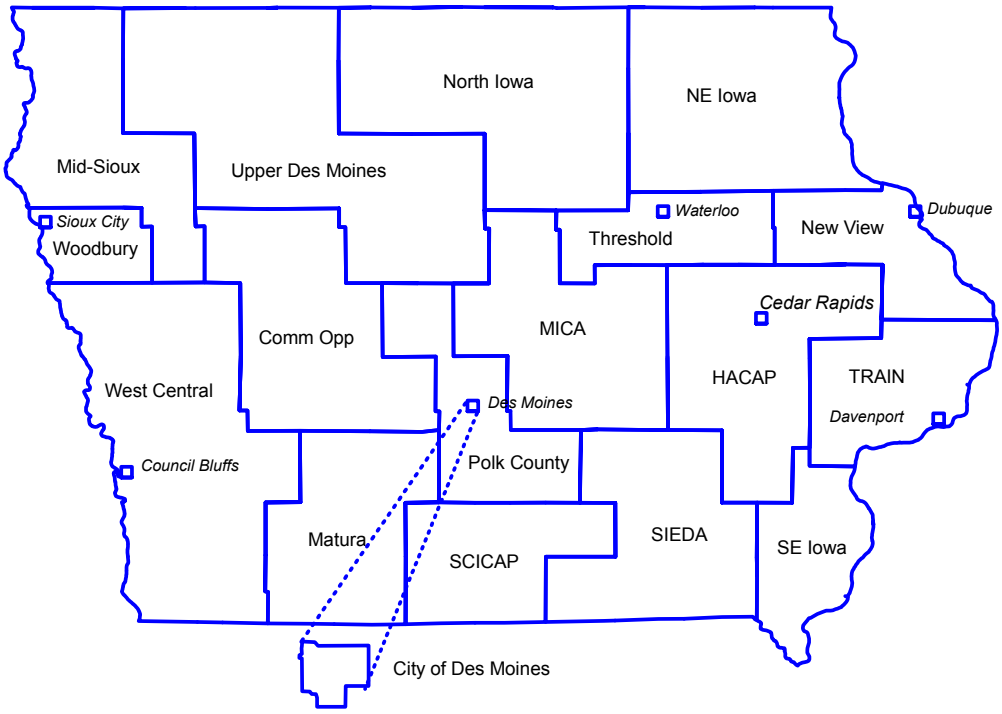
# REPORT ON IMPACTS AND COSTS OF THE IOWA LOW-INCOME WEATHERIZATION PROGRAM – Calendar Year 2002

## October 31, 2003

### Iowa Community Action Agencies





DALHOFF AND ASSOCIATES
533 Marshall Circle
Verona, WI 53593

608-845-6551
fax 608-845-6544
gkdalhoff@compuserve.com

# REPORT ON COSTS AND IMPACTS OF THE IOWA LOW-INCOME COLLABORATIVE WEATHERIZATION PROGRAM

## Calendar Year 2002

## October 31, 2003

**Prepared for the**
**Iowa Statewide Low-Income Collaborative**

**by**
**Dalhoff and Associates**
**533 Marshall Circle**
**Verona, WI 53593**
**608-845-6551**
**fax 608-845-6544**
**email: gkdalhoff@compuserve.com**

**TABLE OF CONTENTS**

# 1. EXECUTIVE SUMMARY

This report summarizes state and utility low-income weatherization program activity for households weatherized to completion during calendar year 2002. The report includes state, utility, and agency summaries of calendar year 2002 spending and impacts by measure, end-use, and fuel. The base data consisted of statewide program tracking databases of spending and measure installations for households completed during the calendar year 2002.

We estimated energy and coincident demand impacts for the program participants by adjustment factors to the engineering estimates that were developed for the 1992 program[1]. The adjustment were derived from a series of fuel consumption analyses, including the 1992 and 1994 program participants as well as using data for completions during the period April, 1996 through March, 1997, September, 1998 through August, 1999, January through December, 2000 and 2001, and August 2001 to August 2002.

Utilities began funding incremental benefits for increasing the efficiency water heaters replaced for health and safety reasons. We assessed incremental savings for their expenditures. In addition, we developed estimates of savings that reflect the higher heating efficiency of new units that are free of scale buildup within the tank.

The impacts also reflect a revision of the diversified demand factors for electricity measures. The original factors were developed in 1992. The revised values reflect changes in system load factors due to mergers of utilities over the past decade.

**Program Costs and Impacts**

The WAP program installed measures in 2,091 households during calendar year 2002: measures with direct energy savings were installed in all but five of these. Program expenditures for labor, materials, and support totaled $10.02 million in calendar year 2002, averaging $4,795 per household. Most measures installed by the program in 2002 are essentially unchanged from the 2001 program. In 2002, clients experienced greater savings from expansion of refrigerator and freezer exchanges or removals.

First-year savings of natural gas totaled 511,218 therms -- a 0.5% increase from 508,643 therms in CY 2001. First-year savings of electricity increased by 84%, to 2,400,162 kWh from the 1,303,387 kWh in the CY 2001 program. This large increase is attributable to increases in the installations of refrigeration appliances: 43% of households received some form of refrigeration measure in 2002 compared to 14% in 2001. Utility-funded measures were responsible for 35% of all energy and demand savings for electricity, and 37% of natural gas savings.

In addition to utility-provided fuels, the CY2002 program saved 43,263 gallons of propane, 3,567 gallons of fuel oil, and 48 Mbtu of wood, coal, and other fuels.

First-year client energy cost savings totaled $516,973, averaging $247 per household.

[1] see the following Wisconsin Energy Conservation Corporation reports for a full description of the estimation routines and derivation of the adjustment factors:

- Estimated Low-Income Program Impacts in Iowa, June 14, 1993;
- An Evaluation of Iowa's Low-Income Weatherization Efforts, August 8, 1994; and
- An Evaluation of the 1995 Iowa Low-Income Collaborative Weatherization Program, November 5, 1996.

On average, the program saved 1,154 kWh of electricity for 2,080 households with electricity impacts – this constitutes a 66% increase in average electricity savings for households with electricity impacts. The program saved an average of 277 therms of natural gas for 1,814 households with gas impacts (a 5% decrease from CY 2001), 176 gallons of propane in 246 households with propane impacts, and 115 gallons of fuel oil in 31 households with fuel oil impacts.

Utilities contributed $2.11 million in expenditures, or 21% percent of the total program expenditures. Utility-funded measures were installed in 1,345 households. Savings from utility-funded measures averaged 648 kWh in 1,321 utility-funded households with electricity impacts, and 172 therms in 1,126 utility-funded households with gas impacts. Utility-funded measures yielded first-year client cost savings or $171,203, averaging $127 per household overall. The average household electricity savings for utility-funded measures was $44, and for gas was $100.

**Fuel Consumption Analysis Results**

The natural gas savings reported herein have been adjusted at the agency level. The adjustment factors were derived from a fuel consumption analysis of recent program participants. The factors were applied to the estimated natural gas, propane, and fuel oil heating measures, and to natural gas and propane water heater measures. Along with providing better assessments of agency-level impacts, this procedure also provides a check on the accuracy of the algorithms used to estimate savings. The fuel consumption analysis showed 25.1% savings ± 1.1% at 90% confidence for natural gas measures installed in CY 2002.

**Changes in Reporting**

The content of the report and data sources are similar to previous years, with a few exceptions:

- The electricity measure diversified demand factors were updated
- A billing analysis was completed to develop agency-specific natural gas adjustment factors (this is performed annually).
- We expanded the summary tables of Sections 4-6 to include the following:
  - We developed algorithms for water heater replacements and now report these on separate lines for standard and high-efficiency models
  - Electric space heating replacements are reported on a separate line
  - We expanded the breakout of client and landlord contributions

## 2. SUMMARY OF PROGRAM IMPACTS AND EXPENDITURES

Program spending totaled $10,017,085 for materials, labor, and support in houses weatherized to completion during calendar year 2002, up by about 18.4% from $8,462,089 in 2001 (see Figure 2.1, totals exclude administration expenditures). The number of households weatherized in 2002 increased by 4.3%, from 2,003 in 2001 to 2,089 in 2002. Utility expenditures totaled $2,108,654, a 9.3% increase from expenditures of $1,930,056 in 2001.

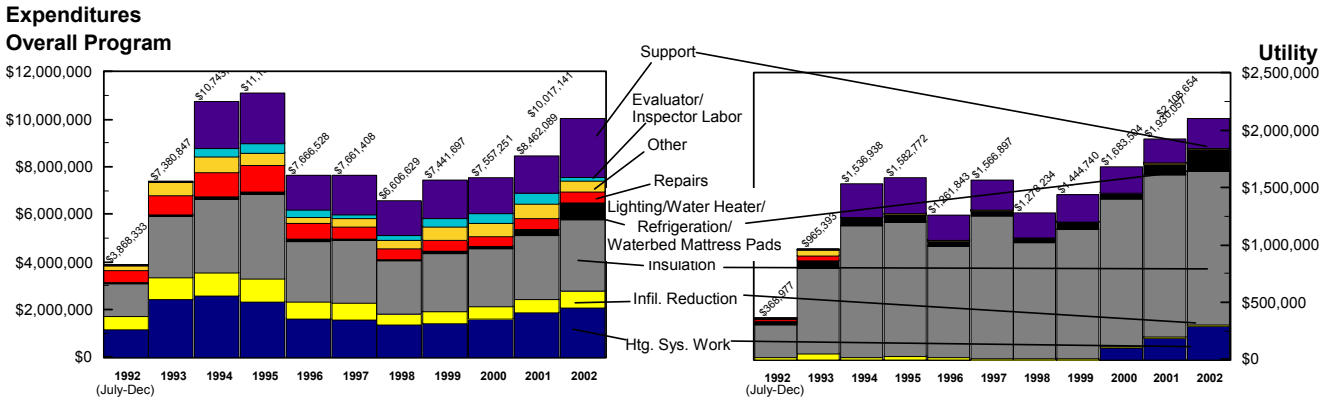



**Figure 2.1 Overall program and utility spending**.

Aggregate program energy savings increased by 4.5%, from 62,123 MBtu in 2001 to 64,859 MBtu in 2002 (Figure 2.2.) Utility-funded energy savings decreased by 2.9% to 22,380 Mbtu in 2002.

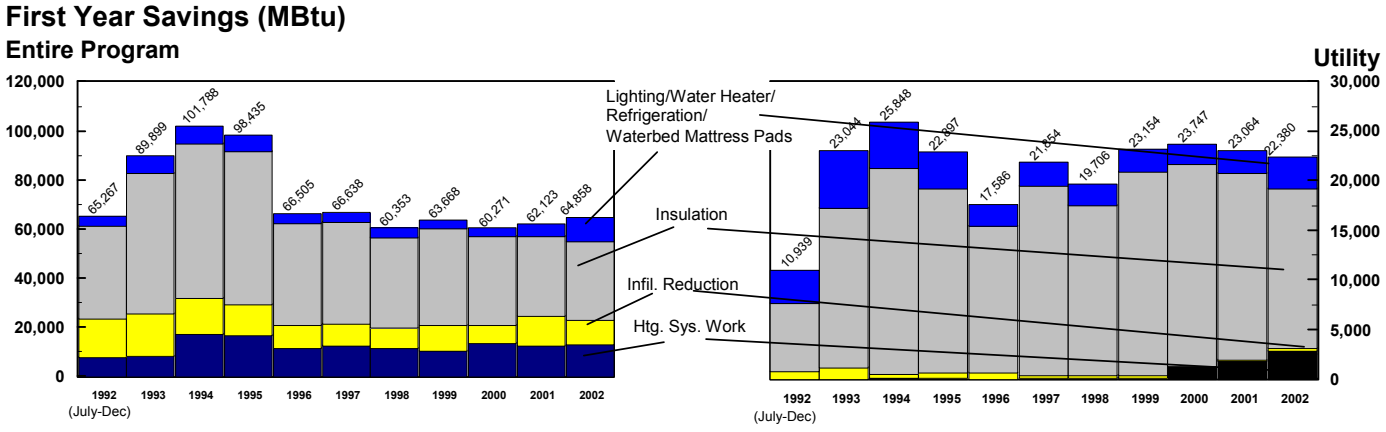
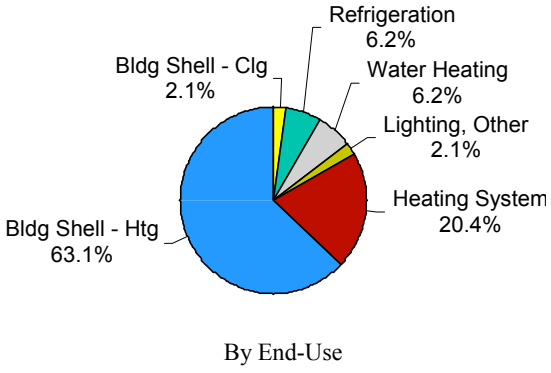



**Figure 2.2 Overall program and utility energy savings.**




Total of 64,844 MBtu savings, average of 31.1 MBtu per household.

**Figure 2.3. Overall energy savings by end-use and fuel type.**

The 2002 program saved an average of 31.1 MBtu per household (Figure 2.3.) In fuel units, first-year savings totaled 511,218 therms of natural gas, 2,400,162 kWh of electricity, 43,263 gallons of propane, 3,567 gallons of fuel oil, and 48 MBtu of wood, coal, and other fuels. On an Mbtu basis, natural gas savings tend to dwarf the savings of other fuel types. Electricity savings comprised 12.8% of savings on an Mbtu basis in the CY 2002 program, compared to only 7.2% in the CY 2001 program: the increase is attributable to greater installation rates of refrigeration appliance exchanges and removals in CY 2002.

Nominal total first year client energy bill savings declined from $621,653 in 2001 to $516,973 in 2002 (Figure 2.4a.), reducing the average first year client bill savings from $310 in 2001 to $247 in 2002. The average first-year client bill savings fluctuates substantially from year-to-year due primarily to variations in fuel costs. The first-year client bill savings for the 2001 program were substantially higher due to the heating fuel price spikes during most of the heating season in 2001.

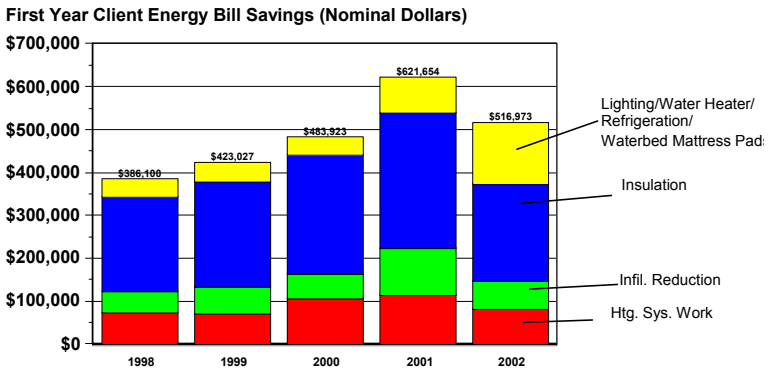



**Figure 2.4a First-year client cost savings by year.**

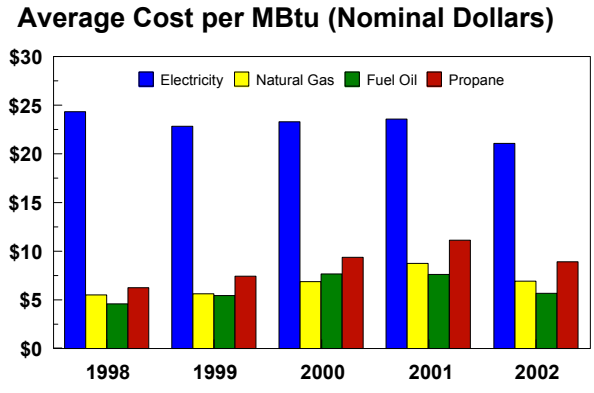



**Figure 2.4b Average fuel costs**

***Utility Funding Impacts***

Utility funding totaled $2,108,654 during 2002, accounting for 21.0% of total program expenditures. On a percentage basis, this down slightly from 22.8% in 2001.

Utility funding reached 1,345 households, or 64% of all households treated by the program, down from 75% in 2001. The average utility expenditure for materials and labor was $1,373 for households receiving these measures: the average increased by 6.5% from the average expenditure of $1,289 in CY 2001 (Figure 2.5.) Utility support expenditures averaged an additional $195 per household receiving utility-funded measures.

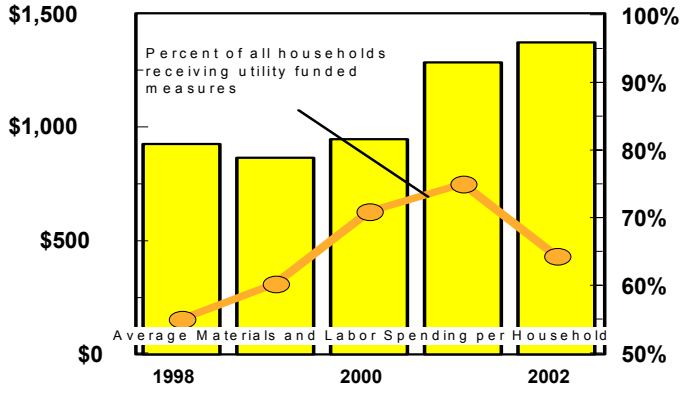



**Figure 2.5. Penetration and average utility spending**.

Utility-funded measures accounted for 35% of MBtu savings in 2002 compared to 38% in 2001. These measures were responsible for 35% of all energy and demand savings for electricity, and 37% of gas savings. Utility-funded measures saved an average of 648 kWh of electricity for the 1,321 households with utility-funded electricity measures: up 62% from the 2001 average of 399 kWh. These measures saved 172 therms of natural gas for the 1,127 households with utility-funded natural gas measures, essentially unchanged on average from 2001. In aggregate, utility-funded measures installed in 2002 reduced peak electricity demand by 145 kW in the summer and 179 kW in the winter, and provided 2,007 peak-day therms of gas savings.

Utility-funded measures yielded first-year client cost savings of $171,469, averaging $127 per household overall. The average household savings for electricity measures was $44, and for gas was $100.

***Average Household Expenditures and Impacts***

Average household expenditures increased 13% to $4,795 from $4,225 in 2001 (Figure 2.6.) Insulation accounted for the largest proportion of total expenditures, followed by heating system work and support.

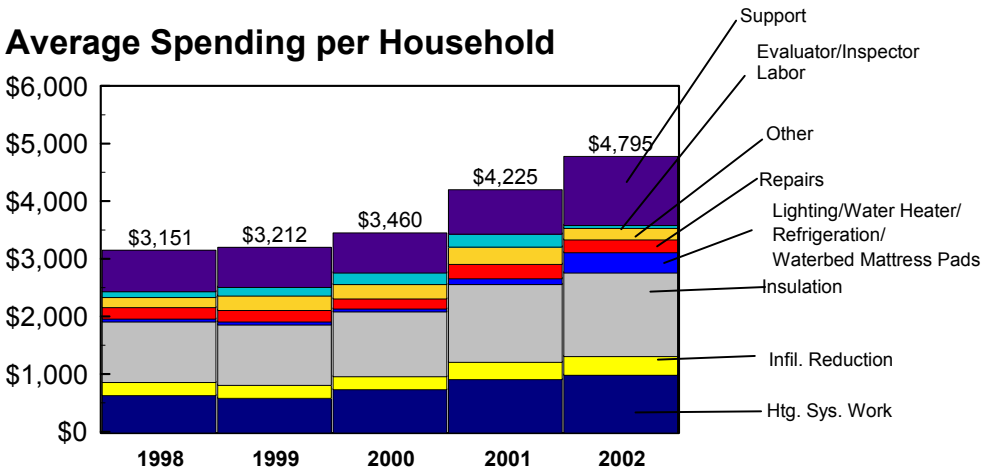



**Figure 2.6. Average spending per household.**

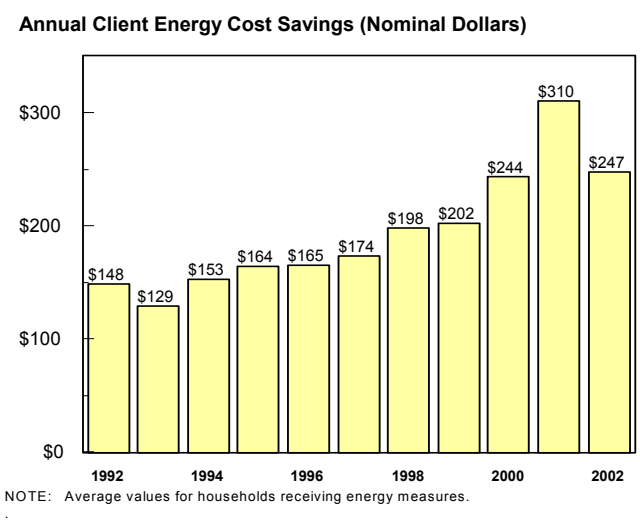



**Figure 2.7. Client energy cost savings by end-use.**

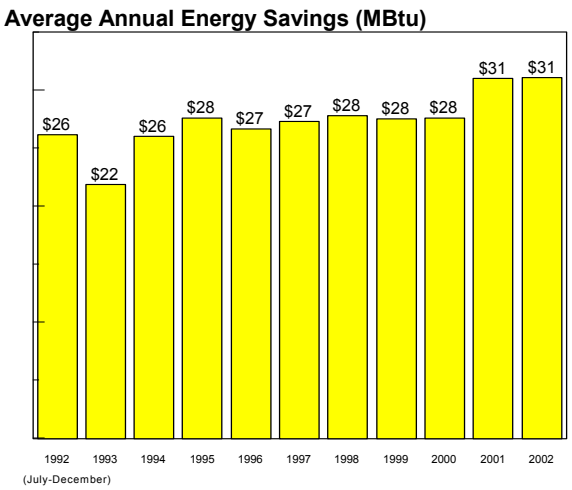
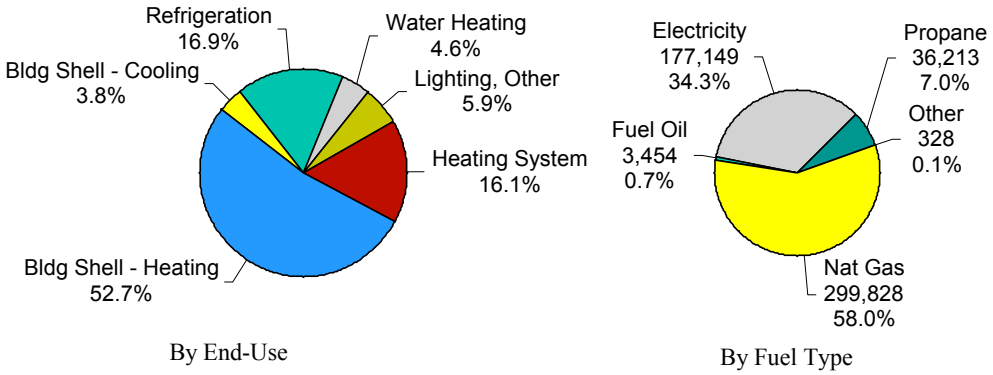



**Figure 2.8. Average household annual energy savings.**

First-year client fuel bill savings decreased from $310 in 2001 to $247 in 2002 (Figure 2.7) for households receiving energy savings measures. Household average savings remained steady at 31.0 MBtu for clients weatherized during 2002 (Figure 2.8).

The vast majority of client energy cost savings is attributable to space heating savings, which accounted for about 69% of total client energy cost savings (Figure 2.9.) Refrigeration measures accounted for 17% of the energy cost savings. Electricity cost savings now accounts for about 34% of all client fuel bill savings, double the percentage in CY 2001. This is due both to greater reductions in heating fuel costs relative to electricity and to the higher electricity savings from refrigeration measures.




Total of $516,973 in first-year client bill savings, average of $247 per household.

**Figure 2.9. Overall client fuel bill savings by end-use and fuel type.**

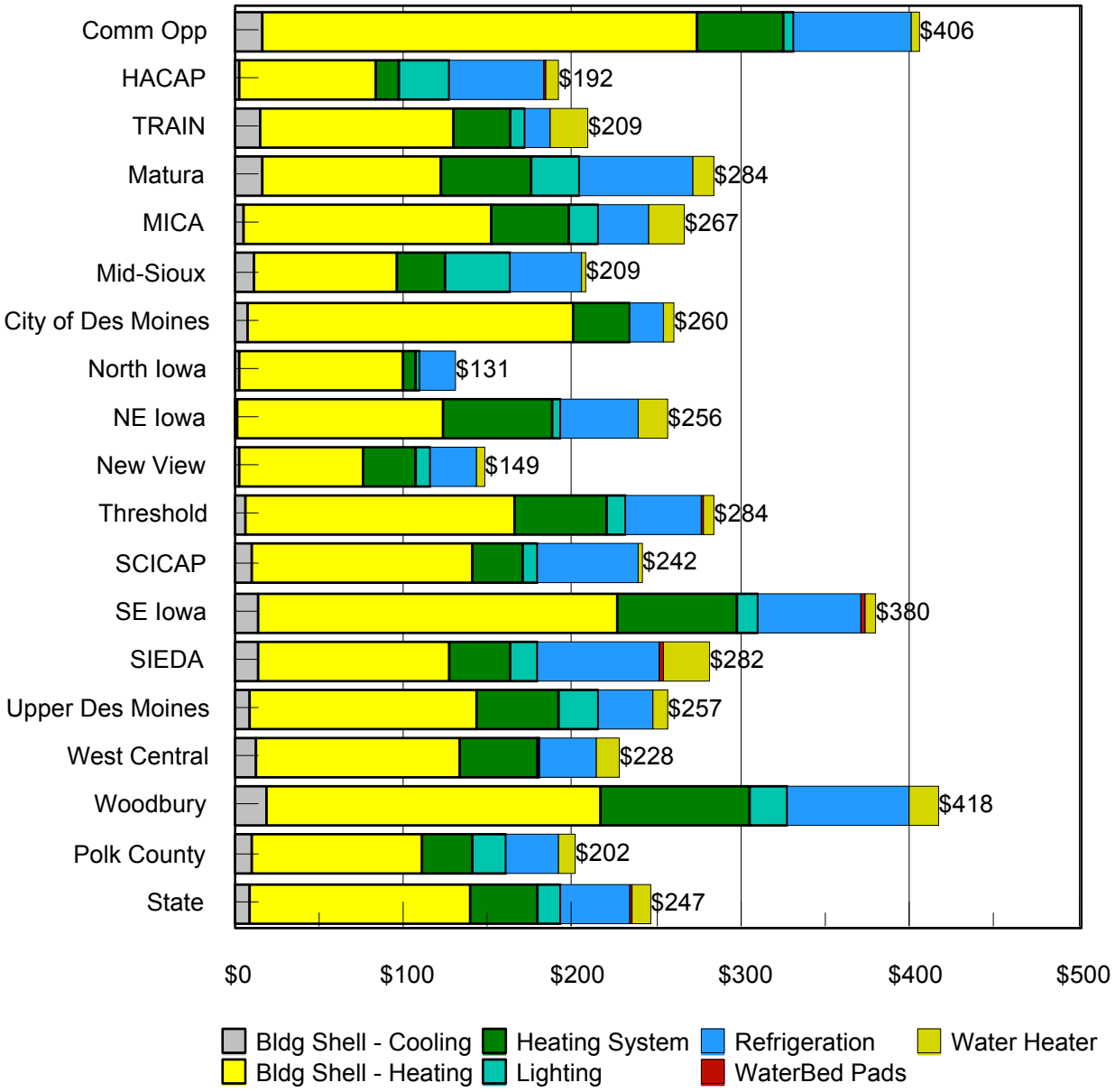



**Figure 2.10. Average annual energy cost savings per household with energy savings**

Figure 2.10 shows the average annual energy cost savings by agency. The series are arranged from left to right in the bar according to top to bottom and left to right in the legend, e.g., Bldg Shell Cooling, then Bldg Shell Heating, then Heating system, etc.

