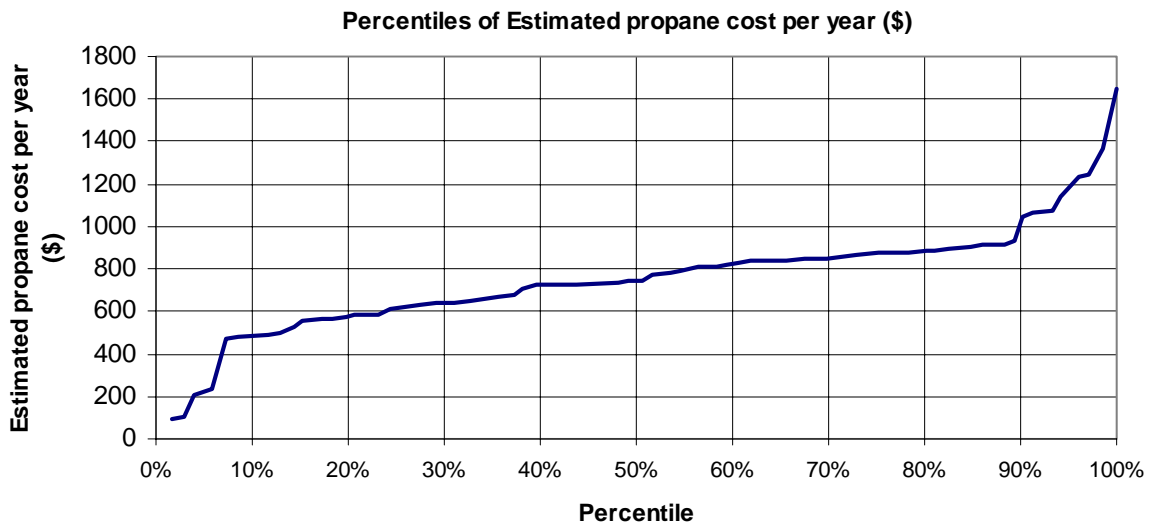
excludes homes without propane



Estimated propane cost per year (\$)

	Overall (n=59)	General (n=31)	Low income (n=14)	New construction (n=14)
mean	754 ±56	771 ±71	686 ±171	783 ±87
minimum	90	205	90	481
5th percentile	231	471	90	481
25th percentile	634	642	574	650
median	748	813	634	748
75th percentile	873	883	841	836
95th percentile	1232	1232	1652	1240
maximum	1652	1367	1652	1240

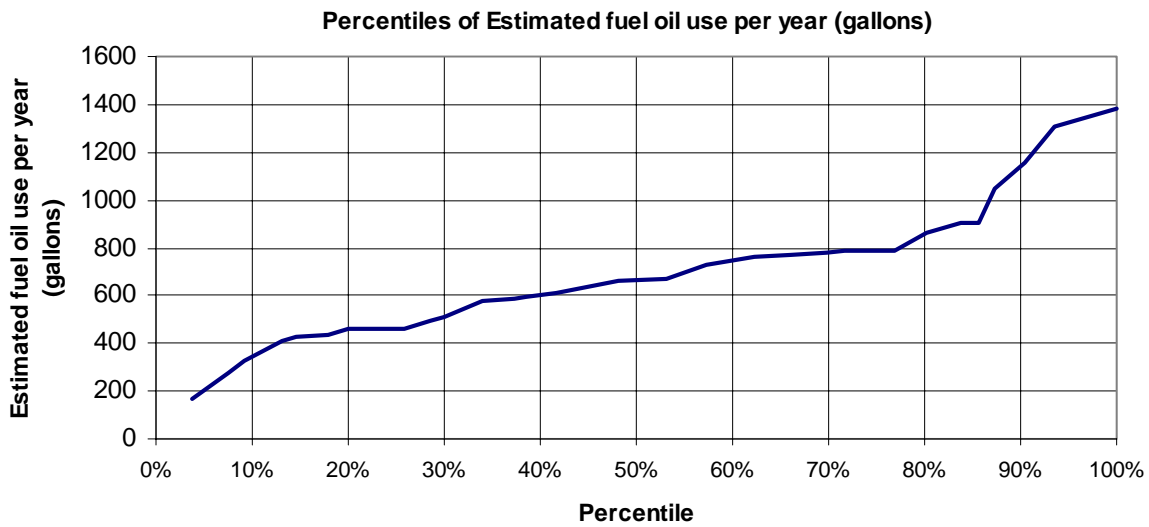
excludes homes without propane



Estimated fuel oil use per year (gallons)

	Overall (n=29)	General (n=26)	Low income (n=3)	New construction (n=0)
mean	706 ±95	722 ±101	512 ±464	
minimum	168	168	326	
5th percentile	272	272	326	
25th percentile	465	512	410	
median	673	673	410	
75th percentile	787	787	410	
95th percentile	1379	1379	901	
maximum	1379	1379	901	

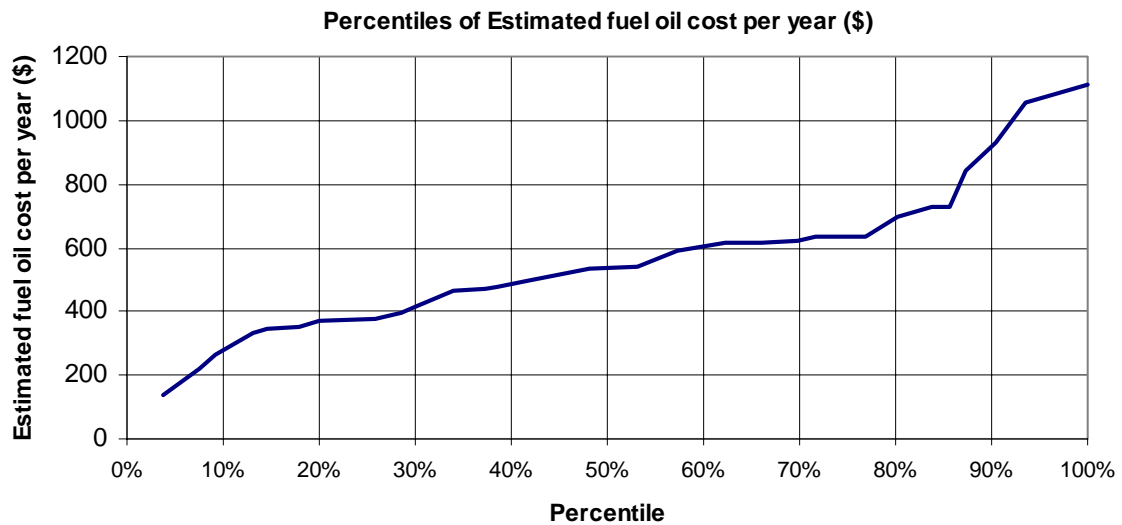
excludes homes without fuel oil



Estimated fuel oil cost per year (\$)

	Overall (n=29)	General (n=26)	Low income (n=3)	New construction (n=0)
mean	569 ±77	582 ±82	413 ±374	
minimum	135	135	263	
5th percentile	220	220	263	
25th percentile	375	413	330	
median	542	542	330	
75th percentile	634	634	330	
95th percentile	1112	1112	726	
maximum	1112	1112	726	

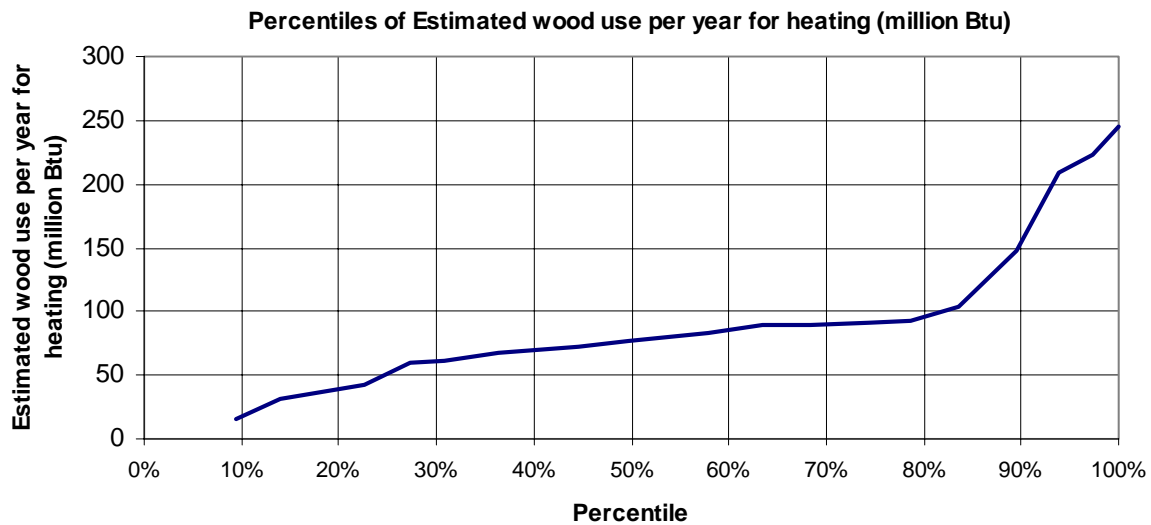
excludes homes without fuel oil



Estimated wood use per year for heating (million Btu)

	Overall (n=18)	General (n=12)	Low income (n=6)	New construction (n=0)
mean	88 ±23	79 ±25	110 ±62	
minimum	16	16	43	
5th percentile	16	16	43	
25th percentile	60	60	43	
median	84	77	93	
75th percentile	93	90	209	
95th percentile	223	147	223	
maximum	245	245	223	

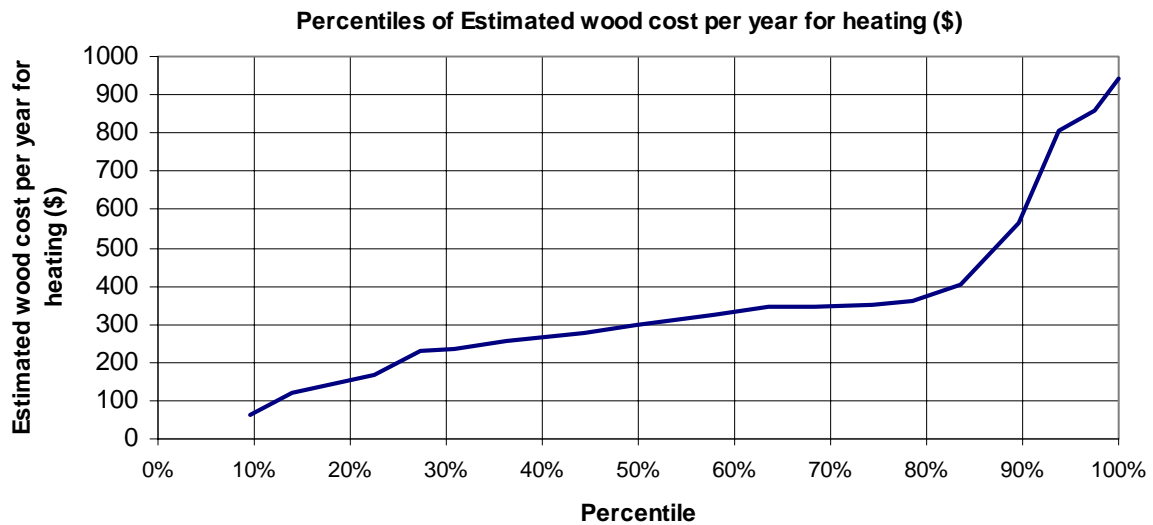
includes only wood use for space heating in homes that use wood as a primary heating fuel



Estimated wood cost per year for heating (\$)

	Overall (n=18)	General (n=12)	Low income (n=6)	New construction (n=0)
mean	340 ±90	306 ±97	424 ±238	
minimum	61	61	165	
5th percentile	61	61	165	
25th percentile	231	231	165	
median	323	299	360	
75th percentile	360	346	805	
95th percentile	860	568	860	
maximum	945	945	860	

includes only wood use for space heating in homes that use wood as a primary heating fuel

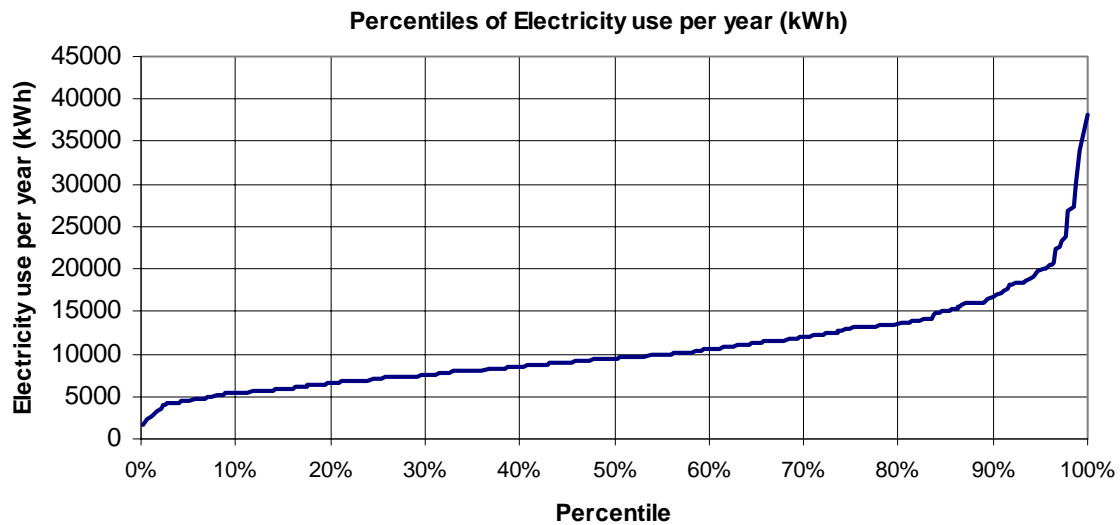


Electricity use per year (kWh)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	10,628 ±995	10,783 ±1,175	9,745 ±1,279	10,399 ±1,331
minimum	1,731	1,731	3,578	5,033
5th percentile	4,603	4,667	4,197	5,410
25th percentile	7,045	7,097	6,557	7,965
median	9,501	9,550	8,690	9,430
75th percentile	13,077	13,164	12,507	11,115
95th percentile	19,983	19,983	18,257	20,707
maximum	38,127	38,127	22,317	26,851

includes all electricity uses

imputed for 29 homes

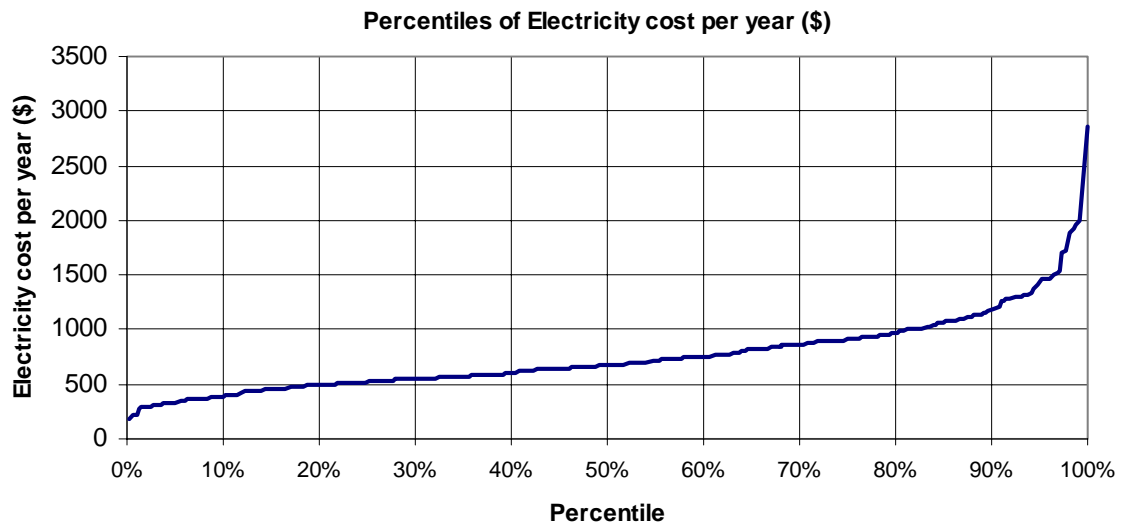


Electricity cost per year (\$)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	764 ±73	774 ±84	713 ±95	748 ±106
minimum	190	190	305	391
5th percentile	334	340	321	404
25th percentile	525	522	532	526
median	675	691	655	643
75th percentile	909	913	943	855
95th percentile	1462	1465	1291	1534
maximum	2862	2862	1316	1969

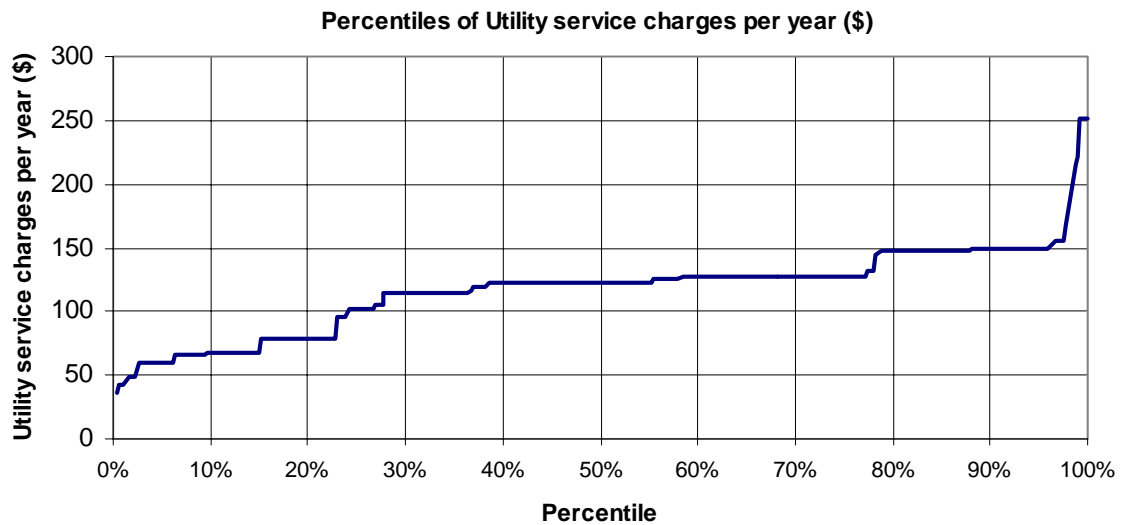
includes all electricity uses

imputed for 29 homes



Utility service charges per year (\$)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	117 ±5	116 ±5	120 ±10	119 ±6
minimum	36	36	60	60
5th percentile	60	60	66	66
25th percentile	102	102	114	102
median	122	122	122	122
75th percentile	128	128	147	128
95th percentile	150	150	155	150
maximum	251	251	251	251

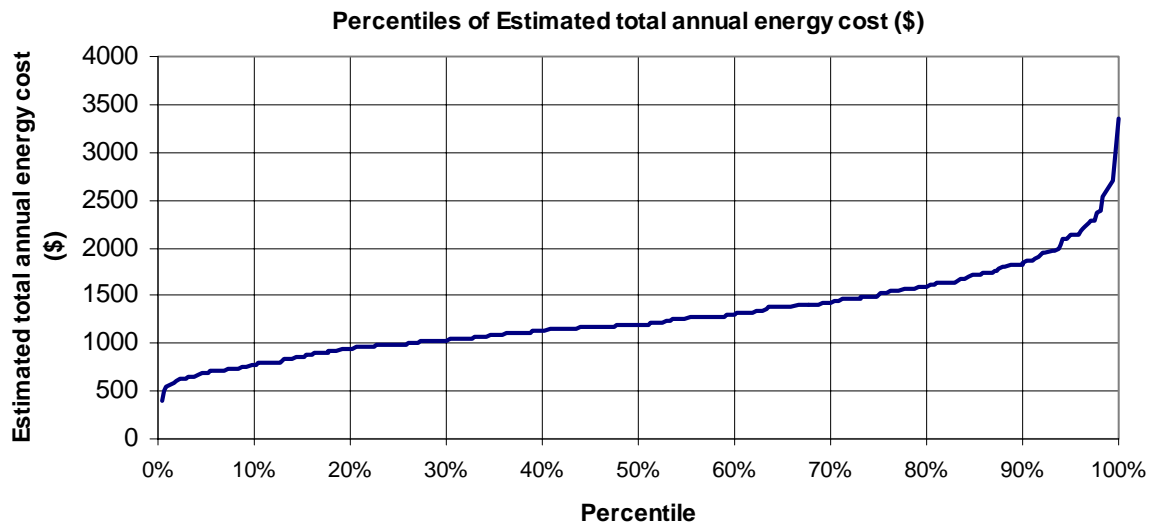


Estimated total annual energy cost (\$)

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	1288 ±65	1293 ±74	1257 ±98	1288 ±139
minimum	393	393	508	697
5th percentile	693	693	630	734
25th percentile	984	992	979	982
median	1202	1202	1221	1203
75th percentile	1518	1537	1418	1424
95th percentile	2139	2128	2146	1978
maximum	3350	3350	2214	2539

includes all fuels and utility service charges

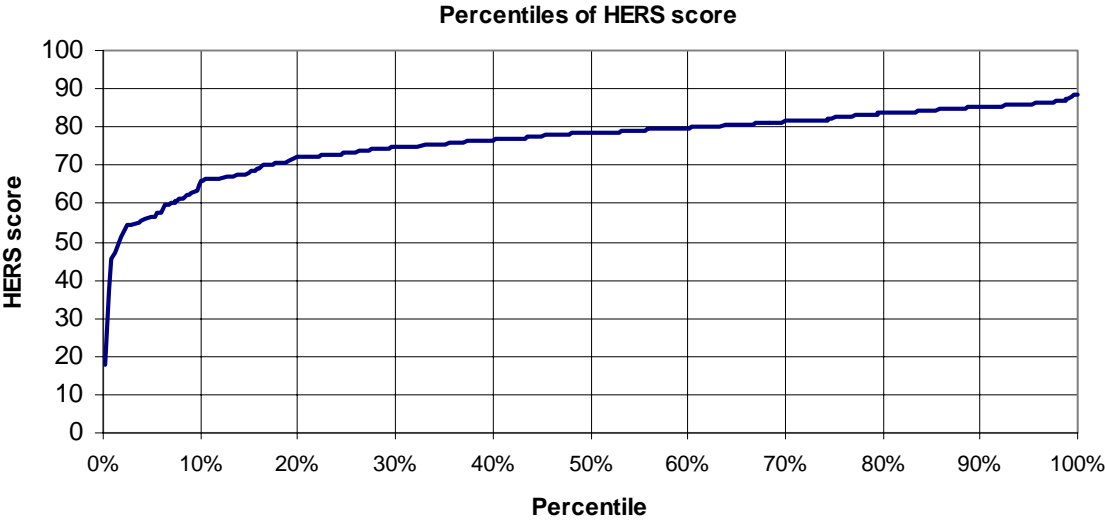
does not include taxes



HERS Rating

HERS score

	Overall (n=299)	General (n=212)	Low income (n=43)	New construction (n=44)
mean	76.4 ±1.8	76.6 ±1.9	68.4 ±5.3	84.1 ±0.6
minimum	17.9	37.2	17.9	75.5
5th percentile	56.6	56.6	46.9	76.3
25th percentile	73.2	73.7	62.1	83.4
median	78.4	78.5	72.9	84.8
75th percentile	82.5	81.6	75.9	86.0
95th percentile	85.9	85.7	79.7	87.4
maximum	88.4	88.4	83.0	88.3



Home and Family

Question 1: About when was your home built?

	Overall (n=293)	General (n=208)	Low income (n=41)	New construction (n=44)
1995 or later	8.0% ± 2.8	0.0% ± 0.0	0.0% ± 0.0	81.5% ± 7.4
1990 to 1994	11.3% ± 3.6	11.2% ± 3.9	4.8% ± 5.4	18.5% ± 7.4
1980 to 1989	11.3% ± 4.1	13.0% ± 5.2	9.3% ± 7.3	0.0% ± 0.0
1970 to 1979	18.9% ± 6.6	20.4% ± 8.0	25.5% ± 9.0	0.0% ± 0.0
1960 to 1969	10.8% ± 3.1	12.4% ± 3.7	9.0% ± 7.9	0.0% ± 0.0
1950 to 1959	10.4% ± 4.6	11.4% ± 5.0	12.8% ± 8.5	0.0% ± 0.0
1940 to 1949	7.0% ± 3.2	8.6% ± 3.8	1.7% ± 3.0	0.0% ± 0.0
1930 to 1939	4.3% ± 2.6	5.0% ± 3.1	2.9% ± 5.4	0.0% ± 0.0
1929 or earlier	17.9% ± 5.5	18.0% ± 6.4	33.9% ± 14.4	0.0% ± 0.0

Question 2: How long have you lived at this home?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Less than 1 year	8.6% ± 3.0	5.4% ± 3.6	6.3% ± 6.4	37.2% ± 18.1
1 to 2 years	9.2% ± 4.5	7.4% ± 4.4	4.8% ± 8.4	28.5% ± 11.8
3 to 4 years	11.1% ± 2.2	7.3% ± 2.6	21.7% ± 15.2	29.6% ± 9.8
5 to 10 years	30.7% ± 5.3	35.8% ± 7.6	17.2% ± 13.5	4.7% ± 6.0
More than 10 years	40.5% ± 7.2	44.1% ± 8.2	50.0% ± 16.0	0.0% ± 0.0

Questions 3 and 4: Age, sex and education level of household members

Total number of people in household

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
One	11.0% ± 4.4	10.6% ± 5.6	21.2% ± 11.2	1.9% ± 3.6
Two	33.7% ± 3.8	35.5% ± 5.0	26.0% ± 15.6	27.8% ± 13.5
Three	16.1% ± 6.2	17.4% ± 7.1	3.3% ± 4.2	19.9% ± 9.6
Four	18.3% ± 4.3	16.7% ± 4.6	18.8% ± 6.9	30.3% ± 13.7
Five	13.1% ± 3.1	12.9% ± 3.2	11.8% ± 8.1	16.1% ± 11.2
Six	4.9% ± 2.6	4.0% ± 3.1	11.8% ± 6.8	4.0% ± 5.3
Seven	2.0% ± 1.8	2.3% ± 2.7	2.1% ± 3.6	0.0% ± 0.0
Eight	0.9% ± 0.5	0.4% ± 0.7	5.1% ± 7.0	0.0% ± 0.0

Number of adults in household

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
One	14.2% ± 4.6	13.4% ± 6.0	30.6% ± 10.7	1.9% ± 3.6
Two	67.5% ± 7.1	68.9% ± 8.3	42.4% ± 15.9	85.1% ± 10.6
Three	12.8% ± 4.5	13.0% ± 5.0	14.7% ± 7.2	9.1% ± 8.2
Four	4.7% ± 2.8	4.2% ± 2.8	10.3% ± 7.5	1.6% ± 2.8
Five	0.4% ± 0.7	0.5% ± 0.9	0.0% ± 0.0	0.0% ± 0.0
Six	0.5% ± 0.6	0.0% ± 0.0	2.1% ± 3.6	2.2% ± 4.0

Number of seniors in household

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Zero	78.7% ± 4.9	79.5% ± 5.0	66.2% ± 11.3	86.7% ± 10.6
One	12.9% ± 4.9	12.6% ± 6.4	18.3% ± 8.3	8.8% ± 9.4
Two	8.4% ± 3.6	7.9% ± 4.5	15.5% ± 11.1	4.4% ± 5.2

Number of children in household

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Zero	52.8% ± 7.5	53.7% ± 9.9	56.5% ± 12.8	41.0% ± 15.8
One	13.0% ± 5.6	13.4% ± 7.5	9.2% ± 6.1	14.0% ± 6.1
Two	19.2% ± 5.1	19.6% ± 6.6	10.1% ± 7.2	27.0% ± 12.7
Three	8.8% ± 4.7	8.0% ± 5.0	8.2% ± 7.1	16.1% ± 11.2
Four	4.4% ± 2.3	4.2% ± 3.2	8.8% ± 8.4	1.8% ± 3.4
Five	0.9% ± 1.2	0.8% ± 1.5	2.1% ± 3.6	0.0% ± 0.0
Six	0.9% ± 0.5	0.4% ± 0.7	5.1% ± 7.0	0.0% ± 0.0

Age of adults in household

	Overall (n=619)	General (n=434)	Low income (n=90)	New construction (n=95)
mean	46.3 ± 1.4	46.6 ± 1.2	46.7 ± 5.9	42.8 ± 3.2
minimum	18	18	18	18
5th percentile	22	23	19	25
25th percentile	35	35	33	33
median	44	45	41	40
75th percentile	57	58	64	51
95th percentile	75	75	79	70
maximum	89	89	88	85

All adults in household pooled.