The natural gas savings attained by each agency were adjusted according to results of the natural gas fuel consumption analysis (see Section 3, Assessment of Agency-Specific Adjustment Factors). A fuel consumption analysis was not run for electricity or deliverable fuels (propane, fuel oil, and other fuels).

The average first-year client bill savings was widely varied across agencies, from lows of $131 per household (North Iowa) and $149 per household (New View) to a highs of $418 (Woodbury) and $406 (Community Opportunity).

Note that a number of factors affect the values shown in this chart, factors beyond quality or intensity of weatherization treatment. Consequently, these results should not be used as a basis for comparing the quality, attention to detail, dedication, or other factors of agency performance.

The major reasons for variations in average client cost savings include:

- regional variations in levels of pre-existing insulation which reduces savings potential for northern and central region households (see the report on the report of the 1997 weatherization program for details)
- differences in fuel costs -- utility rates vary from one utility to another and some agencies serve a greater percentage of rural clients who often rely upon the more expensive deliverable fuels for heating and water heating;
- climate variations across the state mean that some agencies may see greater heating (and cooling) fuel savings than others.
- differences in the average size of the houses treated -- agencies that treat larger (but fewer) houses will have higher average savings per house.

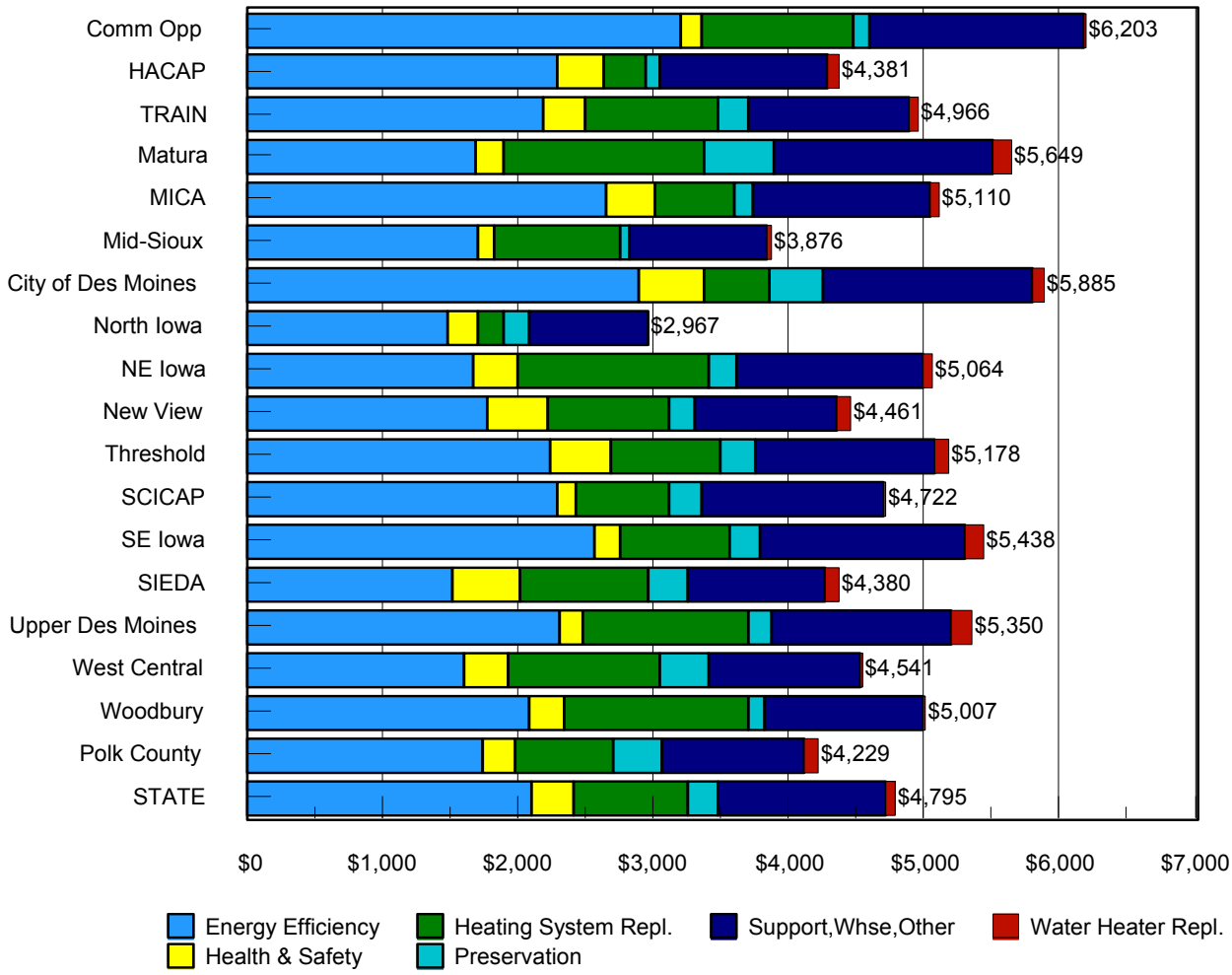



**Figure 2.11. Average spending across all households.**

Figure 2.11 shows the average expenditures for all households in 2002. Community Opportunity and City of Des Moines spent the greatest amount, $6,203 and $5,885 per dwelling respectively. North Iowa's expenditures averaged about one-half of those levels, at $2,967 per dwelling.

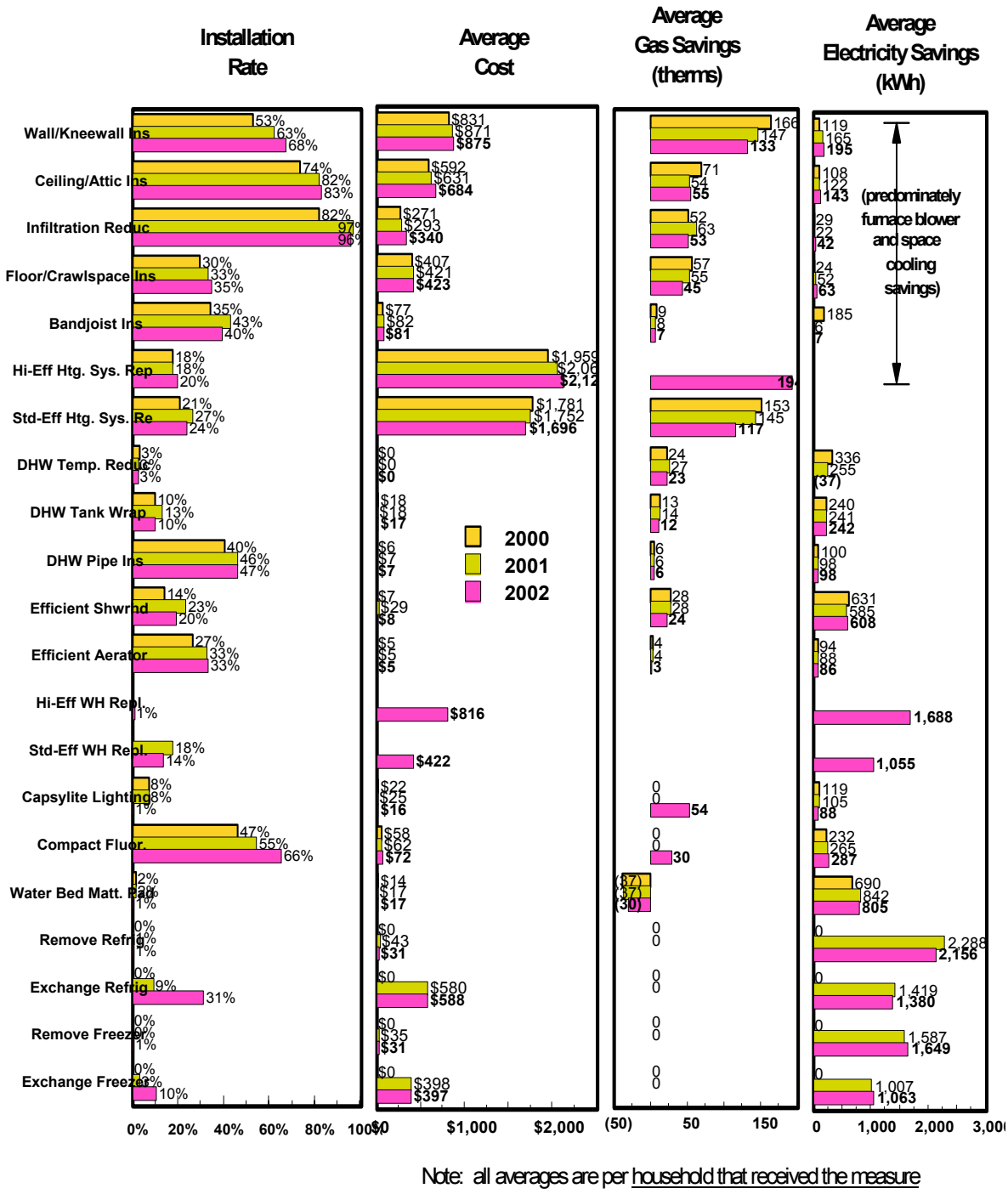



**Figure 2.12. Installation frequencies, average costs, and average energy savings.**

The average installation rates, costs, and savings for energy efficiency measures for 2000-2002 are shown in Figure 2.12. The installation rates increased slightly for most major measures. Capyslite lighting was essentially been phased out during the program year, but installations of lighting continue to be shifted to compact fluorescents.

The greatest changes are for the refrigeration appliance exchanges, reflecting the phasing in of these measures by more agencies during 2002. Refrigerator appliance measures were installed in 43% of all dwellings during 2002. Refrigerator exchanges were installed in 31% of households, up from 9% in 2001. Freezer exchanges from 3% in 2001 to 10% in 2002.

**Table 2.1. Percentage of houses receiving measures**

| Measure | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Insulation and Infiltration Reduction Measures*** | | | | | | | | | | | |
| Wall/Kneewall Insulation | 48 | 53 | 52 | 57 | 59 | 59 | 56 | 51 | 53 | 63 | 68 |
| Ceiling/Attic Insulation | 73 | 72 | 71 | 72 | 72 | 73 | 72 | 69 | 74 | 82 | 83 |
| Infiltration Reduction | 87 | 86 | 82 | 84 | 86 | 87 | 89 | 84 | 82 | 97 | 96 |
| Floor/Crawlspace Insulation | 30 | 29 | 30 | 32 | 34 | 33 | 32 | 29 | 30 | 33 | 35 |
| Bandjoist Insulation | 44 | 42 | 41 | 42 | 43 | 41 | 39 | 32 | 35 | 43 | 40 |
| Damming Material | Na | Na | Na | Na | Na | 5 | 24 | 28 | 31 | 33 | 0 |
| Unspecified Insulation | 14 | 3 | 0 | 0 | 14 | 38 | 52 | 60 | 67 | 76 | 73 |
| ***Heating System Measures*** | | | | | | | | | | | |
| Htg. Sys. Replacement | 26 | 21 | 26 | 28 | 30 | 33 | 31 | 29 | 39 | 44 | 44 |
| High Eff Htg Sys Repl | Na | Na | Na | 5 | 4 | 6 | 7 | 5 | 8 | 18 | 20 |
| Std/Unspec Eff Htg Sys Repl | Na | Na | Na | 23 | 26 | 26 | 24 | 24 | 31 | 26 | 24 |
| Htg. Sys. Tune and Clean | 61 | 63 | 63 | 64 | 66 | 61 | 59 | 53 | 52 | 63 | 62 |
| Heating System Safety Check | Na | Na | 33 | 46 | 47 | 45 | 55 | 55 | 60 | 25 | 35 |
| Htg. Sys. Other | 35 | 59 | 37 | 37 | 31 | 30 | 29 | 15 | 7 | 25 | 43 |
| Duct Insulation | Na | Na | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 0 |
| Duct Sealing | Na | Na | 41 | 30 | 26 | 22 | 20 | 23 | 23 | 28 | 58 |
| ***Water Heater Measures*** | | | | | | | | | | | |
| Water Heater Turndown | 11 | 7 | 11 | 11 | 11 | 9 | 10 | 4 | 3 | 3 | 3 |
| Water Heater Wrap | 18 | 20 | 26 | 27 | 21 | 14 | 15 | 12 | 10 | 13 | 10 |
| Pipe Wrap | 24 | 27 | 41 | 49 | 43 | 40 | 44 | 38 | 40 | 46 | 47 |
| Shower Head | 12 | 16 | 22 | 23 | 20 | 18 | 19 | 18 | 14 | 23 | 20 |
| Faucet Aerator | 23 | 30 | 41 | 43 | 33 | 30 | 31 | 27 | 27 | 32 | 33 |
| Water Heater Replacement | | | | | | | | | | | 15 |
| Std-Eff Wtr Htr Repl. | | | | Combined with water heater repair | | | | | | | 14 |
| Hi-Eff Wtr Htr Repl. | | | | | | | | | | | 1 |
| Water Heater Repair | 11 | 5 | 10 | 23 | 20 | 14 | 11 | 14 | 20 | 18 | 7 |
| ***Lighting Measures*** | | | | | | | | | 53 | 63 | 66 |
| Capsylite Bulbs | 15 | 16 | 18 | 15 | 14 | 13 | 11 | 7 | 8 | 8 | 1 |
| Compact Fluorescent Bulbs | 13 | 25 | 24 | 28 | 24 | 28 | 31 | 39 | 47 | 55 | 66 |
| ***Water Bed Mattress Pads*** | Na | Na | 2 | 5 | 4 | 3 | 1 | 2 | 2 | 2 | 1 |
| ***Refrigeration Measures*** | | | | | | | | | | 14 | 43 |
| Refrigerator Removal | Na | Na | Na | Na | Na | Na | Na | Na | Na | 1 | 1 |
| Refrigerator Exchange | Na | Na | Na | Na | Na | Na | Na | Na | Na | 9 | 31 |
| Freezer Removal | Na | Na | Na | Na | Na | Na | Na | Na | Na | 0 | 1 |
| Freezer Exchange | Na | Na | Na | Na | Na | Na | Na | Na | Na | 3 | 10 |
| ***Health and Safety (other than heating & water heating measures listed above)*** | | | | | | | | | | | |
| Asbestos Abatement | Na | Na | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| CO Detector | Na | Na | Na | 1 | 4 | 15 | 22 | 24 | 29 | 33 | 30 |
| Smoke Detector | Na | Na | 0 | 1 | 2 | 3 | 4 | 5 | 7 | 0 | 6 |
| Exhaust Ventilation | Na | Na | 1 | 2 | 26 | 36 | 36 | 35 | 38 | 57 | 47 |
| Fuses | Na | Na | Na | Na | Na | 0 | 1 | 0 | 0 | 0 | 0 |
| ***Support and Evaluator/Inspector Labor*** | | | | | | | | | | | |
| Evaluator Labor | Na | Na | 52 | 60 | 69 | 38 | 44 | 82 | 91 | 94 | 30 |
| Inspector Labor | Na | Na | 39 | 57 | 64 | 33 | 50 | 74 | 84 | 94 | 29 |
| Evaluator/Inspector Labor | Na | Na | Na | Na | Na | Na | Na | Na | Na | 1 | 0 |
| Support | Na | Na | 95 | 97 | 97 | 98 | 98 | 98 | 98 | 100 | 99 |
| ***Other*** | | | | | | | | | | | |
| Repairs | 82 | 83 | 76 | 80 | 80 | 75 | 73 | 68 | 70 | 80 | 80 |
| Consumables | 43 | 41 | 31 | 32 | 36 | 31 | 36 | 28 | 27 | 20 | 26 |
| Unknown | 1 | 12 | 11 | 0 | 0 | 0 | 0 | 5 | 3 | 1 | 1 |

Table 2.1 shows the average installation rates of all measures, from 1992 through 2002. Installation rates for most measures increased from CY 2001 levels. The installation rates for wall/kneewall insulation and ciling/attic insulation increased for the fourth year in a row. Heating system replacement has leveled off at 44%. The installation frequency for high-efficiency units increased from 18% to 20%, but still lags the installation frequency of standard efficiency units (24%).

There were no significant changes in the installation frequencies of water heater measures. Water heater replacements were disaggregated from the Water Heater Repair line item (formerly labelled water heater repair/repl).

The agencies continue to expand the installation of compact fluorescent bulbs, which now reach 66% of all households treated by the program. Capsylite bulbs were installed in only 1% of households during 2002.

**Table 2.2 Installation rates of non-space-conditioning measures**

| | Water Heater Measures | | | | | Lighting | | | Refrigeration | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agency | Tank Wrap | Pipe Wrap | Eff Shower-head | Eff Faucet Aerator | Temp Reduc | Cap-sylite | Compact Fluor | Waterbed Mattress Pad | Ex-change Refrig | Ex-change Freezer | Remove Refrig | Remove Freezer | Average First Year Bill Savings |
| Comm Opp | 1% | 93% | 0% | 0% | 1% | 0% | 43% | 0% | 37% | 21% | 4% | 4% | $79.83 |
| HACAP | 0% | 19% | 31% | 43% | 0% | 0% | 88% | 2% | 40% | 13% | 0% | 3% | $91.72 |
| TRAIN | 66% | 74% | 47% | 77% | 28% | 0% | 98% | 1% | 16% | 2% | 0% | 0% | $42.18 |
| Matura | 0% | 0% | 0% | 0% | 0% | 0% | 93% | 0% | 46% | 15% | 0% | 4% | $96.67 |
| MICA | 0% | 79% | 41% | 68% | 0% | 0% | 94% | 0% | 21% | 10% | 0% | 0% | $65.91 |
| Mid-Sioux | 9% | 9% | 0% | 0% | 0% | 0% | 95% | 0% | 28% | 14% | 0% | 0% | $79.00 |
| City of Des Moines | 2% | 44% | 3% | 1% | 0% | 0% | 0% | 0% | 15% | 3% | 0% | 0% | $22.30 |
| North Iowa | 6% | 6% | 0% | 0% | 0% | 5% | 9% | 0% | 15% | 11% | 0% | 1% | $23.39 |
| NE Iowa | 12% | 77% | 20% | 37% | 0% | 2% | 92% | 0% | 35% | 24% | 5% | 3% | $65.56 |
| New View | 6% | 7% | 1% | 1% | 0% | 0% | 87% | 0% | 45% | 7% | 2% | 0% | $36.62 |
| Threshold | 1% | 69% | 0% | 0% | 0% | 0% | 68% | 2% | 27% | 16% | 0% | 1% | $60.07 |
| SCICAP | 2% | 27% | 3% | 2% | 0% | 0% | 60% | 0% | 57% | 2% | 0% | 0% | $70.24 |
| SE Iowa | 1% | 0% | 0% | 0% | 0% | 0% | 86% | 6% | 48% | 14% | 0% | 0% | $75.66 |
| SIEDA | 4% | 96% | 55% | 97% | 0% | 0% | 90% | 9% | 44% | 24% | 0% | 0% | $112.11 |
| Upper Des Moines | 0% | 42% | 1% | 43% | 0% | 0% | 92% | 0% | 28% | 0% | 0% | 0% | $56.92 |
| West Central | 5% | 56% | 28% | 78% | 4% | 5% | 11% | 0% | 25% | 8% | 0% | 0% | $47.82 |
| Woodbury | 53% | 91% | 26% | 1% | 0% | 0% | 81% | 0% | 55% | 12% | 0% | 0% | $112.49 |
| Polk County | 1% | 88% | 36% | 58% | 1% | 0% | 57% | 0% | 38% | 4% | 1% | 0% | $56.41 |
| State | 10% | 49% | 20% | 35% | 3% | 1% | 67% | 1% | 32% | 11% | 1% | 1% | $64.26 |

Table 2.2 shows the installation rates for energy efficiency measures not specifically addressed by the NEAT audit as used in Iowa. These measures include water heater (except water heater replacements which are primarily health and safety measures), lighting, waterbed mattress pads, and refrigeration measures.

Statewide, client bill savings averaged $64, 59% greater than CY 2001 and more than triple the levels of CY 2001. These measures accounted for 26% of first-year client bill savings in CY 2002. The increase in

client savings is largely attributable to phasing in refrigeration measures in the second half. By the end of 2002, all agencies were installing these measures.

The highest average bill savings were attained by Woodbury and SIEDA, at $112 per household. As in the previous year, these savings are in stark contrast to savings for clients served by the City of Des Moines and North Iowa, where client households received only $22 and $23 in annual average fuel bill savings, respectively. Although the savings for these agencies are greater than CY 2001, there are clearly lost opportunities for client savings in the households served by these two agencies.

Table 2.3 shows that average installed costs for each measure (average costs are computed for households that received the specific measures, not across all households treated by the program.)

The average installed costs of specific measures tended to increase by a few percent from costs in 2001. The exception is for support, which increased from $754 to $1278 per dwelling. Since this item is included in the costs of nearly all WAP participants, it essentially increased the average household cost by $526: increases in support costs account for nearly the entire increase in the average household expenditure -- $570 (from $4,225 in 2001 to $4795 in 2002).

**Table 2.3. Average measure costs**

| Measure | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Insulation and Infiltration Reduction Measures*** | | | | | | | | | | | |
| Wall/Kneewall Insulation | 449 | 537 | 668 | 805 | 807 | 819 | 826 | 846 | 831 | 871 | 875 |
| Ceiling/Attic Insulation | 338 | 370 | 438 | 516 | 522 | 543 | 558 | 573 | 592 | 631 | 684 |
| Infiltration Reduction | 264 | 264 | 285 | 317 | 337 | 310 | 248 | 264 | 281 | 294 | 340 |
| Floor/Crawlspace Insulation | 127 | 150 | 274 | 332 | 365 | 315 | 350 | 408 | 407 | 421 | 423 |
| Bandjoist Insulation | 45 | 55 | 63 | 66 | 68 | 71 | 75 | 79 | 77 | 82 | 81 |
| Damming Material | Na | Na | Na | Na | Na | 29 | 35 | 34 | 28 | 28 | 0 |
| Unspecified Insulation | 211 | 165 | 151 | 10 | 142 | 121 | 129 | 143 | 140 | 144 | 146 |
| ***Heating System Measures*** | | | | | | | | | | | |
| Htg. Sys. Replacement | 1,549 | 1,894 | 1,973 | 1,840 | 1,720 | 1,665 | 1,739 | 1,809 | 1,815 | 2,470 | 1,893 |
| High Eff Htg Sys Repl | Na | Na | Na | 1,706 | 2,213 | 1,929 | 1,830 | 2,059 | 1,959 | 2,063 | 2,129 |
| Std/Unspec Eff Htg Sys Repl | Na | Na | Na | 2,418 | 1,641 | 1,604 | 1,712 | 1,751 | 1,781 | 1,727 | 1,696 |
| Htg. Sys. Tune and Clean | 65 | 78 | 88 | 86 | 76 | 73 | 77 | 80 | 75 | 77 | 82 |
| Heating System Safety Check | Na | Na | 101 | 74 | 46 | 50 | 53 | 119 | 144 | 266 | 69 |
| Htg. Sys. Other | 130 | 161 | 172 | 182 | 210 | 229 | 248 | 326 | 251 | 266 | 281 |
| Duct Insulation | Na | Na | 90 | 107 | 103 | 105 | 125 | 74 | 100 | 76 | 0 |
| Duct Sealing | Na | Na | 219 | 165 | 157 | 149 | 126 | 156 | 142 | 153 | 96 |
| ***Water Heater Measures*** | | | | | | | | | | | |
| Water Heater Turndown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Water Heater Wrap | 16 | 19 | 22 | 20 | 18 | 20 | 19 | 19 | 18 | 18 | 17 |
| Pipe Wrap | 6 | 5 | 7 | 8 | 6 | 6 | 6 | 7 | 6 | 7 | 7 |
| Shower Head | 6 | 7 | 8 | 8 | 8 | 9 | 8 | 8 | 7 | 29 | 8 |
| Faucet Aerator | 4 | 4 | 8 | 7 | 5 | 6 | 5 | 5 | 5 | 5 | 5 |
| Water Heater Replacement | | | | | | | | | | | |
| Std-Eff Wtr Htr Repl. | | | | Combined with water heater repair | | | | | | | 422 |
| Hi-Eff Wtr Htr Repl. | | | | | | | | | | | 816 |
| Water Heater Repair | 355 | 360 | 162 | 170 | 148 | 224 | 252 | 265 | 240 | 328 | 85 |
| ***Lighting Measures*** | | | | | | | | | | | |
| Capsylite Bulbs | 23 | 21 | 22 | 24 | 23 | 24 | 25 | 22 | 22 | 25 | 16 |
| Compact Fluorescent Bulbs | 15 | 20 | 23 | 27 | 41 | 47 | 70 | 66 | 58 | 62 | 74 |
| ***Water Bed Mattress Pads*** | Na | Na | 2 | 5 | 4 | 3 | 1 | 2 | 2 | 2 | 17 |
| ***Refrigeration Measures*** | | | | | | | | | | | 525 |
| Refrigerator Removal | Na | Na | Na | Na | Na | Na | Na | Na | Na | 43 | 31 |
| Refrigerator Exchange | Na | Na | Na | Na | Na | Na | Na | Na | Na | 589 | 588 |
| Freezer Removal | Na | Na | Na | Na | Na | Na | Na | Na | Na | 40 | 31 |
| Freezer Exchange | Na | Na | Na | Na | Na | Na | Na | Na | Na | 410 | 397 |
| ***Health and Safety (other than heating & water heating measures listed above)*** | | | | | | | | | | | |
| Asbestos Abatement | Na | Na | 307 | 1,139 | 729 | 500 | 529 | 648 | 0 | 0 | 849 |
| CO Detector | Na | Na | Na | 44 | 60 | 60 | 56 | 55 | 51 | 50 | 53 |
| Smoke Detector | Na | Na | 110 | 20 | 38 | 27 | 31 | 33 | 25 | 0 | 25 |
| Exhaust Ventilation | Na | Na | 42 | 53 | 66 | 65 | 74 | 73 | 79 | 187 | 89 |
| Fuses | Na | Na | Na | Na | Na | 21 | 35 | 35 | 28 | 0 | 23 |
| ***Support and Evaluator/Inspector Labor*** | | | | | | | | | | | |
| Evaluator Labor | Na | Na | 111 | 100 | 84 | 88 | 114 | 105 | 111 | 132 | 151 |
| Inspector Labor | Na | Na | 70 | 89 | 78 | 72 | 104 | 91 | 99 | 120 | 95 |
| Evaluator/Inspector Labor | Na | Na | Na | Na | Na | Na | Na | Na | Na | 440 | 0 |
| Support | Na | Na | 501 | 580 | 606 | 672 | 709 | 690 | 699 | 754 | 1,178 |
| ***Other*** | | | | | | | | | | | |
| Repairs | 235 | 244 | 319 | 381 | 342 | 287 | 298 | 292 | 279 | 296 | 275 |
| Consumables | 29 | 31 | 42 | 25 | 29 | 23 | 27 | 13 | 15 | 14 | 16 |
| Unknown | 121 | 34 | 122 | 570 | 23 | 85 | 1976 | 989 | 578 | 541 | 257 |

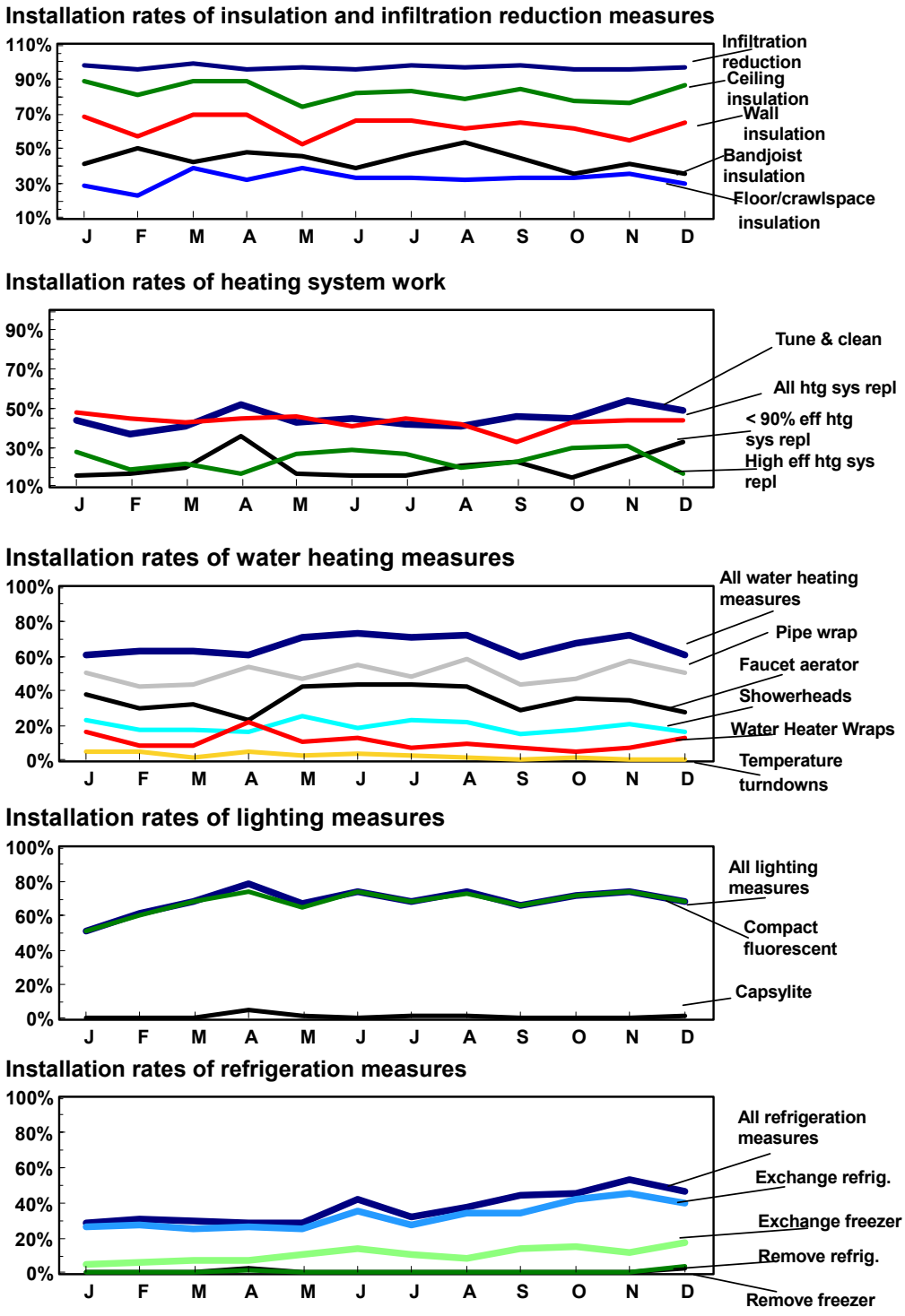



**Figure 2.13. Installation rates by month.**

***Major Measure Costs by Agency***

Figures 2.14-2.21 show the agency-specific average costs for ceiling, wall, and floor/crawlspace insulation and furnace replacements for the overall program and for utility-funded measures only. These costs represent the total expenditures for these measures averaged over the number of households that received the measure (as opposed to an average across all households that were treated by the agency).

Ceiling Insulation Expenditures

The statewide average cost for ceiling insulation was $684 in 2002 as compared to $631 in 2001. SCICAP had the highest average costs for ceiling insulation, at $1,145 per dwelling. Community Opportunity was the only other agency with an average cost exceeding $1,000, at $1,140. The average expenditures for SIEDA were lowest at $444 per dwelling and Polk County at $476 per house.

The City of Des Moines, North Iowa and New View each showed substantially higher average expenditures in 2002. The City of Des Moines' expenditures increased from $588 to $807, North Iowa's expenditures increased from $537 to $759, and New View's from $631 to $824.

The statewide average expenditure of utility funds on ceiling insulation was $538. SCICAP averaged $1,064 per dwelling – the next highest average expenditure of utility funds was Upper Des Moines, at $731. Mid-Sioux, NE Iowa, and SIEDA all spend less than $385 on average. The same three agencies that increased expenditures of funds overall also saw a marked increase in expenditures of utility funds for this measure (City of Des Moines, North Iowa and New View).

Wall Insulation Expenditures

The overall average expenditure for wall insulation was $875 in CY 2002, essentially unchanged from $871 the previous year. Community Opportunity had the highest average expenditure, at $1,612, up from $1,385 the previous year. HACAP, City of Des Moines, Threshold, Upper Des Moines, and Polk County all showed average expenditures exceeding $1,000 per dwelling. Matura ($425), SCICAP ($427), and SIEDA ($460) each averaged less then $500 per dwelling.

North Iowa, typically on the low end of expenditures, showed a significant increase in average expenditures from $549 in CY 2001 to $793 in CY 2002.

Statewide, the average expenditures for utility-funded wall insulation was up slightly, from $720 in 2001 to $740 in 2002. Community Opportunity, TRAIN, City of Des Moines, and Threshold each spent over $1,000 per dwelling. At the low end, New View and Mature each averaged under $300 for utility-funded wall insulation expenditures in 2002.

Floor/Crawlspace Insulation Expenditures

Statewide, the cost for floor/crawlspace insulation averaged $423, essentially unchanged from $421 in 2001. HACAP spent the most, at $788 per dwelling and West Central ($165) spent the least on average. At $800 per dwelling, Threshold averaged the greatest expenditures of utility funds, and West Central ($144) spent the least.

Furnace Replacement Expenditures

Statewide average furnace replacement costs increased slightly from $1,894 in 2002 compared to $1,862 in 2001 (Figure 2.20). On average, NE Iowa and Woodbury spent the most, at $2,721 and $2,621 respectively: HACAP ($1,370), MICA ($1,427), City of Des Moines ($1,464), and SCICAP ($1,469) spent the least.

All agencies except Polk County reported utility-funded furnace replacements for households with weatherization completed during that year. Figure 2.21 shows the average utility funding for replacement heating systems. The average expenditure of utility funds was $1,813.