Age of questionnaire respondent

	Overall (n=292)	General (n=207)	Low income (n=42)	New construction (n=43)
mean	49.3 ±1.7	49.6 ±1.5	53.3 ±5.1	42.2 ±2.8
minimum	24	24	28	26
5th percentile	29	31	29	29
25th percentile	38	39	38	33
median	47	48	54	40
75th percentile	60	59	68	51
95th percentile	75	75	79	64
maximum	89	89	88	75

Age of children in household

	Overall (n=314)	General (n=205)	Low income (n=55)	New construction (n=54)
mean	8.4 ±0.7	8.4 ±0.9	9.4 ±2.1	6.7 ±1.0
minimum	0	0	0	0
5th percentile	1	1	1	0
25th percentile	4	4	5	3
median	8	8	10	7
75th percentile	12	12	14	10
95th percentile	16	16	16	15
maximum	17	17	17	16

All children in household pooled.

Households with no children not included.

Sex of adult household members

	Overall (n=613)	General (n=431)	Low income (n=89)	New construction (n=93)
Male	49.6% ± 1.6	50.4% ± 2.4	46.7% ± 6.8	46.5% ± 3.0
Female	50.4% ± 1.6	49.6% ± 2.4	53.3% ± 6.8	53.5% ± 3.0

All adults in household pooled.

Sex of questionnaire respondent

	Overall (n=291)	General (n=207)	Low income (n=42)	New construction (n=42)
Male	52.5% ± 4.4	53.8% ± 5.0	49.7% ± 12.2	45.3% ± 17.3
Female	47.5% ± 4.4	46.2% ± 5.0	50.3% ± 12.2	54.7% ± 17.3

Highest education level (all adults in household)

	Overall (n=619)	General (n=434)	Low income (n=88)	New construction (n=97)
Grade school	2.6% ± 1.4	1.3% ± 1.3	12.3% ± 6.6	1.9% ± 2.4
Some high school	4.6% ± 2.0	3.6% ± 1.8	13.7% ± 9.2	1.9% ± 2.3
High school grad.	30.4% ± 2.4	29.5% ± 3.4	44.3% ± 6.8	22.8% ± 9.5
Some technical school	14.5% ± 3.6	13.4% ± 3.5	19.0% ± 4.2	18.3% ± 7.9
Technical school grad.	9.4% ± 3.1	9.1% ± 3.6	1.8% ± 2.1	19.6% ± 8.2
Some college	11.2% ± 2.4	12.5% ± 3.0	5.7% ± 3.3	7.0% ± 4.2
Bachelor's degree	19.8% ± 3.8	22.5% ± 4.9	3.2% ± 3.4	17.4% ± 9.4
Advanced degree	7.5% ± 1.6	8.1% ± 2.9	0.0% ± 0.0	11.0% ± 7.4

All adults in household pooled.

Highest education level of questionnaire respondent

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
Grade school	3.6% ± 2.3	1.9% ± 2.4	16.5% ± 10.7	1.9% ± 3.6
Some high school	3.5% ± 2.2	2.2% ± 1.9	15.5% ± 10.2	0.0% ± 0.0
High school grad.	27.8% ± 4.1	27.7% ± 5.1	35.3% ± 10.5	19.5% ± 12.2
Some technical school	17.5% ± 4.4	16.1% ± 4.1	27.4% ± 12.1	17.5% ± 7.4
Technical school grad.	9.8% ± 3.1	9.1% ± 4.1	3.6% ± 4.5	22.3% ± 13.1
Some college	12.2% ± 3.0	13.7% ± 3.9	1.7% ± 3.0	12.2% ± 9.1
Bachelor's degree	15.8% ± 4.3	18.1% ± 4.9	0.0% ± 0.0	15.6% ± 9.4
Advanced degree	10.0% ± 4.6	11.3% ± 6.7	0.0% ± 0.0	11.0% ± 10.2

Question 5: Hours per week someone is home between 8 a.m. and 5 p.m.

	Overall (n=265)	General (n=184)	Low income (n=40)	New construction (n=41)
mean	28.6 ± 2.2	27.6 ± 3.2	35.0 ± 4.6	29.6 ± 4.0
minimum	0	0	0	0
5th percentile	1	1	2	4
25th percentile	15	14	30	15
median	32	30	40	35
75th percentile	45	43	45	45
95th percentile	45	45	45	45
maximum	45	45	45	45

Question not asked on pilot version of questionnaire.

Question 6: Overall, how well is your home insulated?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No insulation	2.6% ± 1.8	2.6% ± 1.8	2.4% ± 4.2	3.1% ± 5.0
Poorly insulated	7.2% ± 2.1	7.2% ± 2.1	13.0% ± 7.1	0.0% ± 0.0
Adequately insulated	37.8% ± 6.1	38.9% ± 8.2	48.4% ± 11.7	16.5% ± 6.6
Well insulated	39.1% ± 6.1	37.9% ± 8.3	19.1% ± 13.6	71.3% ± 13.7
Don't know	13.3% ± 2.2	13.3% ± 2.9	17.1% ± 9.1	9.2% ± 9.0

Recent and Planned Energy Activities

Question 7: Have you done any major remodeling or adding on to your home in the last two years?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	74.0% ± 5.2	71.7% ± 6.1	76.9% ± 13.1	89.2% ± 9.7
Yes	26.0% ± 5.2	28.3% ± 6.1	23.1% ± 13.1	10.8% ± 9.7

Question 8: Do you plan to do any major remodeling or adding on to your home in the next two years?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	78.9% ± 2.9	77.8% ± 4.2	82.6% ± 7.7	83.5% ± 7.8
Yes	21.1% ± 2.9	22.2% ± 4.2	17.4% ± 7.7	16.5% ± 7.8

Which of the following statements best describes these plans?

	Overall (n=84)	General (n=69)	Low income (n=8)	New construction (n=7)
Just thinking about it	35.0% ± 6.2	36.0% ± 6.9	39.0% ± 26.3	18.6% ± 24.8
Have definite plans in place	33.0% ± 8.1	32.6% ± 6.7	26.0% ± 33.8	46.0% ± 42.2
Have talked to a contractor	11.3% ± 6.9	10.8% ± 5.9	24.9% ± 33.5	0.0% ± 0.0
Have received bids for the work or purchased materials	2.6% ± 2.9	3.2% ± 3.5	0.0% ± 0.0	0.0% ± 0.0
Other	18.1% ± 7.3	17.4% ± 6.0	10.1% ± 18.7	35.3% ± 37.7

Only for households that said they have remodeling plans in the next two years.

Question 9: Have you installed or purchased any of the following major appliances in the past two years?

Furnace or other main heating system?

	Overall (n=293)	General (n=207)	Low income (n=42)	New construction (n=44)
No	84.8% ± 3.3	90.7% ± 3.8	78.6% ± 14.0	44.4% ± 8.0
Yes	15.2% ± 3.3	9.3% ± 3.8	21.4% ± 14.0	55.6% ± 8.0

Central air conditioner?

	Overall (n=291)	General (n=204)	Low income (n=43)	New construction (n=44)
No	86.8% ± 3.4	91.2% ± 4.0	88.2% ± 9.0	50.1% ± 7.5
Yes	13.2% ± 3.4	8.8% ± 4.0	11.8% ± 9.0	49.9% ± 7.5

Room air conditioner?

	Overall (n=285)	General (n=201)	Low income (n=42)	New construction (n=42)
No	93.7% ± 2.4	93.8% ± 2.8	90.9% ± 7.6	96.6% ± 4.8
Yes	6.3% ± 2.4	6.2% ± 2.8	9.1% ± 7.6	3.4% ± 4.8

Water heater?

	Overall (n=292)	General (n=205)	Low income (n=43)	New construction (n=44)
No	85.6% ± 2.4	91.3% ± 1.8	82.7% ± 10.2	44.4% ± 8.0
Yes	14.4% ± 2.4	8.7% ± 1.8	17.3% ± 10.2	55.6% ± 8.0

Refrigerator?

	Overall (n=289)	General (n=203)	Low income (n=43)	New construction (n=43)
No	78.7% ± 4.1	82.9% ± 5.2	70.8% ± 13.1	54.5% ± 14.2
Yes	21.3% ± 4.1	17.1% ± 5.2	29.2% ± 13.1	45.5% ± 14.2

Stand-alone freezer?

	Overall (n=291)	General (n=204)	Low income (n=43)	New construction (n=44)
No	93.4% ± 2.9	96.8% ± 2.2	82.9% ± 17.3	79.1% ± 11.6
Yes	6.6% ± 2.9	3.2% ± 2.2	17.1% ± 17.3	20.9% ± 11.6

Question 10: How likely is it that you will purchase or replace any of these major appliances in the next year?

Furnace or other main heating system

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Very unlikely	82.8% ± 5.3	81.0% ± 5.7	88.9% ± 9.9	90.5% ± 7.4
Somewhat unlikely	5.8% ± 3.0	6.7% ± 3.5	4.5% ± 6.2	0.0% ± 0.0
Somewhat likely	5.2% ± 2.5	6.0% ± 3.4	1.7% ± 3.1	2.5% ± 4.5
Very likely	6.2% ± 2.7	6.3% ± 2.9	4.9% ± 6.4	7.0% ± 7.4

Central air conditioning system

	Overall (n=293)	General (n=206)	Low income (n=43)	New construction (n=44)
Very unlikely	81.4% ± 3.6	80.4% ± 4.7	90.1% ± 9.6	79.5% ± 8.2
Somewhat unlikely	3.5% ± 2.2	3.7% ± 2.4	2.8% ± 5.0	3.1% ± 5.0
Somewhat likely	6.8% ± 2.2	6.9% ± 2.4	4.3% ± 2.5	8.5% ± 9.5
Very likely	8.3% ± 4.8	9.0% ± 5.4	2.8% ± 5.3	8.9% ± 8.4

Room air conditioner

	Overall (n=284)	General (n=201)	Low income (n=42)	New construction (n=41)
Very unlikely	82.2% ± 3.8	81.5% ± 4.5	79.6% ± 10.6	90.7% ± 7.7
Somewhat unlikely	4.5% ± 2.0	5.3% ± 2.6	2.4% ± 4.1	0.0% ± 0.0
Somewhat likely	6.0% ± 2.3	5.9% ± 2.8	8.4% ± 7.3	3.3% ± 4.8
Very likely	7.4% ± 2.6	7.2% ± 3.0	9.5% ± 7.7	5.9% ± 6.3

Water heater

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Very unlikely	71.2% ± 4.4	67.9% ± 5.4	77.1% ± 10.9	90.5% ± 7.5
Somewhat unlikely	15.8% ± 3.5	19.0% ± 4.5	7.2% ± 6.7	0.0% ± 0.0
Somewhat likely	3.4% ± 1.7	3.1% ± 2.0	6.0% ± 6.2	2.5% ± 4.0
Very likely	9.6% ± 2.8	9.9% ± 3.4	9.7% ± 7.7	7.0% ± 6.5

Refrigerator

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
Very unlikely	73.6% ± 4.4	73.9% ± 4.3	71.4% ± 12.7	73.4% ± 9.7
Somewhat unlikely	8.2% ± 3.8	8.4% ± 4.6	6.5% ± 6.8	7.9% ± 7.9
Somewhat likely	7.2% ± 3.0	6.1% ± 3.4	12.6% ± 7.7	9.5% ± 7.1
Very likely	11.1% ± 3.7	11.6% ± 4.1	9.5% ± 5.2	9.2% ± 8.1

Stand-alone freezer

	Overall (n=291)	General (n=205)	Low income (n=43)	New construction (n=43)
Very unlikely	76.4% ± 4.1	75.2% ± 5.3	83.2% ± 10.1	77.5% ± 9.6
Somewhat unlikely	10.3% ± 3.3	11.0% ± 4.7	9.7% ± 8.7	5.8% ± 4.3
Somewhat likely	7.3% ± 3.1	7.5% ± 3.6	4.3% ± 2.5	9.5% ± 6.0
Very likely	6.0% ± 3.8	6.3% ± 4.1	2.8% ± 5.3	7.1% ± 7.5

Lifestyle and Appliance Use

Q11a: What type of thermostat do you use in your home?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Regular, with temp settings	61.8% ± 4.3	59.4% ± 5.0	82.0% ± 8.8	58.0% ± 13.7
Dial control, no temp settings	3.4% ± 1.5	2.8% ± 2.1	10.6% ± 6.9	0.0% ± 0.0
Clock or programmable	34.8% ± 4.6	37.8% ± 5.3	7.5% ± 5.3	42.0% ± 13.7

Question 11b: Has your household used the timer or programming features to automatically change the temperature at different times of the day or night?

	Overall (n=102)	General (n=79)	Low income (n=4)	New construction (n=19)
No	17.6% ± 6.3	16.0% ± 6.9	0.0% ± 0.0	33.2% ± 19.2
Yes	82.4% ± 6.3	84.0% ± 6.9	100.0% ± 0.0	66.8% ± 19.2

Includes only those households that reported having a clock or programmable thermostat. Confidence interval is based on simple random sampling assumptions.

Question 12: This winter, how often have you or has someone in your family changed the thermostat's temperature setting by hand?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Rarely or never	26.2% ± 5.6	27.3% ± 7.8	24.0% ± 11.3	20.0% ± 11.9
A few times a month	20.2% ± 3.4	20.5% ± 5.0	18.5% ± 11.8	20.0% ± 10.1
A couple of times a week	18.5% ± 6.5	18.0% ± 6.6	19.1% ± 12.8	21.5% ± 9.9
Usually every day	35.1% ± 6.3	34.2% ± 7.0	38.4% ± 8.3	38.5% ± 10.8

[If thermostat is changed by hand every day, how often?]

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
When we get up in the morning	23.8% ± 4.9	23.5% ± 5.4	33.5% ± 8.0	14.9% ± 9.0
When we go to bed at night	28.0% ± 4.9	28.1% ± 5.5	32.3% ± 9.1	22.4% ± 7.3
As we need to during the day to be more comfortable	20.7% ± 3.6	20.5% ± 3.9	18.6% ± 7.9	24.6% ± 7.5

Only for households that said they change their temperature setting usually every day. Since respondents were allowed to give more than one response, totals may exceed 100 percent. Question was not asked on pilot version of questionnaire.

Question 13: At what temperature have you usually kept your home this winter?

Temperature setting during sleeping hours

	Overall (n=286)	General (n=201)	Low income (n=41)	New construction (n=44)
Mean	66.6 ± 0.9	66.5 ± 0.8	68.3 ± 1.7	66.0 ± 1.3
Minimum	55	55	58	58
5th percentile	60	60	60	58
25th percentile	65	65	65	64
Median	68	68	68	66
75th percentile	69	68	70	68
95th percentile	72	71	80	71
Maximum	86	78	86	75

Heat was turned off during sleeping hours

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	97.1% ± 2.1	96.7% ± 2.7	97.6% ± 4.3	100.0% ± 0.0
Yes	0.1% ± 0.2	0.2% ± 0.3	0.0% ± 0.0	0.0% ± 0.0
Don't know	2.7% ± 2.2	3.1% ± 2.8	2.4% ± 4.3	0.0% ± 0.0

Temperature setting when someone was awake at home

	Overall (n=290)	General (n=205)	Low income (n=42)	New construction (n=43)
Mean	69.1 ± 0.5	69.0 ± 0.5	70.5 ± 1.2	68.7 ± 0.6
Minimum	58	60	58	64
5th percentile	65	65	65	65
25th percentile	68	68	70	68
Median	70	69	70	68
75th percentile	70	70	71	70
95th percentile	72	72	80	73
Maximum	90	90	86	75

Heat was turned off when someone was awake at home

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
No	99.5% ± 0.7	99.6% ± 0.7	100.0% ± 0.0	98.1% ± 3.6
Don't know	0.5% ± 0.7	0.4% ± 0.7	0.0% ± 0.0	1.9% ± 3.6

Temperature setting when no one was home during the day

	Overall (n=271)	General (n=192)	Low income (n=38)	New construction (n=41)
Mean	66.3 ± 0.9	66.1 ± 0.9	68.5 ± 1.8	65.7 ± 1.1
minimum	50	50	60	58
5th percentile	60	60	60	60
25th percentile	65	65	65	63
median	68	67	70	67
75th percentile	69	68	70	68
95th percentile	72	72	80	72
maximum	82	74	82	72

Heat was turned off when no one was home during the day

	Overall (n=292)	General (n=206)	Low income (n=42)	New construction (n=44)
No	93.8% ± 3.2	93.8% ± 3.8	93.3% ± 5.9	94.7% ± 6.1
Yes	0.9% ± 1.1	1.1% ± 1.4	0.0% ± 0.0	0.0% ± 0.0
Don't know	0.8% ± 0.7	0.7% ± 0.8	0.0% ± 0.0	1.9% ± 3.6
There is always someone home during the day	4.5% ± 2.7	4.4% ± 3.3	6.7% ± 5.9	3.4% ± 4.6

Temperature setting when the household was away on vacation

	Overall (n=195)	General (n=143)	Low income (n=26)	New construction (n=26)
mean	61.1 ± 1.1	61.2 ± 1.2	60.4 ± 2.4	61.1 ± 1.9
minimum	48	48	50	50
5th percentile	50	50	50	50
25th percentile	58	58	55	58
median	60	60	60	60
75th percentile	65	65	65	65
95th percentile	68	68	70	68
maximum	72	72	70	68

Heat was turned off when household was away on vacation

	Overall (n=276)	General (n=192)	Low income (n=42)	New construction (n=42)
No	72.0% ± 4.6	75.1% ± 5.2	60.4% ± 14.5	57.7% ± 15.2
Yes	2.3% ± 1.9	2.4% ± 2.3	2.4% ± 4.2	2.0% ± 3.8
Don't know	2.7% ± 1.7	3.1% ± 2.0	0.0% ± 0.0	1.7% ± 3.0
Household does not go away on vacation	23.1% ± 2.9	19.4% ± 3.7	37.2% ± 16.2	38.6% ± 14.5

Question 14: How much of the time this last winter [did] the members of your household agree about the temperature setting in the house?

	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
Rarely or never	8.7% ± 4.8	10.4% ± 5.4	3.9% ± 6.2	0.0% ± 0.0
Sometimes	10.6% ± 3.6	9.5% ± 4.3	16.8% ± 10.3	12.2% ± 6.3
Usually	54.8% ± 6.8	54.9% ± 9.2	45.7% ± 9.7	64.5% ± 19.0
Always	18.1% ± 5.2	18.1% ± 7.2	13.6% ± 7.6	23.3% ± 18.2
Not applicable (no other household members)	7.9% ± 3.0	7.1% ± 3.8	19.9% ± 11.1	0.0% ± 0.0

Question 15: Are there any rooms in the finished area of your home that you close off and do not heat in the winter?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
No	78.1% ± 5.0	76.7% ± 4.7	81.0% ± 13.7	86.2% ± 15.0
Yes	21.9% ± 5.0	23.3% ± 4.7	19.0% ± 13.7	13.8% ± 15.0

Air Conditioning

Question 16: Do you have air conditioning in your home?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	26.6% ± 7.9	25.6% ± 7.5	36.5% ± 17.1	23.2% ± 8.8
Yes	73.4% ± 7.9	74.4% ± 7.5	63.5% ± 17.1	76.8% ± 8.8

Question 17: How many rooms do you cool with your air conditioning equipment?

	Overall (n=209)	General (n=151)	Low income (n=25)	New construction (n=33)
None of the rooms	1.4% ± 2.0	1.7% ± 2.5	0.0% ± 0.0	0.0% ± 0.0
Only some of the rooms	30.6% ± 5.7	31.7% ± 6.1	46.0% ± 17.6	7.3% ± 6.6
All of the rooms	68.0% ± 6.1	66.5% ± 6.6	54.0% ± 17.6	92.7% ± 6.6

Only for households that said they have air conditioning.

Question 18: Which of the statements below best describes the way you used your air conditioner(s) last summer?

	Overall (n=210)	General (n=152)	Low income (n=25)	New construction (n=33)
Not used at all	3.1% ± 1.8	3.5% ± 2.1	0.0% ± 0.0	2.7% ± 5.4
Turned on only a few days or night when really needed	48.5% ± 8.1	50.6% ± 9.0	63.4% ± 16.2	17.8% ± 13.6
Turned on a few times each week	16.2% ± 4.0	17.7% ± 5.9	2.9% ± 5.4	16.5% ± 8.1
Turned on just about all summer	11.7% ± 4.4	10.5% ± 4.8	27.4% ± 14.1	6.0% ± 10.0
Let the thermostat control how much it ran	18.8% ± 5.0	16.9% ± 5.6	6.3% ± 11.6	45.7% ± 16.2
Did not live here last summer	1.8% ± 1.7	0.8% ± 1.4	0.0% ± 0.0	11.4% ± 12.0

Only for households that said they have air conditioning.

Question 19: Type of air conditioning

	Overall (n=215)	General (n=155)	Low income (n=26)	New construction (n=34)
Room/window units	26.8% ± 7.0	24.9% ± 8.1	65.1% ± 16.2	5.0% ± 5.6
Both room/window units and a central system	2.9% ± 2.5	3.1% ± 2.8	3.8% ± 7.5	0.0% ± 0.0
Central system only	70.4% ± 8.0	72.0% ± 9.6	31.1% ± 18.6	95.0% ± 5.6

Only for households that said they have air conditioning.

How many individual room or window units do you have?

	Overall (n=59)	General (n=41)	Low income (n=16)	New construction (n=2)
Mean	1.5 ±0.1	1.5 ±0.1	1.5 ±0.3	1.0 ±0.0
Minimum	1	1	1	1
5th percentile	1	1	1	1
25th percentile	1	1	1	1
Median	1	1	1	1
75th percentile	2	2	2	1
95th percentile	3	3	3	1
Maximum	4	4	3	1

Only for households that said they have room or window AC units.

Question 20: If you have a central air conditioning system, at what temperature did you usually keep your home last summer?

Air conditioning was turned off when no one was home

	Overall (n=151)	General (n=113)	Low income (n=10)	New construction (n=28)
No	78.0% ± 6.4	79.2% ± 7.5	81.6% ± 19.4	67.8% ± 16.9
Yes	22.0% ± 6.4	20.8% ± 7.5	18.4% ± 19.4	32.2% ± 16.9

Only for households that said they have central air conditioning.

Central air conditioning temperature when no one was home

	Overall (n=111)	General (n=85)	Low income (n=8)	New construction (n=18)
mean	75.0 ±0.7	74.9 ±0.8	76.5 ±1.9	75.6 ±2.0
minimum	65	65	72	65
5th percentile	68	68	72	68
25th percentile	72	70	76	72
median	75	75	78	76
75th percentile	78	78	78	78
95th percentile	80	80	79	85
Maximum	85	85	79	85

Only for households with central air conditioning that said they do not turn off their systems when they are not home.

Air conditioning turned off when someone was awake at home

	Overall (n=151)	General (n=114)	Low income (n=9)	New construction (n=28)
No	98.6% ± 0.2	98.3% ± 0.3	100.0% ± 0.0	100.0% ± 0.0
Yes	1.4% ± 0.2	1.7% ± 0.3	0.0% ± 0.0	0.0% ± 0.0

Only for households that said they have central air conditioning.

Central air conditioning temperature when someone was home

	Overall (n=149)	General (n=112)	Low income (n=9)	New construction (n=28)
mean	73.9 ±0.4	73.9 ±0.5	74.7 ±1.9	73.9 ±1.4
minimum	65	65	70	65
5th percentile	68	68	70	68
25th percentile	71	71	72	71
median	74	74	76	74
75th percentile	77	77	78	78
95th percentile	79	80	79	78
maximum	80	80	79	78

Only for households with central air conditioning that said they do not turn off their systems when they are home.

Air conditioning turned off during sleeping hours

	Overall (n=152)	General (n=114)	Low income (n=10)	New construction (n=28)
No	89.8% ± 4.9	88.9% ± 5.5	100.0% ± 0.0	92.5% ± 8.3
Yes	10.2% ± 4.9	11.1% ± 5.5	0.0% ± 0.0	7.5% ± 8.3

Only for households that said they have central air conditioning.

Central air conditioning temperature during sleeping hours

	Overall (n=137)	General (n=101)	Low income (n=10)	New construction (n=26)
Mean	73.9 ±0.4	74.0 ±0.5	73.9 ±2.0	73.6 ±1.3
Minimum	65	65	70	65
5th percentile	68	70	70	68
25th percentile	71	71	71	70
Median	74	74	72	74
75th percentile	76	76	78	78
95th percentile	80	80	79	78
Maximum	82	82	79	78

Only for households with central air conditioning that said they do not turn off their systems during sleeping hours.

Question 21: This past summer, did your household use the setback features of your thermostat to automatically adjust the temperature for different times of the day or night?

	Overall (n=149)	General (n=112)	Low income (n=10)	New construction (n=27)
No	29.1% ± 6.2	26.9% ± 8.0	34.7% ± 20.7	43.1% ± 14.4
Yes	22.0% ± 11.9	25.0% ± 14.8	0.0% ± 0.0	9.0% ± 9.6
Don't have CAC with a setback thermostat	48.9% ± 8.9	48.1% ± 9.9	65.3% ± 20.7	48.0% ± 17.1

Only for households that said they have central air conditioning.

Q22: Are there any rooms in the insulated area of your home that you do not cool in the summer?

	Overall (n=153)	General (n=114)	Low income (n=10)	New construction (n=29)
No	80.5% ± 5.9	79.7% ± 7.1	88.7% ± 19.0	82.7% ± 15.0
Yes	19.5% ± 5.9	20.3% ± 7.1	11.3% ± 19.0	17.3% ± 15.0

Only for households that said they have central air conditioning.

Appliances

Question 23: What type of fuel do you use to heat your water?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Electricity	24.5% ± 3.5	25.3% ± 3.7	32.7% ± 18.7	8.8% ± 8.9
Natural gas	61.4% ± 6.1	62.6% ± 6.6	46.3% ± 15.5	69.6% ± 15.3
Oil	2.7% ± 1.7	3.0% ± 2.1	2.5% ± 4.3	0.0% ± 0.0
Propane	10.8% ± 4.3	8.3% ± 4.8	18.5% ± 12.1	21.6% ± 8.4
Other	0.6% ± 0.8	0.8% ± 1.0	0.0% ± 0.0	0.0% ± 0.0

Question 24: About how many showers and baths are taken in your home in a typical week?

	Overall (n=292)	General (n=208)	Low income (n=41)	New construction (n=43)
mean	15.3 ±1.1	15.3 ±1.4	13.1 ±2.7	17.7 ±1.9
minimum	1	1	2	5
5th percentile	4	4	3	8
25th percentile	10	10	7	11
median	14	14	12	16
75th percentile	20	20	16	21
95th percentile	30	28	33	30
maximum	42	42	42	35

Question 25: Do you have an automatic dishwasher?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	35.4% ± 7.3	33.0% ± 7.8	72.6% ± 11.7	11.2% ± 7.9
Yes	64.6% ± 7.3	67.0% ± 7.8	27.4% ± 11.7	88.8% ± 7.9

About how many times a week do you run [your dishwasher]?

	Overall (n=179)	General (n=132)	Low income (n=10)	New construction (n=37)
mean	4.3 ±0.5	4.4 ±0.5	4.5 ±1.7	4.1 ±0.8
minimum	0	0	0	0
5th percentile	0	0	0	1
25th percentile	3	3	2	3
median	4	4	5	4
75th percentile	6	6	5	6
95th percentile	10	10	13	9
maximum	16	16	13	10

Question 26: Do you have a clothes washing machine?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	2.3% ± 1.1	1.5% ± 1.6	9.2% ± 7.7	0.0% ± 0.0
Yes	97.7% ± 1.1	98.5% ± 1.6	90.8% ± 7.7	100.0% ± 0.0

About how many loads of laundry do you wash per week?