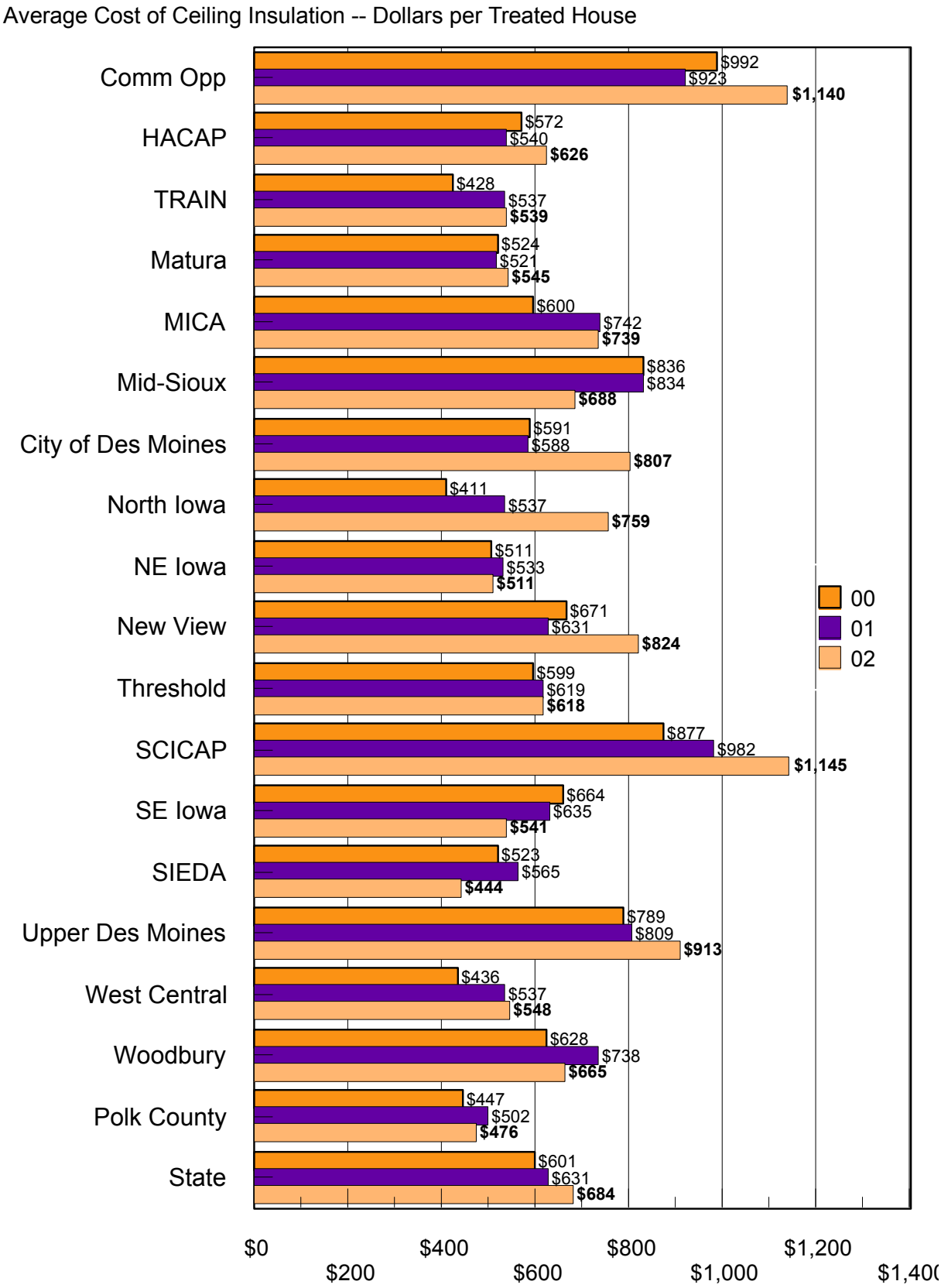



**Figure 2.14. Average ceiling insulation costs by agency.**

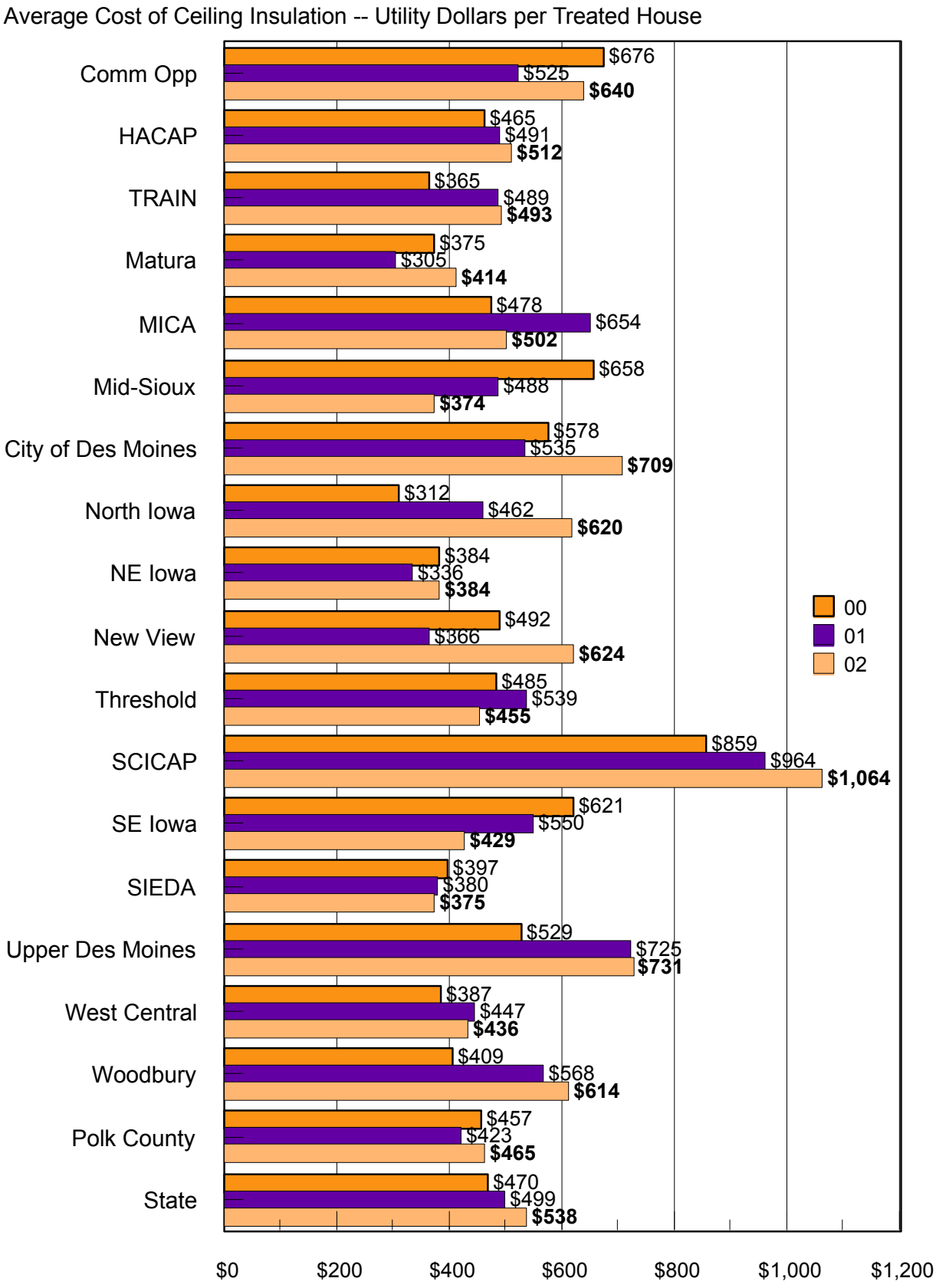



**Figure 2.15. Average costs of utility-funded ceiling insulation, by agency.**

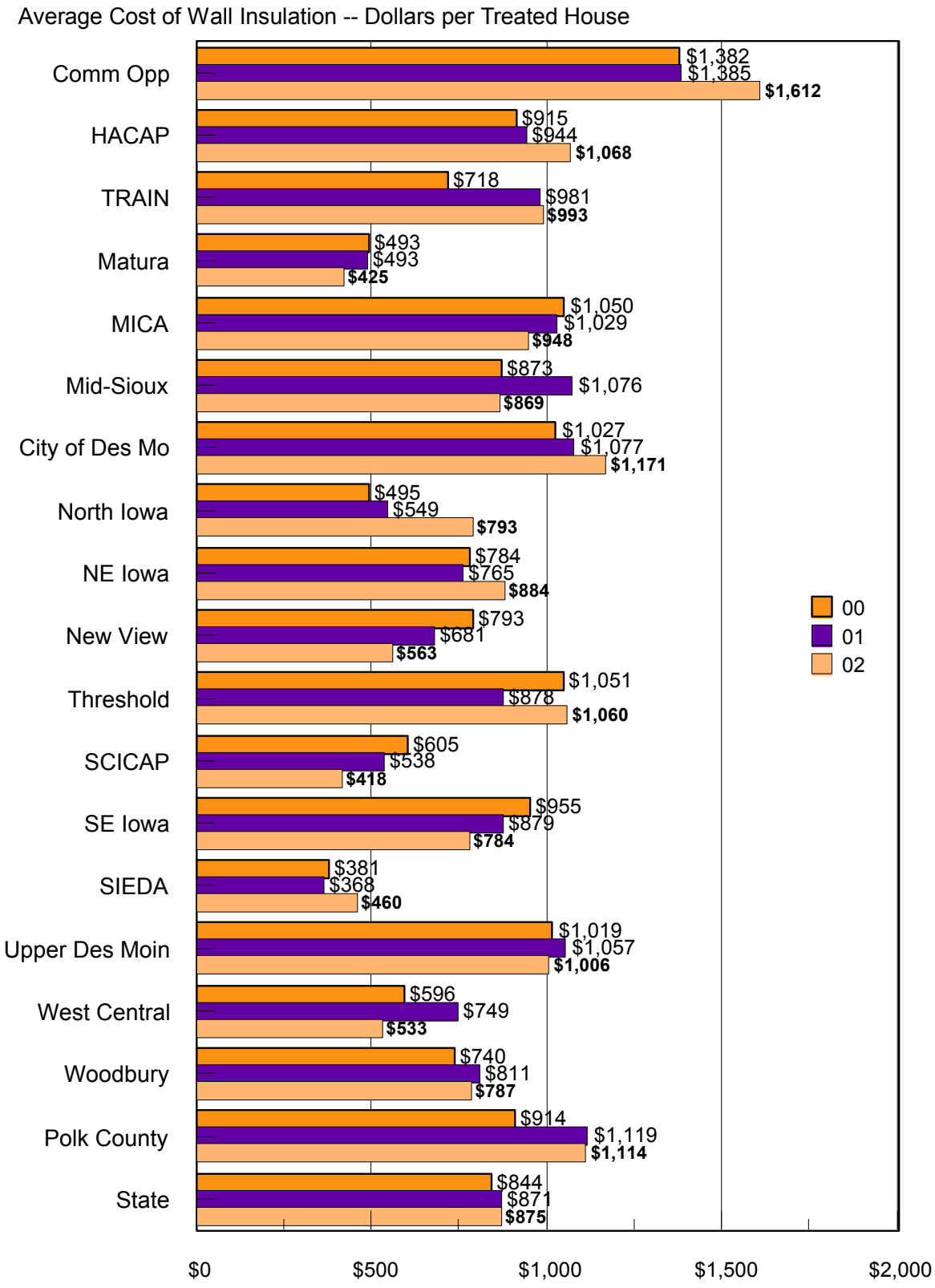



**Figure 2.16. Average cost of wall insulation, by agency.**

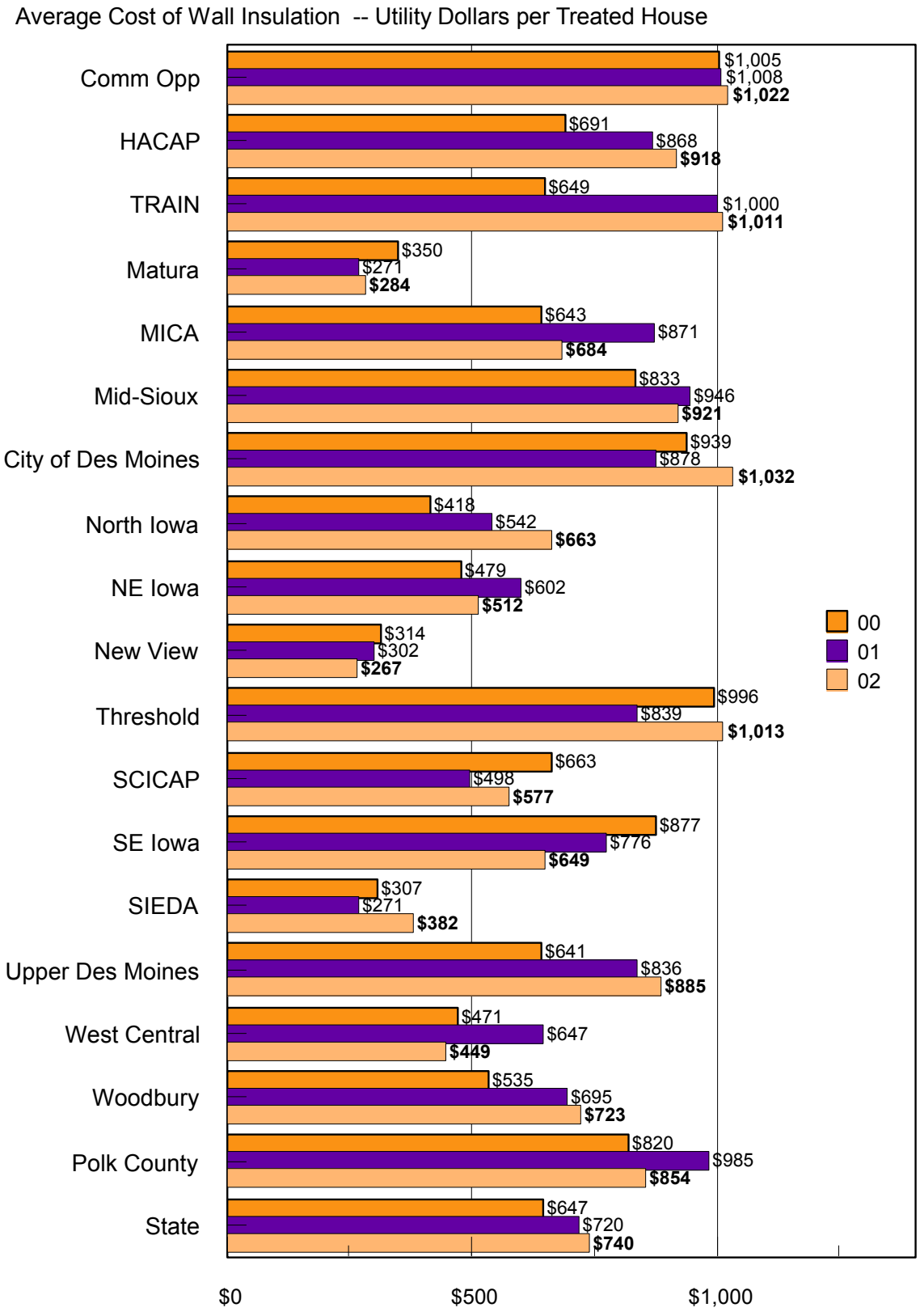



**Figure 2.17. Average cost of utility-funded wall insulation, by agency.**

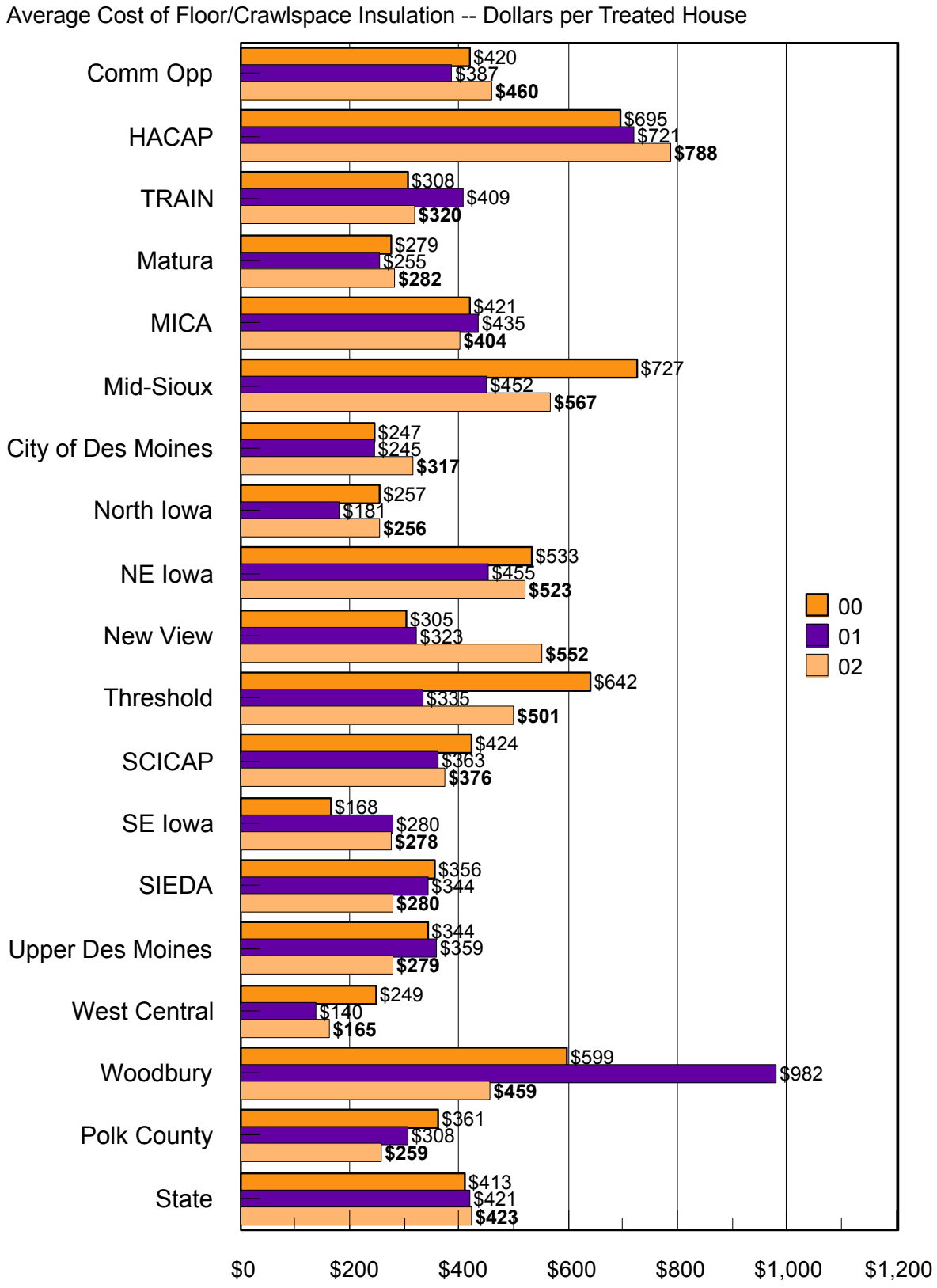



**Figure 2.18. Average cost of floor/crawlspace insulation, by agency.**

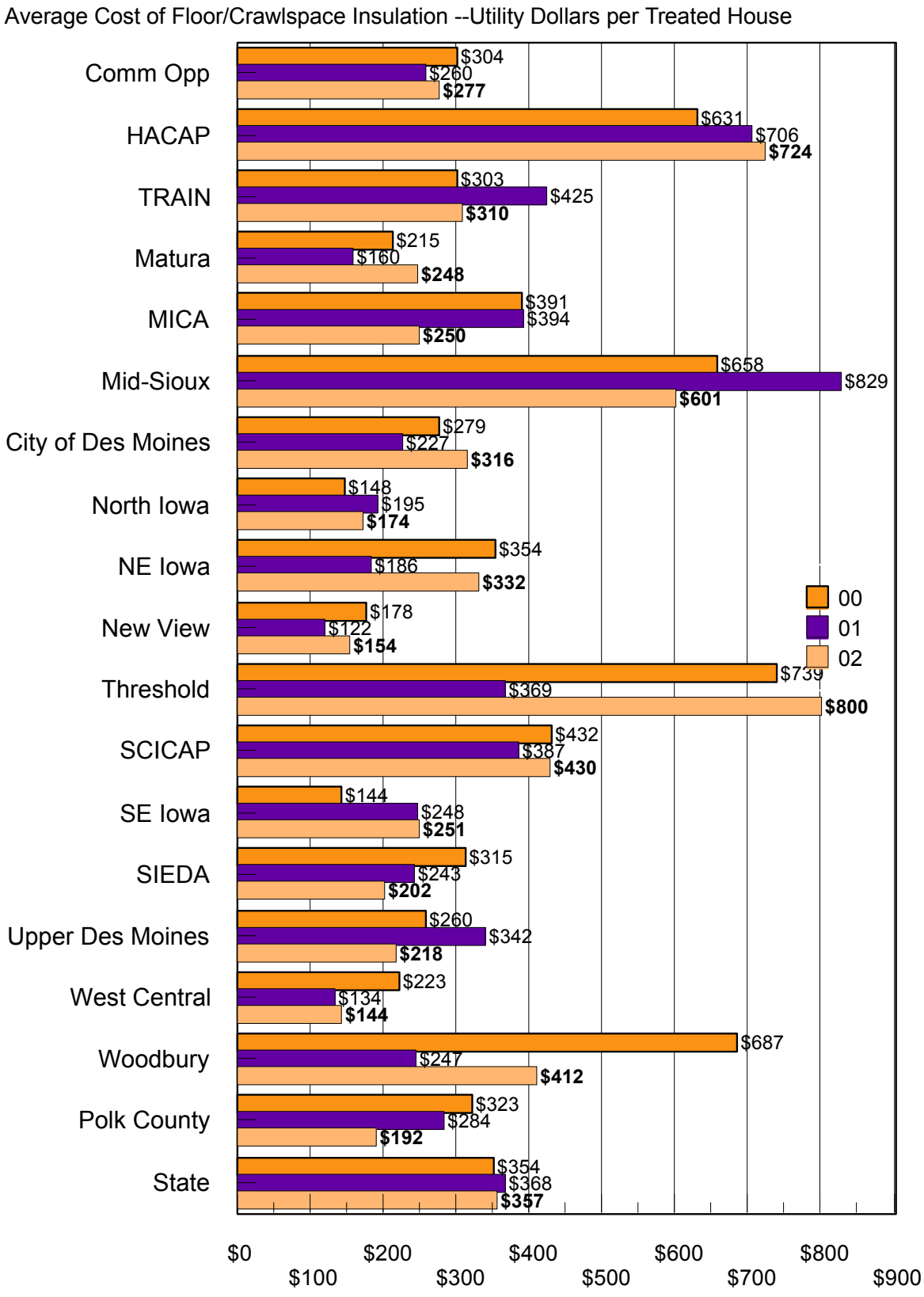



**Figure 2.19. Average cost of utility-funded floor/crawlspace insulation, by agency.**

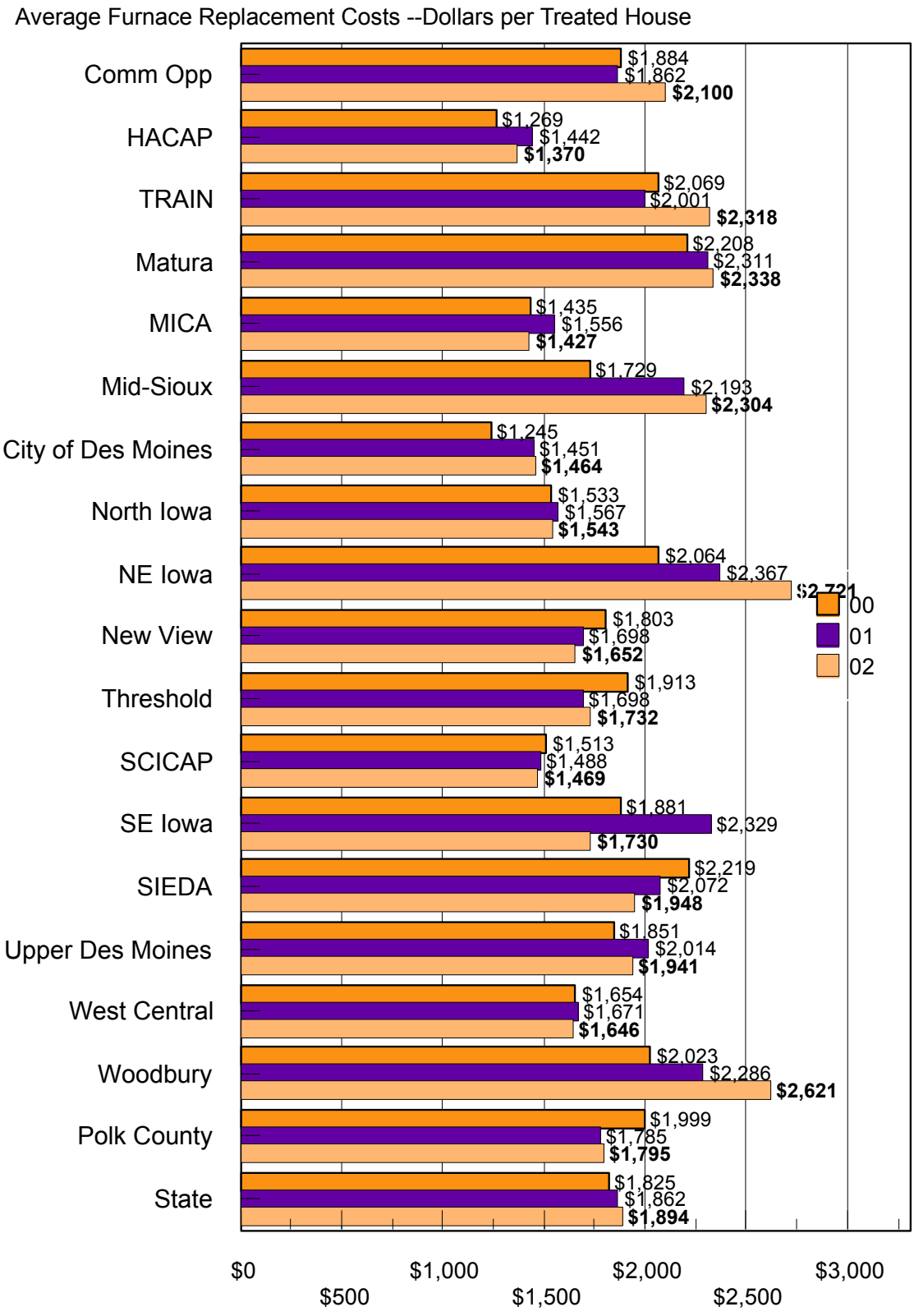



**Figure 2.20. Average cost of furnace replacements, by agency.**

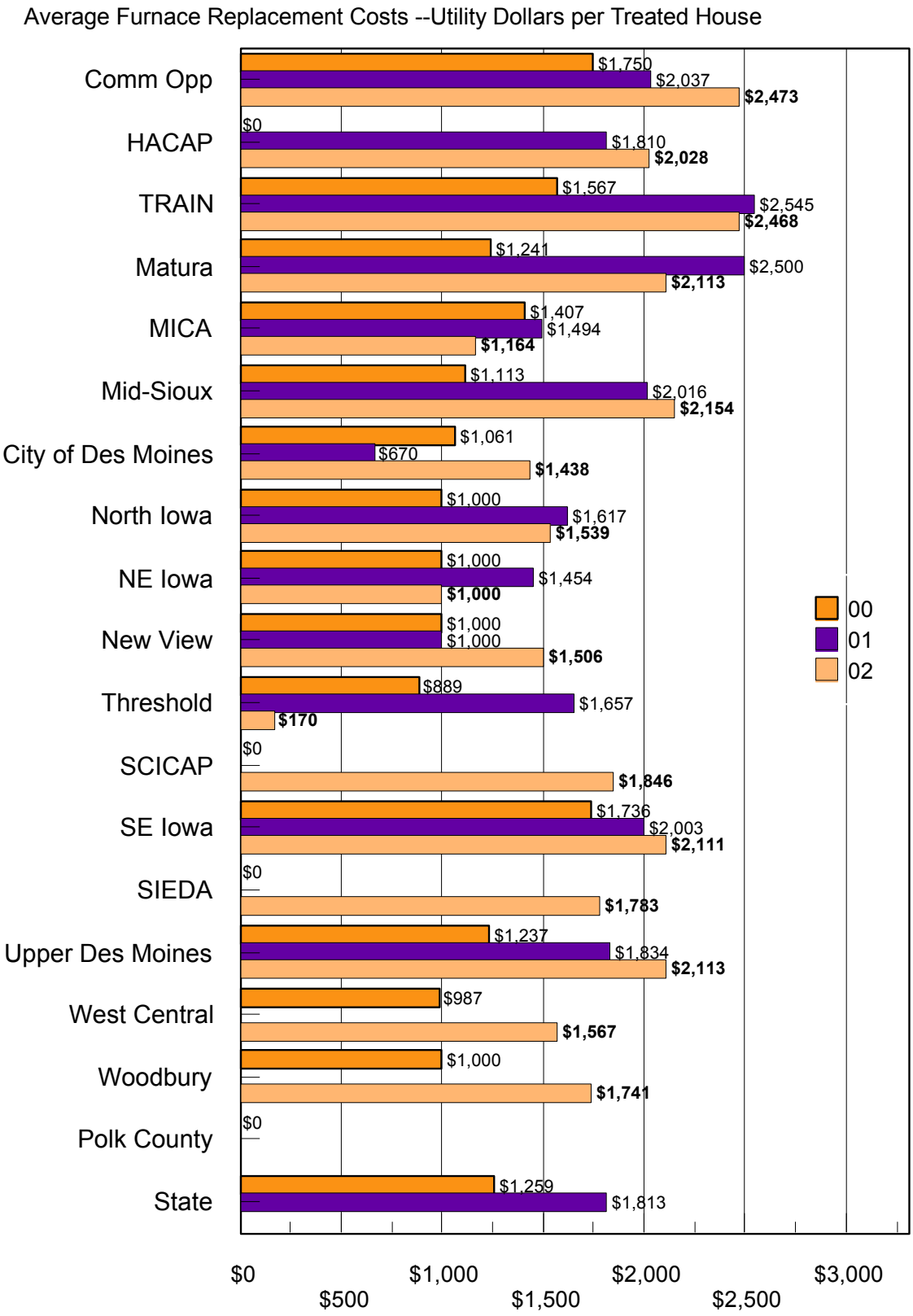



**Figure 2.21. Average cost of utility-funded furnace replacements, by agency.**

## 3. FUEL CONSUMPTION ANALYSIS AND ASSESSMENT OF AGENCY-LEVEL SAVINGS ADJUSTMENT FACTORS

The 1997 WAP report prompted a change in the methodology for estimating program savings. That study developed information pertaining to the potential error from summarizing agency-level results from the SLICE-algorithm estimates, which were designed for state-level and utility-level reporting. The revised methodology incorporates agency-level adjustment factors in the estimates of savings. The adjustment factors are developed annually using weather-normalization analysis of client fuel consumption histories.

### Study Sample

For this study, we developed adjustment factors for each agency using observed savings from a PRISM analysis of natural gas clients with dates of completion from August, 2001 to August 1, 2002. These adjustment factors were applied to estimated natural gas, propane, and fuel oil heating measures, and to natural gas and propane water heater measures.

We used a comparison group to adjust for non-program factors that could affect energy consumption. We assessed savings for a group of clients with similar characteristics to our treatment group, and netted the change in consumption from this comparison group from the WAP client group savings. In order to assess a change in consumption for the comparison group, we established a pseudo-treatment period for each comparison group household by assigning the same period as that of a randomly selected household from the treatment group.

The comparison group consisted of all LIHEAP clients who were natural gas customers of the SLICE utilities and who applied for energy assistance from October, 2001 through March, 2002. The LIHEAP comparison group had a lower average annual consumption fuel consumption than the WAP client group: to fully account for non-program influences on energy consumption, we scaled the comparison group change for each agency by the ratio of the average energy consumption of the treatment to comparison groups during the pre-treatment period (or pseudo-treatment period in the case of the comparison group).

### Fuel Consumption Analysis Methodology

We assessed impacts for changes in natural gas consumption using the methodology reported in detail in previous studies. Pre- and post-weatherization gas consumption was weather-normalized using PRISM. We used the same ten weather zones that we used in previous studies (Figure 3.1).

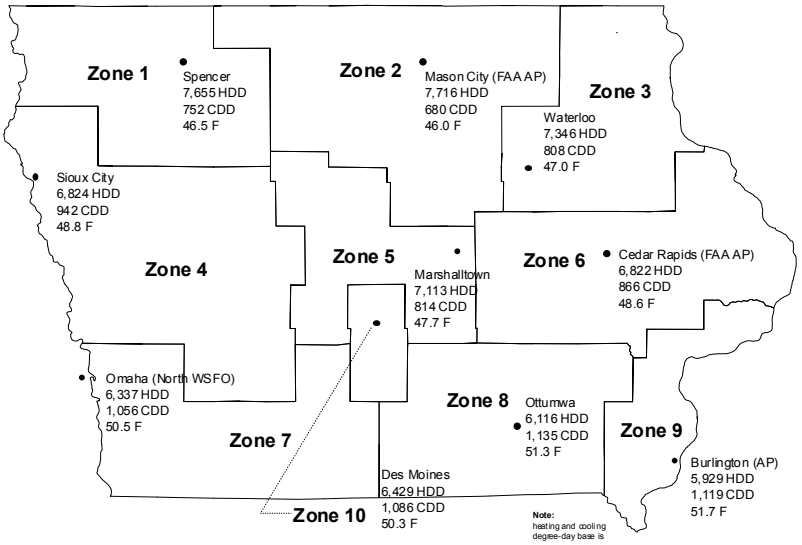



Figure 3.1 Weather zones used for the PRISM analysis

In order to extrapolate savings for a 'normal' year, PRISM uses the temperature data for baseline period. Previous SLICE studies used temperatures for a period from 1983 through 1992. We updated our long-term normal datasets for this year's analysis using the 10-year period ending in Dec, 2002.

Changing the reference period can have noticeable effects on the normalized annual consumption – the primary result for PRISM analyses. In order to examine whether this was an issue in our analysis, we compared the normalized savings using results from the revised baseline weather data with results obtained using the original baseline period data. We found that overall savings using the original baseline data were about 5% greater than those obtained with the revised baseline period data. Simply put, the weather was warmer (or apparently warmer) for our more recent reference period, so heating fuel usage (and consequently savings) declined in a 'normal' year.

We reviewed the weather data to determine if this observation was anomalous, or if in fact the weather has trended warmer in recent years. We calculated the ten-year moving average of heating degree-days (base 65) for each year beginning in 1993, e.g., the value calculated for the year 1993 is the average of heating degree days for the ten year period 1984 –1993, the value for 1994 is the 10 year period 1985-1994, etc. The moving average tends to minimize the effect of extreme conditions that occur during the time period under study. Table 3.1 shows the results.

**Table 3.1 Ten Year Moving Average of Heating Degree Days, Base 65**

| Zone | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | Ratio 10-Yr-MA in 2002 to 1993 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7,508 | 7,539 | 7,538 | 7,487 | 7,604 | 7,761 | 7,631 | 7,495 | 7,509 | 7,399 | 98.5% |
| 2 | 7,599 | 7,621 | 7,609 | 7,568 | 7,668 | 7,775 | 7,609 | 7,455 | 7,443 | 7,230 | 95.2% |
| 3 | 7,122 | 7,117 | 7,106 | 7,056 | 7,131 | 7,230 | 7,065 | 6,905 | 6,899 | 6,731 | 94.5% |
| 4 | 6,617 | 6,637 | 6,636 | 6,615 | 6,767 | 6,905 | 6,801 | 6,664 | 6,677 | 6,607 | 99.9% |
| 5 | 6,958 | 6,967 | 6,973 | 6,922 | 7,002 | 7,099 | 6,951 | 6,810 | 6,821 | 6,765 | 97.2% |
| 6 | 6,676 | 6,713 | 6,715 | 6,642 | 6,722 | 6,814 | 6,685 | 6,571 | 6,594 | 6,443 | 96.5% |
| 7 | 6,199 | 6,170 | 6,108 | 6,055 | 6,164 | 6,266 | 6,169 | 6,025 | 6,006 | 5,855 | 94.4% |
| 8 | 5,959 | 5,990 | 6,000 | 5,983 | 6,095 | 6,204 | 6,093 | 5,954 | 5,969 | 5,840 | 98.0% |
| 9 | 5,825 | 5,829 | 5,800 | 5,773 | 5,870 | 5,983 | 5,818 | 5,648 | 5,676 | 5,789 | 99.4% |
| 10 | 6,222 | 6,248 | 6,231 | 6,182 | 6,295 | 6,411 | 6,313 | 6,189 | 6,183 | 6,110 | 98.2% |

We found that degree days have in fact decreased over the period, by as much as 5.6% for some zones, and as little as 0.1% for another. In nearly every case, the ten-year average has declined each year since 1998. Note that we do not attribute any difference in these values to global warming or any other factor, we only note that they exist. We opted to use the newly calculated values: normalized annual consumption (and savings) are better represented using relatively recent baseline weather data as these data will reflect changes in measurement equipment, procedures, and weather conditions that exist during the study period.

**Study Sample**

We used fuel histories immediately preceding and following the treatment period, requiring no less than eight actual readings in each of the pre and post periods, and no more than 390 days total consumption in either pre or post periods. In addition, we required a minimum $R^2$ of 0.70, a maximum CV Nac of 14 and reference (balance) temperatures between 40 and 80 degrees.

Of 1,807 client households with gas heating, 797 (44%) and 24,152 comparison group households had sufficient fuel consumption histories to include in our analysis.

## Table 3.2 Fuel Consumption Analysis Results

| | | Treatment Group | | | | | Comparison Group | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agency | n (with gas heating source) | n | Baseline Cons. (therms) | 90% CI | Savings (therms) | 90% CI | n | Baseline Cons. (therms) | 90% CI | Savings (therms) | 90% CI | Adjusted Savings (therms) | 90 % CI | Average Estimated Savings (therms) | 90% CI | Realization Rate | 90% CI | Percent Savings | 90% CI |
| Community Opportunity | 57 | 34 | 1,498 | 129 | 352 | 74 | 933 | 933 | 20 | -18 | 9 | 399 | 74 | 459 | 51 | 86.9% | 13.5% | 26.6% | 4.1% |
| HACAP | 233 | 87 | 968 | 60 | 139 | 35 | 1,915 | 882 | 15 | 5 | 5 | 143 | 34 | 185 | 25 | 77.5% | 12.7% | 14.8% | 3.0% |
| TRAIN | 160 | 65 | 1,154 | 89 | 319 | 51 | 2,140 | 956 | 15 | 5 | 5 | 322 | 53 | 376 | 50 | 85.6% | 9.1% | 27.9% | 3.1% |
| MICA | 105 | 59 | 1,289 | 87 | 354 | 66 | 1,179 | 943 | 17 | -12 | 7 | 377 | 69 | 451 | 55 | 83.7% | 12.2% | 29.3% | 4.2% |
| City of Des Moines | 124 | 36 | 1,513 | 142 | 443 | 81 | 2,139 | 982 | 19 | 24 | 5 | 417 | 77 | 479 | 65 | 86.9% | 12.1% | 27.5% | 4.1% |
| Threshold | 104 | 38 | 1,308 | 100 | 283 | 60 | 1,561 | 974 | 16 | -34 | 6 | 339 | 61 | 425 | 53 | 79.7% | 10.3% | 25.9% | 4.0% |
| SIEDA | 90 | 53 | 898 | 66 | 243 | 48 | 1,310 | 889 | 17 | 4 | 6 | 242 | 47 | 223 | 30 | 108.6% | 15.1% | 27.0% | 4.1% |
| Upper Des Moines | 140 | 51 | 1,113 | 85 | 218 | 55 | 2,049 | 1,011 | 15 | -26 | 7 | 274 | 55 | 399 | 47 | 68.6% | 12.2% | 24.6% | 4.3% |
| West Central | 171 | 98 | 1,000 | 56 | 247 | 44 | 2,288 | 917 | 15 | 39 | 8 | 238 | 42 | 255 | 19 | 93.5% | 14.5% | 23.8% | 3.5% |
| Woodbury | 88 | 56 | 1,453 | 105 | 421 | 78 | 1,065 | 958 | 18 | -13 | 7 | 448 | 78 | 477 | 61 | 94.0% | 10.7% | 30.8% | 4.3% |
| Aggregate | 535 | 195 | 1,169 | 51 | 248 | 33 | 6,214 | 947 | 8 | -9 | 4 | 282 | 34 | 381 | 35 | 74.0% | 6.8% | 24.1% | 2.3% |
| **Overall** | **1,807** | **797** | **1,169** | **25** | **276** | **16** | **24,152** | **943** | **4** | **-1** | **2** | **293** | **16** | **353** | **14** | **83.1%** | **3.4%** | **25.1%** | **1.1%** |

**Results**
Our results are summarized in Table 3.2.

The key result is the realization rate. The realization rate is defined as the ratio of observed savings to estimated savings. By adjusting our estimated savings for natural gas with these realization rates, we help assure that savings reported for each agency are approximately correct. In this year's study as well as last, we observed that high uncertainty in agency-specific realization rates were in part due to inconsistencies in how an agency reported quantities of insulation. This is an important parameter for estimating savings for wall and ceiling insulation and measures should be taken to assure that they are recorded consistently across all agencies. We implemented routines to correct for inconstant reporting of insulation (e.g., bags vs. pounds) and corroborated square footage with house volume to reduce the uncertainty in estimated savings for any given agency.

We found relatively high uncertainty in the results for eight agencies, including Matura, Mid-Sioux, North Iowa, NE Iowa, New View, SCICAP, SE Iowa, and Polk County. We aggregated these into a single group in our analysis.

We found an overall realization rate of 83.1%, indicating an overestimate of savings prior to correction. Overall, the program achieved 25.1% savings ± 1.1% at 90% confidence, essentially the same as last year's results of 24.9% savings ±1.3% at 90% confidence. Adjusted savings averaged 293 therms per household for our study group. The agency-specific realization rates ranged from 69% (±25%) to 109% (±27).

In previous studies we have emphasized the importance between savings and pre-weatherization energy consumption: in general, higher pre-weatherization consumption yields greater savings. Clients are prioritized for weatherization according to pre-weatherization consumption: consequently we'd expect that agencies that weatherize households that have higher average pre-weatherization consumption compared to the general LIHEAP population will also have the greater savings.

We plotted the relationship between savings and the difference in average energy consumption between the treatment and comparison groups in Figure 3.2.

The chart shows the dramatic savings that can be attained by targeting clients with the highest energy consumption. Those agencies in which the average pre-weatherization usage exceeded the average LIHEAP client by 500 therms could expect savings of around 400 therms. In contrast, those agencies that targeted dwellings that used only about 150 therms more than the average LIHEAP client could expect savings of around 250 therms.

These findings affirm our previous analysis that concluded targeting the highest usage households increases average household savings substantially. Although we did not analyze this closely in this report, we'd expect that average cost of savings per dollar spent to be less for agencies that target the highest consumption households due to reduced support and inspector/evaluation labor.

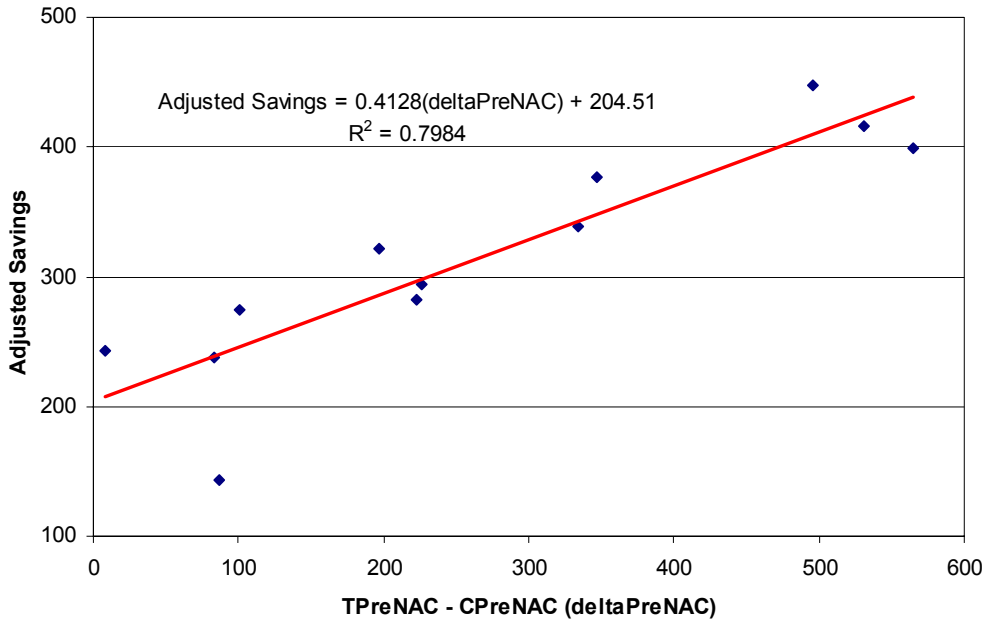



**Figure 3.2 Savings in relation to the difference between treatment and comparison group energy consumption**

## 4. DETAILED SPENDING AND IMPACT PROFILES BY UTILITY

This section provides tables of spending and impacts for the utilities, the state, and the overall program. The tables are designed to provide information to meet the filing requirements for cost recovery.

The summary of impacts for state and utility funding are similar to those provided in the earlier SLICE reports.

We have added a second table for each of the utilities in this report. These tables show the combined impacts of electricity and natural gas measures regardless of funding source. These tables should prove useful for the energy and demand planning departments at the utilities to account for the aggregate impacts of the low-income program, and not just the impacts funded by a specific utility.

Energy savings for waterbed mattresses, a measure since the 1994 program, may be negative in these tables. This is because the algorithm accounts for reductions in the heat which the waterbed radiates to the house (which results in more heat required from the heating system). See Appendix A of *An Evaluation of the 1994 Iowa Low-Income Weatherization Efforts* for a detailed description of the algorithm.

In addition, cases where water heater turndowns are the only water heater energy savings measure will show up as negative. The water heater savings algorithms account for interactions between the measures. Because of this, the water heater measure savings are reduced when water heater turndowns are implemented. In the rare instance that a turndown is the only water heater measure installed, the savings show up as negative.

## Combined State and Utility
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **2,086** | **2,080** | **1,815** | **246** | **31** | **1** | | | **5,959,127** | **422.8** | | **487.0** | | **2,400,162** | **5,323** | **511,218** | **43,263** | **3,567** | **48** | **2856.72** | **0.124** | | **0.135** | | **1,154** | **2.933** | **282** | **176** | **115** | **48** |
| **Shell & Htg. Sys.** | 2,075 | 2,049 | 1,749 | 244 | 31 | 1 | 1,769 | 1,979 | 5,229,435 | 235.2 | 253,998 | 265.5 | 414,637 | 668,635 | 5,229 | 486,686 | 42,481 | 3,567 | 48 | 2520.21 | 0.133 | 144 | 0.134 | 210 | 326 | 2.990 | 278 | 174 | 115 | 48 |
| Wall Insul. | 1,416 | 1,416 | 1,224 | 145 | 22 | 1 | 1,226 | 1,413 | 1,238,788 | 95.71 | 103,296 | 110.11 | 172,412 | 275,708 | 1,754 | 163,374 | 11,798 | 1,035 | 16 | 874.85 | 0.078 | 84 | 0.078 | 122 | 195 | 1.433 | 133 | 81 | 47 | 16 |
| Ceiling Insul. | 1,735 | 1,735 | 1,478 | 193 | 29 | 1 | 1,501 | 1,734 | 1,186,368 | 119.28 | 129,220 | 75.73 | 118,400 | 247,619 | 867 | 80,963 | 7,511 | 639 | 8 | 683.79 | 0.079 | 86 | 0.044 | 68 | 143 | 0.587 | 55 | 39 | 22 | 8 |
| Infil. Reduction | 2,005 | 1,736 | 1,687 | 231 | 31 | 1 | 1,730 | 39 | 680,957 | 14.89 | 15,943 | 36.49 | 57,282 | 73,225 | 963 | 89,451 | 8,200 | 536 | 4 | 339.63 | 0.009 | 9 | 0.936 | 1,469 | 42 | 0.571 | 53 | 35 | 17 | 4 |
| Found./Crawl. Insul | 727 | 727 | 609 | 97 | 8 | 1 | 604 | 727 | 307,823 | 5.35 | 5,540 | 26.10 | 40,165 | 45,704 | 297 | 27,390 | 3,288 | 196 | 2 | 423.42 | 0.009 | 9 | 0.036 | 55 | 63 | 0.488 | 45 | 34 | 24 | 2 |
| Bandjoist Insul. | 830 | 830 | 706 | 95 | 14 | 0 | - | 830 | 67,563 | 0.00 | 0 | 3.72 | 5,843 | 5,843 | 51 | 4,792 | 524 | 42 | 0 | 81.40 | - | - | 0.004 | 7 | 7 | 0.073 | 7 | 6 | 3 | - |
| Hi-Eff Htg Sys Repl | 422 | 0 | 363 | 49 | 10 | 0 | - | 0 | 898,479 | 0.00 | 0 | 0.00 | 0 | 0 | 752 | 70,428 | 6,155 | 814 | 0 | 2129.10 | - | - | - | - | - | 2.073 | 194 | 126 | 81 | - |
| Std-Eff Htg Sys Repl | 500 | 4 | 431 | 56 | 8 | 1 | - | 4 | 847,880 | 0.00 | 0 | 10.51 | 16,249 | 16,249 | 543 | 50,287 | 5,006 | 305 | 18 | 1695.76 | - | - | 2.627 | 4,062 | 32 | 1.260 | 117 | 89 | 38 | 18 |
| Electric Htg Sys Repl | 1 | 1 | 0 | 0 | 0 | 0 | - | 1 | 1,578 | 0.00 | 0 | 2.81 | 4,286 | 4,286 | 0 | 0 | 0 | 0 | 0 | 1577.70 | - | - | 2.810 | 4,286 | 4,286 | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 1,384 | 256 | 1,090 | 38 | 0 | 0 | 2,030 | 373 | 1,585 | 72 | 0 | 0 | 158,363 | 0.0 | | 2.2 | | 132,401 | 97.5 | 25,098 | 813 | 0 | 0 | 114.42 | 0.000 | | 0.009 | | 517 | 0.089 | 23 | 21 | - | - |
| Temp. Reduct. | 56 | 4 | 50 | 2 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | (147) | 3.3 | 1,157 | 16 | 0 | 0 | 0.00 | 0.000 | | 0.000 | | (37) | 0.067 | 23 | 8 | - | - |
| WH Wrap | 216 | 48 | 166 | 2 | 0 | 0 | | | | | | | 3,764 | 0.00 | | 0.02 | | 11,616 | 5.9 | 2,051 | 15 | 0 | 0 | 17.43 | 0.000 | | 0.000 | | 242 | 0.035 | 12 | 7 | - | - |
| Pipe Insul. | 975 | 201 | 753 | 21 | 0 | 0 | | | | | | | 6,589 | 0.00 | | 0.04 | | 19,769 | 11.9 | 4,136 | 95 | 0 | 0 | 6.76 | 0.000 | | 0.000 | | 98 | 0.016 | 5 | 5 | - | - |
| LF Showerheac | 411 | 83 | 314 | 14 | 0 | 0 | 446 | 87 | 344 | 15 | 0 | 0 | 3,099 | 0.00 | | 1.15 | | 50,462 | 24.5 | 7,588 | 288 | 0 | 0 | 7.54 | 0.000 | | 0.014 | | 608 | 0.078 | 24 | 21 | - | - |
| Faucet Aerator | 695 | 141 | 529 | 25 | 0 | 0 | 1,269 | 252 | 976 | 41 | 0 | 0 | 3,437 | 0.00 | | 0.27 | | 12,095 | 5.7 | 1,745 | 74 | 0 | 0 | 4.95 | 0.000 | | 0.002 | | 86 | 0.011 | 3 | 3 | - | - |
| Std-Eff Wtr Htr Repl. | 285 | 35 | 234 | 16 | 0 | 0 | 283 | 33 | 234 | 16 | 0 | 0 | 120,250 | 0.00 | | 0.70 | | 36,918 | 38.4 | 7,074 | 326 | 0 | 0 | 421.93 | 0.000 | | 0.020 | | 1,055 | 0.164 | 30 | 20 | - | - |
| Hi-Eff Wtr Htr Repl. | 26 | 1 | 25 | 0 | 0 | 0 | 32 | 1 | 31 | 0 | 0 | 0 | 21,222 | 0.00 | | 0.04 | | 1,688 | 7.8 | 1,348 | 0 | 0 | 0 | 816.25 | 0.000 | | 0.042 | | 1,688 | 0.312 | 54 | - | - | - |
| **Lighting** | 1,382 | 1,382 | | | | | 6,751 | 6,751 | | | | | 98,237 | 41.5 | | 76.6 | | 395,312 | - | - | - | - | - | 71.08 | 0.030 | | 0.055 | | 286 | - | - | - | - | - |
| Capsylite (42W) | 1 | 1 | | | | | 2 | 2 | | | | | 10 | 0.01 | | 0.01 | | 54 | - | - | - | - | - | 10.00 | 0.006 | | 0.010 | | 54 | - | - | - | - | - |
| Capsylite (52W) | 7 | 7 | | | | | 34 | 34 | | | | | 144 | 0.08 | | 0.15 | | 753 | - | - | - | - | - | 20.55 | 0.011 | | 0.021 | | 108 | - | - | - | - | - |
| Capsylite (72W) | 9 | 9 | | | | | 18 | 18 | | | | | 115 | 0.07 | | 0.13 | | 693 | - | - | - | - | - | 12.76 | 0.008 | | 0.015 | | 77 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 10 | 10 | | | | | 48 | 48 | | | | | 327 | 0.10 | | 0.19 | | 959 | - | - | - | - | - | 32.68 | 0.010 | | 0.019 | | 96 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 35 | 35 | | | | | 129 | 129 | | | | | 1,271 | 0.39 | | 0.73 | | 3,742 | - | - | - | - | - | 36.31 | 0.011 | | 0.021 | | 107 | - | - | - | - | - |
| CFL (15W) | 348 | 348 | | | | | 1,489 | 1,489 | | | | | 15,983 | 7.03 | | 13.00 | | 66,992 | - | - | - | - | - | 45.93 | 0.020 | | 0.037 | | 193 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 457 | 457 | | | | | 2,580 | 2,580 | | | | | 41,944 | 14.86 | | 27.46 | | 141,852 | - | - | - | - | - | 91.78 | 0.033 | | 0.060 | | 310 | - | - | - | - | - |
| CFL (23W) | 483 | 483 | | | | | 1,467 | 1,467 | | | | | 24,228 | 10.32 | | 19.06 | | 98,244 | - | - | - | - | - | 50.16 | 0.021 | | 0.039 | | 203 | - | - | - | - | - |
| CFL (25W) | 279 | 279 | | | | | 802 | 802 | | | | | 10,797 | 6.32 | | 11.67 | | 60,178 | - | - | - | - | - | 38.70 | 0.023 | | 0.042 | | 216 | - | - | - | - | - |
| CFL (30W) | 107 | 107 | | | | | 182 | 182 | | | | | 3,419 | 2.29 | | 4.24 | | 21,845 | - | - | - | - | - | 31.95 | 0.021 | | 0.040 | | 204 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 20 | 20 | 19 | 1 | 0 | 0 | 42 | 21 | 19 | 2 | 0 | 0 | 347 | 0.00 | | 6.10 | | 16,092 | -3.4 | -566 | -31.9 | 0.0 | 0.0 | 17.35 | 0.000 | | 0.305 | | 805 | -0.181 | -30 | -32 | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 20 | 20 | 19 | 1 | 0 | 0 | 42 | 21 | 19 | 2 | 0 | 0 | 347 | 0.00 | | 6.10 | | 16,092 | -3.4 | -566 | -31.9 | 0.0 | 0.0 | 17.35 | 0.000 | | 0.305 | | 805 | -0.181 | -30 | -32 | - | - |
| **Refrigerator/Freezer** | 901 | 901 | | | | | 1,000 | 1,000 | | | | | 472,744 | 146.09 | | 136.59 | | 1,187,722 | - | - | - | - | - | 524.69 | 0.162 | | 0.152 | | 1,318 | | | | | |
| Refrigerator Remova | 12 | 12 | | | | | 13 | 13 | | | | | 375 | 3.18 | | 2.98 | | 25,870 | - | - | - | - | - | 31.25 | 0.265 | | 0.248 | | 2,156 | - | - | - | - | - |
| Refrigerator Exchange | 655 | 655 | | | | | 706 | 706 | | | | | 385,400 | 111.15 | | 103.92 | | 903,678 | - | - | - | - | - | 588.40 | 0.170 | | 0.159 | | 1,380 | - | - | - | - | - |
| Freezer Remova | 16 | 16 | | | | | 19 | 19 | | | | | 500 | 3.25 | | 3.03 | | 26,391 | - | - | - | - | - | 31.25 | 0.203 | | 0.190 | | 1,649 | - | - | - | - | - |
| Freezer Exchange | 218 | 218 | | | | | 262 | 262 | | | | | 86,470 | 28.51 | | 26.66 | | 231,784 | - | - | - | - | - | 396.65 | 0.131 | | 0.122 | | 1,063 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 2091 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **4,057,958** | |
| Unspecified Insul | 1,524 | 222,899 | 146.26 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 1,220 | 116,779 | 95.72 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 1,293 | 105,431 | 81.54 |
| Htg. Sys./WH Other | 903 | 253,959 | 281.24 |
| Space Heater Repl | 11 | 13,323 | 1211.21 |
| Air Conditioning Work | 69 | 3,861 | 55.96 |
| Water Heater Repair | 142 | 12,081 | 85.08 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 9 | 7,640 | 848.89 |
| CO Detector | 636 | 33,783 | 53.12 |
| Smoke Detector | 123 | 3,052 | 24.82 |
| Fuses | 6 | 139 | 23.09 |
| Htg Sys Safety Check | 740 | 51,313 | 69.34 |
| Exhaust Ventilatior | 973 | 86,694 | 89.10 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 430 | 84,529 | 196.58 |
| Consumables | 534 | 8,738 | 16.36 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 1,677 | 460,699 | 274.72 |
| Evaluator Labor | 635 | 95,871 | 150.98 |
| Inspector Labor | 599 | 56,868 | 94.94 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 2,071 | 2,439,647 | 1178.00 |
| Landlord Contr Misc | 31 | (9,179) | -296.10 |
| Landlord Contr Furnace | 1 | 2,183 | 2183.33 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 9 | 3,254 | 361.52 |
| Client Contr Refi | 2 | 20 | 10.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 17 | 4,375 | 257.35 |

**Total Reported Materials, Labor, and Support Costs** **10,017,085**

**Grand Total of Expenditures** **10,017,085**

## State Only
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings / Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **2,070** | **2,005** | **1,780** | **246** | **31** | **1** | | | **4,119,210** | **277.5** | | **308.4** | | **1,572,020** | **3,316** | **317,383** | **43,263** | **3,567** | **48** | **1989.96** | **0.108** | | **0.133** | | **784** | **1.863** | **178** | **176** | **115** | **48** |
| **Shell & Htg. Sys.** | 2,061 | 1,972 | 1,718 | 244 | 31 | 1 | 1,755 | 1,508 | 3,579,322 | 149.5 | 150,572 | 166.5 | 261,514 | 412,087 | 3,255 | 303,387 | 42,481 | 3,567 | 48 | 1736.69 | 0.085 | 86 | 0.110 | 173 | 209 | 1.894 | 177 | 174 | 115 | 48 |
| Wall Insul. | 1,061 | 1,061 | 657 | 145 | 22 | 1 | 789 | 1,024 | 633,513 | 61.17 | 61,637 | 59.59 | 93,983 | 155,620 | 803 | 75,108 | 11,798 | 1,035 | 16 | 597.09 | 0.078 | 78 | 0.058 | 92 | 147 | 1.223 | 114 | 81 | 47 | 16 |
| Ceiling Insul. | 1,266 | 1,266 | 702 | 193 | 29 | 1 | 857 | 1,248 | 629,893 | 69.43 | 69,096 | 39.97 | 62,997 | 132,093 | 375 | 35,104 | 7,511 | 639 | 8 | 497.55 | 0.081 | 81 | 0.032 | 50 | 104 | 0.534 | 50 | 39 | 22 | 8 |
| Infil. Reduction | 1,998 | 1,736 | 1,623 | 231 | 31 | 1 | 1,730 | 39 | 669,700 | 14.89 | 15,943 | 36.49 | 57,282 | 73,225 | 930 | 86,380 | 8,200 | 536 | 4 | 335.19 | 0.009 | 9 | 0.936 | 1,469 | 42 | 0.573 | 53 | 35 | 17 | 4 |
| Found./Crawl. Insul | 539 | 539 | 292 | 97 | 8 | 1 | 355 | 538 | 165,231 | 3.99 | 3,896 | 14.82 | 23,035 | 26,932 | 144 | 13,323 | 3,288 | 196 | 2 | 306.55 | 0.011 | 11 | 0.028 | 43 | 50 | 0.492 | 46 | 34 | 24 | 2 |
| Bandjoist Insul. | 553 | 553 | 304 | 95 | 14 | 0 | - | 553 | 34,239 | 0.00 | 0 | 2.34 | 3,682 | 3,682 | 21 | 2,007 | 524 | 42 | 0 | 61.92 | - | - | 0.004 | 7 | 7 | 0.070 | 7 | 6 | 3 | - |
| Hi-Eff Htg Sys Repl | 297 | 0 | 238 | 49 | 10 | 0 | - | 0 | 597,289 | 0.00 | 0 | 0.00 | 0 | 0 | 438 | 41,177 | 6,155 | 814 | 0 | 2011.07 | - | - | - | - | - | 1.841 | 173 | 126 | 81 | - |
| Std-Eff Htg Sys Repl | 500 | 4 | 431 | 56 | 8 | 1 | - | 4 | 847,880 | 0.00 | 0 | 10.51 | 16,249 | 16,249 | 543 | 50,287 | 5,006 | 305 | 18 | 1695.76 | - | - | 2.627 | 4,062 | 32 | 1.260 | 117 | 89 | 38 | 18 |
| Electric Htg Sys Repl | 1 | 1 | 0 | 0 | 0 | 0 | - | 1 | 1,578 | 0.00 | 0 | 2.81 | 4,286 | 4,286 | 0 | 0 | 0 | 0 | 0 | 1577.70 | - | - | 2.810 | 4,286 | 4,286 | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 776 | 152 | 586 | 38 | 0 | 0 | 1,011 | 192 | 747 | 72 | 0 | 0 | 139,195 | 0.0 | | 1.4 | | 85,836 | 63.1 | 14,267 | 813 | 0 | 0 | 179.38 | 0.000 | | 0.010 | | 565 | 0.108 | 24 | 21 | - | - |
| Temp. Reduct. | 21 | 3 | 16 | 2 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | (30) | 0.8 | 277 | 16 | 0 | 0 | 0.00 | 0.000 | | 0.000 | | (10) | 0.050 | 17 | 8 | - | - |
| WH Wrap | 87 | 28 | 57 | 2 | 0 | 0 | | | | | | | 1,352 | 0.00 | | 0.01 | | 6,804 | 2.1 | 720 | 15 | 0 | 0 | 15.54 | 0.000 | | 0.000 | | 243 | 0.036 | 13 | 7 | - | - |
| Pipe Insul. | 437 | 111 | 305 | 21 | 0 | 0 | | | | | | | 2,547 | 0.00 | | 0.02 | | 10,917 | 4.8 | 1,673 | 95 | 0 | 0 | 5.83 | 0.000 | | 0.000 | | 98 | 0.016 | 5 | 5 | - | - |
| LF Showerheac | 171 | 38 | 119 | 14 | 0 | 0 | 188 | 38 | 135 | 15 | 0 | 0 | 1,225 | 0.00 | | 0.57 | | 25,000 | 9.7 | 2,978 | 288 | 0 | 0 | 7.17 | 0.000 | | 0.015 | | 658 | 0.081 | 25 | 21 | - | - |
| Faucet Aerator | 284 | 69 | 190 | 25 | 0 | 0 | 517 | 121 | 355 | 41 | 0 | 0 | 1,363 | 0.00 | | 0.14 | | 6,228 | 1.9 | 579 | 74 | 0 | 0 | 4.80 | 0.000 | | 0.002 | | 90 | 0.010 | 3 | 3 | - | - |
| Std-Eff Wtr Htr Repl. | 285 | 35 | 234 | 16 | 0 | 0 | 283 | 33 | 234 | 16 | 0 | 0 | 120,250 | 0.00 | | 0.70 | | 36,918 | 38.4 | 7,074 | 326 | 0 | 0 | 421.93 | 0.000 | | 0.020 | | 1,055 | 0.164 | 30 | 20 | - | - |
| Hi-Eff Wtr Htr Repl. | 22 | 0 | 22 | 0 | 0 | 0 | 23 | 0 | 23 | 0 | 0 | 0 | 12,458 | 0.00 | | 0.00 | | 0 | 5.5 | 967 | 0 | 0 | 0 | 566.25 | - | | - | | - | 0.249 | 44 | - | - | - |
| **Lighting** | 660 | 660 | | | | | 3,391 | 3,391 | | | | | 52,238 | 21.4 | | 39.6 | | 204,203 | - | - | - | - | - | 79.15 | 0.032 | | 0.060 | | 309 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 25 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 3 | 3 | | | | | 25 | 25 | | | | | 182 | 0.05 | | 0.10 | | 499 | - | - | - | - | - | 60.59 | 0.017 | | 0.032 | | 166 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 13 | 13 | | | | | 58 | 58 | | | | | 670 | 0.18 | | 0.33 | | 1,682 | - | - | - | - | - | 51.52 | 0.014 | | 0.025 | | 129 | - | - | - | - | - |
| CFL (15W) | 159 | 159 | | | | | 686 | 686 | | | | | 8,019 | 3.24 | | 5.99 | | 30,864 | - | - | - | - | - | 50.43 | 0.020 | | 0.038 | | 194 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 228 | 228 | | | | | 1,225 | 1,225 | | | | | 20,921 | 7.04 | | 13.00 | | 67,352 | - | - | - | - | - | 91.76 | 0.031 | | 0.057 | | 295 | - | - | - | - | - |
| CFL (23W) | 246 | 246 | | | | | 846 | 846 | | | | | 13,714 | 5.95 | | 10.99 | | 56,656 | - | - | - | - | - | 55.75 | 0.024 | | 0.045 | | 230 | - | - | - | - | - |
| CFL (25W) | 135 | 135 | | | | | 422 | 422 | | | | | 6,216 | 3.32 | | 6.14 | | 31,665 | - | - | - | - | - | 46.04 | 0.025 | | 0.046 | | 235 | - | - | - | - | - |
| CFL (30W) | 66 | 66 | | | | | 129 | 129 | | | | | 2,492 | 1.63 | | 3.00 | | 15,483 | - | - | - | - | - | 37.76 | 0.025 | | 0.046 | | 235 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 10 | 4 | 9 | 1 | 0 | 0 | 15 | 4 | 9 | 2 | 0 | 0 | 72 | 0.00 | | 1.16 | | 3,065 | -1.6 | -271 | -31.9 | 0.0 | 0.0 | 7.20 | 0.000 | | 0.290 | | 766 | -0.183 | -30 | -32 | | |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 10 | 4 | 9 | 1 | 0 | 0 | 15 | 4 | 9 | 2 | 0 | 0 | 72 | 0.00 | | 1.16 | | 3,065 | -1.6 | -271 | -31.9 | 0.0 | 0.0 | 7.20 | 0.000 | | 0.290 | | 766 | -0.183 | -30 | -32 | - | - |
| **Refrigerator/Freezer** | 692 | 692 | | | | | 738 | 738 | | | | | 348,383 | 106.62 | | 99.69 | | 866,830 | - | - | - | - | - | 503.44 | 0.154 | | 0.144 | | 1,253 | | | | | |
| Refrigerator Remova | 9 | 9 | | | | | 9 | 9 | | | | | 305 | 2.20 | | 2.06 | | 17,910 | - | - | - | - | - | 33.89 | 0.245 | | 0.229 | | 1,990 | - | - | - | - | - |
| Refrigerator Exchange | 475 | 475 | | | | | 499 | 499 | | | | | 275,140 | 78.36 | | 73.26 | | 637,072 | - | - | - | - | - | 579.24 | 0.165 | | 0.154 | | 1,341 | - | - | - | - | - |
| Freezer Remova | 16 | 16 | | | | | 19 | 19 | | | | | 500 | 3.25 | | 3.03 | | 26,391 | - | - | - | - | - | 31.25 | 0.203 | | 0.190 | | 1,649 | - | - | - | - | - |
| Freezer Exchange | 192 | 192 | | | | | 211 | 211 | | | | | 72,438 | 22.81 | | 21.33 | | 185,457 | - | - | - | - | - | 377.28 | 0.119 | | 0.111 | | 966 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 2091 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **3,789,221** | |
| Unspecified Insul | 1,481 | 219,542 | 148.24 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 1,216 | 115,893 | 95.31 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 1,292 | 103,459 | 80.08 |
| Htg. Sys./WH Other | 903 | 253,959 | 281.24 |
| Space Heater Repl | 11 | 13,323 | 1211.21 |
| Air Conditioning Work | 69 | 3,861 | 55.96 |
| Water Heater Repair | 141 | 11,731 | 83.20 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 9 | 7,640 | 848.89 |
| CO Detector | 636 | 33,783 | 53.12 |
| Smoke Detector | 123 | 3,052 | 24.82 |
| Fuses | 6 | 139 | 23.09 |
| Htg Sys Safety Check | 740 | 51,313 | 69.34 |
| Exhaust Ventilatior | 973 | 86,694 | 89.10 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 430 | 84,529 | 196.58 |
| Consumables | 534 | 8,738 | 16.36 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 1,677 | 460,699 | 274.72 |
| Evaluator Labor | 635 | 95,871 | 150.98 |
| Inspector Labor | 599 | 56,868 | 94.94 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 2,066 | 2,177,532 | 1053.98 |
| Landlord Contr Misc | 31 | (9,179) | -296.10 |
| Landlord Contr Furnace | 1 | 2,183 | 2183.33 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 9 | 3,254 | 361.52 |
| Client Contr Refi | 2 | 20 | 10.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 12 | 4,318 | 359.87 |
| **Total Reported Materials, Labor, and Support Costs** | | **7,908,431** | |
| **Grand Total of Expenditures** | | **7,908,431** | |