	Overall (n=283)	General (n=201)	Low income (n=39)	New construction (n=43)
mean	7.2 ±0.6	7.2 ±0.7	7.0 ±0.8	7.3 ±0.9
minimum	0	0	1	2
5th percentile	2	2	2	2
25th percentile	4	4	3	5
median	6	6	6	7
75th percentile	10	10	10	10
95th percentile	14	14	15	11
maximum	30	30	16	14

Percent [of laundry loads that] are hot water washes

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	11.2 ±2.5	11.1 ±2.9	12.0 ±5.7	11.2 ±4.5
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	0	0	0	0
75th percentile	20	20	10	20
95th percentile	50	50	70	50
maximum	100	100	100	50

Percent [of laundry loads that] are warm water washes

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	58.3 ±6.1	58.0 ±7.5	67.1 ±9.9	50.5 ±12.6
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	33	33	50	20
median	60	60	80	43
75th percentile	90	90	100	90
95th percentile	100	100	100	100
maximum	100	100	100	100

Percent [of laundry loads that] are cold water washes

	Overall (n=269)	General (n=192)	Low income (n=36)	New construction (n=41)
mean	30.5 ±4.6	30.8 ±5.9	20.8 ±9.2	38.3 ±12.9
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	0	0	0	0
median	20	20	10	34
75th percentile	50	50	20	65
95th percentile	100	100	90	90
maximum	100	100	100	100

Question 27: Do you have a clothes dryer?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	3.6% ± 1.7	2.5% ± 2.4	14.4% ± 7.4	0.0% ± 0.0
Yes	96.4% ± 1.7	97.5% ± 2.4	85.6% ± 7.4	100.0% ± 0.0

Loads of laundry dried in the dryer, per week

	Overall (n=276)	General (n=197)	Low income (n=37)	New construction (n=42)
mean	6.8 ±0.9	6.8 ±1.0	6.4 ±1.8	6.8 ±1.0
minimum	0	0	1	1
5th percentile	1	1	1	2
25th percentile	4	4	2	4
median	6	6	6	7
75th percentile	9	9	9	10
95th percentile	15	15	15	11
maximum	45	45	24	12

Question 28: How often are hot meals usually cooked in your home?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Two or more times a day	30.6% ± 4.2	29.0% ± 4.3	39.7% ± 11.8	32.9% ± 15.2
Once a day	55.6% ± 3.9	58.0% ± 4.0	48.4% ± 9.7	44.3% ± 17.2
A few times per week	13.2% ± 3.9	12.5% ± 4.3	9.8% ± 7.2	22.8% ± 12.8
About once a week	0.4% ± 0.8	0.6% ± 1.0	0.0% ± 0.0	0.0% ± 0.0
Less than once a week	0.2% ± 0.4	0.0% ± 0.0	2.1% ± 3.6	0.0% ± 0.0

Question 29: How much of your food is cooked in a microwave oven?

	Overall (n=295)	General (n=209)	Low income (n=43)	New construction (n=43)
Don't have a microwave oven	1.1% ± 1.2	1.0% ± 1.6	2.8% ± 5.3	0.0% ± 0.0
Most or all	3.1% ± 1.5	2.1% ± 1.8	9.7% ± 6.2	3.6% ± 6.6
About half	24.9% ± 5.6	27.1% ± 7.0	8.0% ± 8.2	26.7% ± 13.3
Some or very little	34.5% ± 5.4	33.6% ± 5.6	43.1% ± 10.1	31.2% ± 12.0
Used only for snacks, defrosting or reheating food	36.4% ± 4.7	36.2% ± 6.3	36.4% ± 12.1	38.5% ± 19.4

Question 30: How many minutes per day is the microwave in use?

	Overall (n=271)	General (n=188)	Low income (n=41)	New construction (n=42)
mean	17.1 ± 2.1	17.3 ± 2.0	18.8 ± 5.4	13.0 ± 4.2
minimum	0	0	1	2
5th percentile	3	4	5	2
25th percentile	8	8	10	5
median	10	10	15	10
75th percentile	20	20	25	17
95th percentile	60	60	60	30
maximum	100	100	75	60

Question not asked on pilot version of questionnaire.

Question 31: How many of the following appliances are used at this home?

Color television

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
None	0.3% ± 0.6	0.4% ± 0.8	0.0% ± 0.0	0.0% ± 0.0
One	16.8% ± 6.4	16.7% ± 7.3	25.0% ± 11.6	8.4% ± 6.7
Two	39.2% ± 6.1	38.5% ± 7.7	40.8% ± 14.8	42.4% ± 16.1
Three or more	43.7% ± 7.7	44.3% ± 7.5	34.2% ± 17.5	49.2% ± 17.0

Black and white television

	Overall (n=265)	General (n=187)	Low income (n=39)	New construction (n=39)
None	87.0% ± 4.6	86.2% ± 6.2	88.5% ± 8.1	91.7% ± 7.5
One	10.2% ± 3.7	10.3% ± 4.5	11.5% ± 8.1	8.3% ± 7.5
Two	2.2% ± 2.0	2.8% ± 2.5	0.0% ± 0.0	0.0% ± 0.0
Three or more	0.6% ± 1.0	0.7% ± 1.3	0.0% ± 0.0	0.0% ± 0.0

VCR

	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
None	3.7% ± 1.3	2.5% ± 1.5	14.0% ± 6.6	1.9% ± 3.6
One	50.6% ± 8.5	50.1% ± 9.8	48.8% ± 10.7	56.7% ± 11.5
Two	36.7% ± 7.6	37.9% ± 8.5	29.0% ± 8.0	35.9% ± 14.7
Three or more	9.0% ± 3.0	9.5% ± 4.0	8.2% ± 8.4	5.5% ± 7.3

Stereo system

	Overall (n=293)	General (n=207)	Low income (n=42)	New construction (n=44)
None	18.5% ± 5.9	17.7% ± 6.0	32.5% ± 13.9	9.2% ± 8.6
One	61.9% ± 7.5	63.8% ± 8.5	45.5% ± 15.9	64.4% ± 13.3
Two	13.2% ± 4.6	12.1% ± 5.0	13.4% ± 8.3	21.0% ± 11.4
Three or more	6.5% ± 2.5	6.3% ± 3.2	8.6% ± 8.7	5.3% ± 6.0

Humidifier connected to a heating system

	Overall (n=290)	General (n=204)	Low income (n=42)	New construction (n=44)
None	70.6% ± 4.8	70.6% ± 6.5	75.6% ± 14.8	65.4% ± 16.9
One	27.7% ± 4.8	28.2% ± 6.4	19.7% ± 12.0	32.8% ± 17.8
Two	1.6% ± 1.8	1.2% ± 1.6	4.7% ± 6.3	1.8% ± 3.4

Air filters/cleaner

	Overall (n=287)	General (n=200)	Low income (n=43)	New construction (n=44)
None	66.3% ± 6.7	65.6% ± 7.4	71.1% ± 12.7	65.7% ± 11.1
One	31.1% ± 6.0	31.9% ± 6.8	26.7% ± 12.3	30.3% ± 9.1
Two	2.4% ± 1.2	2.3% ± 1.7	2.1% ± 3.8	4.0% ± 5.3
Three or more	0.2% ± 0.4	0.3% ± 0.5	0.0% ± 0.0	0.0% ± 0.0

Ceiling fan

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
None	16.2% ± 3.9	16.8% ± 4.3	21.3% ± 8.6	5.7% ± 6.6
One	28.7% ± 4.7	27.5% ± 6.0	34.6% ± 12.7	31.8% ± 14.5
Two	26.2% ± 4.7	28.4% ± 5.7	14.8% ± 9.9	21.8% ± 7.1
Three or more	28.9% ± 5.9	27.3% ± 6.1	29.3% ± 10.6	40.7% ± 13.0

Attic fan

	Overall (n=286)	General (n=200)	Low income (n=43)	New construction (n=43)
None	88.8% ± 2.1	88.1% ± 2.4	86.1% ± 7.7	97.3% ± 4.8
One	9.3% ± 1.4	9.9% ± 1.3	11.2% ± 9.0	2.7% ± 4.8
Two	1.9% ± 2.1	2.0% ± 2.2	2.8% ± 5.0	0.0% ± 0.0

Well pump

	Overall (n=292)	General (n=205)	Low income (n=43)	New construction (n=44)
None	55.0% ± 12.7	57.5% ± 13.8	49.4% ± 15.3	41.8% ± 12.1
One	44.8% ± 12.7	42.2% ± 13.9	50.6% ± 15.3	58.2% ± 12.1
Two	0.2% ± 0.3	0.2% ± 0.4	0.0% ± 0.0	0.0% ± 0.0

Heated aquarium

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
None	94.2% ± 3.0	93.9% ± 3.6	90.8% ± 8.4	100.0% ± 0.0
One	4.8% ± 2.5	5.0% ± 3.2	7.6% ± 10.8	0.0% ± 0.0
Two	0.5% ± 0.9	0.7% ± 1.2	0.0% ± 0.0	0.0% ± 0.0
Three or more	0.5% ± 0.7	0.4% ± 0.7	1.6% ± 2.8	0.0% ± 0.0

Engine block heater

	Overall (n=291)	General (n=204)	Low income (n=43)	New construction (n=44)
None	92.3% ± 3.5	93.2% ± 4.1	84.6% ± 9.3	93.3% ± 8.4
One	4.7% ± 3.1	4.4% ± 3.1	8.5% ± 9.2	2.2% ± 3.7
Two	2.4% ± 2.2	1.8% ± 2.0	4.8% ± 9.3	4.5% ± 8.0
Three or more	0.6% ± 0.8	0.5% ± 0.9	2.1% ± 3.6	0.0% ± 0.0

Laser, inkjet, or other computer printer

	Overall (n=276)	General (n=191)	Low income (n=43)	New construction (n=42)
None	46.2% ± 6.2	42.9% ± 7.4	80.2% ± 13.8	33.3% ± 14.1
One	47.3% ± 7.0	49.9% ± 7.2	19.8% ± 13.8	58.3% ± 14.6
Two	5.9% ± 3.0	6.4% ± 3.8	0.0% ± 0.0	8.4% ± 7.7
Three or more	0.6% ± 0.8	0.8% ± 1.0	0.0% ± 0.0	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

Stand-alone fax machine

	Overall (n=276)	General (n=191)	Low income (n=43)	New construction (n=42)
None	89.3% ± 3.5	87.8% ± 4.6	96.2% ± 5.3	93.6% ± 10.1
One	9.6% ± 3.4	10.7% ± 4.8	3.8% ± 5.3	6.4% ± 10.1
Two	0.8% ± 1.1	1.1% ± 1.4	0.0% ± 0.0	0.0% ± 0.0
Three or more	0.3% ± 0.6	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

Copier

	Overall (n=275)	General (n=190)	Low income (n=43)	New construction (n=42)
None	89.8% ± 3.5	88.9% ± 5.5	96.2% ± 5.3	89.6% ± 10.2
One	9.6% ± 3.7	10.3% ± 5.7	3.8% ± 5.3	10.4% ± 10.2
Two	0.7% ± 0.9	0.8% ± 1.1	0.0% ± 0.0	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

Question 32: Do you have a dehumidifier?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
No	35.7% ± 5.5	30.6% ± 6.9	66.4% ± 13.8	41.2% ± 14.0
Yes	64.3% ± 5.5	69.4% ± 6.9	33.6% ± 13.8	58.8% ± 14.0

How is [your dehumidifier] used?

	Overall (n=177)	General (n=137)	Low income (n=15)	New construction (n=25)
It is rarely used	10.5% ± 2.9	8.0% ± 3.2	37.9% ± 19.5	16.7% ± 14.1
It is used for a part of the summer	24.1% ± 5.0	22.7% ± 6.4	11.9% ± 13.3	46.9% ± 18.8
It is used all summer long	65.4% ± 5.8	69.4% ± 8.2	50.1% ± 21.4	36.4% ± 15.1

Home Office Equipment

Question 33: Do you have a personal computer?

	Overall (n=293)	General (n=206)	Low income (n=43)	New construction (n=44)
No	43.1% ± 6.8	40.9% ± 8.0	72.7% ± 14.8	27.2% ± 11.6
Yes	56.9% ± 6.8	59.1% ± 8.0	27.3% ± 14.8	72.8% ± 11.6

Number of personal computers in use in your home

	Overall (n=157)	General (n=115)	Low income (n=12)	New construction (n=30)
mean	1.3 ±0.1	1.3 ±0.1	1.0 ±0.0	1.3 ±0.1
minimum	1	1	1	1
5th percentile	1	1	1	1
25th percentile	1	1	1	1
median	1	1	1	1
75th percentile	2	2	1	2
95th percentile	2	2	1	2
maximum	7	7	1	2

Question 34: Number of hours per week computer equipment is turned on

	Overall (n=155)	General (n=111)	Low income (n=13)	New construction (n=31)
Less than 2 hours/week	15.0% ± 6.1	14.4% ± 6.5	29.8% ± 19.9	13.4% ± 7.5
Two to 15 hours/week	47.1% ± 6.5	44.1% ± 7.5	41.7% ± 24.0	69.7% ± 19.3
Sixteen to 40 hours/week	29.7% ± 9.7	33.4% ± 11.0	22.8% ± 25.7	8.2% ± 6.5
Turned on all the time	8.1% ± 5.9	8.2% ± 5.7	5.7% ± 9.0	8.7% ± 13.6

Question not asked on pilot version of questionnaire.

Question 35: Do you or does anyone in your household telecommute?

	Overall (n=155)	General (n=111)	Low income (n=13)	New construction (n=31)
No	87.4% ± 5.7	87.2% ± 6.0	94.3% ± 9.0	85.7% ± 12.6
Yes	12.6% ± 5.7	12.8% ± 6.0	5.7% ± 9.0	14.3% ± 12.6

Question not asked on pilot version of questionnaire.

Number of days per week that personal computer is used for telecommuting

	Overall (n=16)	General (n=12)	Low income (n=1)	New construction (n=3)
mean	3.0 ±1.0	2.7 ±1.1	2.0 ±0.0	4.9 ±4.1
minimum	0	0	2	2
5th percentile	1	0	2	2
25th percentile	1	1	2	4
median	2	2	2	4
75th percentile	5	5	2	7
95th percentile	7	6	2	7
maximum	7	6	2	7

Only for households that said they have a personal computer. Question not asked on pilot version of questionnaire. Confidence interval is based on simple random sampling assumptions.

Question 36: Is there any other large equipment that uses a lot of electricity in this home?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Farm use	1.8% ± 1.5	1.7% ± 1.8	2.1% ± 3.6	2.2% ± 3.7
Satellite dish	1.2% ± 1.7	1.6% ± 2.1	0.0% ± 0.0	0.0% ± 0.0
Electric heating equipment	2.0% ± 1.8	2.5% ± 2.3	0.0% ± 0.0	0.0% ± 0.0
Electric pump, misc. types	3.2% ± 2.3	4.1% ± 2.9	0.0% ± 0.0	0.0% ± 0.0
Water bed(s)	1.3% ± 1.7	1.5% ± 2.2	0.0% ± 0.0	1.6% ± 2.8
Welding equipment	4.2% ± 1.9	3.1% ± 2.5	11.5% ± 9.3	4.4% ± 5.3
Hot tub/whirlpool/spa	1.7% ± 2.4	1.9% ± 3.0	1.6% ± 2.8	0.0% ± 0.0
Wood-working equipment	2.4% ± 1.2	2.8% ± 1.4	1.7% ± 3.1	0.0% ± 0.0
Kiln	0.8% ± 1.1	1.0% ± 1.4	0.0% ± 0.0	0.0% ± 0.0
Air compressor	2.0% ± 1.8	1.6% ± 1.9	6.5% ± 9.9	0.0% ± 0.0
Other	2.4% ± 1.8	2.1% ± 1.9	4.8% ± 6.3	2.2% ± 4.0
None	82.5% ± 3.1	83.0% ± 3.9	76.4% ± 13.2	85.6% ± 8.1

Since respondents were allowed to give more than one response, totals may exceed 100 percent.

Basement

Question 37: Does this house have a basement?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	9.8% ± 2.6	7.4% ± 4.0	27.9% ± 13.6	8.3% ± 8.8
Yes, and we use it as a regular part of our living space	37.6% ± 7.8	39.7% ± 10.1	16.1% ± 7.8	45.6% ± 13.0
Yes, but we do not use it as a regular part of our living space	52.6% ± 7.2	52.9% ± 7.5	56.0% ± 16.8	46.2% ± 14.3

Question 38: Number of hours per day someone is in the basement

	Overall (n=258)	General (n=188)	Low income (n=29)	New construction (n=41)
mean	2.5 ± 0.4	2.6 ± 0.5	1.7 ± 1.1	2.9 ± 1.4
minimum	0	0	0	0
5th percentile	0	0	0	1
25th percentile	1	1	1	1
median	1	1	1	1
75th percentile	2	2	1	3
95th percentile	12	12	10	11
maximum	16	16	16	16

Question 39: Last winter, how was the basement in your home compared to the rest of the house?

	Overall (n=243)	General (n=175)	Low income (n=30)	New construction (n=38)
Warmer than the rest of the house	5.9% ± 3.2	6.2% ± 3.7	9.1% ± 5.5	0.0% ± 0.0
About the same temperature as the rest of the house	17.7% ± 5.6	19.1% ± 5.7	16.4% ± 10.6	6.2% ± 6.2
Somewhat colder than the rest of the house	63.3% ± 7.4	61.6% ± 7.4	52.3% ± 15.4	88.9% ± 7.7
Much colder than the rest of the house	13.2% ± 2.9	13.1% ± 2.8	22.3% ± 10.4	4.9% ± 6.1

Question was not asked on pilot version of questionnaire.

Comfort in the Winter

Question 40: How would you describe the general level of comfort in your home in the winter?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Very uncomfortable	12.7% ± 3.7	14.1% ± 5.3	8.6% ± 10.9	6.7% ± 8.4
Somewhat uncomfortable	4.8% ± 2.6	3.9% ± 2.5	15.1% ± 9.9	0.0% ± 0.0
Somewhat comfortable	37.7% ± 6.7	37.5% ± 8.2	46.3% ± 14.5	29.0% ± 9.8
Very comfortable	44.8% ± 7.6	44.4% ± 9.3	30.0% ± 19.6	64.4% ± 11.0

Question 41: Are there specific places in your home where—or times when—you or members of your household often feel too cold or feel uncomfortable drafts?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	48.3% ± 5.8	48.5% ± 7.4	38.1% ± 13.6	58.4% ± 11.8
Yes	51.7% ± 5.8	51.5% ± 7.4	61.9% ± 13.6	41.6% ± 11.8

Specific places or times where you or members of your family often feel too cold or feel uncomfortable drafts

	Overall (n=151)	General (n=109)	Low income (n=25)	New construction (n=17)
Basement	7.0% ± 5.3	7.4% ± 5.1	3.5% ± 6.0	8.4% ± 16.9
Room or other areas in house	60.1% ± 6.5	61.4% ± 5.0	49.6% ± 23.4	63.4% ± 19.2
Near doors or windows	28.2% ± 6.1	27.0% ± 6.3	42.5% ± 17.4	18.1% ± 13.0
Other places	4.6% ± 3.9	4.7% ± 4.6	4.3% ± 7.0	4.3% ± 8.3
When it's cold outside	5.1% ± 1.9	4.9% ± 2.5	0.0% ± 0.0	15.0% ± 15.9
When it's windy outside	13.7% ± 4.2	14.0% ± 4.1	8.1% ± 7.8	19.7% ± 14.7
Specific times of the day or night	2.2% ± 2.0	2.8% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
Other times	0.4% ± 0.7	0.0% ± 0.0	3.2% ± 6.3	0.0% ± 0.0

Totals may exceed 100 percent, since some respondents gave more than one answer. Question was asked open-ended and back-coded.

Question 42: How often do you or other members of your household find your home too cold during the winter?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Never or rarely	58.1% ± 5.2	60.6% ± 6.3	40.6% ± 14.5	58.7% ± 10.1
Some of the time	38.6% ± 4.8	36.9% ± 6.4	48.2% ± 12.0	41.3% ± 10.1
Most of the time	3.0% ± 1.3	2.2% ± 1.3	11.2% ± 6.8	0.0% ± 0.0
Always	0.2% ± 0.3	0.2% ± 0.4	0.0% ± 0.0	0.0% ± 0.0

During those times when you find your home too cold, how often are you able to make yourself more comfortable?

	Overall (n=274)	General (n=189)	Low income (n=43)	New construction (n=42)
Never	1.7% ± 1.6	1.8% ± 1.9	0.0% ± 0.0	3.2% ± 5.0
Some of the time	5.1% ± 2.0	4.2% ± 2.2	11.2% ± 11.2	5.5% ± 6.1
Most of the time	33.1% ± 6.7	33.8% ± 8.0	44.0% ± 13.7	14.6% ± 11.1
Always	60.0% ± 6.1	60.2% ± 7.4	44.8% ± 15.1	76.6% ± 12.3

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

How often do you or other members of your household find your home too drafty during the winter?

	Overall (n=274)	General (n=189)	Low income (n=43)	New construction (n=42)
Never	58.6% ± 5.0	58.4% ± 5.5	47.5% ± 18.4	73.7% ± 14.6
Some of the time	39.0% ± 5.2	40.4% ± 6.0	39.5% ± 19.9	26.3% ± 14.6
Most of the time	1.4% ± 1.2	0.7% ± 0.9	7.4% ± 8.7	0.0% ± 0.0
Always	1.0% ± 1.2	0.4% ± 0.8	5.6% ± 5.9	0.0% ± 0.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

During those times when you find your home too drafty, how often are you able to make yourself more comfortable?

	Overall (n=221)	General (n=151)	Low income (n=38)	New construction (n=32)
Never	8.0% ± 3.6	7.1% ± 4.6	1.8% ± 3.2	24.4% ± 13.6
Some of the time	9.0% ± 4.5	9.8% ± 5.8	5.5% ± 7.3	7.2% ± 8.1
Most of the time	32.7% ± 7.5	33.3% ± 9.2	45.7% ± 11.1	9.3% ± 9.5
Always	50.3% ± 8.7	49.8% ± 11.0	47.1% ± 9.2	59.1% ± 15.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

How often do you do each of the following when you find your home too cold or drafty?

Turn up the thermostat

	Overall (n=269)	General (n=185)	Low income (n=42)	New construction (n=42)
Never	16.6% ± 5.1	17.1% ± 7.3	15.1% ± 8.8	14.5% ± 13.6
Some of the time	50.2% ± 10.4	51.4% ± 10.7	43.1% ± 16.3	48.3% ± 18.7
Most of the time	21.2% ± 5.7	19.2% ± 7.8	26.5% ± 12.8	31.2% ± 15.9
Always	12.0% ± 8.4	12.3% ± 8.6	15.3% ± 15.3	6.0% ± 5.9

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Start a fire in the fireplace

	Overall (n=259)	General (n=179)	Low income (n=38)	New construction (n=42)
Never	65.8% ± 6.0	66.2% ± 5.8	85.6% ± 8.5	42.4% ± 12.6
Some of the time	22.5% ± 4.1	21.1% ± 4.9	7.0% ± 7.0	49.5% ± 12.9
Most of the time	6.7% ± 3.9	7.1% ± 4.9	1.7% ± 3.1	8.1% ± 5.7
Always	5.0% ± 1.7	5.5% ± 2.1	5.8% ± 1.9	0.0% ± 0.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Turn on a portable heater

	Overall (n=261)	General (n=178)	Low income (n=42)	New construction (n=41)
Never	77.6% ± 6.8	75.4% ± 8.3	78.6% ± 15.2	95.1% ± 6.0
Some of the time	19.3% ± 6.9	22.2% ± 8.4	13.8% ± 9.8	1.6% ± 2.9
Most of the time	2.6% ± 2.5	1.8% ± 2.3	7.6% ± 8.3	3.3% ± 5.4
Always	0.5% ± 0.9	0.6% ± 1.1	0.0% ± 0.0	0.0% ± 0.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Turn on the oven

	Overall (n=265)	General (n=181)	Low income (n=42)	New construction (n=42)
Never	95.4% ± 3.1	95.8% ± 3.5	90.6% ± 8.4	98.1% ± 3.6
Some of the time	4.6% ± 3.1	4.2% ± 3.5	9.4% ± 8.4	1.9% ± 3.6

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Move to a more comfortable part of the house

	Overall (n=265)	General (n=181)	Low income (n=42)	New construction (n=42)
Never	49.5% ± 5.0	50.1% ± 5.9	39.9% ± 9.7	55.7% ± 17.1
Some of the time	37.5% ± 6.1	36.4% ± 7.3	41.1% ± 10.5	41.9% ± 18.5
Most of the time	11.4% ± 2.6	11.4% ± 3.0	19.0% ± 10.1	2.4% ± 4.5
Always	1.6% ± 0.3	2.1% ± 0.5	0.0% ± 0.0	0.0% ± 0.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Put on more clothing or a blanket

	Overall (n=269)	General (n=184)	Low income (n=43)	New construction (n=42)
Never	9.5% ± 4.0	8.8% ± 3.9	18.6% ± 13.8	4.8% ± 6.3
Some of the time	38.8% ± 5.7	37.2% ± 5.1	38.3% ± 18.9	53.3% ± 17.6
Most of the time	37.2% ± 4.2	38.4% ± 4.3	30.4% ± 13.0	35.8% ± 15.2
Always	14.4% ± 3.3	15.6% ± 3.7	12.7% ± 10.9	6.2% ± 6.6

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire.

Other

	Overall (n=16)	General (n=11)	Low income (n=4)	New construction (n=1)
Some of the time	36.8% ± 21.8	37.3% ± 27.7	18.5% ± 52.7	100.0% ± 0.0
Most of the time	20.7% ± 18.3	5.0% ± 12.5	81.5% ± 52.7	0.0% ± 0.0
Always	42.5% ± 22.4	57.7% ± 28.3	0.0% ± 0.0	0.0% ± 0.0

Excludes pilot households, as answer categories vary between full-scale and pilot version of questionnaire. Confidence interval is based on simple random sampling assumptions.

Question 43: How often do you or other members of your household find your home too hot or stuffy during the winter?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Never or rarely	84.8% ± 4.7	85.5% ± 5.5	76.2% ± 15.2	89.6% ± 8.5
Some of the time	14.8% ± 4.6	14.0% ± 5.4	23.8% ± 15.2	10.4% ± 8.5
Most of the time	0.4% ± 0.7	0.5% ± 0.9	0.0% ± 0.0	0.0% ± 0.0

During those times when you find your home too hot or stuffy, how often are you able to make yourself more comfortable?

	Overall (n=265)	General (n=184)	Low income (n=41)	New construction (n=40)
Rarely or never	13.1% ± 3.7	12.5% ± 5.1	13.7% ± 7.0	17.6% ± 13.5
Some of the time	6.7% ± 2.0	7.4% ± 2.7	7.6% ± 7.9	0.0% ± 0.0
Most of the time	28.6% ± 5.2	25.6% ± 5.3	47.0% ± 8.9	30.1% ± 15.1
Always	51.5% ± 6.6	54.4% ± 7.5	31.7% ± 11.1	52.4% ± 10.9

How often do you do each of the following when you find your home too hot or stuffy [during the winter]?

Turn down the thermostat

	Overall (n=261)	General (n=182)	Low income (n=40)	New construction (n=39)
Rarely or never	32.6% ± 9.0	33.7% ± 11.0	29.7% ± 12.5	27.0% ± 15.6
Some of the time	23.6% ± 5.8	22.8% ± 7.2	25.3% ± 13.4	28.4% ± 11.5
Most of the time	24.7% ± 2.4	24.1% ± 3.3	24.2% ± 14.8	31.2% ± 18.3
Always	19.0% ± 8.9	19.4% ± 10.0	20.8% ± 14.7	13.4% ± 7.6

Open a window or door to the outside

	Overall (n=260)	General (n=181)	Low income (n=40)	New construction (n=39)
Rarely or never	54.5% ± 4.8	53.7% ± 4.1	54.1% ± 16.4	61.6% ± 13.0
Some of the time	31.4% ± 3.9	32.7% ± 3.9	25.6% ± 9.1	28.2% ± 13.0
Most of the time	10.3% ± 4.7	9.5% ± 4.5	17.7% ± 13.9	7.6% ± 6.2
Always	3.8% ± 1.9	4.1% ± 2.5	2.6% ± 4.5	2.7% ± 5.0

Move to a more comfortable part of the house

	Overall (n=258)	General (n=179)	Low income (n=40)	New construction (n=39)
Rarely or never	55.1% ± 5.6	55.7% ± 6.8	39.5% ± 11.4	69.1% ± 13.2
Some of the time	32.9% ± 4.1	32.1% ± 4.7	41.1% ± 14.0	28.8% ± 11.2
Most of the time	10.9% ± 3.2	11.1% ± 4.0	16.8% ± 8.0	2.1% ± 4.0
Always	1.1% ± 1.2	1.0% ± 1.0	2.6% ± 4.5	0.0% ± 0.0

Put on lighter clothing

	Overall (n=262)	General (n=182)	Low income (n=41)	New construction (n=39)
Rarely or never	28.5% ± 4.5	27.7% ± 6.3	36.0% ± 7.0	25.2% ± 13.5
Some of the time	43.6% ± 4.1	43.8% ± 5.5	35.7% ± 9.5	52.1% ± 17.6
Most of the time	17.2% ± 3.4	17.7% ± 4.0	16.6% ± 11.4	13.1% ± 7.7
Always	10.7% ± 3.0	10.7% ± 3.5	11.7% ± 10.9	9.6% ± 11.2

Other

	Overall (n=16)	General (n=11)	Low income (n=2)	New construction (n=3)
Rarely or never	19.3% ± 17.9	23.6% ± 24.3	0.0% ± 0.0	0.0% ± 0.0
Some of the time	42.5% ± 22.4	44.9% ± 28.5	0.0% ± 0.0	66.2% ± 97.7
Most of the time	35.2% ± 21.6	31.6% ± 26.6	100.0% ± 0.0	0.0% ± 0.0
Always	2.9% ± 7.6	0.0% ± 0.0	0.0% ± 0.0	33.8% ± 97.7

Confidence interval is based on simple random sampling assumptions.

Question 44: Are there any specific places in your home where—or times when—you or members of your household often feel too hot or stuffy in the winter?

	Overall (n=288)	General (n=206)	Low income (n=40)	New construction (n=42)
No	73.8% ± 6.0	74.5% ± 7.4	65.2% ± 13.6	77.6% ± 10.8
Yes	26.2% ± 6.0	25.5% ± 7.4	34.8% ± 13.6	22.4% ± 10.8

Places that are hot and stuffy in the winter

	Overall (n=50)	General (n=38)	Low income (n=8)	New construction (n=4)
Basement	1.5% ± 2.9	1.7% ± 3.6	0.0% ± 0.0	0.0% ± 0.0
Room or area of house	54.7% ± 11.9	55.5% ± 13.8	51.1% ± 35.8	48.3% ± 67.9
Near windows	7.1% ± 6.2	5.7% ± 6.4	11.0% ± 22.4	27.0% ± 60.4
Near fireplace or wood stove	13.1% ± 8.1	10.5% ± 8.5	27.9% ± 32.1	24.7% ± 58.6
Kitchen	13.3% ± 8.1	14.3% ± 9.7	10.0% ± 21.5	0.0% ± 0.0
Bathroom	10.3% ± 7.3	12.2% ± 9.1	0.0% ± 0.0	0.0% ± 0.0

Confidence interval is based on simple random sampling assumptions.

Times when it is hot or stuffy during the winter

	Overall (n=25)	General (n=17)	Low income (n=5)	New construction (n=3)
When cooking or baking	27.1% ± 15.5	31.0% ± 20.2	17.8% ± 40.8	0.0% ± 0.0
When sunny	23.9% ± 14.9	20.6% ± 17.7	36.8% ± 51.4	35.9% ± 99.0
When fireplace is too hot/burning too long	7.5% ± 9.2	5.7% ± 10.1	21.1% ± 43.5	0.0% ± 0.0
Specific times during the day or night	11.2% ± 11.0	11.5% ± 13.9	0.0% ± 0.0	32.7% ± 96.9
When the furnace is running	16.9% ± 13.1	14.4% ± 15.3	24.3% ± 45.7	31.4% ± 95.8
Other	13.4% ± 11.9	16.9% ± 16.3	0.0% ± 0.0	0.0% ± 0.0

Confidence interval is based on simple random sampling assumptions.

Question 45: How often do you or other members of your household find your home too dry during the winter?

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
Rarely or never	42.8% ± 4.4	40.2% ± 5.3	48.8% ± 11.2	56.5% ± 17.5
Some of the time	44.9% ± 4.4	48.0% ± 5.2	41.4% ± 12.2	24.0% ± 10.3
Most of the time	9.4% ± 3.1	8.4% ± 3.2	7.7% ± 6.1	19.5% ± 15.0
Always	2.9% ± 2.9	3.4% ± 3.7	2.1% ± 3.8	0.0% ± 0.0

During those times when you find your home too dry, how often are you able to make yourself more comfortable?

	Overall (n=266)	General (n=188)	Low income (n=40)	New construction (n=38)
Rarely or never	16.1% ± 5.9	16.2% ± 6.9	13.0% ± 11.4	18.8% ± 13.8
Some of the time	26.8% ± 4.5	25.7% ± 4.4	26.8% ± 10.7	37.2% ± 18.7
Most of the time	38.0% ± 4.9	39.9% ± 5.3	40.1% ± 9.5	18.3% ± 13.0
Always	19.1% ± 3.5	18.2% ± 4.1	20.1% ± 8.5	25.7% ± 12.8

Question 46: How often has water beaded up or frosted on your windows this winter?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Rarely or never	53.4% ± 4.3	50.5% ± 5.4	65.5% ± 13.4	62.2% ± 12.7
Some of the time	29.5% ± 4.0	31.7% ± 5.3	19.0% ± 9.8	23.1% ± 10.1
Most of the time	12.5% ± 4.6	13.4% ± 5.4	9.3% ± 8.1	8.9% ± 6.6
Always	4.7% ± 2.0	4.3% ± 2.1	6.2% ± 5.8	5.8% ± 5.8

Question 47: Where did this [condensation] occur?

	Overall (n=276)	General (n=192)	Low income (n=43)	New construction (n=41)
Inside of windows only	47.6% ± 7.2	49.4% ± 8.5	42.9% ± 10.0	38.0% ± 20.1
Outside of windows only	16.9% ± 5.1	17.8% ± 5.8	12.1% ± 6.7	15.1% ± 7.5
Both inside and outside windows	8.5% ± 3.3	8.0% ± 3.3	13.9% ± 9.6	6.7% ± 6.0
None reported	26.9% ± 4.2	24.9% ± 3.4	31.1% ± 16.7	40.3% ± 15.8

Question not asked on pilot version of questionnaire.

Comfort in the Summer

Question 48: Are there specific places in your home where—or times when—you or members of your household are often hot and uncomfortable?

	Overall (n=270)	General (n=190)	Low income (n=43)	New construction (n=37)
No	69.3% ± 4.2	67.6% ± 3.9	70.9% ± 12.4	85.2% ± 11.3
Yes	30.7% ± 4.2	32.4% ± 3.9	29.1% ± 12.4	14.8% ± 11.3

Question not asked on pilot version of questionnaire.

Question 49: How often do you or other members of your household find your home too hot during the summer?

	Overall (n=289)	General (n=206)	Low income (n=43)	New construction (n=40)
Never or rarely	42.8% ± 6.2	42.8% ± 7.4	31.9% ± 9.0	58.0% ± 20.2
Some of the time	53.4% ± 6.3	54.2% ± 7.3	59.2% ± 9.6	38.5% ± 16.5
Most of the time	3.0% ± 1.6	2.6% ± 1.7	5.2% ± 7.0	3.5% ± 5.6
Always	0.8% ± 0.9	0.4% ± 0.7	3.8% ± 6.1	0.0% ± 0.0

During those times when you find your home too hot, how often are you able to make yourself more comfortable?

	Overall (n=285)	General (n=204)	Low income (n=43)	New construction (n=38)
Rarely or never	2.8% ± 1.7	2.7% ± 2.1	4.9% ± 5.8	1.8% ± 3.4
Some of the time	17.2% ± 6.9	18.1% ± 8.2	15.5% ± 6.8	10.6% ± 8.8
Most of the time	47.8% ± 7.5	45.5% ± 9.9	63.5% ± 8.7	48.1% ± 14.2
Always	32.2% ± 6.1	33.8% ± 7.0	16.1% ± 13.0	39.6% ± 14.9

How often do you do each of the following when you find your home too humid [during the summer]?

Turn on the central air conditioning

	Overall (n=147)	General (n=111)	Low income (n=9)	New construction (n=27)
Rarely or never	6.3% ± 4.6	6.6% ± 5.6	9.5% ± 14.5	2.5% ± 4.5
Some of the time	28.7% ± 6.5	29.0% ± 6.5	19.9% ± 23.1	29.8% ± 14.1
Most of the time	40.6% ± 11.3	41.5% ± 10.7	8.3% ± 14.4	46.7% ± 22.1
Always	24.4% ± 13.3	22.8% ± 12.7	62.4% ± 23.7	21.0% ± 19.9

Turn the central air conditioner to a cooler setting

	Overall (n=144)	General (n=108)	Low income (n=9)	New construction (n=27)
Rarely or never	26.8% ± 10.8	28.9% ± 12.1	9.5% ± 14.5	18.7% ± 12.4
Some of the time	52.5% ± 6.5	52.5% ± 7.1	56.2% ± 22.1	50.8% ± 13.3
Most of the time	12.9% ± 4.0	12.6% ± 5.3	0.0% ± 0.0	20.4% ± 15.0
Always	7.7% ± 5.9	5.9% ± 5.7	34.4% ± 22.7	10.0% ± 14.7

Turn on room air conditioners

	Overall (n=62)	General (n=44)	Low income (n=16)	New construction (n=2)
Rarely or never	14.9% ± 7.9	16.1% ± 8.8	11.6% ± 12.5	0.0% ± 0.0
Some of the time	21.9% ± 9.5	23.0% ± 10.9	20.1% ± 18.8	0.0% ± 0.0
Most of the time	37.4% ± 10.6	38.5% ± 14.3	36.6% ± 27.3	0.0% ± 0.0
Always	25.8% ± 9.1	22.3% ± 8.9	31.7% ± 15.8	100.0% ± 0.0

Turn the room air conditioner(s) to a cooler setting

	Overall (n=62)	General (n=43)	Low income (n=17)	New construction (n=2)
Rarely or never	27.0% ± 9.5	28.3% ± 11.7	20.5% ± 17.6	57.7% ± 311.9
Some of the time	39.6% ± 10.5	45.1% ± 12.9	25.4% ± 19.0	0.0% ± 0.0
Most of the time	25.3% ± 9.3	20.5% ± 10.5	39.1% ± 21.3	42.3% ± 311.9
Always	8.1% ± 5.8	6.1% ± 6.2	15.0% ± 15.6	0.0% ± 0.0

Turn on fans

	Overall (n=278)	General (n=199)	Low income (n=42)	New construction (n=37)
Rarely or never	10.9% ± 4.1	11.4% ± 4.7	9.2% ± 8.5	9.1% ± 7.2
Some of the time	30.3% ± 4.4	29.5% ± 6.3	25.0% ± 8.0	45.2% ± 14.8
Most of the time	32.7% ± 3.5	33.1% ± 4.9	35.2% ± 14.1	25.0% ± 10.6
Always	26.1% ± 3.0	26.0% ± 4.3	30.5% ± 6.7	20.7% ± 10.7

Open windows or doors

	Overall (n=277)	General (n=202)	Low income (n=39)	New construction (n=36)
Rarely or never	14.3% ± 4.9	14.1% ± 4.6	21.5% ± 14.1	6.3% ± 7.9
Some of the time	28.3% ± 7.2	27.5% ± 9.2	19.6% ± 12.4	48.3% ± 15.7
Most of the time	30.4% ± 5.7	31.0% ± 6.7	23.7% ± 13.8	33.1% ± 17.7
Always	27.0% ± 6.4	27.4% ± 7.8	35.2% ± 13.9	12.3% ± 11.5

Wear lighter clothing

	Overall (n=279)	General (n=201)	Low income (n=41)	New construction (n=37)
Rarely or never	6.9% ± 3.0	6.9% ± 3.9	5.0% ± 6.4	9.0% ± 11.2
Some of the time	15.8% ± 4.9	14.7% ± 6.0	14.0% ± 8.7	29.2% ± 12.4
Most of the time	37.1% ± 5.8	38.5% ± 7.4	29.0% ± 10.3	34.5% ± 11.6
Always	40.2% ± 9.1	39.8% ± 10.6	52.0% ± 11.8	27.3% ± 10.4

Move to a more comfortable part of the house

	Overall (n=277)	General (n=199)	Low income (n=41)	New construction (n=37)
Rarely or never	35.0% ± 7.0	34.4% ± 8.9	31.6% ± 11.5	45.5% ± 15.0
Some of the time	34.4% ± 4.5	32.6% ± 5.3	44.5% ± 12.0	38.6% ± 11.9
Most of the time	20.3% ± 5.9	21.9% ± 6.8	15.5% ± 10.8	11.4% ± 6.1
Always	10.3% ± 4.6	11.1% ± 5.3	8.4% ± 7.8	4.5% ± 5.7

Close shades/blinds

	Overall (n=281)	General (n=202)	Low income (n=42)	New construction (n=37)
Rarely or never	13.0% ± 2.7	12.3% ± 3.4	10.0% ± 6.3	23.8% ± 10.5
Some of the time	25.1% ± 6.5	25.0% ± 7.7	21.6% ± 7.5	31.6% ± 10.4
Most of the time	28.1% ± 4.0	29.0% ± 5.5	26.0% ± 15.6	22.2% ± 9.3
Always	33.8% ± 6.8	33.7% ± 6.9	42.4% ± 16.3	22.4% ± 17.0

Other

	Overall (n=17)	General (n=12)	Low income (n=3)	New construction (n=2)
Rarely or never	5.1% ± 9.6	0.0% ± 0.0	39.8% ± 101.1	0.0% ± 0.0
Some of the time	50.7% ± 21.8	58.8% ± 26.6	0.0% ± 0.0	49.8% ± 315.7
Most of the time	37.4% ± 21.1	38.0% ± 26.3	28.2% ± 92.9	50.2% ± 315.7
Always	6.7% ± 10.9	3.2% ± 9.5	32.0% ± 96.3	0.0% ± 0.0

Confidence interval is based on simple random sampling assumptions.

Question 50: How often do you or other members of your household find your home too humid during the summer?

	Overall (n=289)	General (n=207)	Low income (n=43)	New construction (n=39)
Never or rarely	44.3% ± 7.7	43.8% ± 7.7	42.6% ± 15.2	52.0% ± 19.1
Some of the time	50.3% ± 7.2	50.2% ± 7.5	52.6% ± 13.3	48.0% ± 19.1
Most of the time	4.6% ± 2.1	5.1% ± 2.0	4.8% ± 9.3	0.0% ± 0.0
Always	0.7% ± 1.2	0.9% ± 1.5	0.0% ± 0.0	0.0% ± 0.0

During those times when you find your home too humid, how often are you able to make yourself more comfortable?

	Overall (n=286)	General (n=205)	Low income (n=43)	New construction (n=38)
Never or rarely	7.9% ± 3.8	8.8% ± 4.6	6.0% ± 6.1	1.8% ± 3.3
Some of the time	22.9% ± 5.8	22.0% ± 7.5	33.4% ± 9.0	17.0% ± 10.9
Most of the time	46.9% ± 5.7	46.6% ± 6.0	43.5% ± 14.6	54.5% ± 12.2
Always	22.2% ± 5.5	22.5% ± 6.3	17.1% ± 13.4	26.7% ± 12.7

How often do you do each of the following when you find your home too hot [during the summer]?

Turn a dehumidifier on or up

	Overall (n=269)	General (n=193)	Low income (n=39)	New construction (n=37)
Never or rarely	44.9% ± 6.5	41.0% ± 9.3	64.8% ± 14.0	54.6% ± 13.5
Some of the time	17.4% ± 6.7	15.9% ± 8.8	23.7% ± 15.9	22.2% ± 11.2
Most of the time	18.1% ± 4.3	20.2% ± 5.8	5.0% ± 5.8	16.3% ± 9.2
Always	19.6% ± 7.2	22.9% ± 8.3	6.5% ± 7.1	6.9% ± 9.8

Move to a more comfortable part of the home

	Overall (n=271)	General (n=192)	Low income (n=42)	New construction (n=37)
Never or rarely	38.2% ± 5.7	38.3% ± 6.7	32.1% ± 12.2	46.0% ± 17.5
Some of the time	35.6% ± 4.4	35.3% ± 5.4	33.2% ± 10.6	41.8% ± 19.5
Most of the time	20.6% ± 5.2	20.4% ± 6.0	29.8% ± 7.3	10.2% ± 7.7
Always	5.6% ± 2.4	6.1% ± 2.8	4.9% ± 6.3	2.0% ± 3.7

Wear lighter clothing

	Overall (n=276)	General (n=197)	Low income (n=41)	New construction (n=38)
Never or rarely	12.8% ± 3.6	12.9% ± 3.7	15.4% ± 12.6	8.8% ± 10.7
Some of the time	23.8% ± 5.3	23.3% ± 5.9	17.5% ± 7.2	36.3% ± 10.3
Most of the time	31.4% ± 2.8	31.4% ± 3.7	34.1% ± 11.7	28.3% ± 8.9
Always	32.0% ± 6.2	32.4% ± 6.6	33.0% ± 15.8	26.6% ± 10.5

Other

	Overall (n=41)	General (n=32)	Low income (n=5)	New construction (n=4)
Never or rarely	6.6% ± 6.6	5.5% ± 7.0	22.7% ± 44.7	0.0% ± 0.0
Some of the time	28.3% ± 12.0	27.5% ± 13.6	34.4% ± 50.6	32.6% ± 63.7
Most of the time	43.3% ± 13.2	42.9% ± 15.1	42.9% ± 52.8	50.0% ± 67.9
Always	21.8% ± 11.0	24.1% ± 13.0	0.0% ± 0.0	17.4% ± 51.5

Confidence interval is based on simple random sampling assumptions.

Question 51: How often do you or other members of your household find your home too cold or drafty during the summer?

	Overall (n=287)	General (n=206)	Low income (n=42)	New construction (n=39)
Rarely or never	92.1% ± 3.3	92.2% ± 4.5	89.2% ± 9.3	94.8% ± 6.2
Some of the time	7.6% ± 3.4	7.8% ± 4.5	8.0% ± 8.0	5.2% ± 6.2
Most of the time	0.3% ± 0.6	0.0% ± 0.0	2.8% ± 5.0	0.0% ± 0.0

Comfort Throughout the Year

Question 52: How often are you or is someone in your household uncomfortable with the air quality in your home?

Air smells moldy

	Overall (n=286)	General (n=204)	Low income (n=40)	New construction (n=42)
Rarely or never	88.3% ± 3.0	90.8% ± 3.8	63.5% ± 13.0	95.2% ± 6.0
Some of the time	10.3% ± 2.5	7.7% ± 3.0	34.2% ± 13.2	4.8% ± 6.0
Most of the time	0.8% ± 1.4	1.0% ± 1.7	0.0% ± 0.0	0.0% ± 0.0
Always	0.6% ± 0.8	0.5% ± 0.9	2.3% ± 4.1	0.0% ± 0.0

Air smells of cooking or other odors

	Overall (n=287)	General (n=204)	Low income (n=42)	New construction (n=41)
Rarely or never	45.8% ± 6.7	45.4% ± 7.0	38.9% ± 13.5	57.3% ± 17.4
Some of the time	50.3% ± 6.5	51.9% ± 7.4	48.6% ± 9.3	39.4% ± 15.5
Most of the time	3.9% ± 2.4	2.7% ± 2.2	12.5% ± 12.7	3.3% ± 5.3

Air is stale

	Overall (n=285)	General (n=205)	Low income (n=39)	New construction (n=41)
Rarely or never	75.5% ± 4.6	76.1% ± 4.4	64.8% ± 10.8	82.8% ± 9.9
Some of the time	22.9% ± 4.4	22.9% ± 4.3	28.3% ± 13.4	17.2% ± 9.9
Most of the time	1.1% ± 1.1	0.8% ± 1.1	4.5% ± 5.4	0.0% ± 0.0
Always	0.4% ± 0.6	0.2% ± 0.5	2.4% ± 4.2	0.0% ± 0.0

Question 53: How often are you or is a member of your household dissatisfied with your lighting?

Lighting is too dim

	Overall (n=292)	General (n=206)	Low income (n=43)	New construction (n=43)
Rarely or never	57.7% ± 6.2	56.4% ± 6.2	59.9% ± 9.3	65.9% ± 16.8
Some of the time	32.7% ± 5.8	33.4% ± 6.2	28.8% ± 10.3	31.8% ± 17.9
Most of the time	7.6% ± 2.8	8.7% ± 3.7	6.8% ± 3.5	0.0% ± 0.0
Always	1.9% ± 1.9	1.5% ± 2.2	4.5% ± 6.1	2.3% ± 3.8

Lighting is too bright

	Overall (n=289)	General (n=205)	Low income (n=42)	New construction (n=42)
Rarely or never	85.4% ± 2.5	85.1% ± 3.4	91.0% ± 7.8	80.5% ± 12.8
Some of the time	13.5% ± 2.6	14.0% ± 3.2	6.6% ± 7.0	17.4% ± 13.2
Most of the time	0.9% ± 1.0	0.5% ± 0.9	2.4% ± 4.4	2.1% ± 4.2
Always	0.3% ± 0.5	0.3% ± 0.6	0.0% ± 0.0	0.0% ± 0.0

Don't like the color or quality of the lighting

	Overall (n=290)	General (n=205)	Low income (n=42)	New construction (n=43)
Rarely or never	75.1% ± 5.1	76.0% ± 5.0	67.0% ± 18.8	77.2% ± 14.2
Some of the time	18.1% ± 4.2	17.5% ± 4.9	23.0% ± 12.1	17.7% ± 14.9
Most of the time	4.5% ± 2.9	4.6% ± 3.1	5.3% ± 7.4	2.8% ± 4.9
Always	2.2% ± 2.0	1.8% ± 2.3	4.7% ± 6.3	2.3% ± 3.8

Not enough daylight getting into the house, even on sunny days

	Overall (n=290)	General (n=205)	Low income (n=42)	New construction (n=43)
Rarely or never	77.8% ± 3.7	77.2% ± 5.0	68.9% ± 13.3	92.5% ± 6.4
Some of the time	16.5% ± 3.3	16.4% ± 3.7	25.0% ± 10.8	7.5% ± 6.4
Most of the time	4.6% ± 2.7	5.1% ± 3.4	4.4% ± 5.5	0.0% ± 0.0
Always	1.1% ± 1.4	1.2% ± 1.7	1.8% ± 3.2	0.0% ± 0.0

Question 54: How often are you or is a member of your household dissatisfied with your hot water?

There is not enough hot water

	Overall (n=291)	General (n=207)	Low income (n=41)	New construction (n=43)
Rarely or never	75.1% ± 8.1	74.0% ± 8.9	71.1% ± 15.3	88.5% ± 8.7
Some of the time	17.5% ± 6.3	17.9% ± 6.5	22.0% ± 12.6	8.3% ± 8.3
Most of the time	5.5% ± 2.2	5.8% ± 2.4	5.0% ± 6.1	3.2% ± 5.2
Always	2.0% ± 1.5	2.2% ± 1.9	1.9% ± 3.5	0.0% ± 0.0

There is not enough hot water pressure

	Overall (n=291)	General (n=206)	Low income (n=42)	New construction (n=43)
Rarely or never	86.7% ± 4.3	87.4% ± 4.4	87.7% ± 11.6	79.6% ± 8.8
Some of the time	10.7% ± 3.5	10.7% ± 3.8	7.7% ± 8.1	14.0% ± 6.9
Most of the time	2.0% ± 1.3	1.4% ± 1.3	2.5% ± 4.3	6.4% ± 7.2
Always	0.7% ± 0.7	0.5% ± 0.7	2.2% ± 3.9	0.0% ± 0.0

Hot water is too hot

	Overall (n=290)	General (n=206)	Low income (n=41)	New construction (n=43)
Rarely or never	82.9% ± 3.2	83.2% ± 3.7	81.4% ± 11.8	82.3% ± 12.2
Some of the time	15.8% ± 3.5	15.7% ± 3.8	16.4% ± 11.7	15.8% ± 11.2
Most of the time	0.2% ± 0.3	0.0% ± 0.0	0.0% ± 0.0	1.9% ± 3.5
Always	1.2% ± 1.5	1.2% ± 1.5	2.2% ± 3.8	0.0% ± 0.0

Hot water is not warm enough

	Overall (n=290)	General (n=206)	Low income (n=41)	New construction (n=43)
Rarely or never	88.5% ± 3.7	88.6% ± 4.4	86.8% ± 10.1	89.0% ± 7.4
Some of the time	10.1% ± 2.8	10.4% ± 3.5	8.7% ± 5.2	8.9% ± 7.3
Most of the time	1.3% ± 1.2	1.0% ± 1.3	2.5% ± 4.5	2.1% ± 4.1
Always	0.2% ± 0.4	0.0% ± 0.0	2.0% ± 3.6	0.0% ± 0.0

Attitudes About Energy

Question 55: Please tell us how much you agree or disagree with [the following] statements.

"While others might tolerate turning down the thermostat in the winter, my own need for being warm is high,"

	Overall (n=274)	General (n=190)	Low income (n=42)	New construction (n=42)
Strongly disagree	23.6% ± 4.1	22.0% ± 5.1	31.2% ± 12.9	27.9% ± 13.4
Somewhat disagree	33.5% ± 6.4	33.4% ± 7.0	28.6% ± 10.5	40.2% ± 20.0
Somewhat agree	32.1% ± 5.1	33.8% ± 6.0	27.9% ± 12.3	22.5% ± 10.7
Strongly agree	10.8% ± 2.9	10.7% ± 2.8	12.3% ± 10.3	9.4% ± 7.3

Question not asked on pilot version of questionnaire.

"I'm not interested in making energy-saving improvements to my home."

	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
Strongly disagree	67.3% ± 4.0	69.3% ± 5.4	54.8% ± 16.3	65.6% ± 19.2
Somewhat disagree	16.1% ± 3.8	15.8% ± 4.6	12.9% ± 7.5	22.2% ± 17.0
Somewhat agree	9.8% ± 3.0	8.6% ± 3.6	20.2% ± 14.5	8.6% ± 7.6
Strongly agree	6.7% ± 2.2	6.4% ± 2.1	12.0% ± 8.7	3.7% ± 4.9

"A large amount of energy is wasted in America by individuals who overcool (or overheat) their homes."

	Overall (n=276)	General (n=192)	Low income (n=42)	New construction (n=42)
Strongly disagree	4.0% ± 2.7	3.0% ± 2.8	7.1% ± 10.2	8.7% ± 8.6
Somewhat disagree	8.0% ± 2.8	7.5% ± 3.6	14.6% ± 7.9	4.3% ± 5.6
Somewhat agree	43.8% ± 4.5	41.9% ± 5.9	42.9% ± 18.9	62.0% ± 14.0
Strongly agree	44.2% ± 6.7	47.5% ± 6.9	35.4% ± 13.6	25.0% ± 15.7

Question not asked on pilot version of questionnaire.

"It's just not worth putting on more clothing in the winter to try to save a little energy."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	59.2% ± 4.3	61.4% ± 5.3	54.4% ± 14.0	45.4% ± 12.7
Somewhat disagree	24.4% ± 4.7	22.2% ± 5.4	29.3% ± 13.5	38.4% ± 9.9
Somewhat agree	13.5% ± 2.5	13.8% ± 3.5	8.9% ± 8.1	16.2% ± 12.2
Strongly agree	2.9% ± 2.2	2.6% ± 2.6	7.4% ± 8.2	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

"I would only conserve energy if I could not afford to pay for it."

	Overall (n=275)	General (n=191)	Low income (n=42)	New construction (n=42)
Strongly disagree	70.7% ± 4.7	71.0% ± 5.5	72.8% ± 13.7	65.3% ± 19.0
Somewhat disagree	18.9% ± 2.8	18.5% ± 3.9	14.8% ± 8.8	26.5% ± 15.1
Somewhat agree	8.4% ± 4.1	8.4% ± 4.8	10.0% ± 7.8	5.9% ± 6.3
Strongly agree	2.1% ± 1.9	2.0% ± 2.2	2.4% ± 4.0	2.4% ± 4.5

Question not asked on pilot version of questionnaire.

"I always try not to use more electricity than I really need."

	Overall (n=276)	General (n=191)	Low income (n=43)	New construction (n=42)
Strongly disagree	7.4% ± 2.8	5.4% ± 3.1	13.5% ± 12.5	16.6% ± 13.6
Somewhat disagree	7.6% ± 4.5	8.3% ± 5.4	0.0% ± 0.0	9.8% ± 6.1
Somewhat agree	31.5% ± 5.3	33.0% ± 7.2	17.1% ± 15.5	35.5% ± 11.5
Strongly agree	53.6% ± 4.6	53.2% ± 4.9	69.4% ± 18.6	38.0% ± 15.0

Question not asked on pilot version of questionnaire.

"My family's health would suffer if our home were not heated to its present temperature."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	28.3% ± 5.9	29.8% ± 6.2	19.4% ± 10.8	26.6% ± 13.8
Somewhat disagree	30.2% ± 4.6	29.7% ± 4.4	18.8% ± 10.0	48.5% ± 14.7
Somewhat agree	29.9% ± 3.3	29.8% ± 4.8	38.4% ± 10.7	19.8% ± 13.4
Strongly agree	11.6% ± 3.0	10.7% ± 2.6	23.3% ± 12.9	5.1% ± 6.4

Question not asked on pilot version of questionnaire.

"I am willing to keep my house a little chilly in order to lower my energy bills."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	13.2% ± 5.0	13.3% ± 5.2	11.4% ± 9.0	13.7% ± 9.6
Somewhat disagree	29.6% ± 3.9	29.9% ± 5.7	33.4% ± 13.0	22.1% ± 13.6
Somewhat agree	36.3% ± 4.9	36.1% ± 5.2	30.3% ± 13.6	45.9% ± 13.3
Strongly agree	20.9% ± 3.1	20.7% ± 4.2	25.0% ± 15.4	18.4% ± 11.4

Question not asked on pilot version of questionnaire.

"My annual energy bills don't amount to much compared to my other expenses."