## Alliant Energy - IES
### Calendar Year 2002 Estimates
### Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **553** | **408** | **368** | | | **800,415** | **65.6** | | **82.0** | | **397,724** | **821** | **78,131** | **1447.41** | **0.091** | | **0.129** | | **975** | **2.231** | **212** |
| **Shell & Htg. Sys.** | 490 | 349 | 353 | 309 | 222 | 703,626 | 35.2 | 42,509 | 39.5 | 59,927 | 102,436 | 810 | 74,785 | 1435.97 | 0.114 | 138 | 0.178 | 270 | 294 | 2.296 | 212 |
| Wall Insul. | 346 | 246 | 249 | 218 | 154 | 225,462 | 12.46 | 15,025 | 16.95 | 25,739 | 40,764 | 346 | 31,910 | 651.62 | 0.057 | 69 | 0.110 | 167 | 166 | 1.388 | 128 |
| Ceiling Insul | 433 | 315 | 307 | 283 | 198 | 214,581 | 21.13 | 25,481 | 14.07 | 21,312 | 46,792 | 177 | 16,300 | 495.57 | 0.075 | 90 | 0.071 | 108 | 149 | 0.575 | 53 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 191 | 135 | 134 | 117 | 83 | 48,002 | 1.66 | 2,003 | 7.95 | 12,002 | 14,006 | 58 | 5,359 | 251.32 | 0.014 | 17 | 0.096 | 145 | 104 | 0.434 | 40 |
| Bandjoist Insul. | 156 | 97 | 153 | - | 97 | 12,614 | 0.00 | 0 | 0.57 | 874 | 874 | 11 | 980 | 80.86 | - | - | 0.006 | 9 | 9 | 0.069 | 6 |
| Hi-Eff Htg Sys Repl | 107 | 0 | 107 | - | 0 | 202,968 | 0.00 | 0 | 0.00 | 0 | 0 | 219 | 20,236 | 1896.90 | - | - | - | - | - | 2.051 | 189 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 226 | 55 | 171 | 9,678 | 0.0 | 0.4 | 23,544 | 12.1 | 3,554 | 42.82 | 0.000 | 0.008 | 428 | 0.071 | 21 |
| Temp. Reduct. | 3 | 0 | 3 | 0 | 0.00 | 0.00 | 0 | 0.2 | 62 | 0.00 | - | - | - | 0.059 | 21 |
| WH Wrap | 23 | 3 | 20 | 418 | 0.00 | 0.00 | 722 | 0.7 | 239 | 18.18 | 0.000 | 0.000 | 241 | 0.034 | 12 |
| Pipe Insul. | 174 | 46 | 128 | 1,010 | 0.00 | 0.01 | 4,524 | 1.9 | 680 | 5.80 | 0.000 | 0.000 | 98 | 0.015 | 5 |
| LF Showerhead | 96 | 24 | 72 | 717 | 0.00 | 0.29 | 12,872 | 6.0 | 1,841 | 7.47 | 0.000 | 0.012 | 536 | 0.083 | 26 |
| Faucet Aerator | 157 | 44 | 113 | 769 | 0.00 | 0.08 | 3,739 | 1.4 | 421 | 4.90 | 0.000 | 0.002 | 85 | 0.012 | 4 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 7 | 1 | 6 | 6,765 | 0.00 | 0.04 | 1,688 | 1.9 | 313 | 966.42 | 0.000 | 0.042 | 1,688 | 0.319 | 52 |
| **Lighting** | 356 | 356 | | 24,443 | 11.0 | 20.4 | 105,138 | - | - | 68.66 | 0.031 | 0.057 | 295 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 1 | 1 | | 21 | 0.01 | 0.03 | 133 | - | - | 21.42 | 0.014 | 0.026 | 133 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 7 | 7 | | 145 | 0.05 | 0.09 | 460 | - | - | 20.72 | 0.007 | 0.013 | 66 | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 18 | 18 | | 413 | 0.18 | 0.34 | 1,740 | - | - | 22.95 | 0.010 | 0.019 | 97 | - | - |
| CFL (15W) | 143 | 143 | | 5,490 | 2.96 | 5.46 | 28,165 | - | - | 38.39 | 0.021 | 0.038 | 197 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 142 | 142 | | 14,002 | 5.04 | 9.31 | 47,999 | - | - | 98.60 | 0.035 | 0.066 | 338 | - | - |
| CFL (23W) | 51 | 51 | | 1,823 | 0.89 | 1.64 | 8,438 | - | - | 35.74 | 0.017 | 0.032 | 165 | - | - |
| CFL (25W) | 79 | 79 | | 2,411 | 1.77 | 3.28 | 16,883 | - | - | 30.52 | 0.022 | 0.041 | 214 | - | - |
| CFL (30W) | 9 | 9 | | 139 | 0.14 | 0.26 | 1,320 | - | - | 15.39 | 0.015 | 0.028 | 147 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 12 | 12 | 7 | 198 | 0.00 | 3.49 | 9,196 | -1.3 | -209 | 16.52 | 0.000 | 0.290 | 766 | -0.181 | -30 |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 12 | 12 | 7 | 198 | 0.00 | 3.49 | 9,196 | -1.3 | -209 | 16.52 | 0.000 | 0.290 | 766 | -0.181 | -30 |
| **Refrigerator/Freezer** | 116 | 116 | | 62,469 | 19.36 | 18.10 | 157,411 | - | - | 538.53 | 0.167 | 0.156 | 1,357 | | |
| Refrigerator Removal | 1 | 1 | | 10 | 0.24 | 0.23 | 1,990 | - | - | 10.00 | 0.245 | 0.229 | 1,990 | - | - |
| Refrigerator Exchange | 93 | 93 | | 53,813 | 15.85 | 14.82 | 128,865 | - | - | 578.63 | 0.170 | 0.159 | 1,386 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 22 | 22 | | 8,647 | 3.27 | 3.05 | 26,556 | - | - | 393.04 | 0.148 | 0.139 | 1,207 | - | - |

**Costs for Measures Without Energy Impacts Installed in 555 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **166,924** | |
| Unspecified Insul. | 20 | 245 | 12.26 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 5 | 227 | 45.34 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 1 | 1,971 | 1971.31 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 1 | 350 | 350.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 515 | 164,122 | 318.68 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 4 | 9 | 2.20 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **967,339** |
| **Utility Expenditures for Administration** | **83,189** |
| **Grand Total of Expenditures** | **1,050,528** |

# Alliant Energy - IES
## Calendar Year 2002 Estimates
## Fuel and Demand Impacts For All Customer Households Regardless of Funding Source

| Measure | Number of Households with Impacts | | | Count of Households with Electricity Impacts by End-Use | | Estimated First-Year Savings | | | | | | | Average per Treated Household | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Electricity | | | | | Gas | | Electricity | | | | | Gas | |
| | | | | | | Summer | | Winter | | Annual | Pk-Day | Annual | Summer | | Winter | | Annual | Pk-Day | Annual |
| | Total | Electric | Gas | Cooling | Heating | kW | kWh | kW | kWh | kWh | therms | therms | kW | kWh | kW | kWh | kWh | therms | therms |
| **OVERALL** | **792** | **625** | **483** | | | **127.5** | | **173.8** | | **851,198** | **1,485** | **141,398** | **0.115** | | **0.146** | | **1,362** | **3.074** | **293** |
| **Shell & Htg. Sys.** | 784 | 614 | 478 | 516 | 593 | 57.5 | 69,400 | 88.8 | 135,418 | 204,818 | 1,458 | 134,852 | 0.112 | 134 | 0.150 | 228 | 334 | 3.051 | 282 |
| Wall Insul. | 541 | 414 | 343 | 347 | 414 | 19.87 | 23,968 | 30.44 | 46,715 | 70,683 | 470 | 43,498 | 0.057 | 69 | 0.074 | 113 | 171 | 1.371 | 127 |
| Ceiling Insul. | 657 | 522 | 401 | 438 | 522 | 31.22 | 37,653 | 24.09 | 36,795 | 74,448 | 230 | 21,236 | 0.071 | 86 | 0.046 | 70 | 143 | 0.572 | 53 |
| Infil. Reduction | 723 | 513 | 467 | 509 | 15 | 3.74 | 4,508 | 13.77 | 20,842 | 25,350 | 271 | 25,051 | 0.007 | 9 | 0.918 | 1,389 | 49 | 0.581 | 54 |
| Found./Crawl. Insul. | 314 | 246 | 184 | 199 | 246 | 2.71 | 3,271 | 12.05 | 18,306 | 21,577 | 79 | 7,279 | 0.014 | 16 | 0.049 | 74 | 88 | 0.428 | 40 |
| Bandjoist Insul. | 335 | 264 | 207 | - | 264 | 0.00 | 0 | 1.19 | 1,834 | 1,834 | 14 | 1,331 | - | - | 0.005 | 7 | 7 | 0.069 | 6 |
| Hi-Eff Htg Sys Repl | 140 | 0 | 140 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 285 | 26,435 | - | - | - | - | - | 2.039 | 189 |
| Std-Eff Htg Sys Repl | 99 | 2 | 97 | - | 2 | 0.00 | 0 | 4.40 | 6,640 | 6,640 | 108 | 10,022 | - | - | 2.201 | 3,320 | 67 | 1.118 | 103 |
| Electric Htg Sys Repl | 1 | 1 | 0 | - | 1 | 0.00 | 0 | 2.81 | 4,286 | 4,286 | 0 | 0 | - | - | 2.810 | 4,286 | 4,286 | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Summer | Winter | Annual | Pk-Day | Annual | Summer | Winter | Annual | Pk-Day | Annual |
| | Total | Electric | Gas | Total | Electric | Gas | kW | kW | kWh | therms | therms | kW | kW | kWh | therms | therms |
| **Water Heating** | 359 | 87 | 272 | 644 | 156 | 488 | 0.0 | 0.9 | 44,633 | 28.2 | 6,847 | 0.000 | 0.010 | 513 | 0.104 | 25 |
| Temp. Reduct. | 6 | 1 | 5 | | | | 0.00 | 0.00 | (116) | 0.3 | 100 | 0.000 | 0.000 | (116) | 0.058 | 20 |
| WH Wrap | 31 | 5 | 26 | | | | 0.00 | 0.00 | 1,203 | 0.9 | 312 | 0.000 | 0.000 | 241 | 0.035 | 12 |
| Pipe Insul. | 250 | 67 | 183 | | | | 0.00 | 0.01 | 6,590 | 2.8 | 972 | 0.000 | 0.000 | 98 | 0.015 | 5 |
| LF Showerhead | 136 | 31 | 105 | 146 | 34 | 112 | 0.00 | 0.33 | 14,556 | 8.4 | 2,581 | 0.000 | 0.011 | 470 | 0.080 | 25 |
| Faucet Aerator | 220 | 59 | 161 | 415 | 106 | 309 | 0.00 | 0.11 | 4,891 | 1.9 | 581 | 0.000 | 0.002 | 83 | 0.012 | 4 |
| Std-Eff Wtr Htr Repl. | 68 | 15 | 53 | 68 | 15 | 53 | 0.00 | 0.39 | 15,822 | 10.6 | 1,748 | 0.000 | 0.026 | 1,055 | 0.199 | 33 |
| Hi-Eff Wtr Htr Repl. | 9 | 1 | 8 | 15 | 1 | 14 | 0.00 | 0.04 | 1,688 | 3.4 | 553 | 0.000 | 0.042 | 1,688 | 0.423 | 69 |
| **Lighting** | 510 | 510 | | 2,875 | 2,875 | | 16.4 | 30.2 | 155,924 | - | - | 0.032 | 0.059 | 306 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite (52W) | 1 | 1 | | 6 | 6 | | 0.01 | 0.03 | 133 | - | - | 0.014 | 0.026 | 133 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (5W) | 7 | 7 | | 23 | 23 | | 0.05 | 0.09 | 460 | - | - | 0.007 | 0.013 | 66 | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (11W) | 22 | 22 | | 84 | 84 | | 0.26 | 0.47 | 2,437 | - | - | 0.012 | 0.021 | 111 | - | - |
| CFL (15W) | 211 | 211 | | 900 | 900 | | 4.25 | 7.86 | 40,492 | - | - | 0.020 | 0.037 | 192 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (20W) | 211 | 211 | | 1,362 | 1,362 | | 7.86 | 14.53 | 74,885 | - | - | 0.037 | 0.069 | 355 | - | - |
| CFL (23W) | 55 | 55 | | 145 | 145 | | 1.02 | 1.88 | 9,711 | - | - | 0.019 | 0.034 | 177 | - | - |
| CFL (25W) | 112 | 112 | | 329 | 329 | | 2.59 | 4.79 | 24,687 | - | - | 0.023 | 0.043 | 220 | - | - |
| CFL (30W) | 17 | 17 | | 26 | 26 | | 0.33 | 0.61 | 3,121 | - | - | 0.019 | 0.036 | 184 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 15 | 13 | 10 | 23 | 13 | 10 | 0.00 | 3.78 | 9,962 | -1.8 | -301 | 0.000 | 0.290 | 766 | -0.183 | -30 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Unknown | 15 | 13 | 10 | 23 | 13 | 10 | 0.00 | 3.78 | 9,962 | -1.8 | -301 | 0.000 | 0.290 | 766 | -0.183 | -30 |
| **Refrigerator/Freezer** | 331 | 331 | | 375 | 375 | | 53.61 | 50.12 | 435,862 | - | - | 0.162 | 0.151 | 1,317 | | |
| Refrigerator Removal | 5 | 5 | | 5 | 5 | | 1.22 | 1.14 | 9,950 | - | - | 0.245 | 0.229 | 1,990 | - | - |
| Refrigerator Exchange | 234 | 234 | | 255 | 255 | | 39.66 | 37.08 | 322,458 | - | - | 0.169 | 0.158 | 1,378 | - | - |
| Freezer Removal | 8 | 8 | | 9 | 9 | | 1.54 | 1.44 | 12,501 | - | - | 0.192 | 0.180 | 1,563 | - | - |
| Freezer Exchange | 84 | 84 | | 106 | 106 | | 11.19 | 10.46 | 90,953 | - | - | 0.133 | 0.125 | 1,083 | - | - |

# Alliant Energy - IPC
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **178** | **176** | **63** | | | **141,406** | **28.0** | | **20.3** | | **153,018** | **87** | **9,000** | **794.41** | **0.100** | | **0.098** | | **869** | **1.380** | **143** |
| **Shell & Htg. Sys.** | 142 | 140 | 62 | 134 | 61 | 99,282 | 13.2 | 15,934 | 4.0 | 6,429 | 22,363 | 84 | 7,955 | 699.17 | 0.099 | 119 | 0.066 | 105 | 160 | 1.354 | 128 |
| Wall Insul. | 79 | 79 | 35 | 76 | 35 | 40,206 | 5.71 | 6,882 | 1.25 | 1,980 | 8,862 | 41 | 3,904 | 508.94 | 0.075 | 91 | 0.036 | 57 | 112 | 1.183 | 112 |
| Ceiling Insul | 126 | 125 | 56 | 122 | 56 | 41,507 | 7.23 | 8,720 | 2.53 | 4,065 | 12,784 | 29 | 2,751 | 329.42 | 0.059 | 71 | 0.045 | 73 | 102 | 0.512 | 49 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 41 | 41 | 15 | 40 | 15 | 5,032 | 0.28 | 332 | 0.12 | 184 | 516 | 3 | 317 | 122.74 | 0.007 | 8 | 0.008 | 12 | 13 | 0.228 | 21 |
| Bandjoist Insul. | 46 | 44 | 46 | - | 44 | 5,050 | 0.00 | 0 | 0.13 | 201 | 201 | 3 | 328 | 109.79 | - | - | 0.003 | 5 | 5 | 0.075 | 7 |
| Hi-Eff Htg Sys Repl | 4 | 0 | 4 | - | 0 | 7,487 | 0.00 | 0 | 0.00 | 0 | 0 | 7 | 654 | 1871.69 | - | - | - | - | - | 1.750 | 164 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 52 | 17 | 35 | 2,382 | 0.0 | 0.1 | 6,500 | 3.0 | 1,046 | 45.82 | 0.000 | 0.005 | 382 | 0.085 | 30 |
| Temp. Reduct. | 5 | 0 | 5 | 0 | 0.00 | 0.00 | 0 | 0.3 | 100 | 0.00 | - | - | - | 0.058 | 20 |
| WH Wrap | 34 | 6 | 28 | 643 | 0.00 | 0.00 | 1,443 | 0.9 | 329 | 18.90 | 0.000 | 0.000 | 241 | 0.033 | 12 |
| Pipe Insul. | 45 | 17 | 28 | 241 | 0.00 | 0.00 | 1,672 | 0.4 | 152 | 5.36 | 0.000 | 0.000 | 98 | 0.015 | 5 |
| LF Showerhead | 21 | 5 | 16 | 147 | 0.00 | 0.07 | 2,867 | 1.1 | 378 | 7.01 | 0.000 | 0.013 | 573 | 0.069 | 24 |
| Faucet Aerator | 32 | 7 | 25 | 152 | 0.00 | 0.01 | 518 | 0.3 | 86 | 4.74 | 0.000 | 0.002 | 74 | 0.010 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 1,200 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 130 | 130 | | 5,963 | 2.6 | 4.8 | 24,741 | - | - | 45.87 | 0.020 | 0.037 | 190 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 1 | 1 | | 21 | 0.01 | 0.03 | 133 | - | - | 21.42 | 0.014 | 0.026 | 133 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 18 | 18 | | 1,260 | 0.36 | 0.66 | 3,419 | - | - | 69.97 | 0.020 | 0.037 | 190 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 9 | 9 | | 528 | 0.16 | 0.30 | 1,539 | - | - | 58.68 | 0.018 | 0.033 | 171 | - | - |
| CFL (23W) | 63 | 63 | | 2,807 | 1.25 | 2.31 | 11,921 | - | - | 44.55 | 0.020 | 0.037 | 189 | - | - |
| CFL (25W) | 38 | 38 | | 1,210 | 0.69 | 1.27 | 6,528 | - | - | 31.84 | 0.018 | 0.033 | 172 | - | - |
| CFL (30W) | 6 | 6 | | 137 | 0.13 | 0.23 | 1,200 | - | - | 22.86 | 0.021 | 0.039 | 200 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 70 | 70 | | 33,778 | 12.23 | 11.43 | 99,414 | - | - | 482.55 | 0.175 | 0.163 | 1,420 | | |
| Refrigerator Removal | 2 | 2 | | 60 | 0.73 | 0.69 | 5,970 | - | - | 30.00 | 0.367 | 0.343 | 2,985 | - | - |
| Refrigerator Exchange | 52 | 52 | | 28,333 | 9.06 | 8.47 | 73,673 | - | - | 544.87 | 0.174 | 0.163 | 1,417 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 16 | 16 | | 5,385 | 2.43 | 2.27 | 19,771 | - | - | 336.56 | 0.152 | 0.142 | 1,236 | - | - |

**Costs for Measures Without Energy Impacts Installed in 178 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **27,899** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 161 | 27,899 | 173.28 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **169,304** |
| **Grand Total of Expenditures** | **169,304** |

# Alliant Energy - IPC
## Calendar Year 2002 Estimates
## Fuel and Demand Impacts For All Customer Households Regardless of Funding Source

| Measure | Number of Households with Impacts | | | Count of Households with Electricity Impacts by End-Use | | Estimated First-Year Savings | | | | | | | Average per Treated Household | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Electricity | | | | | Gas | | Electricity | | | | | Gas | |
| | | | | | | Summer | | Winter | | Annual | Pk-Day | Annual | Summer | | Winter | | Annual | Pk-Day | Annual |
| | Total | Electric | Gas | Cooling | Heating | kW | kWh | kW | kWh | kWh | therms | therms | kW | kWh | kW | kWh | kWh | therms | therms |
| **OVERALL** | **214** | **211** | **76** | | | **38.2** | | **30.6** | | **209,950** | **172** | **17,267** | **0.105** | | **0.084** | | **995** | **2.265** | **227** |
| **Shell & Htg. Sys.** | 209 | 206 | 75 | 191 | 195 | 19.5 | 23,506 | 10.2 | 16,361 | 39,866 | 169 | 16,128 | 0.102 | 123 | 0.052 | 84 | 194 | 2.250 | 215 |
| Wall Insul. | 131 | 130 | 47 | 119 | 130 | 9.23 | 11,137 | 4.57 | 7,330 | 18,467 | 56 | 5,310 | 0.078 | 94 | 0.035 | 56 | 142 | 1.188 | 113 |
| Ceiling Insul. | 177 | 175 | 68 | 160 | 175 | 8.98 | 10,824 | 4.60 | 7,407 | 18,231 | 37 | 3,571 | 0.056 | 68 | 0.026 | 42 | 104 | 0.542 | 53 |
| Infil. Reduction | 188 | 182 | 67 | 182 | 0 | 0.92 | 1,115 | 0.00 | 0 | 1,115 | 36 | 3,437 | 0.005 | 6 | - | - | 6 | 0.534 | 51 |
| Found./Crawl. Insul. | 58 | 58 | 18 | 54 | 58 | 0.36 | 430 | 0.81 | 1,301 | 1,730 | 4 | 392 | 0.007 | 8 | 0.014 | 22 | 30 | 0.232 | 22 |
| Bandjoist Insul. | 80 | 78 | 52 | - | 78 | 0.00 | 0 | 0.20 | 323 | 323 | 4 | 373 | - | - | 0.003 | 4 | 4 | 0.075 | 7 |
| Hi-Eff Htg Sys Repl | 8 | 0 | 7 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 14 | 1,336 | - | - | - | - | - | 1.973 | 191 |
| Std-Eff Htg Sys Repl | 15 | 0 | 15 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 18 | 1,708 | - | - | - | - | - | 1.229 | 114 |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |

| | | | | Number of Measures by Fuel Type | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Electric | Gas | Total | Electric | Gas | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
| **Water Heating** | 59 | 23 | 36 | 95 | 25 | 70 | 0.0 | 0.3 | 14,064 | 3.4 | 1,139 | 0.000 | 0.011 | 611 | 0.094 | 32 |
| Temp. Reduct. | 5 | 0 | 5 | | | | 0.00 | 0.00 | 0 | 0.3 | 100 | - | - | - | 0.058 | 20 |
| WH Wrap | 36 | 7 | 29 | | | | 0.00 | 0.00 | 1,684 | 1.0 | 341 | 0.000 | 0.000 | 241 | 0.033 | 12 |
| Pipe Insul. | 51 | 22 | 29 | | | | 0.00 | 0.00 | 2,164 | 0.4 | 158 | 0.000 | 0.000 | 98 | 0.015 | 5 |
| LF Showerhead | 23 | 6 | 17 | 23 | 6 | 17 | 0.00 | 0.08 | 3,304 | 1.2 | 415 | 0.000 | 0.013 | 551 | 0.072 | 24 |
| Faucet Aerator | 34 | 8 | 26 | 66 | 14 | 52 | 0.00 | 0.01 | 584 | 0.3 | 91 | 0.000 | 0.002 | 73 | 0.011 | 4 |
| Std-Eff Wtr Htr Repl. | 7 | 6 | 1 | 6 | 5 | 1 | 0.00 | 0.16 | 6,329 | 0.2 | 34 | 0.000 | 0.026 | 1,055 | 0.207 | 34 |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| **Lighting** | 148 | 148 | | 449 | 449 | | 3.0 | 5.6 | 28,732 | - | - | 0.020 | 0.038 | 194 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite (52W) | 1 | 1 | | 6 | 6 | | 0.01 | 0.03 | 133 | - | - | 0.014 | 0.026 | 133 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (15W) | 22 | 22 | | 90 | 90 | | 0.43 | 0.79 | 4,049 | - | - | 0.019 | 0.036 | 184 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (20W) | 12 | 12 | | 35 | 35 | | 0.20 | 0.37 | 1,924 | - | - | 0.017 | 0.031 | 160 | - | - |
| CFL (23W) | 72 | 72 | | 209 | 209 | | 1.47 | 2.72 | 13,997 | - | - | 0.020 | 0.038 | 194 | - | - |
| CFL (25W) | 41 | 41 | | 99 | 99 | | 0.78 | 1.44 | 7,428 | - | - | 0.019 | 0.035 | 181 | - | - |
| CFL (30W) | 6 | 6 | | 10 | 10 | | 0.13 | 0.23 | 1,200 | - | - | 0.021 | 0.039 | 200 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| **Refrigerator/Freezer** | 87 | 87 | | 118 | 118 | | 15.66 | 14.64 | 127,288 | - | - | 0.180 | 0.168 | 1,463 | | |
| Refrigerator Removal | 6 | 6 | | 7 | 7 | | 1.71 | 1.60 | 13,930 | - | - | 0.286 | 0.267 | 2,322 | - | - |
| Refrigerator Exchange | 62 | 62 | | 74 | 74 | | 10.94 | 10.22 | 88,908 | - | - | 0.176 | 0.165 | 1,434 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Freezer Exchange | 19 | 19 | | 37 | 37 | | 3.01 | 2.81 | 24,450 | - | - | 0.158 | 0.148 | 1,287 | - | - |

## Aquila Networks - PNG
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas: Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **234** | **0** | **234** | | | **197,210** | **0.0** | | **0.0** | | **0** | **270** | **26,746** | **842.78** | **-** | | **-** | | **-** | **1.155** | **114** |
| **Shell & Htg. Sys.** | 231 | 0 | 231 | 0 | 0 | 195,919 | 0.0 | 0 | 0.0 | 0 | 0 | 265 | 25,288 | 848.13 | - | - | - | - | - | 1.149 | 109 |
| Wall Insul. | 128 | 0 | 128 | 0 | 0 | 58,145 | 0.00 | 0 | 0.00 | 0 | 0 | 109 | 10,338 | 454.26 | - | - | - | - | - | 0.848 | 81 |
| Ceiling Insul | 175 | 0 | 175 | 0 | 0 | 84,375 | 0.00 | 0 | 0.00 | 0 | 0 | 83 | 7,973 | 482.14 | - | - | - | - | - | 0.477 | 46 |
| Infil. Reduction | 83 | 0 | 83 | 0 | 0 | 11,237 | 0.00 | 0 | 0.00 | 0 | 0 | 33 | 3,067 | 135.39 | - | - | - | - | - | 0.393 | 37 |
| Found./Crawl. Insul. | 46 | 0 | 46 | 0 | 0 | 12,115 | 0.00 | 0 | 0.00 | 0 | 0 | 15 | 1,437 | 263.37 | - | - | - | - | - | 0.328 | 31 |
| Bandjoist Insul. | 50 | 0 | 50 | - | 0 | 2,619 | 0.00 | 0 | 0.00 | 0 | 0 | 3 | 302 | 52.37 | - | - | - | - | - | 0.063 | 6 |
| Hi-Eff Htg Sys Repl | 29 | 0 | 29 | - | 0 | 27,427 | 0.00 | 0 | 0.00 | 0 | 0 | 23 | 2,171 | 945.77 | - | - | - | - | - | 0.777 | 75 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Estimated First-Year Savings: Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 111 | 0 | 111 | 1,291 | 0.0 | 0.0 | 0 | 4.7 | 1,458 | 11.63 | - | - | - | 0.043 | 13 |
| Temp. Reduct. | 1 | 0 | 1 | 0 | 0.00 | 0.00 | 0 | 0.1 | 30 | 0.00 | - | - | - | 0.086 | 30 |
| WH Wrap | 6 | 0 | 6 | 95 | 0.00 | 0.00 | 0 | 0.2 | 72 | 15.83 | - | - | - | 0.035 | 12 |
| Pipe Insul. | 78 | 0 | 78 | 309 | 0.00 | 0.00 | 0 | 1.3 | 442 | 3.96 | - | - | - | 0.016 | 6 |
| LF Showerhead | 25 | 0 | 25 | 190 | 0.00 | 0.00 | 0 | 1.9 | 585 | 7.60 | - | - | - | 0.076 | 23 |
| Faucet Aerator | 81 | 0 | 81 | 297 | 0.00 | 0.00 | 0 | 0.8 | 260 | 3.67 | - | - | - | 0.010 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 400 | 0.00 | 0.00 | 0 | 0.4 | 69 | 400.00 | - | - | - | 0.422 | 69 |
| **Lighting** | 0 | 0 | | 0 | 0.0 | 0.0 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 235 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **3,198** | |
| Unspecified Insul. | 40 | 2,772 | 69.30 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 11 | 426 | 38.76 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 0 | 0 | 0.00 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **200,408** |
| **Utility Expenditures for Administration** | **10,670** |
| **Grand Total of Expenditures** | **211,078** |

# Aquila Networks - PNG
## Calendar Year 2002 Estimates
## Fuel and Demand Impacts For All Customer Households Regardless of Funding Source

| Measure | Number of Households with Impacts | | | Count of Households with Electricity Impacts by End-Use | | Estimated First-Year Savings | | | | | | | Average per Treated Household | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Electricity | | | | | Gas | | Electricity | | | | | Gas | |
| | | | | | | Summer | | Winter | | Annual | Pk-Day | Annual | Summer | | Winter | | Annual | Pk-Day | Annual |
| | Total | Electric | Gas | Cooling | Heating | kW | kWh | kW | kWh | kWh | therms | therms | kW | kWh | kW | kWh | kWh | therms | therms |
| **OVERALL** | **295** | **0** | **295** | | | **0.0** | | **0.0** | | **0** | **822** | **79,908** | **-** | | **-** | | **-** | **2.785** | **271** |
| **Shell & Htg. Sys.** | 295 | 0 | 295 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 811 | 77,241 | - | - | - | - | - | 2.748 | 262 |
| Wall Insul. | 219 | 0 | 219 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 260 | 24,783 | - | - | - | - | - | 1.186 | 113 |
| Ceiling Insul. | 248 | 0 | 248 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 138 | 13,227 | - | - | - | - | - | 0.558 | 53 |
| Infil. Reduction | 278 | 0 | 278 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 153 | 14,558 | - | - | - | - | - | 0.550 | 52 |
| Found./Crawl. Insul. | 89 | 0 | 89 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 38 | 3,595 | - | - | - | - | - | 0.424 | 40 |
| Bandjoist Insul. | 86 | 0 | 86 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 6 | 547 | - | - | - | - | - | 0.067 | 6 |
| Hi-Eff Htg Sys Repl | 41 | 0 | 41 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 85 | 8,161 | - | - | - | - | - | 2.067 | 199 |
| Std-Eff Htg Sys Repl | 119 | 0 | 119 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 131 | 12,370 | - | - | - | - | - | 1.104 | 104 |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |

| | | | | Number of Measures by Fuel Type | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Electric | Gas | Total | Electric | Gas | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
| **Water Heating** | 161 | 0 | 161 | 217 | 0 | 217 | 0.0 | 0.0 | 0 | 10.9 | 2,667 | - | - | - | 0.068 | 17 |
| Temp. Reduct. | 1 | 0 | 1 | | | | 0.00 | 0.00 | 0 | 0.1 | 30 | - | - | - | 0.086 | 30 |
| WH Wrap | 9 | 0 | 9 | | | | 0.00 | 0.00 | 0 | 0.3 | 102 | - | - | - | 0.033 | 11 |
| Pipe Insul. | 105 | 0 | 105 | | | | 0.00 | 0.00 | 0 | 1.7 | 584 | - | - | - | 0.016 | 6 |
| LF Showerhead | 31 | 0 | 31 | 33 | 0 | 33 | 0.00 | 0.00 | 0 | 2.4 | 733 | - | - | - | 0.077 | 24 |
| Faucet Aerator | 89 | 0 | 89 | 150 | 0 | 150 | 0.00 | 0.00 | 0 | 0.9 | 292 | - | - | - | 0.011 | 3 |
| Std-Eff Wtr Htr Repl. | 33 | 0 | 33 | 33 | 0 | 33 | 0.00 | 0.00 | 0 | 5.1 | 857 | - | - | - | 0.155 | 26 |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 1 | 0 | 1 | 0.00 | 0.00 | 0 | 0.4 | 69 | - | - | - | 0.422 | 69 |
| **Lighting** | 0 | 0 | | 0 | 0 | | 0.0 | 0.0 | 0 | - | - | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| **Refrigerator/Freezer** | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Refrigerator Exchange | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |

# MidAmerican Energy
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **573** | **457** | **460** | | | **700,886** | **51.6** | | **76.4** | | **277,500** | **828** | **79,958** | **1223.19** | **0.081** | | **0.121** | | **607** | **1.801** | **174** |
| **Shell & Htg. Sys.** | 541 | 434 | 445 | 358 | 351 | 651,286 | 37.3 | 44,983 | 55.4 | 86,866 | 131,849 | 814 | 75,271 | 1203.86 | 0.104 | 126 | 0.158 | 247 | 304 | 1.830 | 169 |
| Wall Insul. | 362 | 304 | 292 | 232 | 242 | 281,461 | 16.38 | 19,752 | 32.37 | 50,777 | 70,529 | 456 | 42,114 | 777.52 | 0.071 | 85 | 0.134 | 210 | 232 | 1.560 | 144 |
| Ceiling Insul | 438 | 361 | 356 | 272 | 291 | 216,012 | 21.49 | 25,923 | 19.18 | 30,059 | 55,982 | 204 | 18,835 | 493.18 | 0.079 | 95 | 0.066 | 103 | 155 | 0.572 | 53 |
| Infil. Reduction | 1 | 0 | 1 | 0 | 0 | 20 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 4 | 20.00 | - | - | - | - | - | 0.045 | 4 |
| Found./Crawl. Insul. | 166 | 121 | 137 | 101 | 93 | 77,443 | -0.57 | (692) | 3.21 | 4,943 | 4,251 | 77 | 6,955 | 466.52 | -0.006 | (7) | 0.034 | 53 | 35 | 0.560 | 51 |
| Bandjoist Insul. | 170 | 137 | 167 | - | 137 | 13,041 | 0.00 | 0 | 0.69 | 1,087 | 1,087 | 13 | 1,175 | 76.71 | - | - | 0.005 | 8 | 8 | 0.076 | 7 |
| Hi-Eff Htg Sys Repl | 33 | 0 | 33 | - | 0 | 63,309 | 0.00 | 0 | 0.00 | 0 | 0 | 65 | 6,189 | 1918.45 | - | - | - | - | - | 1.983 | 188 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 317 | 40 | 277 | 5,816 | 0.0 | 0.3 | 16,520 | 14.6 | 4,772 | 18.35 | 0.000 | 0.007 | 413 | 0.053 | 17 |
| Temp. Reduct. | 26 | 1 | 25 | 0 | 0.00 | 0.00 | (116) | 2.0 | 688 | 0.00 | 0.000 | 0.000 | (116) | 0.079 | 28 |
| WH Wrap | 66 | 11 | 55 | 1,257 | 0.00 | 0.01 | 2,646 | 2.0 | 690 | 19.04 | 0.000 | 0.000 | 241 | 0.036 | 13 |
| Pipe Insul. | 241 | 27 | 214 | 2,483 | 0.00 | 0.01 | 2,655 | 3.4 | 1,189 | 10.30 | 0.000 | 0.000 | 98 | 0.016 | 6 |
| LF Showerhead | 98 | 16 | 82 | 820 | 0.00 | 0.22 | 9,723 | 5.9 | 1,806 | 8.37 | 0.000 | 0.014 | 608 | 0.072 | 22 |
| Faucet Aerator | 149 | 22 | 127 | 857 | 0.00 | 0.04 | 1,611 | 1.3 | 399 | 5.75 | 0.000 | 0.002 | 73 | 0.010 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 400 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 238 | 238 | | 15,593 | 6.4 | 11.9 | 61,231 | - | - | 65.52 | 0.027 | 0.050 | 257 | - | - |
| Capsylite (42W) | 1 | 1 | | 10 | 0.01 | 0.01 | 54 | - | - | 10.00 | 0.006 | 0.010 | 54 | - | - |
| Capsylite (52W) | 5 | 5 | | 101 | 0.05 | 0.09 | 488 | - | - | 20.20 | 0.010 | 0.019 | 98 | - | - |
| Capsylite (72W) | 9 | 9 | | 90 | 0.07 | 0.13 | 693 | - | - | 10.00 | 0.008 | 0.015 | 77 | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 4 | 4 | | 188 | 0.03 | 0.06 | 319 | - | - | 47.00 | 0.008 | 0.015 | 80 | - | - |
| CFL (15W) | 28 | 28 | | 1,215 | 0.48 | 0.88 | 4,544 | - | - | 43.38 | 0.017 | 0.031 | 162 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 78 | 78 | | 6,493 | 2.62 | 4.84 | 24,962 | - | - | 83.25 | 0.034 | 0.062 | 320 | - | - |
| CFL (23W) | 123 | 123 | | 5,884 | 2.23 | 4.12 | 21,229 | - | - | 47.84 | 0.018 | 0.033 | 173 | - | - |
| CFL (25W) | 27 | 27 | | 960 | 0.54 | 0.99 | 5,102 | - | - | 35.57 | 0.020 | 0.037 | 189 | - | - |
| CFL (30W) | 26 | 26 | | 651 | 0.40 | 0.75 | 3,841 | - | - | 25.04 | 0.016 | 0.029 | 148 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 4 | 4 | 3 | 77 | 0.00 | 1.45 | 3,831 | -0.5 | -86 | 19.20 | 0.000 | 0.363 | 958 | -0.174 | -29 |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 4 | 4 | 3 | 77 | 0.00 | 1.45 | 3,831 | -0.5 | -86 | 19.20 | 0.000 | 0.363 | 958 | -0.174 | -29 |
| **Refrigerator/Freezer** | 48 | 48 | | 28,114 | 7.88 | 7.37 | 64,068 | - | - | 585.71 | 0.164 | 0.153 | 1,335 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 48 | 48 | | 28,114 | 7.88 | 7.37 | 64,068 | - | - | 585.71 | 0.164 | 0.153 | 1,335 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 579 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **70,716** | |
| Unspecified Insul. | 6 | 339 | 56.58 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 18 | 234 | 12.97 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 501 | 70,095 | 139.91 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 1 | 48 | 47.71 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **771,602** |
| **Utility Expenditures for Administration** | **31,931** |
| **Grand Total of Expenditures** | **803,533** |

# MidAmerican Energy
## Calendar Year 2002 Estimates
## Fuel and Demand Impacts For All Customer Households Regardless of Funding Source

| Measure | Number of Households with Impacts | | | Count of Households with Electricity Impacts by End-Use | | Estimated First-Year Savings | | | | | | | Average per Treated Household | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Electricity | | | | | Gas | | Electricity | | | | | Gas | |
| | | | | | | Summer | | Winter | | Annual | Pk-Day | Annual | Summer | | Winter | | Annual | Pk-Day | Annual |
| | Total | Electric | Gas | Cooling | Heating | kW | kWh | kW | kWh | kWh | therms | therms | kW | kWh | kW | kWh | kWh | therms | therms |
| **OVERALL** | **1,022** | **808** | **817** | | | **150.1** | | **186.9** | | **827,368** | **2,612** | **249,585** | **0.124** | | **0.145** | | **1,024** | **3.197** | **305** |
| **Shell & Htg. Sys.** | 1,014 | 798 | 814 | 698 | 777 | 91.1 | 109,883 | 117.3 | 184,128 | 294,011 | 2,562 | 237,301 | 0.130 | 157 | 0.151 | 237 | 368 | 3.148 | 292 |
| Wall Insul. | 707 | 588 | 552 | 521 | 585 | 39.14 | 47,244 | 54.88 | 86,279 | 133,523 | 894 | 82,886 | 0.075 | 91 | 0.094 | 147 | 227 | 1.620 | 150 |
| Ceiling Insul. | 853 | 692 | 686 | 609 | 691 | 46.01 | 55,518 | 35.61 | 55,885 | 111,403 | 420 | 38,940 | 0.076 | 91 | 0.052 | 81 | 161 | 0.612 | 57 |
| Infil. Reduction | 968 | 687 | 791 | 685 | 17 | 5.68 | 6,849 | 13.53 | 21,266 | 28,116 | 465 | 42,877 | 0.008 | 10 | 0.796 | 1,251 | 41 | 0.587 | 54 |
| Found./Crawl. Insul. | 353 | 260 | 287 | 219 | 260 | 0.23 | 272 | 8.33 | 12,990 | 13,261 | 163 | 14,916 | 0.001 | 1 | 0.032 | 50 | 51 | 0.568 | 52 |
| Bandjoist Insul. | 392 | 327 | 324 | - | 327 | 0.00 | 0 | 1.36 | 2,144 | 2,144 | 25 | 2,302 | - | - | 0.004 | 7 | 7 | 0.076 | 7 |
| Hi-Eff Htg Sys Repl | 153 | 0 | 153 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 331 | 31,017 | - | - | - | - | - | 2.162 | 203 |
| Std-Eff Htg Sys Repl | 185 | 1 | 184 | - | 1 | 0.00 | 0 | 3.56 | 5,564 | 5,564 | 265 | 24,363 | - | - | 3.558 | 5,564 | 30 | 1.440 | 132 |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - |

| | | | | Number of Measures by Fuel Type | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Electric | Gas | Total | Electric | Gas | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
| **Water Heating** | 609 | 69 | 538 | 779 | 89 | 686 | 0.0 | 0.5 | 30,063 | 51.6 | 12,516 | 0.000 | 0.007 | 436 | 0.096 | 23 |
| Temp. Reduct. | 37 | 1 | 36 | | | | 0.00 | 0.00 | (116) | 2.5 | 866 | 0.000 | 0.000 | (116) | 0.069 | 24 |
| WH Wrap | 113 | 18 | 95 | | | | 0.00 | 0.01 | 4,330 | 3.5 | 1,210 | 0.000 | 0.000 | 241 | 0.037 | 13 |
| Pipe Insul. | 433 | 53 | 380 | | | | 0.00 | 0.01 | 5,213 | 6.1 | 2,115 | 0.000 | 0.000 | 98 | 0.016 | 6 |
| LF Showerhead | 166 | 24 | 142 | 185 | 25 | 160 | 0.00 | 0.28 | 12,187 | 10.9 | 3,352 | 0.000 | 0.012 | 508 | 0.077 | 24 |
| Faucet Aerator | 246 | 31 | 213 | 454 | 59 | 391 | 0.00 | 0.05 | 2,121 | 2.1 | 642 | 0.000 | 0.002 | 68 | 0.010 | 3 |
| Std-Eff Wtr Htr Repl. | 127 | 6 | 121 | 126 | 5 | 121 | 0.00 | 0.16 | 6,329 | 22.6 | 3,679 | 0.000 | 0.026 | 1,055 | 0.186 | 30 |
| Hi-Eff Wtr Htr Repl. | 14 | 0 | 14 | 14 | 0 | 14 | 0.00 | 0.00 | 0 | 4.0 | 653 | - | - | - | 0.286 | 47 |
| **Lighting** | 439 | 439 | | 2,090 | 2,090 | | 13.7 | 25.2 | 130,431 | - | - | 0.031 | 0.057 | 297 | - | - |
| Capsylite (42W) | 1 | 1 | | 2 | 2 | | 0.01 | 0.01 | 54 | - | - | 0.006 | 0.010 | 54 | - | - |
| Capsylite (52W) | 5 | 5 | | 22 | 22 | | 0.05 | 0.09 | 488 | - | - | 0.010 | 0.019 | 98 | - | - |
| Capsylite (72W) | 9 | 9 | | 18 | 18 | | 0.07 | 0.13 | 693 | - | - | 0.008 | 0.015 | 77 | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (11W) | 10 | 10 | | 38 | 38 | | 0.12 | 0.21 | 1,102 | - | - | 0.012 | 0.021 | 110 | - | - |
| CFL (15W) | 45 | 45 | | 192 | 192 | | 0.91 | 1.68 | 8,638 | - | - | 0.020 | 0.037 | 192 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| CFL (20W) | 158 | 158 | | 776 | 776 | | 4.45 | 8.21 | 42,666 | - | - | 0.028 | 0.052 | 270 | - | - |
| CFL (23W) | 245 | 245 | | 781 | 781 | | 5.49 | 10.15 | 52,303 | - | - | 0.022 | 0.041 | 213 | - | - |
| CFL (25W) | 49 | 49 | | 152 | 152 | | 1.20 | 2.21 | 11,405 | - | - | 0.024 | 0.045 | 233 | - | - |
| CFL (30W) | 63 | 63 | | 109 | 109 | | 1.37 | 2.54 | 13,083 | - | - | 0.022 | 0.040 | 208 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 9 | 4 | 8 | 13 | 5 | 8 | 0.00 | 1.45 | 3,831 | -1.4 | -232 | 0.000 | 0.363 | 958 | -0.176 | -29 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | - | - | - | - | - |
| Unknown | 9 | 4 | 8 | 13 | 5 | 8 | 0.00 | 1.45 | 3,831 | -1.4 | -232 | 0.000 | 0.363 | 958 | -0.176 | -29 |
| **Refrigerator/Freezer** | 285 | 285 | | 300 | 300 | | 45.39 | 42.44 | 369,031 | - | - | 0.159 | 0.149 | 1,295 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0.00 | 0.00 | 0 | - | - | - | - | - | - | - |
| Refrigerator Exchange | 223 | 223 | | 236 | 236 | | 37.54 | 35.10 | 305,207 | - | - | 0.168 | 0.157 | 1,369 | - | - |
| Freezer Removal | 2 | 2 | | 3 | 3 | | 0.51 | 0.48 | 4,167 | - | - | 0.256 | 0.240 | 2,083 | - | - |
| Freezer Exchange | 60 | 60 | | 61 | 61 | | 7.34 | 6.86 | 59,657 | - | - | 0.122 | 0.114 | 994 | - | - |

## 5. DETAILED SPENDING AND IMPACT PROFILES BY AGENCY

This section provides tables of spending and impacts by agency for all expenditures in 2002.

Energy impacts were estimated according to the statewide algorithms, which include agency-specific adjustments beginning this year. See notes regarding waterbed mattress and water heater measure savings on page 33.

## Community Opportunity
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **70** | **70** | **57** | **11** | **0** | **0** | | | **594,842** | **42.3** | | **108.2** | | **313,741** | **444** | **42,116** | **8,303** | **0** | **0** | **8497.74** | **0.359** | | **0.901** | | **4,482** | **7.783** | **739** | **755** | **-** | **-** |
| **Shell & Htg. Sys.** | 70 | 70 | 52 | 11 | 0 | 0 | 68 | 70 | 548,916 | 26.0 | 28,466 | 91.9 | 145,476 | 173,942 | 442 | 41,586 | 8,303 | 0 | 0 | 7841.65 | 0.383 | 419 | 1.313 | 2,078 | 2,485 | 8.506 | 800 | 755 | - | - |
| Wall Insul. | 58 | 58 | 42 | 10 | 0 | 0 | 56 | 58 | 187,032 | 8.17 | 8,717 | 46.95 | 74,497 | 83,214 | 173 | 16,242 | 3,065 | 0 | 0 | 3224.70 | 0.146 | 156 | 0.809 | 1,284 | 1,435 | 4.112 | 387 | 307 | - | - |
| Ceiling Insul. | 68 | 68 | 51 | 11 | 0 | 0 | 66 | 68 | 155,001 | 15.11 | 16,730 | 27.65 | 43,795 | 60,525 | 91 | 8,542 | 1,396 | 0 | 0 | 2279.43 | 0.229 | 253 | 0.407 | 644 | 890 | 1.780 | 167 | 127 | - | - |
| Infil. Reduction | 68 | 67 | 50 | 11 | 0 | 0 | 66 | 7 | 20,331 | 1.95 | 2,101 | 5.66 | 9,010 | 11,111 | 49 | 4,651 | 613 | 0 | 0 | 298.99 | 0.030 | 32 | 0.809 | 1,287 | 166 | 0.988 | 93 | 56 | - | - |
| Found./Crawl. Insul | 30 | 30 | 21 | 6 | 0 | 0 | 28 | 30 | 27,587 | 0.81 | 919 | 10.61 | 16,564 | 17,483 | 34 | 3,150 | 881 | 0 | 0 | 919.58 | 0.029 | 33 | 0.354 | 552 | 583 | 1.599 | 150 | 147 | - | - |
| Bandjoist Insul. | 27 | 27 | 20 | 3 | 0 | 0 | - | 27 | 3,581 | 0.00 | 0 | 1.01 | 1,610 | 1,610 | 3 | 264 | 33 | 0 | 0 | 132.65 | - | - | 0.038 | 60 | 60 | 0.140 | 13 | 11 | - | - |
| Hi-Eff Htg Sys Repl | 8 | 0 | 6 | 2 | 0 | 0 | - | 0 | 41,216 | 0.00 | 0 | 0.00 | 0 | 0 | 25 | 2,350 | 875 | 0 | 0 | 5152.00 | - | - | - | - | - | 4.130 | 392 | 437 | - | - |
| Std-Eff Htg Sys Repl | 29 | 0 | 23 | 6 | 0 | 0 | - | 0 | 114,166 | 0.00 | 0 | 0.00 | 0 | 0 | 68 | 6,387 | 1,440 | 0 | 0 | 3936.76 | - | - | - | - | - | 2.968 | 278 | 240 | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 65 | 20 | 45 | 0 | 0 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 2,612 | 0.0 | | 0.1 | | 5,811 | 1.4 | 529 | 0 | 0 | 0 | 40.18 | 0.000 | | 0.003 | | 291 | 0.030 | 12 | - | - | - |
| Temp. Reduct. | 1 | 1 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | (232) | 0.0 | 0 | 0 | 0 | 0 | 0.00 | 0.000 | | 0.000 | | (232) | - | - | - | - | - |
| WH Wrap | 1 | 0 | 1 | 0 | 0 | 0 | | | | | | | 20 | 0.00 | | 0.00 | | 0 | 0.1 | 21 | 0 | 0 | 0 | 20.30 | - | | - | | - | 0.062 | 21 | - | - | - |
| Pipe Insul. | 65 | 20 | 45 | 0 | 0 | 0 | | | | | | | 390 | 0.00 | | 0.01 | | 3,934 | 1.3 | 456 | 0 | 0 | 0 | 5.99 | 0.000 | | 0.000 | | 197 | 0.029 | 10 | - | - | - |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 2,202 | 0.00 | | 0.05 | | 2,110 | 0.0 | 52 | 0 | 0 | 0 | 1101.00 | 0.000 | | 0.052 | | 2,110 | 0.000 | 52 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Lighting** | 30 | 30 | | | | | 132 | 132 | | | | | 1,930 | 1.1 | | 2.0 | | 10,062 | - | - | - | - | - | 64.33 | 0.035 | | 0.065 | | 335 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (23W) | 16 | 16 | | | | | 92 | 92 | | | | | 1,366 | 0.65 | | 1.20 | | 6,161 | - | - | - | - | - | 85.38 | 0.040 | | 0.075 | | 385 | - | - | - | - | - |
| CFL (25W) | 4 | 4 | | | | | 20 | 20 | | | | | 304 | 0.16 | | 0.29 | | 1,501 | - | - | - | - | - | 76.00 | 0.039 | | 0.073 | | 375 | - | - | - | - | - |
| CFL (30W) | 10 | 10 | | | | | 20 | 20 | | | | | 260 | 0.25 | | 0.47 | | 2,401 | - | - | - | - | - | 26.00 | 0.025 | | 0.047 | | 240 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 47 | 47 | | | | | 98 | 98 | | | | | 41,384 | 15.24 | | 14.25 | | 123,925 | - | - | - | - | - | 880.51 | 0.324 | | 0.303 | | 2,637 | | | | | |
| Refrigerator Remova | 3 | 3 | | | | | 6 | 6 | | | | | 300 | 1.47 | | 1.37 | | 11,940 | - | - | - | - | - | 100.00 | 0.490 | | 0.458 | | 3,980 | - | - | - | - | - |
| Refrigerator Exchange | 26 | 26 | | | | | 56 | 56 | | | | | 29,276 | 9.14 | | 8.55 | | 74,311 | - | - | - | - | - | 1126.00 | 0.352 | | 0.329 | | 2,858 | - | - | - | - | - |
| Freezer Remova | 3 | 3 | | | | | 6 | 6 | | | | | 300 | 1.03 | | 0.96 | | 8,334 | - | - | - | - | - | 100.00 | 0.342 | | 0.319 | | 2,778 | - | - | - | - | - |
| Freezer Exchange | 15 | 15 | | | | | 30 | 30 | | | | | 11,508 | 3.61 | | 3.37 | | 29,340 | - | - | - | - | - | 767.20 | 0.241 | | 0.225 | | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 70 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **273,575** | |
| Unspecified Insul | 67 | 11,076 | 165.31 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 37 | 1,267 | 34.25 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 66 | 14,302 | 216.70 |
| Htg. Sys./WH Other | 2 | 334 | 167.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 11 | 1,232 | 112.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 24 | 3,396 | 141.50 |
| Exhaust Ventilation | 18 | 1,756 | 97.57 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 3 | 616 | 205.22 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 53 | 17,907 | 337.86 |
| Evaluator Labor | 25 | 4,905 | 196.20 |
| Inspector Labor | 18 | 1,871 | 103.92 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 70 | 216,775 | 3096.79 |
| Landlord Contr Misc | 2 | (2,000) | -1000.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 1 | 138 | 138.22 |