	Overall (n=274)	General (n=191)	Low income (n=42)	New construction (n=41)
Strongly disagree	13.2% ± 4.9	13.6% ± 6.1	11.1% ± 8.1	11.5% ± 10.1
Somewhat disagree	28.6% ± 4.0	28.9% ± 5.1	27.6% ± 12.4	26.9% ± 11.9
Somewhat agree	44.6% ± 6.5	44.7% ± 9.1	43.0% ± 10.6	45.5% ± 11.8
Strongly agree	13.7% ± 3.5	12.8% ± 3.8	18.3% ± 8.6	16.1% ± 9.5

Question not asked on pilot version of questionnaire.

"My home is very energy efficient."

	Overall (n=293)	General (n=207)	Low income (n=43)	New construction (n=43)
Strongly disagree	7.2% ± 2.5	6.4% ± 2.3	12.8% ± 9.9	6.9% ± 8.1
Somewhat disagree	26.6% ± 4.0	28.6% ± 5.4	21.0% ± 10.0	16.6% ± 11.4
Somewhat agree	50.0% ± 5.6	49.3% ± 6.3	55.5% ± 12.8	50.1% ± 13.0
Strongly agree	16.2% ± 4.9	15.7% ± 6.6	10.7% ± 7.6	26.5% ± 10.6

"Outdoor air is much better for my family's health than indoor air."

	Overall (n=274)	General (n=191)	Low income (n=42)	New construction (n=41)
Strongly disagree	3.4% ± 1.9	2.5% ± 2.2	6.0% ± 6.1	8.8% ± 6.6
Somewhat disagree	14.6% ± 4.5	16.2% ± 5.4	9.7% ± 12.1	6.8% ± 6.7
Somewhat agree	48.5% ± 6.4	47.1% ± 7.2	49.6% ± 20.2	59.0% ± 19.6
Strongly agree	33.5% ± 7.3	34.2% ± 9.3	34.8% ± 16.1	25.4% ± 15.3

Question not asked on pilot version of questionnaire.

"I would be very uncomfortable in the winter if I turned the thermostat setting down three degrees when people are home and awake."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	12.3% ± 3.8	11.4% ± 4.0	16.6% ± 10.1	14.8% ± 10.3
Somewhat disagree	32.2% ± 6.3	33.4% ± 7.2	27.0% ± 5.8	28.0% ± 11.2
Somewhat agree	34.9% ± 7.5	33.2% ± 8.6	36.5% ± 6.6	47.9% ± 11.6
Strongly agree	20.6% ± 4.6	22.0% ± 5.4	20.0% ± 13.6	9.3% ± 6.8

Question not asked on pilot version of questionnaire.

"It is essential to my family's health to use air conditioning to stay cool in the summer."

	Overall (n=275)	General (n=190)	Low income (n=43)	New construction (n=42)
Strongly disagree	39.0% ± 7.8	39.8% ± 8.8	37.0% ± 17.2	34.1% ± 10.3
Somewhat disagree	26.6% ± 7.5	30.6% ± 9.3	10.3% ± 8.5	12.1% ± 10.8
Somewhat agree	23.0% ± 6.2	21.2% ± 7.2	22.8% ± 14.8	38.9% ± 19.3
Strongly agree	11.4% ± 4.6	8.4% ± 2.9	29.9% ± 14.6	15.0% ± 14.6

Question not asked on pilot version of questionnaire.

"It's my right to use as much energy as I want, as long as I pay for it."

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
Strongly disagree	38.8% ± 5.5	38.5% ± 4.9	36.9% ± 11.0	43.2% ± 15.5
Somewhat disagree	34.5% ± 8.1	36.1% ± 8.5	25.1% ± 7.4	32.8% ± 15.7
Somewhat agree	20.3% ± 4.2	19.8% ± 4.5	22.5% ± 11.3	21.8% ± 14.8
Strongly agree	6.4% ± 2.3	5.6% ± 3.4	15.6% ± 7.8	2.2% ± 4.0

"I have to conserve energy in my home because I can't afford to pay higher utility bills."

	Overall (n=254)	General (n=176)	Low income (n=41)	New construction (n=37)
Strongly disagree	18.3% ± 3.8	17.7% ± 3.8	12.0% ± 12.5	32.4% ± 14.4
Somewhat disagree	25.6% ± 6.0	27.4% ± 7.5	14.0% ± 9.8	25.0% ± 13.2
Somewhat agree	42.9% ± 6.1	44.7% ± 5.7	32.9% ± 15.3	39.8% ± 12.6
Strongly agree	13.2% ± 4.8	10.2% ± 4.7	41.2% ± 18.1	2.8% ± 5.0

Question not asked on pilot version of questionnaire.

"I would probably get more colds and illnesses if I turned down the thermostat in the winter."

	Overall (n=276)	General (n=191)	Low income (n=43)	New construction (n=42)
Strongly disagree	34.1% ± 5.9	33.7% ± 5.6	38.3% ± 14.6	32.1% ± 12.6
Somewhat disagree	35.3% ± 6.7	35.3% ± 7.6	28.0% ± 14.0	43.9% ± 13.1
Somewhat agree	23.9% ± 4.7	26.0% ± 5.4	15.8% ± 14.2	15.5% ± 7.4
Strongly agree	6.7% ± 2.1	4.9% ± 2.5	17.9% ± 15.6	8.6% ± 7.8

Question not asked on pilot version of questionnaire.

"I know what steps I can take to save more energy in my home."

	Overall (n=294)	General (n=208)	Low income (n=42)	New construction (n=44)
Strongly disagree	6.5% ± 2.3	6.9% ± 2.8	4.0% ± 5.3	5.9% ± 8.0
Somewhat disagree	18.2% ± 3.9	18.1% ± 4.3	15.8% ± 10.2	22.0% ± 13.0
Somewhat agree	59.1% ± 4.4	59.2% ± 5.5	55.8% ± 17.0	61.5% ± 12.2
Strongly agree	16.2% ± 2.9	15.8% ± 3.6	24.3% ± 10.0	10.6% ± 7.6

"I worry about being poisoned by carbon monoxide from the heating system, water heater, or range in my home."

	Overall (n=276)	General (n=192)	Low income (n=42)	New construction (n=42)
Strongly disagree	36.9% ± 6.6	36.8% ± 8.1	33.4% ± 11.5	42.2% ± 13.1
Somewhat disagree	32.1% ± 5.1	33.7% ± 5.5	29.8% ± 9.2	20.9% ± 8.0
Somewhat agree	26.7% ± 6.5	25.7% ± 7.5	33.3% ± 8.6	27.7% ± 12.3
Strongly agree	4.3% ± 2.2	3.8% ± 2.6	3.5% ± 4.5	9.1% ± 10.2

Question not asked on pilot version of questionnaire.

"Energy use in homes does not affect the environment very much."

	Overall (n=275)	General (n=191)	Low income (n=42)	New construction (n=42)
Strongly disagree	47.5% ± 4.2	48.1% ± 3.6	42.6% ± 14.4	47.9% ± 19.9
Somewhat disagree	38.9% ± 3.5	40.0% ± 3.9	31.0% ± 14.6	39.0% ± 18.6
Somewhat agree	10.6% ± 3.3	9.8% ± 3.4	17.2% ± 12.6	9.2% ± 8.7
Strongly agree	3.0% ± 1.4	2.1% ± 1.5	9.2% ± 8.2	3.8% ± 7.2

Question not asked on pilot version of questionnaire.

"I have a great deal of control over how energy is used in this home."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	2.0% ± 1.9	1.8% ± 1.4	5.1% ± 7.9	0.0% ± 0.0
Somewhat disagree	9.2% ± 3.3	9.3% ± 3.7	11.9% ± 7.1	4.7% ± 5.9
Somewhat agree	46.8% ± 3.6	47.1% ± 5.1	43.8% ± 7.6	47.4% ± 11.7
Strongly agree	42.0% ± 4.0	41.8% ± 5.3	39.1% ± 8.2	47.9% ± 13.4

Question not asked on pilot version of questionnaire.

"I only use electricity when it's really needed; there's no way I could cut down."

	Overall (n=290)	General (n=206)	Low income (n=41)	New construction (n=43)
Strongly disagree	88.5% ± 3.7	88.6% ± 4.4	86.8% ± 10.1	89.0% ± 7.4
Somewhat disagree	10.1% ± 2.8	10.4% ± 3.5	8.7% ± 5.2	8.9% ± 7.3
Somewhat agree	1.3% ± 1.2	1.0% ± 1.3	2.5% ± 4.5	2.1% ± 4.1
Strongly agree	0.2% ± 0.4	0.0% ± 0.0	2.0% ± 3.6	0.0% ± 0.0

"Paying the energy bills is a financial hardship for our family."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	47.3% ± 6.7	50.6% ± 8.3	22.1% ± 12.8	48.8% ± 12.0
Somewhat disagree	33.5% ± 7.4	34.6% ± 9.1	17.4% ± 11.1	43.4% ± 11.5
Somewhat agree	16.2% ± 3.2	13.3% ± 4.1	44.2% ± 10.3	7.8% ± 9.1
Strongly agree	3.1% ± 1.8	1.6% ± 1.9	16.2% ± 11.0	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

"I am not interested in making my home more energy efficient."

	Overall (n=290)	General (n=206)	Low income (n=41)	New construction (n=43)
Strongly disagree	88.5% ± 3.7	88.6% ± 4.4	86.8% ± 10.1	89.0% ± 7.4
Somewhat disagree	10.1% ± 2.8	10.4% ± 3.5	8.7% ± 5.2	8.9% ± 7.3
Somewhat agree	1.3% ± 1.2	1.0% ± 1.3	2.5% ± 4.5	2.1% ± 4.1
Strongly agree	0.2% ± 0.4	0.0% ± 0.0	2.0% ± 3.6	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

"There's nothing more I can do to cut back on my home's energy use."

	Overall (n=255)	General (n=176)	Low income (n=42)	New construction (n=37)
Strongly disagree	27.4% ± 5.4	27.2% ± 6.3	26.7% ± 16.2	31.3% ± 11.7
Somewhat disagree	52.0% ± 4.4	53.0% ± 4.8	46.7% ± 14.6	51.0% ± 10.0
Somewhat agree	17.0% ± 6.4	17.2% ± 7.7	15.9% ± 10.0	17.7% ± 12.3
Strongly agree	3.5% ± 1.7	2.7% ± 1.6	10.7% ± 6.2	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

"My life is too busy to deal with energy saving improvements in my home."

	Overall (n=277)	General (n=192)	Low income (n=43)	New construction (n=42)
Strongly disagree	53.5% ± 6.6	55.0% ± 8.0	51.1% ± 16.0	42.9% ± 12.2
Somewhat disagree	35.2% ± 7.3	33.5% ± 8.5	36.1% ± 14.0	49.3% ± 10.8
Somewhat agree	9.7% ± 3.1	9.9% ± 3.5	10.5% ± 9.8	7.8% ± 9.1
Strongly agree	1.6% ± 0.9	1.7% ± 1.0	2.2% ± 4.1	0.0% ± 0.0

Question not asked on pilot version of questionnaire.

"My energy bills are about as low as they can get."

	Overall (n=274)	General (n=193)	Low income (n=42)	New construction (n=39)
Strongly disagree	26.9% ± 4.6	27.4% ± 6.2	23.6% ± 10.7	26.7% ± 15.0
Somewhat disagree	42.5% ± 6.6	42.8% ± 6.9	40.7% ± 16.2	41.9% ± 16.8
Somewhat agree	25.4% ± 4.9	25.4% ± 5.6	21.7% ± 11.9	31.4% ± 13.5
Strongly agree	5.2% ± 2.9	4.4% ± 2.8	13.9% ± 9.1	0.0% ± 0.0

Energy-Saving Actions

Question 56: How often do you take the following sorts of actions?

Lower the heating thermostat at night

	Overall (n=291)	General (n=205)	Low income (n=42)	New construction (n=44)
Rarely or never	23.8% ± 5.7	21.1% ± 8.2	30.2% ± 11.9	38.6% ± 20.6
Some of the time	16.4% ± 3.6	17.7% ± 4.9	12.5% ± 7.2	10.5% ± 7.9
Most of the time	18.3% ± 5.2	17.9% ± 7.6	25.9% ± 12.3	12.9% ± 10.1
Always	41.5% ± 5.8	43.3% ± 6.5	31.4% ± 13.2	38.0% ± 13.2

Lower the heating thermostat when we are going away for awhile.

	Overall (n=291)	General (n=206)	Low income (n=41)	New construction (n=44)
Rarely or never	10.3% ± 2.9	9.6% ± 3.3	11.0% ± 10.3	15.7% ± 10.1
Some of the time	15.5% ± 4.5	15.8% ± 5.4	11.5% ± 9.5	17.7% ± 9.7
Most of the time	25.1% ± 3.9	26.3% ± 5.1	25.4% ± 7.4	15.0% ± 5.3
Always	49.0% ± 4.7	48.3% ± 6.7	52.2% ± 15.0	51.6% ± 15.1

Limit use of the air conditioner to a few very hot days

	Overall (n=224)	General (n=159)	Low income (n=29)	New construction (n=36)
Rarely or never	12.6% ± 5.2	10.7% ± 6.4	12.2% ± 10.2	27.0% ± 19.6
Some of the time	21.7% ± 3.8	23.2% ± 5.4	12.1% ± 10.5	20.4% ± 8.7
Most of the time	33.0% ± 8.7	30.7% ± 9.5	47.5% ± 22.6	36.5% ± 14.2
Always	32.7% ± 8.5	35.5% ± 9.0	28.2% ± 16.7	16.1% ± 8.0

Turn off unused lights

	Overall (n=292)	General (n=208)	Low income (n=41)	New construction (n=43)
Rarely or never	0.8% ± 0.8	0.4% ± 0.7	2.5% ± 4.5	1.7% ± 2.9
Some of the time	9.7% ± 3.6	10.7% ± 4.9	8.0% ± 8.4	3.6% ± 4.7
Most of the time	44.5% ± 5.3	46.7% ± 5.5	32.9% ± 13.1	39.2% ± 14.4
Always	45.0% ± 5.8	42.2% ± 8.3	56.6% ± 10.4	55.5% ± 17.0

Turn off unwatched televisions

	Overall (n=289)	General (n=205)	Low income (n=41)	New construction (n=43)
Rarely or never	0.8% ± 1.2	0.8% ± 1.5	0.0% ± 0.0	1.7% ± 2.9
Some of the time	14.3% ± 3.7	15.6% ± 5.2	11.7% ± 8.8	6.6% ± 6.7
Most of the time	34.8% ± 4.2	34.2% ± 4.9	34.8% ± 5.4	39.3% ± 16.6
Always	50.1% ± 3.9	49.4% ± 5.7	53.4% ± 10.0	52.5% ± 17.8

Run the dishwasher only when it is full

	Overall (n=200)	General (n=144)	Low income (n=18)	New construction (n=38)
Rarely or never	5.7% ± 3.8	3.0% ± 3.3	39.6% ± 19.0	4.1% ± 7.7
Some of the time	1.9% ± 2.1	2.4% ± 2.8	0.0% ± 0.0	0.0% ± 0.0
Most of the time	25.1% ± 5.5	26.8% ± 6.6	18.2% ± 11.8	18.1% ± 12.5
Always	67.3% ± 7.3	67.8% ± 8.6	42.2% ± 18.3	77.8% ± 14.6

Run the dishwasher on the energy-efficient setting

	Overall (n=186)	General (n=137)	Low income (n=16)	New construction (n=33)
Rarely or never	14.3% ± 7.5	12.7% ± 8.8	50.2% ± 26.5	5.6% ± 6.6
Some of the time	11.8% ± 3.9	11.3% ± 4.6	11.5% ± 12.4	14.7% ± 5.5
Most of the time	21.9% ± 7.1	20.8% ± 6.3	6.5% ± 11.1	37.3% ± 16.2
Always	52.0% ± 10.5	55.2% ± 10.6	31.8% ± 21.9	42.3% ± 17.0

Run the clothes washer only with full loads

	Overall (n=291)	General (n=206)	Low income (n=41)	New construction (n=44)
Rarely or never	0.5% ± 0.7	0.0% ± 0.0	4.5% ± 5.6	0.0% ± 0.0
Some of the time	6.5% ± 2.3	6.9% ± 3.2	6.1% ± 6.4	3.5% ± 6.5
Most of the time	44.2% ± 6.5	43.3% ± 9.0	53.2% ± 13.4	40.8% ± 12.3
Always	48.8% ± 7.8	49.7% ± 9.6	36.1% ± 10.9	55.7% ± 11.6

Question 57: For each of the following actions [that you reported taking in Question 56], tell us the most important reasons that you take the action.

Most important reasons that you use less heat

	Overall (n=287)	General (n=204)	Low income (n=40)	New construction (n=43)
Home comfort	35.1% ± 4.1	36.0% ± 5.3	43.5% ± 13.8	19.3% ± 6.0
Health & air quality	15.0% ± 4.6	14.6% ± 5.0	19.0% ± 9.7	14.1% ± 8.0
Save money	74.8% ± 7.6	74.4% ± 9.1	71.1% ± 12.6	82.8% ± 9.9
Help the environment	32.2% ± 4.8	32.5% ± 5.4	17.3% ± 10.1	45.4% ± 14.7
Don't like to waste	52.3% ± 5.9	50.4% ± 5.4	53.6% ± 12.4	66.5% ± 17.5

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Most important reasons that you use less air conditioning

	Overall (n=207)	General (n=149)	Low income (n=24)	New construction (n=34)
Home comfort	23.2% ± 3.9	22.8% ± 3.9	36.5% ± 15.7	15.7% ± 12.7
Health & air quality	18.3% ± 5.5	16.9% ± 6.4	20.7% ± 14.0	26.6% ± 14.7
Save money	74.6% ± 7.3	75.4% ± 8.0	67.2% ± 16.7	75.3% ± 16.7
Help the environment	31.9% ± 7.4	33.9% ± 8.8	6.3% ± 8.3	38.0% ± 15.0
Don't like to waste	53.7% ± 5.9	54.3% ± 5.3	38.8% ± 14.5	61.6% ± 19.1

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Most important reasons that you turn off lights

	Overall (n=207)	General (n=149)	Low income (n=24)	New construction (n=34)
Home comfort	5.2% ± 1.9	4.6% ± 2.2	11.6% ± 7.3	3.1% ± 4.1
Health & air quality	0.4% ± 0.5	0.2% ± 0.3	2.4% ± 4.3	0.0% ± 0.0
Save money	80.6% ± 5.1	81.1% ± 5.6	74.1% ± 13.5	83.8% ± 13.6
Help the environment	31.6% ± 3.6	31.8% ± 4.9	16.4% ± 8.3	47.8% ± 13.4
Don't like to waste	74.2% ± 4.5	73.3% ± 4.4	72.1% ± 11.5	84.3% ± 14.6

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Most important reasons that you turn off unused appliances

	Overall (n=207)	General (n=149)	Low income (n=24)	New construction (n=34)
Home comfort	2.5% ± 1.7	2.4% ± 2.0	5.7% ± 6.8	0.0% ± 0.0
Health & air quality	1.3% ± 1.5	1.1% ± 1.7	4.0% ± 6.4	0.0% ± 0.0
Save money	77.4% ± 5.2	77.0% ± 5.8	72.9% ± 14.9	85.5% ± 11.9
Help the environment	33.9% ± 4.9	34.4% ± 6.0	18.7% ± 9.6	46.3% ± 16.4
Don't like to waste	70.9% ± 3.3	69.2% ± 3.5	73.3% ± 11.5	81.5% ± 11.6

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Most important reasons that you run only full dishwasher or laundry loads

	Overall (n=263)	General (n=187)	Low income (n=34)	New construction (n=42)
Home comfort	1.9% ± 1.7	2.2% ± 2.1	2.0% ± 3.6	0.0% ± 0.0
Health and air quality	1.1% ± 1.3	1.4% ± 1.6	0.0% ± 0.0	0.0% ± 0.0
Save money	76.1% ± 7.0	76.7% ± 7.2	70.7% ± 14.3	76.5% ± 13.7
Help the environment	39.1% ± 4.7	39.8% ± 6.7	25.9% ± 7.7	47.0% ± 15.9
Don't like to waste	74.4% ± 7.5	72.5% ± 6.7	74.5% ± 10.8	88.8% ± 14.9

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Question 58: . . . *Single* most important reason for that action.

Primary reason that you use less heat

	Overall (n=266)	General (n=190)	Low income (n=35)	New construction (n=41)
Home comfort	15.4% ± 3.0	14.8% ± 3.6	23.1% ± 12.8	12.8% ± 6.7
Health and air quality	5.0% ± 2.3	5.4% ± 2.6	6.4% ± 8.3	0.0% ± 0.0
Save money	55.5% ± 5.6	54.4% ± 5.1	52.9% ± 23.2	67.0% ± 14.4
Help the environment	4.7% ± 2.7	5.4% ± 3.1	0.0% ± 0.0	3.8% ± 4.9
Don't like to waste	19.4% ± 4.1	20.0% ± 3.4	17.5% ± 14.8	16.4% ± 12.1

Question was not asked on pilot version of questionnaire.

Primary reason that you use less air conditioning

	Overall (n=195)	General (n=142)	Low income (n=21)	New construction (n=32)
Home comfort	13.1% ± 3.7	12.2% ± 4.2	21.9% ± 16.9	12.7% ± 13.3
Health and air quality	7.7% ± 4.1	7.0% ± 4.4	8.6% ± 10.6	11.9% ± 12.7
Save money	50.9% ± 8.4	49.4% ± 8.6	59.3% ± 26.1	55.4% ± 20.1
Help the environment	6.6% ± 3.5	7.7% ± 4.0	0.0% ± 0.0	3.1% ± 5.4
Don't like to waste	21.8% ± 6.1	23.7% ± 5.5	10.2% ± 16.9	16.8% ± 14.8

Question was not asked on pilot version of questionnaire.

Primary reason that you turn off lights

	Overall (n=276)	General (n=197)	Low income (n=39)	New construction (n=40)
Home comfort	2.9% ± 1.1	2.7% ± 0.9	5.3% ± 6.7	1.8% ± 3.1
Health and air quality	0.3% ± 0.5	0.0% ± 0.0	2.6% ± 4.6	0.0% ± 0.0
Save money	60.9% ± 7.2	61.6% ± 7.3	59.0% ± 17.0	57.5% ± 18.6
Help the environment	4.2% ± 2.7	4.8% ± 2.8	0.0% ± 0.0	3.9% ± 7.2
Don't like to waste	31.7% ± 6.7	30.9% ± 6.1	33.1% ± 16.3	36.8% ± 15.9

Question was not asked on pilot version of questionnaire.

Primary reason that you turn off unused appliances

	Overall (n=268)	General (n=189)	Low income (n=38)	New construction (n=41)
Home comfort	1.3% ± 1.6	1.4% ± 1.9	2.3% ± 4.0	0.0% ± 0.0
Save money	58.6% ± 6.4	59.0% ± 6.2	58.4% ± 18.7	55.7% ± 19.4
Help the environment	4.5% ± 2.6	5.0% ± 2.9	0.0% ± 0.0	6.0% ± 8.1
Don't like to waste	35.6% ± 5.9	34.7% ± 5.7	39.3% ± 18.5	38.3% ± 19.4

Question was not asked on pilot version of questionnaire.

Primary reason that you run only full dishwasher or laundry loads

	Overall (n=244)	General (n=175)	Low income (n=29)	New construction (n=40)
Home comfort	1.7% ± 1.8	2.1% ± 2.2	0.0% ± 0.0	0.0% ± 0.0
Save money	52.2% ± 9.2	52.4% ± 9.5	58.8% ± 22.1	45.2% ± 20.2
Help the environment	8.9% ± 4.7	8.6% ± 4.8	5.5% ± 6.8	14.2% ± 10.9
Don't like to waste	37.3% ± 8.5	37.0% ± 8.1	35.7% ± 19.1	40.7% ± 18.6

Question was not asked on pilot version of questionnaire.

Question 59: Which of the following energy-saving features have you added to your home?

Installed caulking or weatherstripping to reduce drafts

	Overall (n=294)	General (n=207)	Low income (n=43)	New construction (n=44)
No	35.6% ± 4.1	31.1% ± 3.8	30.6% ± 10.7	77.5% ± 8.9
Yes	64.4% ± 4.1	68.9% ± 3.8	69.4% ± 10.7	22.5% ± 8.9

Added insulation in the ceiling or attic

	Overall (n=275)	General (n=190)	Low income (n=43)	New construction (n=42)
No	57.7% ± 7.7	54.3% ± 7.7	56.0% ± 15.4	89.1% ± 9.6
Yes	42.3% ± 7.7	45.7% ± 7.7	44.0% ± 15.4	10.9% ± 9.6

Question was not asked on pilot version of questionnaire.

Added insulation in other areas

	Overall (n=269)	General (n=186)	Low income (n=42)	New construction (n=41)
no	60.7% ± 6.0	59.5% ± 7.2	56.3% ± 18.5	76.5% ± 4.6
yes	39.3% ± 6.0	40.5% ± 7.2	43.7% ± 18.5	23.5% ± 4.6

Does not include households that received pilot version of questionnaire.

Installed storm windows

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	74.0% ± 5.2	71.7% ± 6.1	76.9% ± 13.1	89.2% ± 9.7
Yes	26.0% ± 5.2	28.3% ± 6.1	23.1% ± 13.1	10.8% ± 9.7

Installed energy-efficient (double- or triple-glazed) windows

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	62.6% ± 5.7	58.7% ± 6.6	69.4% ± 11.3	86.3% ± 9.7
Yes	37.4% ± 5.7	41.3% ± 6.6	30.6% ± 11.3	13.7% ± 9.7

Put up plastic or other insulation on windows

	Overall (n=275)	General (n=190)	Low income (n=43)	New construction (n=42)
No	69.9% ± 3.5	69.4% ± 4.3	53.9% ± 11.0	92.8% ± 5.9
Yes	30.1% ± 3.5	30.6% ± 4.3	46.1% ± 11.0	7.2% ± 5.9

Question was not asked on pilot version of questionnaire.

Installed energy-efficient doors

	Overall (n=294)	General (n=208)	Low income (n=42)	New construction (n=44)
No	62.1% ± 6.0	58.2% ± 6.6	71.2% ± 11.7	83.0% ± 8.5
Yes	37.9% ± 6.0	41.8% ± 6.6	28.8% ± 11.7	17.0% ± 8.5

Installed low-flow showerheads

	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
No	49.0% ± 8.0	45.3% ± 8.4	49.9% ± 18.6	78.4% ± 11.3
Yes	51.0% ± 8.0	54.7% ± 8.4	50.1% ± 18.6	21.6% ± 11.3

Installed faucet aerators

	Overall (n=293)	General (n=206)	Low income (n=43)	New construction (n=44)
No	61.3% ± 8.2	58.7% ± 7.3	59.9% ± 21.4	84.2% ± 11.9
Yes	38.7% ± 8.2	41.3% ± 7.3	40.1% ± 21.4	15.8% ± 11.9

Wrapped hot water pipe

	Overall (n=295)	General (n=209)	Low income (n=42)	New construction (n=44)
No	57.7% ± 5.1	57.3% ± 6.5	38.9% ± 16.5	82.0% ± 7.3
Yes	42.3% ± 5.1	42.7% ± 6.5	61.1% ± 16.5	18.0% ± 7.3

Wrapped water heater

	Overall (n=293)	General (n=207)	Low income (n=42)	New construction (n=44)
No	73.5% ± 5.6	72.5% ± 5.7	64.0% ± 17.4	92.3% ± 4.2
Yes	26.5% ± 5.6	27.5% ± 5.7	36.0% ± 17.4	7.7% ± 4.2

Installed storm doors

	Overall (n=274)	General (n=191)	Low income (n=42)	New construction (n=41)
No	60.1% ± 4.8	58.8% ± 5.5	57.1% ± 11.6	76.1% ± 9.3
Yes	39.9% ± 4.8	41.2% ± 5.5	42.9% ± 11.6	23.9% ± 9.3

Question was not asked on pilot version of questionnaire.

Installed solar panels

	Overall (n=271)	General (n=188)	Low income (n=42)	New construction (n=41)
No	96.0% ± 2.9	95.7% ± 3.2	94.6% ± 9.9	100.0% ± 0.0
Yes	4.0% ± 2.9	4.3% ± 3.2	5.4% ± 9.9	0.0% ± 0.0

Question was not asked on pilot version of questionnaire.

Other

	Overall (n=269)	General (n=186)	Low income (n=42)	New construction (n=41)
no	93.1% ± 2.1	92.0% ± 2.2	98.3% ± 3.0	96.7% ± 5.2
yes	6.9% ± 2.1	8.0% ± 2.2	1.7% ± 3.0	3.3% ± 5.2

Does not include households that received pilot version of questionnaire.

Question 60: Have you installed any compact fluorescent lights in your home?

	Overall (n=295)	General (n=208)	Low income (n=43)	New construction (n=44)
No	66.4% ± 7.4	67.3% ± 7.5	54.4% ± 18.1	73.5% ± 10.9
Yes	31.3% ± 8.0	31.4% ± 8.0	37.1% ± 17.6	24.2% ± 11.2
Not sure	2.2% ± 1.7	1.3% ± 1.8	8.5% ± 7.8	2.3% ± 4.3

Question 61: For each of the following actions [that you reported taking in Question 59], tell us the most important reasons that you take the action.

Reasons for caulking or weatherstripping doors or windows

	Overall (n=186)	General (n=145)	Low income (n=31)	New construction (n=10)
Home comfort	75.3% ± 7.2	77.2% ± 6.8	65.5% ± 19.9	63.7% ± 25.8
Health and air quality	6.6% ± 2.8	5.6% ± 3.4	5.3% ± 1.5	37.3% ± 34.6
Save money	71.9% ± 8.6	73.7% ± 8.3	61.9% ± 17.5	61.2% ± 32.5
Help the environment	9.7% ± 4.3	10.7% ± 4.9	5.0% ± 5.9	0.0% ± 0.0
Don't like to waste	39.7% ± 5.5	41.9% ± 6.9	29.3% ± 16.5	21.7% ± 27.0

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for installing insulation

	Overall (n=165)	General (n=122)	Low income (n=29)	New construction (n=14)
Home comfort	68.9% ± 7.7	69.6% ± 9.1	62.7% ± 13.9	73.0% ± 22.6
Health and air quality	5.8% ± 2.3	4.7% ± 3.3	5.6% ± 0.9	24.8% ± 22.9
Save money	76.8% ± 5.6	78.3% ± 6.6	67.7% ± 12.9	76.6% ± 22.3
Help the environment	14.7% ± 3.6	16.3% ± 4.1	4.9% ± 6.3	15.2% ± 18.3
Don't like to waste	30.2% ± 7.1	29.0% ± 9.2	33.1% ± 14.8	41.7% ± 23.9

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for installing storm windows

	Overall (n=83)	General (n=65)	Low income (n=12)	New construction (n=6)
Home comfort	67.3% ± 8.6	67.3% ± 9.8	54.5% ± 27.0	100.0% ± 0.0
Health and air quality	7.9% ± 4.9	8.4% ± 5.8	0.0% ± 0.0	17.8% ± 34.4
Save money	72.9% ± 8.2	73.0% ± 9.3	61.3% ± 26.4	100.0% ± 0.0
Help the environment	11.4% ± 5.8	10.0% ± 6.2	15.7% ± 19.7	28.9% ± 40.9
Don't like to waste	28.0% ± 8.2	26.7% ± 9.2	33.2% ± 25.5	39.0% ± 43.9

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for installing energy efficient windows or doors

	Overall (n=151)	General (n=122)	Low income (n=21)	New construction (n=8)
Home comfort	63.9% ± 10.8	64.7% ± 11.7	58.3% ± 14.6	59.4% ± 33.5
Health and air quality	6.3% ± 4.5	6.9% ± 5.0	3.9% ± 7.5	0.0% ± 0.0
Save money	65.3% ± 9.0	65.8% ± 9.8	56.6% ± 16.8	78.0% ± 27.9
Help the environment	9.9% ± 5.0	9.5% ± 5.6	11.6% ± 12.1	13.4% ± 21.3
Don't like to waste	29.4% ± 10.9	30.4% ± 13.0	23.6% ± 18.3	20.0% ± 28.1

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for installing plastic or other insulation on windows

	Overall (n=85)	General (n=63)	Low income (n=19)	New construction (n=3)
Home comfort	72.2% ± 8.3	72.9% ± 9.9	70.7% ± 14.9	55.2% ± 54.7
Health and air quality	6.0% ± 6.3	5.8% ± 7.3	7.7% ± 3.8	0.0% ± 0.0
Save money	70.3% ± 12.6	70.4% ± 12.8	65.9% ± 24.9	100.0% ± 0.0
Help the environment	7.1% ± 6.9	7.2% ± 7.6	7.2% ± 9.4	0.0% ± 0.0
Don't like to waste	28.6% ± 11.4	29.0% ± 11.7	24.2% ± 19.9	44.8% ± 54.7

Since respondents were allowed to circle more than one response, totals may exceed 100 percent. Does not include households that received pilot version of questionnaire.

Reasons for installing low-flow showerheads and faucet aerators

	Overall	General	Low income	New construction
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	(n=162)	(n=128)	(n=24)	(n=10)
Home comfort	17.0% ± 6.8	16.4% ± 6.2	24.7% ± 18.4	8.3% ± 15.2
Health and air quality	2.9% ± 2.5	2.5% ± 2.8	7.4% ± 9.6	0.0% ± 0.0
Save money	69.3% ± 5.7	70.1% ± 7.0	71.0% ± 17.0	45.1% ± 28.5
Help the environment	27.8% ± 7.5	28.4% ± 8.8	18.5% ± 6.9	43.0% ± 35.4
Don't like to waste	47.9% ± 9.7	47.5% ± 9.6	45.6% ± 21.1	63.8% ± 33.2

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for wrapping water heater or hot water pipe

	Overall (n=148)	General (n=107)	Low income (n=31)	New construction (n=10)
Home comfort	16.2% ± 7.3	14.5% ± 8.2	24.1% ± 14.7	18.8% ± 21.9
Health and air quality	2.5% ± 2.2	1.6% ± 2.3	7.1% ± 8.9	0.0% ± 0.0
Save money	68.8% ± 8.6	70.6% ± 8.6	62.0% ± 16.5	58.7% ± 23.2
Help the environment	20.0% ± 7.3	22.3% ± 9.1	10.9% ± 7.8	8.1% ± 13.8
Don't like to waste	40.8% ± 8.4	40.8% ± 10.4	42.7% ± 20.2	32.1% ± 21.1

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Reasons for installing storm doors

	Overall (n=108)	General (n=79)	Low income (n=19)	New construction (n=10)
Home comfort	58.3% ± 11.6	57.4% ± 12.4	56.4% ± 26.6	76.5% ± 22.9
Health and air quality	5.9% ± 4.7	6.1% ± 5.7	3.8% ± 7.4	7.0% ± 13.6
Save money	64.7% ± 10.4	69.3% ± 13.6	31.4% ± 23.5	69.3% ± 22.8
Help the environment	17.0% ± 8.4	17.3% ± 9.6	18.6% ± 17.0	8.9% ± 15.4
Don't like to waste	30.2% ± 12.7	27.1% ± 14.4	35.5% ± 18.2	66.2% ± 29.4

Since respondents were allowed to circle more than one response, totals may exceed 100 percent. Does not include households that received pilot version of questionnaire.

Reasons for installing solar panels

	Overall (n=14)	General (n=11)	Low income (n=3)	New construction (n=0)
Home comfort	10.3% ± 14.9	12.5% ± 19.0	0.0% ± 0.0	0.0% ± 0.0
Health and air quality	9.2% ± 14.2	3.8% ± 11.0	34.4% ± 98.1	0.0% ± 0.0
Save money	33.4% ± 23.2	40.6% ± 28.1	0.0% ± 0.0	0.0% ± 0.0
Help the environment	19.6% ± 19.5	23.8% ± 24.4	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	23.1% ± 20.7	28.1% ± 25.8	0.0% ± 0.0	0.0% ± 0.0

Since respondents were allowed to circle more than one response, totals may exceed 100 percent. Does not include households that received pilot version of questionnaire.

Reasons for installing a programmable, set-back, or clock thermostat

	Overall (n=86)	General (n=64)	Low income (n=4)	New construction (n=18)
Home comfort	45.5% ± 9.0	47.6% ± 10.5	100.0% ± 0.0	18.0% ± 16.2
Health and air quality	4.0% ± 3.5	4.6% ± 4.4	0.0% ± 0.0	0.0% ± 0.0
Save money	65.2% ± 8.6	67.7% ± 9.8	100.0% ± 0.0	39.2% ± 20.6
Help the environment	24.9% ± 7.8	26.6% ± 9.3	22.7% ± 56.9	13.0% ± 14.2
Don't like to waste	44.9% ± 9.0	47.0% ± 10.5	45.7% ± 67.7	29.3% ± 19.2

Since respondents were allowed to circle more than one response, totals may exceed 100 percent. Does not include households that received pilot version of questionnaire.

Reasons for installing compact fluorescent lights

	Overall (n=91)	General (n=66)	Low income (n=15)	New construction (n=10)
Home comfort	12.7% ± 5.8	10.2% ± 6.3	26.2% ± 20.7	15.0% ± 21.8
Health and air quality	1.6% ± 2.2	1.2% ± 2.2	5.2% ± 10.5	0.0% ± 0.0
Save money	83.1% ± 6.6	86.9% ± 7.0	68.8% ± 21.8	68.7% ± 28.3
Help the environment	36.0% ± 8.4	39.8% ± 10.1	11.6% ± 15.1	40.3% ± 30.0
Don't like to waste	44.5% ± 8.7	46.7% ± 10.3	39.5% ± 23.0	30.0% ± 28.0

Since respondents were allowed to circle more than one response, totals may exceed 100 percent.

Question 62: . . . *Single* most important reason for that action.

Single most important reason that you decided to caulk or weatherstrip doors or windows

	Overall (n=180)	General (n=138)	Low income (n=28)	New construction (n=14)
Home comfort	45.6% ± 6.9	46.7% ± 6.2	37.7% ± 26.0	44.5% ± 33.4
Health and air quality	1.2% ± 1.0	0.8% ± 1.4	0.0% ± 0.0	11.2% ± 20.8
Save money	42.2% ± 7.8	39.4% ± 7.2	62.3% ± 26.0	44.3% ± 37.6
Help the environment	1.8% ± 2.6	2.1% ± 3.1	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	9.2% ± 2.6	11.0% ± 3.0	0.0% ± 0.0	0.0% ± 0.0

Question was not asked on pilot version of questionnaire.

Single most important reason that you decided to insulate

	Overall (n=162)	General (n=118)	Low income (n=28)	New construction (n=16)
Home comfort	42.4% ± 8.1	43.1% ± 9.9	41.2% ± 15.1	35.7% ± 23.1
Health and air quality	0.6% ± 1.0	0.0% ± 0.0	0.0% ± 0.0	9.6% ± 19.5
Save money	48.9% ± 7.6	47.1% ± 10.1	58.8% ± 15.1	50.8% ± 26.9
Help the environment	1.8% ± 2.8	2.3% ± 3.5	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	6.3% ± 3.0	7.5% ± 3.7	0.0% ± 0.0	3.9% ± 7.6

Question was not asked on pilot version of questionnaire.

Single most important reason that you decided to install storm windows

	Overall (n=97)	General (n=74)	Low income (n=15)	New construction (n=8)
Home comfort	43.1% ± 13.1	44.1% ± 15.5	35.7% ± 18.8	42.4% ± 33.8
Save money	45.9% ± 13.8	43.9% ± 15.2	56.0% ± 27.0	57.6% ± 33.8
Help the environment	3.4% ± 4.9	2.9% ± 5.4	8.4% ± 16.0	0.0% ± 0.0
Don't like to waste	7.7% ± 8.1	9.1% ± 10.1	0.0% ± 0.0	0.0% ± 0.0

Question was not asked on pilot version of questionnaire.

Single most important reason you installed energy efficient windows or doors

	Overall (n=145)	General (n=115)	Low income (n=16)	New construction (n=14)
Home comfort	44.9% ± 7.2	47.9% ± 6.5	31.2% ± 17.6	20.8% ± 24.7
Health and air quality	1.3% ± 2.0	1.2% ± 2.2	0.0% ± 0.0	5.1% ± 8.9
Save money	43.0% ± 8.7	39.8% ± 8.0	62.3% ± 19.3	62.8% ± 28.5
Help the environment	2.0% ± 3.1	2.4% ± 3.6	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	8.7% ± 4.7	8.7% ± 4.8	6.6% ± 11.7	11.3% ± 16.7

Question was not asked on pilot version of questionnaire.

Single most important reason you put plastic or other insulation on windows

	Overall (n=88)	General (n=67)	Low income (n=17)	New construction (n=4)
Home comfort	48.4% ± 11.9	49.7% ± 9.9	37.5% ± 30.4	63.8% ± 48.0
Save money	45.1% ± 13.3	42.5% ± 12.5	62.5% ± 30.4	36.2% ± 48.0
Don't like to waste	6.6% ± 5.5	7.8% ± 6.6	0.0% ± 0.0	0.0% ± 0.0

Question was not asked on pilot version of questionnaire.

Single most important reason you installed low-flow showerheads or faucet aerators

	Overall (n=147)	General (n=112)	Low income (n=22)	New construction (n=13)
Home comfort	9.0% ± 4.5	8.0% ± 5.1	21.2% ± 14.3	0.0% ± 0.0
Health and air quality	1.4% ± 2.3	1.6% ± 2.8	0.0% ± 0.0	0.0% ± 0.0
Save money	56.1% ± 7.0	55.4% ± 8.4	63.8% ± 14.6	51.6% ± 23.3
Help the environment	10.8% ± 4.1	11.2% ± 5.3	3.3% ± 6.2	21.0% ± 25.8
Don't like to waste	22.6% ± 8.7	23.8% ± 10.4	11.7% ± 10.0	27.3% ± 23.7

Question was not asked on pilot version of questionnaire.

Single most important reason you decided to wrap the water heater or hot water pipes

	Overall (n=120)	General (n=87)	Low income (n=24)	New construction (n=9)
Home comfort	7.5% ± 2.3	5.2% ± 2.3	13.4% ± 7.2	30.2% ± 33.6
Health and air quality	0.7% ± 1.4	0.0% ± 0.0	5.0% ± 9.0	0.0% ± 0.0
Save money	71.3% ± 9.3	72.6% ± 11.2	64.6% ± 15.3	69.8% ± 33.6
Help the environment	4.2% ± 5.7	4.6% ± 6.9	3.1% ± 5.8	0.0% ± 0.0
Don't like to waste	16.3% ± 6.5	17.6% ± 9.0	13.9% ± 12.5	0.0% ± 0.0

Since respondents were allowed to give more than one response, totals may exceed 100 percent. Question was not asked on pilot version of questionnaire.

Single most important reason you decided to install storm doors

	Overall (n=113)	General (n=87)	Low income (n=14)	New construction (n=12)
Home comfort	41.1% ± 12.6	39.7% ± 13.4	58.1% ± 25.5	35.8% ± 23.1
Health and air quality	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0	6.1% ± 11.7
Save money	43.7% ± 11.1	45.1% ± 12.4	25.9% ± 20.8	50.4% ± 22.7
Help the environment	5.5% ± 7.2	5.9% ± 8.3	0.0% ± 0.0	7.7% ± 13.5
Don't like to waste	9.3% ± 8.1	9.3% ± 7.8	16.0% ± 24.6	0.0% ± 0.0

Question was not asked on pilot version of questionnaire.

Single most important reason you decided to install solar panels

	Overall (n=12)	General (n=9)	Low income (n=3)	New construction (n=0)
Home comfort	12.8% ± 18.1	9.3% ± 19.1	29.0% ± 93.7	0.0% ± 0.0
Health and air quality	6.9% ± 13.7	0.0% ± 0.0	38.3% ± 100.4	0.0% ± 0.0
Save money	55.8% ± 26.9	68.1% ± 30.7	0.0% ± 0.0	0.0% ± 0.0
Help the environment	18.6% ± 21.1	22.7% ± 27.5	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	5.9% ± 12.7	0.0% ± 0.0	32.7% ± 96.9	0.0% ± 0.0

Confidence interval is based on simple random sampling assumptions. Question was not asked on pilot version of questionnaire.

Single most important reason you decided to install a programmable, set-back, or clock thermostat

	Overall (n=66)	General (n=51)	Low income (n=6)	New construction (n=9)
Home comfort	24.8% ± 8.9	28.1% ± 10.6	0.0% ± 0.0	0.0% ± 0.0
Save money	59.0% ± 10.2	56.6% ± 11.7	59.3% ± 44.3	91.6% ± 18.3
Help the environment	4.3% ± 4.2	4.9% ± 5.1	0.0% ± 0.0	0.0% ± 0.0
Don't like to waste	11.9% ± 6.7	10.4% ± 7.2	40.7% ± 44.3	8.4% ± 18.3

Confidence interval is based on simple random sampling assumptions. Question was not asked on pilot version of questionnaire.

Single most important reason you decided to install compact fluorescent lights

	Overall (n=90)	General (n=67)	Low income (n=14)	New construction (n=9)
Home comfort	5.8% ± 4.5	4.4% ± 5.5	13.9% ± 22.1	8.3% ± 14.2
Save money	67.8% ± 8.9	67.5% ± 10.5	65.5% ± 24.2	76.4% ± 23.3
Help the environment	8.1% ± 7.4	8.7% ± 8.7	7.9% ± 14.1	0.0% ± 0.0
Don't like to waste	18.3% ± 6.7	19.5% ± 8.2	12.7% ± 14.3	15.3% ± 19.4

Question was not asked on pilot version of questionnaire.

Question 63: Have you ever installed energy-saving items or measures and then been dissatisfied with them?

	Overall (n=293)	General (n=207)	Low income (n=43)	New construction (n=43)
No	84.2% ± 4.4	84.4% ± 5.2	79.7% ± 14.7	87.7% ± 7.1
Yes	15.8% ± 4.4	15.6% ± 5.2	20.3% ± 14.7	12.3% ± 7.1

Which items?

	Overall (n=49)	General (n=36)	Low income (n=8)	New construction (n=5)
Compact fluorescent lights	32.5% ± 11.3	34.9% ± 13.6	12.3% ± 23.6	46.7% ± 53.2
Other energy-saving lighting	20.3% ± 9.7	18.5% ± 11.1	39.8% ± 35.1	0.0% ± 0.0
Insulation	14.6% ± 8.5	14.4% ± 10.0	22.6% ± 30.0	0.0% ± 0.0
Caulking/weather-stripping	8.8% ± 6.9	9.1% ± 8.2	11.6% ± 22.9	0.0% ± 0.0
Low-flow showerhead or faucet aerator	4.6% ± 5.1	2.1% ± 4.1	13.6% ± 24.5	13.9% ± 36.9
Thermostat (unspecified type)	6.5% ± 6.0	8.3% ± 7.9	0.0% ± 0.0	0.0% ± 0.0
Other	12.9% ± 8.1	12.8% ± 9.5	0.0% ± 0.0	39.4% ± 52.1

Since respondents were allowed to give more than one response, totals may exceed 100 percent. Confidence interval is based on simple random sampling assumptions.

Maintenance and Safety

Question 64: If you have a furnace . . .

How often do you clean or replace furnace filters?

	Overall (n=257)	General (n=183)	Low income (n=33)	New construction (n=41)
More than once a year	62.6% ± 6.1	64.0% ± 6.4	44.5% ± 18.1	68.9% ± 11.4
Once a year	25.4% ± 6.4	23.0% ± 7.0	43.6% ± 19.4	27.0% ± 11.3
Every other year	2.9% ± 1.4	3.6% ± 1.7	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	2.2% ± 2.1	2.7% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	1.0% ± 1.4	0.8% ± 1.2	2.8% ± 5.1	0.0% ± 0.0
Never	3.0% ± 1.8	3.0% ± 2.4	3.1% ± 5.6	2.5% ± 4.6
Don't know	3.1% ± 1.5	2.9% ± 1.6	5.9% ± 7.5	1.6% ± 3.0

Only for households that said they have a furnace.

Who cleans or replaces furnace filters?

	Overall (n=215)	General (n=150)	Low income (n=28)	New construction (n=37)
Done by self, someone in household, or someone for free	93.3% ± 3.6	93.3% ± 4.3	96.2% ± 6.2	91.3% ± 7.2
Pay to have it done	6.7% ± 3.6	6.7% ± 4.3	3.8% ± 6.2	8.7% ± 7.2

"Never" and "don't know" not included. Only for households that said they have a furnace. Question not asked on pilot version of questionnaire.

How often do you lubricate the fan?

	Overall (n=254)	General (n=181)	Low income (n=32)	New construction (n=41)
More than once a year	12.6% ± 3.5	13.4% ± 4.3	12.6% ± 11.5	6.8% ± 5.1
Once a year	25.8% ± 6.2	24.9% ± 8.7	31.2% ± 13.4	27.5% ± 16.6
Every other year	9.8% ± 5.5	10.7% ± 6.7	7.9% ± 7.6	4.5% ± 5.9
Every 3-6 years	2.2% ± 1.8	2.8% ± 2.2	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	9.7% ± 3.5	11.1% ± 4.5	6.6% ± 10.9	1.8% ± 3.1
Never	27.1% ± 6.8	26.3% ± 8.2	25.2% ± 18.1	35.3% ± 15.4
Don't know	12.8% ± 4.1	10.8% ± 3.7	16.6% ± 12.3	24.1% ± 16.8

Only for households that said they have a furnace.

Who lubricates the fan?

	Overall (n=124)	General (n=95)	Low income (n=16)	New construction (n=13)
Done by self, someone in household, or someone for free	65.1% ± 7.5	63.7% ± 8.9	82.5% ± 11.4	57.2% ± 25.5
Pay to have it done	34.9% ± 7.5	36.3% ± 8.9	17.5% ± 11.4	42.8% ± 25.5

"Never" and "don't know" not included. Only for households that said they have a furnace. Question not asked on pilot version of questionnaire.

How often do you clean and tune the furnace?

	Overall (n=238)	General (n=165)	Low income (n=34)	New construction (n=39)
More than once a year	7.0% ± 3.8	7.4% ± 4.0	5.8% ± 6.7	5.9% ± 10.3
Once a year	36.8% ± 4.9	35.7% ± 4.7	32.4% ± 16.3	48.8% ± 13.9
Every other year	18.6% ± 4.2	18.9% ± 4.6	19.1% ± 9.8	15.7% ± 11.3
Every 3-6 years	13.8% ± 3.0	16.4% ± 3.9	3.0% ± 5.5	5.7% ± 6.6
Hardly ever	8.2% ± 3.4	7.4% ± 3.3	20.0% ± 12.9	1.9% ± 3.3
Never	10.3% ± 4.2	8.8% ± 4.5	11.1% ± 10.6	20.0% ± 15.2
Don't know	5.4% ± 3.2	5.4% ± 3.9	8.6% ± 10.2	2.1% ± 4.0

Only for households that said they have a furnace.

Who cleans and tunes the furnace?

	Overall (n=180)	General (n=129)	Low income (n=25)	New construction (n=26)
Done by self, someone in household, or someone for free	48.3% ± 9.5	47.9% ± 12.6	69.7% ± 13.9	28.8% ± 18.4
Pay to have it done	51.7% ± 9.5	52.1% ± 12.6	30.3% ± 13.9	71.2% ± 18.4

*Never" and "don't know" not included. Only for households that said they have a furnace. Question not asked on pilot version of questionnaire.

Question 65: If you have a boiler . . .

How often do you drain the boiler sediments?

	Overall (n=47)	General (n=36)	Low income (n=8)	New construction (n=3)
More than once a year	8.6% ± 6.9	8.3% ± 7.9	13.1% ± 24.2	0.0% ± 0.0
Once a year	11.1% ± 7.8	9.5% ± 8.4	18.1% ± 27.6	21.4% ± 84.7
Every other year	6.3% ± 6.0	7.7% ± 7.6	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	8.8% ± 7.0	10.7% ± 8.8	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	16.8% ± 9.3	18.1% ± 11.0	13.5% ± 24.5	0.0% ± 0.0
Never	30.2% ± 11.4	27.4% ± 12.7	55.3% ± 35.6	0.0% ± 0.0
Don't know	18.1% ± 9.5	18.3% ± 11.1	0.0% ± 0.0	78.6% ± 84.7

Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions

Who drains the boiler sediments?

	Overall (n=16)	General (n=12)	Low income (n=3)	New construction (n=1)
Done by self, someone in household, or someone for free	70.3% ± 20.7	80.7% ± 21.4	30.2% ± 94.8	0.0% ± 0.0
Pay to have it done	29.7% ± 20.7	19.3% ± 21.4	69.8% ± 94.8	100.0% ± 0.0

"Never" and "don't know" not included. Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

How often do you flush the boiler reservoir?

	Overall (n=47)	General (n=36)	Low income (n=8)	New construction (n=3)
More than once a year	6.8% ± 6.2	8.3% ± 7.9	0.0% ± 0.0	0.0% ± 0.0
Once a year	12.9% ± 8.3	9.5% ± 8.4	31.2% ± 33.2	21.4% ± 84.7
Every other year	3.3% ± 4.4	4.0% ± 5.6	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	6.7% ± 6.2	8.1% ± 7.8	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	20.6% ± 10.0	22.8% ± 12.0	13.5% ± 24.5	0.0% ± 0.0
Never	27.0% ± 11.0	25.4% ± 12.4	44.0% ± 35.5	0.0% ± 0.0
Don't know	22.7% ± 10.4	22.0% ± 11.8	11.2% ± 22.6	78.6% ± 84.7

Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions

Who flushes the boiler reservoir?

	Overall (n=14)	General (n=10)	Low income (n=3)	New construction (n=1)
Done by self, someone in household, or someone for free	79.8% ± 19.7	87.1% ± 20.5	59.5% ± 101.3	0.0% ± 0.0
Pay to have it done	20.2% ± 19.7	12.9% ± 20.5	40.5% ± 101.3	100.0% ± 0.0

"Never" and "don't know" not included. Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

How often do you add water treatment?

	Overall (n=57)	General (n=41)	Low income (n=12)	New construction (n=4)
More than once a year	6.5% ± 5.5	6.3% ± 6.5	0.0% ± 0.0	34.3% ± 64.5
Once a year	4.2% ± 4.5	0.0% ± 0.0	22.4% ± 22.6	16.1% ± 50.0
Every other year	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	0.7% ± 1.9	0.9% ± 2.6	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	11.7% ± 7.2	11.6% ± 8.5	15.0% ± 19.4	0.0% ± 0.0
Never	58.8% ± 11.0	59.9% ± 13.0	62.5% ± 26.2	24.8% ± 58.7
Don't know	18.1% ± 8.6	21.3% ± 10.9	0.0% ± 0.0	24.8% ± 58.6

Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions

Who adds water treatment?

	Overall (n=12)	General (n=7)	Low income (n=3)	New construction (n=2)
Done by self, someone in household, or someone for free	73.4% ± 23.9	92.5% ± 20.9	30.2% ± 94.8	68.0% ± 294.5
Pay to have it done	26.6% ± 23.9	7.5% ± 20.9	69.8% ± 94.8	32.0% ± 294.5

"Never" and "don't know" not included. Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

How often do you lubricate the pump?

	Overall (n=56)	General (n=41)	Low income (n=11)	New construction (n=4)
More than once a year	15.8% ± 8.2	17.6% ± 10.1	10.5% ± 17.5	0.0% ± 0.0
Once a year	28.0% ± 10.1	29.3% ± 12.1	24.1% ± 24.5	16.1% ± 50.0
Every other year	6.6% ± 5.6	8.1% ± 7.3	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	2.7% ± 3.7	2.3% ± 4.0	5.8% ± 13.3	0.0% ± 0.0
Hardly ever	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Never	32.6% ± 10.6	31.1% ± 12.3	43.3% ± 28.4	24.8% ± 58.7
Don't know	14.3% ± 7.9	11.6% ± 8.5	16.4% ± 21.2	59.0% ± 66.8

Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions

Who lubricates the pump?

	Overall (n=21)	General (n=16)	Low income (n=4)	New construction (n=1)
Done by self, someone in household, or someone for free	65.5% ± 18.3	74.7% ± 19.7	25.9% ± 59.5	0.0% ± 0.0
Pay to have it done	34.5% ± 18.3	25.3% ± 19.7	74.1% ± 59.5	100.0% ± 0.0

"Never" and "don't know" not included. Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

How often do you clean and tune the boiler?

	Overall (n=52)	General (n=37)	Low income (n=11)	New construction (n=4)
More than once a year	3.6% ± 4.4	4.5% ± 5.8	0.0% ± 0.0	0.0% ± 0.0
Once a year	21.8% ± 9.7	19.0% ± 11.0	38.2% ± 27.9	16.1% ± 50.0
Every other year	16.4% ± 8.7	18.8% ± 11.0	8.2% ± 15.7	0.0% ± 0.0
Every 3-6 years	13.0% ± 7.9	16.1% ± 10.3	0.0% ± 0.0	0.0% ± 0.0
Hardly ever	1.4% ± 2.8	1.8% ± 3.7	0.0% ± 0.0	0.0% ± 0.0
Never	25.8% ± 10.3	21.6% ± 11.6	48.1% ± 28.6	24.8% ± 58.7
Don't know	18.1% ± 9.0	18.3% ± 10.9	5.4% ± 13.0	59.0% ± 66.8

Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

Who cleans and tunes the boiler?

	Overall (n=20)	General (n=15)	Low income (n=4)	New construction (n=1)
Done by self, someone in household, or someone for free	45.2% ± 19.7	51.1% ± 23.5	21.3% ± 55.6	0.0% ± 0.0
Pay to have it done	54.8% ± 19.7	48.9% ± 23.5	78.7% ± 55.6	100.0% ± 0.0

"Never" and "don't know" not included. Only for households that said they have a boiler. Confidence intervals based on simple random sampling assumptions. Question not asked on pilot version of questionnaire.

Question 66: ...What do you do with [room AC units] in the winter?

	Overall (n=56)	General (n=39)	Low income (n=15)	New construction (n=2)
Take the air conditioner(s) out of the window	78.7% ± 10.2	84.8% ± 7.9	57.2% ± 20.3	100.0% ± 0.0
Leave the air conditioner(s) in the window, but with a cover on	16.8% ± 10.7	14.2% ± 7.8	27.0% ± 25.3	0.0% ± 0.0
Leave the air conditioner(s) in the window, with no cover	4.5% ± 3.8	1.1% ± 2.0	15.8% ± 14.3	0.0% ± 0.0

Only for households that said they have room air conditioning. Question not asked on pilot version of questionnaire. Respondents with multiple room air conditioning units instructed to select the category that best describes what they do with the majority of their units.

Question 67: If you have air conditioning equipment, who cleans or services it?

All households

	Overall (n=197)	General (n=145)	Low income (n=20)	New construction (n=32)
Yourself or someone in your household	34.0% ± 7.1	33.2% ± 7.2	56.3% ± 18.3	23.0% ± 13.6
A friend or neighbor (not for hire)	4.0% ± 2.6	3.8% ± 2.8	10.8% ± 7.2	0.0% ± 0.0
Someone for hire	43.1% ± 4.3	44.8% ± 5.1	15.7% ± 13.3	51.9% ± 15.5
Nobody	18.9% ± 3.4	18.3% ± 4.2	17.2% ± 11.2	25.1% ± 16.5

Only for households that said they have any kind of air conditioning.

Households with central air conditioning

	Overall (n=152)	General (n=113)	Low income (n=10)	New construction (n=29)
Yourself or someone in your household	23.5% ± 6.5	23.5% ± 7.3	18.9% ± 20.6	25.3% ± 15.2
A friend or neighbor (not for hire)	4.4% ± 2.8	4.4% ± 3.1	15.8% ± 17.0	0.0% ± 0.0
Someone for hire	51.8% ± 3.6	53.1% ± 5.3	34.4% ± 27.3	49.6% ± 16.1
Nobody	20.3% ± 4.2	19.0% ± 4.6	30.9% ± 16.6	25.1% ± 15.9

Only for households that said they have central air conditioning.

Households with room air conditioning

	Overall (n=44)	General (n=32)	Low income (n=10)	New construction (n=2)
Yourself or someone in your household	70.7% ± 11.7	68.7% ± 14.1	87.5% ± 20.2	0.0% ± 0.0
A friend or neighbor (not for hire)	2.6% ± 4.1	1.6% ± 3.8	6.6% ± 15.2	0.0% ± 0.0
Someone for hire	12.5% ± 8.5	14.2% ± 10.6	0.0% ± 0.0	57.7% ± 311.9
Nobody	14.3% ± 9.0	15.5% ± 11.0	5.9% ± 14.4	42.3% ± 311.9

Only for households that said they have room air conditioning.

Question 68: If you or someone else services the air conditioning equipment, how often is each of the following done?

Clean filters (central AC only)

	Overall (n=118)	General (n=90)	Low income (n=7)	New construction (n=21)
More than once per year	37.4% ± 8.3	38.0% ± 9.0	50.2% ± 32.9	27.9% ± 14.2
Once per year	23.5% ± 10.1	22.6% ± 10.9	11.1% ± 17.1	35.1% ± 16.7
Every other year	13.6% ± 6.7	14.8% ± 7.6	0.0% ± 0.0	9.5% ± 11.6
Every 3-6 years	3.8% ± 2.8	2.4% ± 2.5	0.0% ± 0.0	15.3% ± 11.7
Rarely or never	12.3% ± 6.3	12.6% ± 8.8	38.7% ± 38.4	0.0% ± 0.0
Don't know	9.5% ± 4.4	9.6% ± 5.9	0.0% ± 0.0	12.3% ± 11.9

Only for households that said they have central air conditioning.

Clean other air conditioning parts (central AC only)

	Overall (n=117)	General (n=89)	Low income (n=7)	New construction (n=21)
More than once per year	4.9% ± 5.0	4.4% ± 5.0	29.0% ± 32.8	0.0% ± 0.0
Once per year	37.6% ± 9.5	36.0% ± 9.7	11.1% ± 17.1	59.2% ± 19.0
Every other year	12.2% ± 5.0	12.6% ± 5.2	10.2% ± 18.1	9.5% ± 11.6
Every 3-6 years	4.5% ± 3.5	4.7% ± 4.5	0.0% ± 0.0	4.7% ± 7.3
Rarely or never	22.2% ± 6.2	22.9% ± 7.4	49.8% ± 32.9	6.5% ± 10.7
Don't know	18.6% ± 5.3	19.3% ± 6.6	0.0% ± 0.0	20.2% ± 15.5

Only for households that said they have central air conditioning.

Check refrigerant (central AC only)

	Overall (n=117)	General (n=90)	Low income (n=7)	New construction (n=20)
More than once per year	3.2% ± 4.3	3.2% ± 4.3	12.6% ± 21.9	0.0% ± 0.0
Once per year	21.5% ± 6.1	20.4% ± 6.5	0.0% ± 0.0	38.0% ± 23.8
Every other year	15.1% ± 6.3	15.4% ± 6.6	10.2% ± 18.1	14.8% ± 14.3
Every 3-6 years	13.2% ± 5.3	13.4% ± 6.2	0.0% ± 0.0	16.6% ± 12.8
Rarely or never	27.0% ± 6.6	28.0% ± 8.6	60.8% ± 35.7	5.9% ± 10.5
Don't know	20.0% ± 5.4	19.6% ± 5.0	16.3% ± 27.1	24.8% ± 17.6

Only for households that said they have central air conditioning.

Lubricate parts (central AC only)

	Overall (n=118)	General (n=90)	Low income (n=7)	New construction (n=21)
More than once per year	5.0% ± 5.0	5.2% ± 5.4	12.6% ± 21.9	0.0% ± 0.0
Once per year	24.3% ± 8.9	22.0% ± 9.0	11.1% ± 17.1	46.6% ± 22.8
Every other year	15.4% ± 7.4	15.8% ± 8.3	10.2% ± 18.1	14.1% ± 14.0
Every 3-6 years	10.7% ± 4.9	11.1% ± 5.7	0.0% ± 0.0	11.1% ± 11.5
Rarely or never	25.5% ± 9.5	27.0% ± 11.7	49.8% ± 32.9	4.7% ± 7.8
Don't know	19.2% ± 5.6	18.8% ± 4.3	16.3% ± 27.1	23.5% ± 17.4

Only for households that said they have central air conditioning.

General upkeep (central AC only)

	Overall (n=120)	General (n=92)	Low income (n=7)	New construction (n=21)
More than once per year	6.1% ± 3.6	6.6% ± 4.3	12.6% ± 26.4	0.0% ± 0.0
Once per year	33.7% ± 7.2	32.2% ± 8.1	11.1% ± 24.9	53.1% ± 19.2
Every other year	14.8% ± 5.4	14.5% ± 6.1	35.0% ± 37.8	9.5% ± 11.3
Every 3-6 years	13.8% ± 5.2	14.2% ± 6.1	0.0% ± 0.0	15.8% ± 14.1
Rarely or never	19.7% ± 6.0	21.3% ± 7.1	25.0% ± 34.4	5.6% ± 8.9
Don't know	12.0% ± 4.9	11.2% ± 5.5	16.3% ± 29.3	16.1% ± 14.2

Only for households that said they have central air conditioning. Confidence intervals based on simple random sampling assumptions.

Clean filters (room AC only)

	Overall (n=37)	General (n=27)	Low income (n=9)	New construction (n=1)
More than once per year	31.8% ± 13.1	30.1% ± 15.3	39.8% ± 32.2	0.0% ± 0.0
Once per year	56.2% ± 14.0	58.5% ± 16.5	53.2% ± 32.8	0.0% ± 0.0
Every other year	8.6% ± 7.9	11.4% ± 10.6	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Rarely or never	1.8% ± 3.7	0.0% ± 0.0	0.0% ± 0.0	100.0% ± 0.0
Don't know	1.6% ± 3.6	0.0% ± 0.0	7.1% ± 16.8	0.0% ± 0.0

Only for households that said they have room air conditioning. Confidence intervals based on simple random sampling assumptions

Clean other air conditioning parts (room AC only)

	Overall (n=37)	General (n=27)	Low income (n=9)	New construction (n=1)
More than once per year	7.1% ± 7.2	3.1% ± 5.8	20.4% ± 26.5	0.0% ± 0.0
Once per year	62.5% ± 13.6	73.6% ± 14.7	31.0% ± 30.4	0.0% ± 0.0
Every other year	10.0% ± 8.4	13.3% ± 11.3	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	2.4% ± 4.3	3.1% ± 5.8	0.0% ± 0.0	0.0% ± 0.0
Rarely or never	16.5% ± 10.4	6.8% ± 8.4	41.6% ± 32.4	100.0% ± 0.0
Don't know	1.6% ± 3.6	0.0% ± 0.0	7.1% ± 16.8	0.0% ± 0.0

Only for households that said they have room air conditioning. Confidence intervals based on simple random sampling assumptions

Check refrigerant (room AC only)

	Overall (n=37)	General (n=27)	Low income (n=9)	New construction (n=1)
More than once per year	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0	0.0% ± 0.0
Once per year	15.0% ± 10.1	16.9% ± 12.5	10.0% ± 19.7	0.0% ± 0.0
Every other year	11.1% ± 8.8	11.4% ± 10.6	11.0% ± 20.6	0.0% ± 0.0
Every 3-6 years	4.4% ± 5.8	5.8% ± 7.8	0.0% ± 0.0	0.0% ± 0.0
Rarely or never	46.3% ± 14.0	40.1% ± 16.4	62.3% ± 31.9	100.0% ± 0.0
Don't know	23.2% ± 11.9	25.8% ± 14.6	16.7% ± 24.5	0.0% ± 0.0

Only for households that said they have room air conditioning. Confidence intervals based on simple random sampling assumptions

Lubricate parts (room AC only)

	Overall (n=37)	General (n=27)	Low income (n=9)	New construction (n=1)
More than once per year	2.4% ± 4.3	3.1% ± 5.8	0.0% ± 0.0	0.0% ± 0.0
Once per year	35.1% ± 13.4	35.0% ± 16.0	38.0% ± 31.9	0.0% ± 0.0
Every other year	5.8% ± 6.6	7.7% ± 8.9	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	5.8% ± 6.6	4.3% ± 6.8	11.0% ± 20.6	0.0% ± 0.0
Rarely or never	45.1% ± 14.0	44.2% ± 16.6	43.9% ± 32.6	100.0% ± 0.0
Don't know	5.8% ± 6.6	5.6% ± 7.7	7.1% ± 16.8	0.0% ± 0.0

Only for households that said they have room air conditioning. Confidence intervals based on simple random sampling assumptions.

General checkup (room AC only)

	Overall (n=37)	General (n=27)	Low income (n=9)	New construction (n=1)
More than once per year	4.9% ± 6.1	3.1% ± 5.8	11.0% ± 20.6	0.0% ± 0.0
Once per year	34.0% ± 13.3	33.5% ± 15.8	38.0% ± 31.9	0.0% ± 0.0
Every other year	11.2% ± 8.9	14.9% ± 11.9	0.0% ± 0.0	0.0% ± 0.0
Every 3-6 years	3.3% ± 5.0	4.3% ± 6.8	0.0% ± 0.0	0.0% ± 0.0
Rarely or never	36.7% ± 13.6	32.9% ± 15.7	43.9% ± 32.6	100.0% ± 0.0
Don't know	10.0% ± 8.4	11.1% ± 10.5	7.1% ± 16.8	0.0% ± 0.0

Only for households that said they have room air conditioning. Confidence intervals based on simple random sampling assumptions.

How often is each of the following done? (central AC units)

(n=118)	Clean filters	Clean other air conditioning parts	Check refrigerant (freon)	Lubricate air conditioner parts	Do a general air conditioning checkup
More than once per year	37.4% ± 8.3	4.9% ± 5.0	3.2% ± 4.3	5.0% ± 5.0	6.1% ± 3.6
Once per year	23.5% ± 10.1	37.6% ± 9.5	21.5% ± 6.1	24.3% ± 8.9	33.7% ± 7.2
Every other year	13.6% ± 6.7	12.2% ± 5.0	15.1% ± 6.3	15.4% ± 7.4	14.8% ± 5.4
Every 3-6 years	3.8% ± 2.8	4.5% ± 3.5	13.2% ± 5.3	10.7% ± 4.9	13.8% ± 5.2
Rarely or never	12.3% ± 6.3	22.2% ± 6.2	27.0% ± 6.6	25.5% ± 9.5	19.7% ± 6.0
Don't know	9.5% ± 4.4	18.6% ± 5.3	20.0% ± 5.4	19.2% ± 5.6	12.0% ± 4.9

Only for households that said they have central air conditioning.

How often is each of the following done? (room AC units)

(n=118)	Clean filters	Clean other air conditioning parts	Check refrigerant (freon)	Lubricate air conditioner parts	Do a general air conditioning checkup
More than once per year	31.8% ± 13.1	7.1% ± 7.2	0.0% ± 0.0	2.4% ± 4.3	4.9% ± 6.1
Once per year	56.2% ± 14.0	62.5% ± 13.6	15.0% ± 10.1	35.1% ± 13.4	34.0% ± 13.3
Every other year	8.6% ± 7.9	10.0% ± 8.4	11.1% ± 8.8	5.8% ± 6.6	11.2% ± 8.9
Every 3-6 years	0.0% ± 0.0	2.4% ± 4.3	4.4% ± 5.8	5.8% ± 6.6	3.3% ± 5.0
Rarely or never	1.8% ± 3.7	16.5% ± 10.4	46.3% ± 14.0	45.1% ± 14.0	36.7% ± 13.6
Don't know	1.6% ± 3.6	1.6% ± 3.6	23.2% ± 11.9	5.8% ± 6.6	10.0% ± 8.4

Only for households that said they have room air conditioning.

Question 69: Do you have a carbon monoxide detector?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	61.9% ± 4.8	61.1% ± 6.0	69.5% ± 13.6	60.3% ± 14.7
Yes	35.8% ± 5.6	37.2% ± 6.4	27.7% ± 11.7	33.6% ± 11.9
Don't know	2.3% ± 1.4	1.7% ± 1.7	2.8% ± 5.3	6.1% ± 9.9

Energy Bills

Question 70: How familiar are you with your households' monthly energy bills?

	Overall (n=294)	General (n=208)	Low income (n=42)	New construction (n=44)
Not very familiar	9.4% ± 3.6	9.2% ± 4.0	8.1% ± 8.1	12.5% ± 10.5
Somewhat familiar	27.2% ± 3.4	28.9% ± 4.2	18.5% ± 10.5	23.0% ± 13.5
Very familiar	63.4% ± 5.1	61.9% ± 6.4	73.3% ± 13.0	64.5% ± 13.6

Question 71: How much do you think your household spends every year on all the fuels used in your house?

	Overall (n=290)	General (n=205)	Low income (n=42)	New construction (n=43)
\$0-\$249	0.3% ± 0.5	0.4% ± 0.7	0.0% ± 0.0	0.0% ± 0.0
\$250-\$499	5.2% ± 2.5	5.9% ± 3.2	2.5% ± 4.2	2.3% ± 4.1
\$500-\$749	10.0% ± 3.7	8.6% ± 3.6	20.4% ± 12.9	9.7% ± 7.4
\$750-\$999	15.1% ± 6.0	15.5% ± 7.0	15.6% ± 8.5	11.3% ± 8.8
\$1,000-\$1,249	20.1% ± 3.0	19.6% ± 3.2	20.2% ± 8.6	24.0% ± 9.8
\$1,250-\$1,499	21.2% ± 4.0	21.8% ± 4.6	14.0% ± 13.3	24.5% ± 7.9
\$1,500-\$1,749	12.9% ± 4.4	13.2% ± 5.5	8.1% ± 7.2	16.2% ± 17.7
\$1,750-\$1,999	5.2% ± 2.2	5.4% ± 3.2	5.3% ± 7.3	4.0% ± 4.7
\$2,000-\$2,249	5.7% ± 3.6	5.9% ± 3.4	5.0% ± 9.6	4.7% ± 6.2
\$2,250-\$2,499	2.5% ± 1.0	1.8% ± 1.6	6.8% ± 8.3	3.2% ± 5.2
\$2,500-\$2,749	1.0% ± 1.2	1.0% ± 1.4	2.1% ± 3.7	0.0% ± 0.0
\$6000-\$8,000	0.7% ± 1.2	0.9% ± 1.5	0.0% ± 0.0	0.0% ± 0.0

Includes fuels such as natural gas, electricity, fuel oil, LPG, and firewood. Excludes fuel for cars, other vehicles, or farm equipment.

Question 72: Do you or does someone in your household pay your energy bills on a budget plan?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	74.7% ± 6.1	74.5% ± 5.2	62.2% ± 19.0	90.1% ± 8.9
Yes	24.2% ± 6.0	24.4% ± 5.1	35.0% ± 17.8	9.9% ± 8.9
Don't know	1.2% ± 1.1	1.1% ± 1.2	2.8% ± 5.3	0.0% ± 0.0

Question 73: Has your household received [help from government agencies or utilities in paying energy bills] since moving into this house?

	Overall (n=296)	General (n=209)	Low income (n=43)	New construction (n=44)
No	93.2% ± 1.8	96.9% ± 1.8	61.4% ± 13.1	100.0% ± 0.0
Yes	5.7% ± 1.8	2.1% ± 1.3	35.8% ± 14.1	0.0% ± 0.0
Don't know	1.1% ± 1.2	1.0% ± 1.3	2.8% ± 5.0	0.0% ± 0.0

Question 74: By what percentage, if any, do you think you could reduce the amount of energy used in your home by developing more efficient practices?

	Overall (n=270)	General (n=186)	Low income (n=42)	New construction (n=42)
mean	10.8 ±1.4	10.5 ±1.7	12.0 ±2.6	11.3 ±2.6
minimum	0	0	0	0
5th percentile	0	0	0	0
25th percentile	5	5	1	5
median	10	10	10	10
75th percentile	15	12	20	15
95th percentile	25	25	25	30
maximum	60	60	30	30

Question not asked on pilot version of questionnaire.

Question 75: By what percentage, if any, do you think you could reduce the amount of energy used in your home by investing in energy efficient technologies?

	Overall (n=261)	General (n=178)	Low income (n=42)	New construction (n=41)
mean	11.6 ±1.8	11.7 ±2.2	11.6 ±2.0	10.4 ±2.6
minimum	0	0	0	0
5th percentile	0	0	0	2
25th percentile	5	5	2	5
median	10	10	10	10
75th percentile	15	10	20	10
95th percentile	30	40	30	30
maximum	90	90	30	50

Question not asked on pilot version of questionnaire.

Question 76: What is the most effective thing you could do to save energy in your home?

	Overall (n=272)	General (n=190)	Low income (n=40)	New construction (n=42)
Turn off lights/appliances	16.1% ± 4.4	13.9% ± 5.4	25.1% ± 13.4	22.2% ± 11.5
Change behavior to use less hot water	1.9% ± 1.9	2.0% ± 2.4	1.7% ± 3.0	1.7% ± 3.0
Make physical changes to water heater	4.3% ± 2.8	5.3% ± 3.5	0.0% ± 0.0	1.9% ± 3.6
Turn down thermostat	14.4% ± 5.4	14.1% ± 5.2	4.3% ± 5.4	27.7% ± 13.3
Replace appliances	8.2% ± 4.1	9.9% ± 5.0	4.2% ± 5.3	0.0% ± 0.0
Abandon/reduce use of appliances	2.2% ± 1.8	2.1% ± 2.2	1.7% ± 3.0	3.4% ± 4.2
Switch fuel source of an appliance or use renewables	2.9% ± 1.7	3.0% ± 2.1	2.6% ± 4.5	2.7% ± 4.6
Insulate	14.2% ± 4.3	14.4% ± 5.2	23.4% ± 10.1	2.7% ± 4.6
Reduce infiltration	6.3% ± 2.1	5.1% ± 2.9	8.7% ± 5.7	12.5% ± 10.2
Install more efficient lighting	8.8% ± 2.6	8.0% ± 4.1	6.6% ± 7.1	17.3% ± 11.2
Improve/replace windows or doors	22.2% ± 4.7	23.0% ± 6.1	26.6% ± 12.4	11.3% ± 11.9
Other	3.5% ± 1.8	3.5% ± 1.8	1.8% ± 3.2	5.4% ± 5.6
Can't do anything more	6.3% ± 5.8	6.5% ± 6.8	5.2% ± 6.5	6.4% ± 7.4
Don't know what to do	5.5% ± 2.4	5.5% ± 3.0	8.2% ± 5.0	2.8% ± 4.9

Since respondents were allowed to give more than one answer, totals may exceed 100 percent. Question was asked open-ended and was back-coded.

Question 77: What are the reasons you haven't done this?

	Overall (n=285)	General (n=201)	Low income (n=42)	New construction (n=42)
Can't afford/too costly	31.1% ± 5.9	29.5% ± 6.2	58.9% ± 12.3	11.3% ± 10.5
Plan to move soon	6.4% ± 2.6	7.7% ± 3.2	2.4% ± 4.3	0.0% ± 0.0
Don't know what to do	16.5% ± 4.0	15.4% ± 4.9	16.4% ± 9.1	25.2% ± 10.8
Don't think the energy savings will be enough	17.0% ± 3.1	18.3% ± 4.2	15.2% ± 9.0	8.3% ± 8.7
Maxed out/already doing/done/done enough	6.8% ± 3.7	6.7% ± 4.4	6.4% ± 7.6	8.0% ± 9.9
Equipment still works; won't replace until broken	1.7% ± 1.5	2.1% ± 2.0	0.0% ± 0.0	0.0% ± 0.0
Putting it off (too busy)	12.7% ± 3.3	12.7% ± 4.4	2.1% ± 3.6	25.1% ± 13.7
Family issues (lack of control, keep peace, children)	6.3% ± 3.7	5.2% ± 4.6	12.6% ± 13.1	8.5% ± 8.3
Not important	5.1% ± 2.8	6.1% ± 4.1	1.6% ± 2.9	1.6% ± 3.0
Did not realize it needed doing	1.8% ± 1.7	1.7% ± 1.8	2.1% ± 3.6	2.3% ± 3.8
Need to find help	0.6% ± 0.7	0.5% ± 0.6	2.1% ± 3.6	0.0% ± 0.0
Comfort issues	2.9% ± 1.8	2.2% ± 1.6	0.0% ± 0.0	12.0% ± 7.5
Waiting to do as part of remodeling	0.3% ± 0.5	0.4% ± 0.6	0.0% ± 0.0	0.0% ± 0.0
Other	2.0% ± 0.9	2.2% ± 1.0	0.0% ± 0.0	3.5% ± 4.7

Since respondents were allowed to give more than one response, totals may exceed 100 percent. Question was asked open-ended and then back-coded.

Question 78: What percentage savings would you have to see on your energy bills before you would take the actions listed below?

Keep my home 3 degrees cooler?

	Overall (n=266)	General (n=185)	Low income (n=39)	New construction (n=42)
I would need to see a cost reduction	58.0% ± 6.2	56.0% ± 5.3	59.1% ± 23.2	73.2% ± 10.5
No cost savings would be enough	42.0% ± 6.2	44.0% ± 5.3	40.9% ± 23.2	26.8% ± 10.5

Question not asked on pilot version of questionnaire.

Percent reduction needed in bill to keep home 3 degrees cooler

	Overall (n=171)	General (n=120)	Low income (n=20)	New construction (n=31)
mean	15.0 ±2.3	14.1 ±2.6	18.4 ±5.1	17.8 ±4.2
minimum	0	0	0	0
5th percentile	1	2	1	1
25th percentile	7	5	10	10
median	10	10	20	15
75th percentile	20	20	20	25
95th percentile	50	50	50	50
maximum	50	50	50	50

Cut my hot water use by 10 percent?

	Overall (n=263)	General (n=183)	Low income (n=40)	New construction (n=40)
I would need to see a cost reduction	61.7% ± 4.5	60.3% ± 4.8	64.5% ± 20.1	70.5% ± 11.3
No cost savings would be enough	38.3% ± 4.5	39.7% ± 4.8	35.5% ± 20.1	29.5% ± 11.3

Question not asked on pilot version of questionnaire.

Percent reduction needed in bill to cut hot water use by 10 percent

	Overall (n=178)	General (n=128)	Low income (n=23)	New construction (n=27)
mean	13.6 ±1.8	13.3 ±2.2	17.4 ±2.8	12.3 ±1.8
minimum	0	0	0	0
5th percentile	2	2	1	2
25th percentile	7	5	10	10
median	10	10	15	10
75th percentile	20	20	20	15
95th percentile	30	30	50	30
maximum	50	50	50	30

Cut my lighting use by 25 percent?

	Overall (n=265)	General (n=184)	Low income (n=40)	New construction (n=41)
I would need to see a cost reduction	69.4% ± 6.3	69.2% ± 5.4	58.8% ± 20.9	82.5% ± 9.7
No cost savings would be enough	30.6% ± 6.3	30.8% ± 5.4	41.2% ± 20.9	17.5% ± 9.7

Question not asked on pilot version of questionnaire.

Percent reduction needed in bill to cut lighting use by 25 percent

	Overall (n=194)	General (n=141)	Low income (n=20)	New construction (n=33)
mean	15.1 ±1.3	15.2 ±1.4	16.2 ±4.6	13.6 ±2.2
minimum	0	0	0	0
5th percentile	2	2	1	5
25th percentile	5	5	7	10
median	10	10	10	10
75th percentile	25	25	25	20
95th percentile	35	35	50	25
maximum	50	50	50	50

Question 79: About what is the total income of your household?

	Overall (n=281)	General (n=199)	Low income (n=40)	New construction (n=42)
Less than \$5,000	0.2% ±0.3	0.0% ±0.0	1.7% ±3.1	0.0% ±0.0
\$5,000 to \$9,999	2.4% ±1.8	0.0% ±0.0	22.2% ±13.1	0.0% ±0.0
\$10,000 to \$14,999	3.9% ±1.5	0.7% ±0.9	30.6% ±14.4	0.0% ±0.0
\$15,000 to \$19,999	5.7% ±3.1	5.1% ±3.8	15.4% ±7.7	0.0% ±0.0
\$20,000 to \$24,999	4.4% ±2.3	3.0% ±1.8	14.9% ±9.4	4.4% ±6.1
\$25,000 to \$29,999	5.5% ±2.8	5.3% ±3.2	10.2% ±5.8	1.7% ±2.9
\$30,000 to \$34,999	11.5% ±3.8	14.0% ±4.3	2.6% ±4.9	1.9% ±3.6
\$35,000 to \$49,999	23.9% ±5.7	27.7% ±6.7	0.0% ±0.0	20.6% ±12.3
\$50,000 to \$74,999	24.1% ±5.0	25.0% ±6.2	0.0% ±0.0	42.9% ±11.2
\$75,000 or more	18.3% ±4.7	19.3% ±6.1	2.3% ±3.9	28.5% ±11.6



Energy Center of Wisconsin Residential Characterization Study Homeowner Survey

Name: _____

Address: _____

Building ID (To be filled in by field crew):

HOME AND FAMILY

1 About when was your home built? (Please circle the number of your answer.)

- 1 1995 or later
- 2 1990 to 1994
- 3 1980 to 1989
- 4 1970 to 1979
- 5 1960 to 1969
- 6 1950 to 1959
- 7 1940 to 1949
- 8 1930 to 1939
- 9 1929 or earlier

2 How long have you lived at this home? (Please circle the number of your answer.)

- 1 Less than 1 year
- 2 1 to 2 years
- 3 3 to 4 years
- 4 5 to 10 years
- 5 More than 10 years

3 Please write in the age and circle the sex for each of the adults in your household.
(Please count as an adult any household member living at home who is 18 or older.)

	Adult #1 (yourself)	Adult #2	Adult #3	Adult #4	Adult #5	Adult #6
	▼	▼	▼	▼	▼	▼
Age (please write in)	_____	_____	_____	_____	_____	_____
Sex (please circle)	M F	M F	M F	M F	M F	M F

Please circle below the highest level of education completed for each adult in your household.

	Adult #1 (yourself) ▼	Adult #2 ▼	Adult #3 ▼	Adult #4 ▼	Adult #5 ▼	Adult #6 ▼
Grade School	1	1	1	1	1	1
Some high school	2	2	2	2	2	2
High school graduate (GED)	3	3	3	3	3	3
Some technical school/ junior college	4	4	4	4	4	4
Technical school/ junior college graduate (Associate degree)	5	5	5	5	5	5
Some college but no degree	6	6	6	6	6	6
Bachelor's degree	7	7	7	7	7	7
Advanced degree	8	8	8	8	8	8

4 Please fill in the ages of each of the children who live in this home at least six months out of the year.

	Child #1 ▼	Child #2 ▼	Child #3 ▼	Child #4 ▼	Child #5 ▼	Child #6 ▼
Age (please write in)	_____	_____	_____	_____	_____	_____

5 How many hours per week is a member of this household at home between 8 a.m. and 5 p.m. on weekdays? (It may help to keep in mind that there is a total of 45 hours between 8 a.m. and 5 p.m. from Monday through Friday.) (Please write in your answer.)

Someone is home _____ hours per week during the day.

6 Overall, how well is your home insulated? (Please circle the number of your answer.)

- 1 No insulation
- 2 Poorly insulated
- 3 Adequately insulated
- 4 Well insulated
- 5 Don't know

RECENT AND PLANNED ENERGY ACTIVITIES

7 Have you done any major remodeling or adding on to your home in the last two years?
(Please circle the number of your answer.)

- 1 No
- 2 Yes >>>>>>>>

Please describe the remodeling or addition(s):

8 Do you plan to do any major remodeling or adding on to your home in the next two years?
(Please circle the number of your answer.)

- 1 No
- 2 Yes >>>>>>>>

Please describe the remodeling or addition(s):

Which of the following statements best describes these plans? (Please circle the number of your answer.)

- 1 Just thinking about it
- 2 Have definite plans in place
- 3 Have talked to a contractor
- 4 Have received bids for the work or purchased materials
- 5 Other (please specify): _____

9 Have you installed or purchased any of the following major appliances in the past two years?

Furnace or other main heating system

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

Central Air Conditioner

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

Room Air Conditioner

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

Water Heater

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

Refrigerator

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

Stand-Alone Freezer

Bought in the last two years?
1 No
2 Yes >>>>>>>>>>

Did it replace an old unit?
1 No
2 Yes >>> What year did you buy it? _____

10 How likely is it that you will purchase or replace any of these major appliances in the next year? *(Please circle the number of your answer.)*

	Very Unlikely	Somewhat Unlikely	Somewhat Likely	Very Likely
Furnace or other main heating system	1	2	3	4
Central Air Conditioning System	1	2	3	4
Room Air Conditioner	1	2	3	4
Water Heater	1	2	3	4
Refrigerator	1	2	3	4
Stand-alone Freezer	1	2	3	4

LIFESTYLE AND APPLIANCE USE

HEATING

Questions 11 and 12 refer to the different types of thermostats that can be found in Wisconsin homes.

- A **regular thermostat** has temperature settings. It can be changed by hand only.
- A **dial control without temperature settings** has settings like "warmer" or "cooler" instead of temperatures. It can be changed by hand only.
- A **simple on/off switch** can be changed by hand only, and has no temperature settings.
- A **clock or programmable thermostat** has temperature settings. The homeowner can preset the thermostat to automatically raise or lower the temperature in the house at certain times.

11 What type of thermostat do you use in your home? *(Please circle the number of your answer.)*

- 1 Regular thermostat(s) with temperature settings
- 2 Dial control without temperature settings
- 3 Simple on/off switch or no temperature control
- 4 Clock or programmable thermostat(s) >>>>>>>>>

Has your household used the timer or programming features to automatically change the temperature at different times of the day or night? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes
- 3 Don't Know

12 This winter, how often have you or has someone in your family changed the thermostat's temperature setting **by hand**? (If you have a programmable or clock thermostat, a change by hand would temporarily override your automatic settings.)
(Please circle the number of your answer.)

- 1 Rarely or never
- 2 A few times a month
- 3 A couple of times a week
- 4 Usually every day >>>>>>

(Please circle **ALL** that apply.)

- 1 When we get up in the morning
- 2 When we go to bed at night
- 3 As we need to during the day to be more comfortable

13 At what temperature have you usually kept your home this winter?
(Please write in or circle the number of your answer.)

During sleeping hours?

- 1 Thermostat was set at _____ degrees (please write in)
- 2 Heat was turned off
- 3 Don't know

When someone was awake at home?

- 1 Thermostat was set at _____ degrees (please write in)
- 2 Heat was turned off
- 3 Don't know

When no one was home during the day?

- 1 Thermostat was set at _____ degrees (please write in)
- 2 Heat was turned off
- 3 Don't know
- 4 Not applicable

When the household was away on vacation?

- 1 Thermostat was set at _____ degrees (please write in)
- 2 Heat was turned off
- 3 Don't know
- 4 Not applicable

19 What kind of air conditioning do you have? *(Please circle the number of your answer.)*

- 1 Room/window units >>>>
- 2 Both room/window units and a central system >>>>
- 3 Central system only

How many individual room or window units do you have? *(Please write in your answer.)*

>>>

Skip to question 23 on page 9.

20 If you have a central air conditioning system, at what temperature did you usually keep your home last summer? *(Please write in or circle the number of your answer.)*

When no one was home?

- 1 Thermostat was set at _____ degrees *(please write in)*
- 2 Air conditioning was turned off

When someone was awake at home?

- 1 Thermostat was set at _____ degrees *(please write in)*
- 2 Air conditioning was turned off

During sleeping hours?

- 1 Thermostat was set at _____ degrees *(please write in)*
- 2 Air conditioning was turned off

21 If you have a central air conditioning system with a clock or programmable setback thermostat, this past summer, did your household use the setback features of your thermostat to automatically adjust the temperature for different times of the day or night? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes
- 3 Don't have a central air conditioning system with a setback thermostat

22 Are there any rooms in the insulated area of your home that you do not cool in the summer? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes

APPLIANCES

23 What type of fuel do you use to heat your water? *(Please circle the number of your answer.)*

- 1 Electricity
- 2 Natural Gas
- 3 Oil
- 4 Propane
- 5 Other *(Please write in your answer.)* _____
- 6 Don't know

24 About how many showers and baths are taken in your home in a typical week? _____
(Please write in your answer.)

25 Do you have an automatic dishwasher? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>>> About how many times a week do you run it? _____

26 Do you have a clothes washing machine? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>> | About how many loads of laundry do you wash per week? _____
What percent of these are hot water washes? _____ %
What percent of these are warm water washes? _____ %
What percent of these are cold water washes? _____ %

27 Do you have a clothes dryer? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>> | About how many loads of laundry do you dry per week
in the dryer? _____

28 How often are hot meals usually cooked in your home?
(Please circle the number of your answer.)

- 1 Two or more times a day
- 2 Once a day
- 3 A few times per week
- 4 About once a week
- 5 Less than once a week

29 How much of your food is cooked in a microwave oven?
(Please circle the number of your answer.)

- 1 Don't have a microwave oven
- 2 Most or all
- 3 About half
- 4 Some or very little
- 5 Used only for snacks, defrosting or reheating food

30 How many minutes per day is the microwave in use? *(Please write in your answer.)*

_____ minutes per day

31 How many of the following appliances are used at this home? *(Please circle the appropriate number for each appliance. If you have more than three, circle three.)*

	None	One	Two	Three (or more)
Color Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B/W Television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
VCR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stereo System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Humidifier (connected to heating system)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air filter/cleaner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ceiling Fan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attic Fan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well pump	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Heated Aquarium (20 gallons or more)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engine Block Heaters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laser, inkjet, or other computer printer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stand-alone fax machine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Copier	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32 Do you have a dehumidifier? *(Please circle the number of your answer.)*

1 No

2 Yes >>>>>

How is it used?

1 It is rarely used

2 It is used for a part of the summer

3 It is used all summer long

HOME OFFICE EQUIPMENT

33 Do you have a personal computer? *(Please circle the number of your answer.)*

1 No >>>>> Skip to question 36.

2 Yes >>>>>

Number of personal computers in use in your home: _____

34 Altogether, how many hours per week is your computer equipment turned on?
(Please circle the number of your answer.)

1 Less than 2 hours per week

2 Two to 15 hours per week

3 Sixteen to 40 hours per week

4 Turned on all the time

35 Do you or does anyone in your household telecommute? (Telecommuting involves working at home instead of travelling to your employer's office.)
(Please circle the number of your answer.)

1 No

2 Yes >>>>>

How many days each week, on average, is your personal computer used for telecommuting?

(Please write in or circle the number of your answer.)

1 The personal computer is used for telecommuting _____ days per week.

2 Don't have a home computer.

36 Is there any other large equipment that uses a lot of electricity in this home?
(Examples: welding equipment, medical equipment, kiln, etc.)

Please specify: _____

BASEMENT

37 Does this house have a basement? *(Please circle the number of your answer.)*

- 1 No >>>>>>>>> *Skip to question 40.*
- 2 Yes, and we use it as a regular part of our living space
- 3 Yes, but we do not use it as a regular part of our living space

38 About how many hours a day is someone in the basement? *(Please write in your answer.)*

_____ hours per day

39 Last winter, how was the basement in your home compared to the rest of the house? *(Please circle the number of your answer.)*

- 1 Warmer than the rest of the house
- 2 About the same temperature as the rest of the house
- 3 Somewhat colder than the rest of the house
- 4 Much colder than the rest of the house

COMFORT – IN THE WINTER

40 How would you describe the general level of comfort in your home in the winter? *(Please circle the number of your answer.)*

- 1 Very uncomfortable
- 2 Somewhat uncomfortable
- 3 Somewhat comfortable
- 4 Very comfortable

41 Are there specific places in your home where – or times when – you or members of your household often **feel too cold or feel uncomfortable drafts**? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>>>>>>>

Please describe: _____

42 Please describe how you or other members of your household feel about the comfort of your home in the winter.

How often do you or other members of your household find your home too **cold** during the winter? *(Please circle the number of your answer.)*

- 1 Never
- 2 Rarely
- 3 Some of the time
- 4 Most of the time
- 5 Always

(For the questions below, please circle the number of your answer.)

	Never	Some of the time	Most of the time	Always
During those times when you find your home too cold , how often are you able to make yourself more comfortable?	1	2	3	4
How often do you or other members of your household find your home too drafty during the winter?	1	2	3	4
During those times when you find your home too drafty , how often are you able to make yourself more comfortable?	1	2	3	4

How often do you do each of the following when you find your home too **cold or drafty**? *(Please circle the number of your answer.)*

	Never	Some of the time	Most of the time	Always
Turn up the thermostat	1	2	3	4
Start a fire in the fireplace	1	2	3	4
Turn on a portable heater	1	2	3	4
Turn on the oven	1	2	3	4
Move to a more comfortable part of the house	1	2	3	4
Put on more clothing or a blanket	1	2	3	4
Other (please describe): _____	1	2	3	4

43 Please continue to describe your winter comfort levels.

How often do you or other members of your household find your home too **hot or stuffy** during the winter? *(Please circle the number of your answer.)*

- 1 Never
- 2 Rarely
- 3 Some of the time
- 4 Most of the time
- 5 Always

(For the questions below, please circle the number of your answer.)

	Rarely or Never	Some of the time	Most of the time	Always
During those times when you find your home too hot or stuffy , how often are you able to make yourself more comfortable?	1	2	3	4

How often do you do each of the following when you find your home too **hot or stuffy**?

	Rarely or Never	Some of the time	Most of the time	Always
Turn down the thermostat	1	2	3	4
Open a window or door to the outside	1	2	3	4
Move to a more comfortable part of the house	1	2	3	4
Put on lighter clothing	1	2	3	4
Other (please describe): _____	1	2	3	4

44 Are there any specific places in your home where – or times when – you or members of your household often feel too **hot or stuffy** in the winter? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>>>>>>>

Please describe: _____

45 Please continue to describe your winter comfort levels.

How often do you or other members of your household find your home too **dry** during the winter? *(Please circle the number of your answer.)*

- 1 Never
- 2 Rarely
- 3 Some of the time
- 4 Most of the time
- 5 Always

	Rarely or Never	Some of the time	Most of the time	Always
During those times when you find your home too dry , how often are you able to make yourself more comfortable?	1	2	3	4

46 How often has water beaded up or frosted on your windows this winter? *(Please circle the number of your answer.)*

- 1 Never >>>>>>> *Skip to question 48.*
- 2 Rarely
- 3 Sometimes
- 4 Often
- 5 Always

47 Where did this occur? *(Circle ALL that apply.)*

- 1 On the inside of the window panes
- 2 On the outside of the windows

COMFORT – IN THE SUMMER

Please describe how you or other members of your household feel about the comfort of your home in the summer.

48 Are there specific places in your home where – or times when – you or members of your household are often **hot and uncomfortable**? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes >>>>>>>>>

Please describe: _____

49 How often do you or other members of your household find your home too **hot** during the summer? *(Please circle the number of your answer.)*

- 1 Never
- 2 Rarely
- 3 Some of the time
- 4 Most of the time
- 5 Always

	Rarely or Never	Some of the time	Most of the time	Always
During those times when you find your home too hot , how often are you able to make yourself more comfortable?	1	2	3	4

How often do you do each of the following when you find your home too **hot**?

	Rarely or Never	Some of the time	Most of the time	Always
Turn on the central air conditioner	1	2	3	4
Turn the central air conditioner to a cooler setting	1	2	3	4
Turn on room air conditioners(s)	1	2	3	4
Turn the room air conditioner(s) to a cooler setting	1	2	3	4
Turn on fans	1	2	3	4
Open windows or doors	1	2	3	4
Wear lighter clothing	1	2	3	4
Move to a more comfortable part of the house	1	2	3	4
Close shades/blinds	1	2	3	4
Other (please describe): _____	1	2	3	4

50 Please continue to describe your summer comfort level.

How often do you or other members of your household find your home too **humid** during the summer? *(Please circle the number of your answer.)*

- 1 Never
- 2 Rarely
- 3 Some of the time
- 4 Most of the time
- 5 Always

(For the question below, please circle the number of your answer.)

	Rarely or Never	Some of the time	Most of the time	Always
During those times when you find your home too humid , how often are you able to make yourself more comfortable?	1	2	3	4

How often do you do each of the following when you find your home too **humid**?

(For the questions below, please circle the number of your answer.)

	Rarely or Never	Some of the time	Most of the time	Always
Turn a dehumidifier on or up	1	2	3	4
Move to a more comfortable part of the home	1	2	3	4
Wear lighter clothing	1	2	3	4
Other (please describe): _____	1	2	3	4

51 Please continue to describe your summer comfort level.

(For the questions below, please circle the number of your answer.)

	Rarely or Never	Some of the time	Most of the time	Always
How often do you or other members of your household find your home too cold or drafty during the summer?	1	2	3	4

COMFORT – THROUGHOUT THE YEAR

52 How often are you or is someone in your household uncomfortable with the **air quality** in your home? *(For the questions below, please circle the number of your answer.)*

	Rarely or Never	Some of the time	Most of the time	Always
Air smells moldy	1	2	3	4
Air smells of cooking or other odors	1	2	3	4
Air is stale	1	2	3	4

53 How often are you or a member of your household dissatisfied with your **lighting**? *(For the questions below, please circle the number of your answer.)*

	Rarely or Never	Some of the time	Most of the time	Always
Lighting is too dim	1	2	3	4
Lighting is too bright	1	2	3	4
Don't like the color or quality of the lighting	1	2	3	4
Not enough daylight getting into the house, even on sunny days	1	2	3	4

54 How often are you or a member of your household dissatisfied with your **hot water**? *(For the questions below, please circle the number of your answer.)*

	Rarely or Never	Some of the time	Most of the time	Always
There is not enough hot water	1	2	3	4
There is not enough hot water pressure	1	2	3	4
Hot water is too hot	1	2	3	4
Hot water is not warm enough	1	2	3	4

ATTITUDES ABOUT ENERGY

55 We are interested in your attitudes about energy. Below are some statements people have made about energy use. **Please tell us how much you agree or disagree with these statements.** (Circle the number of your answer.)

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
"While others might tolerate turning down the thermostat in the winter, my own need for being warm is high."	1	2	3	4
"I'm not interested in making energy-saving improvements to my home."	1	2	3	4
"A large amount of energy is wasted in America by individuals who overcool (or overheat) their homes."	1	2	3	4
"It's just not worth putting on more clothing in the winter to try to save a little energy."	1	2	3	4
"I would only conserve energy if I could not afford to pay for it."	1	2	3	4
"I always try not to use more electricity than I really need."	1	2	3	4
"My family's health would suffer if our home were not heated to its present temperature."	1	2	3	4
"I am willing to keep my house a little chilly in order to lower my energy bills."	1	2	3	4
"My annual energy bills don't amount to much compared to my other expenses."	1	2	3	4
"My home is very energy efficient."	1	2	3	4
"Outdoor air is much better for my family's health than indoor air."	1	2	3	4
"I would be very uncomfortable in the winter if I turned the thermostat setting down three degrees when people are home and awake."	1	2	3	4
"It is essential to my family's health to use air conditioning to stay cool in the summer."	1	2	3	4

(Please continue to circle the number of your answer.)

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
"It's my right to use as much energy as I want, as long as I pay for it."	1	2	3	4
"I have to conserve energy in my home because I can't afford to pay higher utility bills."	1	2	3	4
"I would probably get more colds and illnesses if I turned down the thermostat in the winter."	1	2	3	4
"I know what steps I can take to save more energy in my home."	1	2	3	4
"I worry about being poisoned by carbon monoxide from the heating system, water heater, or range in my home."	1	2	3	4
"Energy use in homes does not affect the environment very much."	1	2	3	4
"I have a great deal of control over how energy is used in this home."	1	2	3	4
"I only use electricity when it's really needed; there's no way I could cut down."	1	2	3	4
"Paying the energy bills is a financial hardship for our family."	1	2	3	4
"I am not interested in making my home more energy efficient."	1	2	3	4
"There's nothing more I can do to cut back on my home's energy use."	1	2	3	4
"My life is too busy to deal with energy saving improvements in my home."	1	2	3	4
"My energy bills are about as low as they can get."	1	2	3	4

ENERGY SAVING ACTIONS

There are a variety of things that people may do to save energy and reduce their utility bills. Please tell us how often you do the following things in order to save energy or for other reasons.

56 How often do you take the following sorts of actions?
(For the questions below, please circle the number of your answer.)

	Rarely or never	Some of the time	Most of the time	Always	Doesn't Apply
Lower the heating thermostat at night	1	2	3	4	5
Lower the heating thermostat when we are going away for awhile	1	2	3	4	5
Limit use of the air conditioner to a few very hot days	1	2	3	4	5
Turn off unused lights	1	2	3	4	5
Turn off unwatched televisions	1	2	3	4	5
Run the dishwasher only when it is full	1	2	3	4	5
Run the dishwasher on the energy-efficient setting	1	2	3	4	5
Run the clothes washer only with full loads	1	2	3	4	5

57 People take energy-saving actions for different reasons. For each of the following actions, **tell us the most important reasons that you take the action.** (You may circle up to three reasons for each item. If you don't take the action, circle 'Doesn't apply.')

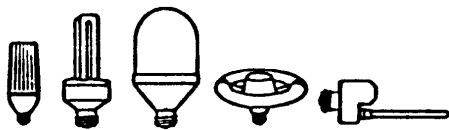
	Reasons					
	Home comfort	Health and air quality	Save money	Help the environment	Don't like to waste	Doesn't apply
Use less heat	1	2	3	4	5	6
Use less air conditioning	1	2	3	4	5	6
Turn off lights	1	2	3	4	5	6
Turn off unused appliances	1	2	3	4	5	6
Run only full dishwasher or laundry loads	1	2	3	4	5	6

58 For each of the actions listed above in question 57, please go back and **underline the number** of the **single** most important reason for that action.

59 Which of the following energy-saving features have you added to your home?
 Do not include features that were already in place when you moved in.
 (Please circle the number of your answer.)

	No	Yes
Installed caulking or weatherstripping to reduce drafts	1	2
Added insulation in the ceiling or attic	1	2
Added insulation in other areas (location: _____)	1	2
Installed storm windows	1	2
Installed energy-efficient (double- or triple-glazed) windows	1	2
Put up plastic or other insulation on windows	1	2
Installed energy-efficient doors	1	2
Installed low-flow showerheads	1	2
Installed faucet aerators	1	2
Wrapped hot water pipe	1	2
Wrapped water heater	1	2
Installed storm doors	1	2
Installed solar panels	1	2
Other: _____ _____	1	2

60 Have you installed any compact fluorescent lights in your home?
 Compact fluorescent bulbs screw into regular (incandescent) light bulb sockets and come in different styles, such as those shown below.



(Please circle the number of your answer.)

- 1 No
- 2 Yes
- 3 Not sure

61 For each of the following energy-saving features, please circle **the most important reasons that you decided to purchase and/or install the features.** (You may circle up to three reasons for each item. If you haven't installed the item, circle 'Doesn't apply.' Please circle the numbers of your answers.)

	Reasons					
	Home comfort	Health and air quality	Save money	Help the environment	Don't like to waste	Doesn't apply
Caulking or weather-stripping for doors or windows	1	2	3	4	5	6
Insulation	1	2	3	4	5	6
Storm windows	1	2	3	4	5	6
Energy efficient windows or doors	1	2	3	4	5	6
Plastic or other insulation on windows	1	2	3	4	5	6
Low flow showerheads and faucet aerators	1	2	3	4	5	6
Water heater or hot water pipe wrap	1	2	3	4	5	6
Storm doors	1	2	3	4	5	6
Solar panels	1	2	3	4	5	6
Programmable, set-back or clock thermostat	1	2	3	4	5	6
Compact fluorescent lights	1	2	3	4	5	6

62 For each of the energy-saving features listed above in question 61, please go back and **underline the number of the single most important reason for purchasing or installing that item.**

63 Have you ever installed energy-saving items or measures and then been dissatisfied with them?
(Please circle the number of your answer.)

- 1 No
- 2 Yes >>>>>>>

Which items? _____

In what way(s) were you dissatisfied? _____

MAINTENANCE AND SAFETY

The following will ask you some questions about either your furnace or your boiler.

Furnaces heat air and usually distribute the heat through ducts and vents.

Boilers heat water or steam and usually distribute the heat through radiators.

64 If you have a **furnace**, how often are the following things done?
(If you do not have a furnace, please skip to question 65.)

How often do you clean or replace furnace filters?
(Please circle the number of your answer.)

- 1 More than once a year
- 2 Once a year
- 3 Every other year
- 4 Every 3-6 years
- 5 Hardly ever
- 6 Never
- 7 Don't know

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

How often do you lubricate the fan?
(Please circle the number of your answer.)

- 1 More than once a year
- 2 Once a year
- 3 Every other year
- 4 Every 3-6 years
- 5 Hardly ever
- 6 Never
- 7 Don't know

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

How often do you clean and tune the furnace?

(Please circle the number of your answer)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- ▶▶▶▶▶

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

65 If you have a **boiler**, how often are the following things done?
(If you do not have a boiler, please skip to question 66 on page 28.)

How often do you drain the boiler sediments?

(Please circle the number of your answer.)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- ▶▶▶▶▶

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

How often do you flush the boiler reservoir?


(Please circle the number of your answer.)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- ▶▶▶▶▶

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.


How often do you add water treatment?
(Please circle the number of your answer.)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- 

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.


How often do you lubricate the pump?
(Please circle the number of your answer.)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- 

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

How often do you clean and tune the boiler?
(Please circle the number of your answer.)

- 1 More than once a year
 - 2 Once a year
 - 3 Every other year
 - 4 Every 3-6 years
 - 5 Hardly ever
 - 6 Never
 - 7 Don't know
- 

Do you clean or replace the furnace filters yourself, or pay someone to do it?

- 1 I do this, someone in my household does this, or someone I know does this for me for free.
- 2 I pay someone to do this.

66 If you have a window air conditioning unit(s), what do you do with it in the winter? (We realize that you may not do the same thing with all the air conditioning units in the house.) *(Please circle the number of your answer that describes what you do with **most** of your units.)*

- 1 Don't have window air conditioner(s)
- 2 Take the air conditioner(s) out of the window
- 3 Leave the air conditioner(s) in the window, but with a cover on
- 4 Leave the air conditioner(s) in the window, with no cover

67 If you have air conditioning equipment (a central system or window units), who cleans or services it? *(Please circle the number of your answer.)*

- 1 Yourself or someone in your household
 - 2 A friend or neighbor (not for hire)
 - 3 Someone for hire
 - 4 Nobody
 - 5 Don't have central air
- } >>>> Skip to question 69.

68 If you or someone else cleans or services the air conditioning equipment, how often is each of the following done? *(Please circle the number of your answer.)*

	More than once per year	Once per year	Every other year	Every 3-6 years	Rarely or never	Don't know
Clean filters	1	2	3	4	5	6
Clean other air conditioning parts	1	2	3	4	5	6
Check refrigerant (freon)	1	2	3	4	5	6
Lubricate air conditioning parts	1	2	3	4	5	6
Do a general air conditioning checkup	1	2	3	4	5	6

69 Do you have a carbon monoxide detector? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes
- 3 Don't know

ENERGY BILLS

70 How familiar are you with your household's monthly energy bills?
(Please circle your the number of answer.)

- 1 Not very familiar
- 2 Somewhat familiar
- 3 Very familiar

71 How much do you think your household spends every year on all the fuels used in your house? (Include fuels such as natural gas, electricity, fuel oil, LPG, and firewood. Do not include fuel for cars, for other vehicles, or for farm equipment.)
(Please circle the number of your answer.)

- 1 \$0 - \$249
- 2 \$250 - \$499
- 3 \$500 - \$749
- 4 \$750 - \$999
- 5 \$1,000 - \$1,249
- 6 \$1,250 - \$1,499
- 7 \$1,500 - \$1,749
- 8 \$1,750 - \$1,999
- 9 \$2,000 - \$2,249
- 10 \$2,250 - \$2,499
- 11 \$2,500 - \$2,749

72 Do you or does someone in your household pay your energy bills on a budget plan (a fixed amount for each bill)? *(Please circle the number of your answer.)*

- 1 No
- 2 Yes
- 3 Don't know

73 Government agencies and utilities have programs to help homeowners who can't pay all of their energy bills. Has your household received this kind of help since moving into this house?
(Please circle the number of your answer.)

- 1 No
- 2 Yes
- 3 Don't know

74 Think about all the energy you use in your home each month. This would include gas, electricity, fuel oil, wood and so forth. You could lower your energy use by developing more efficient practices like turning out the lights, washing only full loads of laundry, or keeping the thermostat adjusted properly.

By what percentage, if any, do you think you could reduce the amount of energy used in your home by developing more efficient practices?
(Please write in your answer.)

I think I could reduce the amount of energy used in my home by _____%

75 You could also lower your energy use by investing in energy efficient technologies. This could include things like installing compact fluorescent bulbs, installing low flow showerheads and faucet aerators, putting plastic on the windows, and caulking or weatherstripping.

By what percentage, if any, do you think you could reduce the amount of energy used in your home by investing in energy efficient technologies?
(Please write in your answer.)

I think I could reduce the amount of energy used in my home by _____%

76 What is the most effective thing you could do to save energy in your home?
(Please write in your answer.)

77 What are the reasons you haven't done this? (Please circle **ALL** that apply.)

- 1 Can't afford/too costly
- 2 Plan to move soon
- 3 Don't know what to do
- 4 Don't think the energy savings will be enough
- 5 Other (please specify): _____

78 What percentage savings would you have to see on your energy bills before you would take the actions listed below? *(Please write in or circle your answers.)*

Keep my home 3 degrees cooler?

- 1 I would need to see a reduction of _____ % in my bill.
- 2 No cost savings would be enough for me to reduce my home's temperature by 3 degrees.

Cut my hot water use by 10%?

- 1 I would need to see a reduction of _____ % in my bill.
- 2 No cost savings would be enough for me to cut my hot water use by 10%.

Cut my lighting use by 25%?

- 1 I would need to see a reduction of _____ % in my bill.
- 2 No cost savings would be enough for me to cut my lighting use by 25%.

79 About what is the total income of your household?
(Please circle the number of your answer.)

- 1 Less than \$5,000
- 2 \$5,000 to \$9,999
- 3 \$10,000 to \$14,999
- 4 \$15,000 to \$19,999
- 5 \$20,000 to \$24,499
- 6 \$25,000 to \$29,999
- 7 \$30,000 to \$34,999
- 8 \$35,000 to \$49,999
- 9 \$50,000 to \$74,999
- 10 \$75,000 or more

80 Is there anything else you would like to tell us about your home or energy activities?

**Thank you for taking the time to fill out this survey.
Your information will help us a great deal in completing our research.**



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