**Total Reported Materials, Labor, and Support Costs** **868,416**

**Grand Total of Expenditures** **868,416**

# HACAP
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **250** | **250** | **234** | **18** | **2** | **0** | | | **1,162,230** | **78.9** | | **110.2** | | **626,787** | **780** | **75,111** | **3,439** | **379** | **0** |
| **Shell & Htg. Sys.** | 247 | 239 | 223 | 17 | 2 | 0 | 172 | 222 | 927,969 | 13.9 | 15,771 | 28.7 | 44,536 | 60,307 | 757 | 69,405 | 3,326 | 379 | 0 |
| Wall Insul. | 101 | 101 | 92 | 6 | 2 | 0 | 74 | 101 | 215,702 | 4.95 | 5,744 | 13.71 | 21,317 | 27,061 | 242 | 22,324 | 821 | 157 | 0 |
| Ceiling Insul. | 145 | 145 | 130 | 12 | 2 | 0 | 101 | 145 | 181,566 | 4.25 | 4,891 | 7.17 | 11,140 | 16,030 | 112 | 10,302 | 522 | 73 | 0 |
| Infil. Reduction | 241 | 171 | 216 | 16 | 2 | 0 | 170 | 2 | 172,749 | 3.15 | 3,512 | 1.66 | 2,597 | 6,109 | 194 | 17,673 | 638 | 51 | 0 |
| Found./Crawl. Insul | 124 | 124 | 111 | 11 | 1 | 0 | 79 | 124 | 195,344 | 1.55 | 1,624 | 5.89 | 9,009 | 10,633 | 93 | 8,446 | 604 | 19 | 0 |
| Bandjoist Insul. | 65 | 65 | 57 | 7 | 1 | 0 | - | 65 | 9,133 | 0.00 | 0 | 0.31 | 473 | 473 | 7 | 628 | 52 | 5 | 0 |
| Hi-Eff Htg Sys Repl | 6 | 0 | 5 | 1 | 0 | 0 | - | 0 | 23,696 | 0.00 | 0 | 0.00 | 0 | 0 | 17 | 1,590 | 210 | 0 | 0 |
| Std-Eff Htg Sys Repl | 50 | 0 | 45 | 4 | 1 | 0 | - | 0 | 129,779 | 0.00 | 0 | 0.00 | 0 | 0 | 92 | 8,442 | 478 | 73 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 160 | 8 | 147 | 5 | 0 | 0 | 44,917 | 0.0 | 0.1 | 3,070 | 23.7 | 5,799 | 177 | 0 | 0 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 1 | 0 | 1 | 0 | 0 | 0 | 62 | 0.00 | 0.00 | 0 | 0.1 | 19 | 0 | 0 | 0 |
| Pipe Insul. | 41 | 2 | 38 | 1 | 0 | 0 | 1,053 | 0.00 | 0.00 | 393 | 1.0 | 337 | 6 | 0 | 0 |
| LF Showerheac | 77 | 5 | 69 | 3 | 0 | 0 | 1,661 | 0.00 | 0.05 | 2,308 | 8.5 | 2,629 | 82 | 0 | 0 |
| Faucet Aerator | 90 | 5 | 82 | 3 | 0 | 0 | 1,654 | 0.00 | 0.01 | 368 | 1.5 | 453 | 15 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 40 | 0 | 38 | 2 | 0 | 0 | 34,248 | 0.00 | 0.00 | 0 | 11.1 | 2,021 | 73 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 4 | 0 | 4 | 0 | 0 | 0 | 6,238 | 0.00 | 0.00 | 0 | 1.6 | 340 | 0 | 0 | 0 |
| **Lighting** | 201 | 201 | | | | | 55,916 | 20.1 | 37.1 | 191,788 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 200 | 200 | | | | | 54,951 | 19.64 | 36.29 | 187,707 | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (30W) | 7 | 7 | | | | | 965 | 0.43 | 0.79 | 4,081 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 3 | 3 | 2 | 1 | 0 | 0 | 208 | 0.00 | 2.32 | 6,130 | -0.6 | -93 | -63.9 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 3 | 3 | 2 | 1 | 0 | 0 | 208 | 0.00 | 2.32 | 6,130 | -0.6 | -93 | -63.9 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 139 | 139 | | | | | 133,220 | 44.96 | 42.03 | 365,492 | - | - | - | - | - |
| Refrigerator Remova | 1 | 1 | | | | | 40 | 0.49 | 0.46 | 3,980 | - | - | - | - | - |
| Refrigerator Exchange | 99 | 99 | | | | | 105,290 | 32.97 | 30.83 | 268,051 | - | - | - | - | - |
| Freezer Remova | 7 | 7 | | | | | 360 | 3.08 | 2.88 | 25,002 | - | - | - | - | - |
| Freezer Exchange | 32 | 32 | | | | | 27,530 | 8.42 | 7.87 | 68,459 | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **4648.92** | **0.207** | | **0.256** | | **2,507** | **3.335** | **321** | **191** | **190** | **-** |
| **Shell & Htg. Sys.** | 3756.96 | 0.081 | 92 | 0.129 | 201 | 252 | 3.395 | 311 | 196 | 190 | - |
| Wall Insul. | 2135.66 | 0.067 | 78 | 0.136 | 211 | 268 | 2.629 | 243 | 137 | 79 | - |
| Ceiling Insul. | 1252.18 | 0.042 | 48 | 0.049 | 77 | 111 | 0.860 | 79 | 43 | 36 | - |
| Infil. Reduction | 716.80 | 0.019 | 21 | 0.828 | 1,299 | 36 | 0.898 | 82 | 40 | 26 | - |
| Found./Crawl. Insul | 1575.35 | 0.020 | 21 | 0.047 | 73 | 86 | 0.841 | 76 | 55 | 19 | - |
| Bandjoist Insul. | 140.51 | - | - | 0.005 | 7 | 7 | 0.120 | 11 | 7 | 5 | - |
| Hi-Eff Htg Sys Repl | 3949.33 | - | - | - | - | - | 3.433 | 318 | 210 | - | - |
| Std-Eff Htg Sys Repl | 2595.58 | - | - | - | - | - | 2.052 | 188 | 120 | 73 | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 280.73 | 0.000 | 0.008 | 384 | 0.161 | 39 | 35 | - | - |
| Temp. Reduct. | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 62.28 | - | - | - | 0.054 | 19 | - | - | - |
| Pipe Insul. | 25.68 | 0.000 | 0.000 | 197 | 0.026 | 9 | 6 | - | - |
| LF Showerheac | 21.58 | 0.000 | 0.010 | 462 | 0.124 | 38 | 27 | - | - |
| Faucet Aerator | 18.38 | 0.000 | 0.002 | 74 | 0.018 | 6 | 5 | - | - |
| Std-Eff Wtr Htr Repl. | 856.20 | - | - | - | 0.292 | 53 | 37 | - | - |
| Hi-Eff Wtr Htr Repl. | 1559.50 | - | - | - | 0.391 | 85 | - | - | - |
| **Lighting** | 278.19 | 0.100 | 0.184 | 954 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 274.76 | 0.098 | 0.181 | 939 | - | - | - | - | - |
| CFL (23W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (25W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (30W) | 137.83 | 0.061 | 0.113 | 583 | - | - | - | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 69.19 | 0.000 | 0.774 | 2,043 | -0.282 | -46 | -64 | - | - |
| King | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 69.19 | 0.000 | 0.774 | 2,043 | -0.282 | -46 | -64 | - | - |
| **Refrigerator/Freezer** | 958.42 | 0.323 | 0.302 | 2,629 | | | | | |
| Refrigerator Remova | 40.00 | 0.490 | 0.458 | 3,980 | - | - | - | - | - |
| Refrigerator Exchange | 1063.54 | 0.333 | 0.311 | 2,708 | - | - | - | - | - |
| Freezer Remova | 51.43 | 0.439 | 0.411 | 3,572 | - | - | - | - | - |
| Freezer Exchange | 860.31 | 0.263 | 0.246 | 2,139 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 250 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **1,027,996** | |
| Unspecified Insul | 188 | 117,478 | 624.88 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 152 | 58,955 | 387.86 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 211 | 30,363 | 143.90 |
| Htg. Sys./WH Other | 70 | 19,597 | 279.95 |
| Space Heater Repl | 4 | 13,267 | 3316.72 |
| Air Conditioning Work | 1 | 178 | 178.00 |
| Water Heater Repair | 5 | 886 | 177.14 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 195 | 21,026 | 107.82 |
| Smoke Detector | 36 | 2,650 | 73.62 |
| Fuses | 3 | 206 | 68.63 |
| Htg Sys Safety Check | 73 | 6,055 | 82.94 |
| Exhaust Ventilation | 105 | 15,884 | 151.27 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 123 | 66,207 | 538.26 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 133 | 54,661 | 410.99 |
| Evaluator Labor | 114 | 46,065 | 404.08 |
| Inspector Labor | 112 | 38,247 | 341.49 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 249 | 528,191 | 2121.25 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 6 | 8,082 | 1347.07 |

**Total Reported Materials, Labor, and Support Costs** **2,190,226**

**Grand Total of Expenditures** **2,190,226**

**TRAIN**
**Calendar Year 2002 Estimates**
**Costs, Fuel, and Demand Impacts for All Measures**

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **166** | **166** | **160** | **9** | **0** | **0** | | | **982,225** | **86.5** | | **34.1** | | **244,332** | **962** | **94,832** | **4,067** | **0** | **0** | **5917.02** | **0.264** | | **0.099** | | **1,472** | **6.012** | **593** | **452** | **-** | **-** |
| **Shell & Htg. Sys.** | 166 | 166 | 157 | 9 | 0 | 0 | 149 | 164 | 916,247 | 73.0 | 80,561 | 16.5 | 24,988 | 105,548 | 923 | 83,506 | 3,881 | 0 | 0 | 5519.56 | 0.490 | 541 | 0.101 | 152 | 636 | 5.879 | 532 | 431 | - | - |
| Wall Insul. | 124 | 124 | 118 | 6 | 0 | 0 | 112 | 124 | 246,338 | 29.54 | 32,744 | 9.25 | 14,035 | 46,778 | 325 | 29,401 | 967 | 0 | 0 | 1986.60 | 0.264 | 292 | 0.075 | 113 | 377 | 2.754 | 249 | 161 | - | - |
| Ceiling Insul. | 139 | 139 | 132 | 7 | 0 | 0 | 125 | 139 | 149,930 | 41.00 | 45,067 | 4.35 | 6,593 | 51,660 | 148 | 13,343 | 522 | 0 | 0 | 1078.63 | 0.328 | 361 | 0.031 | 47 | 372 | 1.118 | 101 | 75 | - | - |
| Infil. Reduction | 166 | 149 | 154 | 9 | 0 | 0 | 149 | 0 | 127,540 | 1.83 | 2,015 | 0.00 | 0 | 2,015 | 153 | 13,865 | 559 | 0 | 0 | 768.31 | 0.012 | 14 | - | - | 14 | 0.994 | 90 | 62 | - | - |
| Found./Crawl. Insul | 65 | 65 | 60 | 5 | 0 | 0 | 55 | 65 | 41,620 | 0.67 | 735 | 2.30 | 3,465 | 4,200 | 67 | 5,998 | 539 | 0 | 0 | 640.31 | 0.012 | 13 | 0.035 | 53 | 65 | 1.110 | 100 | 108 | - | - |
| Bandjoist Insul. | 123 | 123 | 116 | 7 | 0 | 0 | - | 123 | 26,335 | 0.00 | 0 | 0.59 | 895 | 895 | 18 | 1,602 | 71 | 0 | 0 | 214.11 | - | - | 0.005 | 7 | 7 | 0.152 | 14 | 10 | - | - |
| Hi-Eff Htg Sys Repl | 17 | 0 | 16 | 1 | 0 | 0 | - | 0 | 88,785 | 0.00 | 0 | 0.00 | 0 | 0 | 65 | 5,896 | 261 | 0 | 0 | 5222.66 | - | - | - | - | - | 4.062 | 368 | 261 | - | - |
| Std-Eff Htg Sys Repl | 53 | 0 | 48 | 5 | 0 | 0 | - | 0 | 235,699 | 0.00 | 0 | 0.00 | 0 | 0 | 148 | 13,402 | 961 | 0 | 0 | 4447.15 | - | - | - | - | - | 3.085 | 279 | 192 | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 160 | 18 | 140 | 2 | 0 | 0 | 678 | 68 | 600 | 10 | 0 | 0 | 30,155 | 0.0 | | 0.3 | | 21,835 | 39.3 | 11,385 | 186 | 0 | 0 | 188.47 | 0.000 | | 0.019 | | 1,213 | 0.281 | 81 | 93 | - | - |
| Temp. Reduct. | 46 | 3 | 41 | 2 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | (61) | 5.4 | 1,859 | 33 | 0 | 0 | 0.00 | 0.000 | | 0.000 | | (20) | 0.131 | 45 | 16 | - | - |
| WH Wrap | 110 | 11 | 98 | 1 | 0 | 0 | | | | | | | 4,062 | 0.00 | | 0.01 | | 5,429 | 6.7 | 2,355 | 19 | 0 | 0 | 36.92 | 0.000 | | 0.001 | | 494 | 0.069 | 24 | 19 | - | - |
| Pipe Insul. | 119 | 12 | 106 | 1 | 0 | 0 | | | | | | | 1,512 | 0.00 | | 0.00 | | 2,360 | 3.4 | 1,188 | 8 | 0 | 0 | 12.71 | 0.000 | | 0.000 | | 197 | 0.032 | 11 | 8 | - | - |
| LF Showerheac | 78 | 6 | 71 | 1 | 0 | 0 | 162 | 12 | 148 | 2 | 0 | 0 | 1,247 | 0.00 | | 0.16 | | 6,995 | 11.2 | 3,533 | 23 | 0 | 0 | 15.99 | 0.000 | | 0.026 | | 1,166 | 0.158 | 50 | 23 | - | - |
| Faucet Aerator | 125 | 13 | 110 | 2 | 0 | 0 | 462 | 52 | 406 | 4 | 0 | 0 | 1,286 | 0.00 | | 0.07 | | 2,891 | 2.6 | 818 | 5 | 0 | 0 | 10.29 | 0.000 | | 0.005 | | 222 | 0.024 | 7 | 2 | - | - |
| Std-Eff Wtr Htr Repl. | 25 | 2 | 21 | 2 | 0 | 0 | 50 | 4 | 42 | 4 | 0 | 0 | 19,827 | 0.00 | | 0.10 | | 4,219 | 8.7 | 1,416 | 99 | 0 | 0 | 793.09 | 0.000 | | 0.052 | | 2,110 | 0.413 | 67 | 49 | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 2,220 | 0.00 | | 0.00 | | 0 | 1.3 | 216 | 0 | 0 | 0 | 2220.00 | - | | - | | - | 1.323 | 216 | - | - | - |
| **Lighting** | 161 | 161 | | | | | 662 | 662 | | | | | 12,188 | 4.5 | | 8.4 | | 43,199 | - | - | - | - | - | 75.70 | 0.028 | | 0.052 | | 268 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 25 | 25 | | | | | 100 | 100 | | | | | 1,765 | 0.58 | | 1.07 | | 5,498 | - | - | - | - | - | 70.61 | 0.023 | | 0.043 | | 220 | - | - | - | - | - |
| CFL (23W) | 134 | 134 | | | | | 554 | 554 | | | | | 10,270 | 3.90 | | 7.20 | | 37,101 | - | - | - | - | - | 76.64 | 0.029 | | 0.054 | | 277 | - | - | - | - | - |
| CFL (25W) | 2 | 2 | | | | | 8 | 8 | | | | | 152 | 0.06 | | 0.12 | | 600 | - | - | - | - | - | 76.16 | 0.032 | | 0.058 | | 300 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 1 | 1 | 1 | 0 | 0 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 34 | 0.00 | | 0.58 | | 1,533 | -0.4 | -59 | 0.0 | 0.0 | 0.0 | 33.60 | 0.000 | | 0.581 | | 1,533 | -0.357 | -59 | - | | |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 1 | 1 | 1 | 0 | 0 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 34 | 0.00 | | 0.58 | | 1,533 | -0.4 | -59 | 0.0 | 0.0 | 0.0 | 33.60 | 0.000 | | 0.581 | | 1,533 | -0.357 | -59 | - | | |
| **Refrigerator/Freezer** | 28 | 28 | | | | | 56 | 56 | | | | | 23,601 | 8.88 | | 8.30 | | 72,217 | - | - | - | - | - | 842.91 | 0.317 | | 0.297 | | 2,579 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 25 | 25 | | | | | 50 | 50 | | | | | 21,900 | 8.16 | | 7.63 | | 66,349 | - | - | - | - | - | 875.98 | 0.326 | | 0.305 | | 2,654 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 3 | 3 | | | | | 6 | 6 | | | | | 1,702 | 0.72 | | 0.67 | | 5,868 | - | - | - | - | - | 567.31 | 0.241 | | 0.225 | | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 166 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **666,335** | |
| Unspecified Insul | 159 | 51,072 | 321.21 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 153 | 39,667 | 259.26 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 149 | 32,304 | 216.81 |
| Htg. Sys./WH Other | 54 | 29,743 | 550.80 |
| Space Heater Repl | 1 | 3,974 | 3974.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 3 | 1,088 | 362.71 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 50 | 4,550 | 91.01 |
| Smoke Detector | 4 | 327 | 81.74 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 44 | 8,825 | 200.57 |
| Exhaust Ventilatior | 108 | 14,404 | 133.37 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 21 | 7,829 | 372.79 |
| Consumables | 163 | 4,480 | 27.48 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 151 | 74,244 | 491.68 |
| Evaluator Labor | 44 | 5,327 | 121.07 |
| Inspector Labor | 43 | 3,806 | 88.51 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 166 | 384,996 | 2319.25 |
| Landlord Contr Misc | 1 | (300) | -300.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **1,648,560**

**Grand Total of Expenditures** **1,648,560**

# MATURA
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **54** | **54** | **43** | **10** | **0** | **0** | | | **343,939** | **36.2** | | **39.7** | | **202,624** | **250** | **22,761** | **2,005** | **0** | **0** |
| **Shell & Htg. Sys.** | 54 | 53 | 43 | 10 | 0 | 0 | 52 | 51 | 279,893 | 20.5 | 20,546 | 20.9 | 31,722 | 52,268 | 247 | 22,134 | 2,005 | 0 | 0 |
| Wall Insul. | 33 | 33 | 26 | 7 | 0 | 0 | 33 | 33 | 28,030 | 5.95 | 5,925 | 2.57 | 3,845 | 9,769 | 58 | 5,218 | 672 | 0 | 0 |
| Ceiling Insul. | 46 | 46 | 36 | 9 | 0 | 0 | 45 | 46 | 50,099 | 10.28 | 10,253 | 6.46 | 9,813 | 20,065 | 41 | 3,680 | 471 | 0 | 0 |
| Infil. Reduction | 53 | 52 | 42 | 10 | 0 | 0 | 52 | 1 | 26,664 | 1.77 | 1,742 | 1.76 | 2,693 | 4,435 | 32 | 2,830 | 368 | 0 | 0 |
| Found./Crawl. Insul | 25 | 25 | 22 | 2 | 0 | 0 | 25 | 25 | 14,084 | 2.53 | 2,627 | 4.13 | 6,276 | 8,903 | 23 | 2,078 | 79 | 0 | 0 |
| Bandjoist Insul. | 28 | 28 | 22 | 5 | 0 | 0 | - | 28 | 2,009 | 0.00 | 0 | 0.35 | 524 | 524 | 3 | 233 | 32 | 0 | 0 |
| Hi-Eff Htg Sys Repl | 30 | 0 | 29 | 1 | 0 | 0 | - | 0 | 143,723 | 0.00 | 0 | 0.00 | 0 | 0 | 89 | 7,924 | 170 | 0 | 0 |
| Std-Eff Htg Sys Repl | 3 | 0 | 1 | 2 | 0 | 0 | - | 0 | 12,128 | 0.00 | 0 | 0.00 | 0 | 0 | 2 | 170 | 214 | 0 | 0 |
| Electric Htg Sys Repl | 1 | 1 | 0 | 0 | 0 | 0 | - | 1 | 3,155 | 0.00 | 0 | 5.62 | 8,571 | 8,571 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Estimated First-Year Savings: Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 17 | 8 | 9 | 0 | 0 | 0 | 14,085 | 0.0 | 0.3 | 16,877 | 3.2 | 627 | 0 | 0 | 0 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Pipe Insul. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 16 | 8 | 8 | 0 | 0 | 0 | 13,265 | 0.00 | 0.31 | 16,877 | 2.1 | 448 | 0 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 820 | 0.00 | 0.00 | 0 | 1.1 | 179 | 0 | 0 | 0 |
| **Lighting** | 50 | 50 | | | | | 13,124 | 4.2 | 7.8 | 40,183 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (15W) | 48 | 48 | | | | | 7,140 | 1.98 | 3.67 | 18,896 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 36 | 36 | | | | | 4,318 | 1.47 | 2.71 | 13,965 | - | - | - | - | - |
| CFL (23W) | 1 | 1 | | | | | 68 | 0.03 | 0.05 | 268 | - | - | - | - | - |
| CFL (25W) | 27 | 27 | | | | | 1,598 | 0.74 | 1.37 | 7,053 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 34 | 34 | | | | | 36,836 | 11.48 | 10.73 | 93,297 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 25 | 25 | | | | | 29,698 | 8.49 | 7.94 | 69,003 | - | - | - | - | - |
| Freezer Remova | 1 | 1 | | | | | 2 | 0.34 | 0.32 | 2,778 | - | - | - | - | - |
| Freezer Exchange | 8 | 8 | | | | | 30 | 2.65 | 2.47 | 21,516 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 54 Total Households with Spending and/or Energy Impacts:**

| | | |
|---|---|---|
| **Total** | | **266,152** |
| Unspecified Insul | 47 | 10,566 |
| Duct Insulation | 0 | 0 |
| Duct Sealing | 30 | 811 |
| Damming Materia | 0 | 0 |
| Htg. Sys. Tune & Clean | 28 | 3,745 |
| Htg. Sys./WH Other | 35 | 12,435 |
| Space Heater Repl | 0 | 0 |
| Air Conditioning Work | 0 | 0 |
| Water Heater Repair | 4 | 905 |
| Refrigerator Coil Clear | 0 | 0 |
| Unspecified Utility Meas | 0 | 0 |
| Asbestos Abatement | 0 | 0 |
| CO Detector | 5 | 500 |
| Smoke Detector | 0 | 0 |
| Fuses | 0 | 0 |
| Htg Sys Safety Check | 0 | 0 |
| Exhaust Ventilation | 16 | 1,956 |
| Health/Safety Repairs | 0 | 0 |
| Health/Safety Other | 9 | 4,008 |
| Consumables | 0 | 0 |
| Preservation | 0 | 0 |
| Roof Repairs | 0 | 0 |
| General Repairs | 53 | 56,078 |
| Evaluator Labor | 20 | 14,312 |
| Inspector Labor | 0 | 0 |
| Eval/Insp Labor | 0 | 0 |
| Meter Refrig (no action) | 0 | 0 |
| Meter Freezer (no action | 0 | 0 |
| Support | 54 | 161,775 |
| Landlord Contr Misc | 1 | (939) |
| Landlord Contr Furnace | 0 | 0 |
| Landlord Contr DHW | 0 | 0 |
| Client Contr Misc | 0 | 0 |
| Client Contr Refi | 0 | 0 |
| Warehouse | 0 | 0 |
| Unspecified | 0 | 0 |

**Total Reported Materials, Labor, and Support Costs** **610,091**

**Grand Total of Expenditures** **610,091**

## Average Estimated First Year Measure Cost and Savings Average per Treated Household

| Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **6369.24** | **0.329** | | **0.364** | | **3,752** | **5.825** | **529** | **201** | **-** | **-** |
| **Shell & Htg. Sys.** | 5183.21 | 0.395 | 395 | 0.410 | 622 | 986 | 5.752 | 515 | 201 | - | - |
| Wall Insul. | 849.41 | 0.180 | 180 | 0.078 | 117 | 296 | 2.246 | 201 | 96 | - | - |
| Ceiling Insul. | 1089.12 | 0.228 | 228 | 0.140 | 213 | 436 | 1.143 | 102 | 52 | - | - |
| Infil. Reduction | 503.10 | 0.034 | 33 | 1.765 | 2,693 | 85 | 0.754 | 67 | 37 | - | - |
| Found./Crawl. Insul | 563.36 | 0.101 | 105 | 0.165 | 251 | 356 | 1.053 | 94 | 40 | - | - |
| Bandjoist Insul. | 71.74 | - | - | 0.012 | 19 | 19 | 0.118 | 11 | 6 | - | - |
| Hi-Eff Htg Sys Repl | 4790.77 | - | - | - | - | - | 3.052 | 273 | 170 | - | - |
| Std-Eff Htg Sys Repl | 4042.76 | - | - | - | - | - | 1.848 | 170 | 107 | - | - |
| Electric Htg Sys Repl | 3155.40 | - | - | 5.620 | 8,571 | 8,571 | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 828.56 | 0.000 | 0.039 | 2,110 | 0.351 | 70 | - | - | - |
| Temp. Reduct. | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 0.00 | - | - | - | - | - | - | - | - |
| Pipe Insul. | 0.00 | - | - | - | - | - | - | - | - |
| LF Showerheac | 0.00 | - | - | - | - | - | - | - | - |
| Faucet Aerator | 0.00 | - | - | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 829.09 | 0.000 | 0.039 | 2,110 | 0.257 | 56 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 820.00 | - | - | - | 1.097 | 179 | - | - | - |
| **Lighting** | 262.48 | 0.084 | 0.156 | 804 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 148.75 | 0.041 | 0.076 | 394 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 119.94 | 0.041 | 0.075 | 388 | - | - | - | - | - |
| CFL (23W) | 68.00 | 0.028 | 0.052 | 268 | - | - | - | - | - |
| CFL (25W) | 59.19 | 0.027 | 0.051 | 261 | - | - | - | - | - |
| CFL (30W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | - | - | - | - | - | - | - |
| King | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 1083.41 | 0.338 | 0.316 | 2,744 | | | | | |
| Refrigerator Remova | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 1187.92 | 0.339 | 0.317 | 2,760 | - | - | - | - | - |
| Freezer Remova | 50.00 | 0.342 | 0.319 | 2,778 | - | - | - | - | - |
| Freezer Exchange | 886.00 | 0.331 | 0.309 | 2,689 | - | - | - | - | - |

| | | |
|---|---|---|
| **Total** | | **224.81** |
| Unspecified Insul | 10,566 | 224.81 |
| Duct Insulation | 0 | 0.00 |
| Duct Sealing | 811 | 27.03 |
| Damming Materia | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 3,745 | 133.75 |
| Htg. Sys./WH Other | 12,435 | 355.27 |
| Space Heater Repl | 0 | 0.00 |
| Air Conditioning Work | 0 | 0.00 |
| Water Heater Repair | 905 | 226.30 |
| Refrigerator Coil Clear | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0.00 |
| Asbestos Abatement | 0 | 0.00 |
| CO Detector | 500 | 100.00 |
| Smoke Detector | 0 | 0.00 |
| Fuses | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0.00 |
| Exhaust Ventilation | 1,956 | 122.28 |
| Health/Safety Repairs | 0 | 0.00 |
| Health/Safety Other | 4,008 | 445.33 |
| Consumables | 0 | 0.00 |
| Preservation | 0 | 0.00 |
| Roof Repairs | 0 | 0.00 |
| General Repairs | 56,078 | 1058.07 |
| Evaluator Labor | 14,312 | 715.60 |
| Inspector Labor | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0.00 |
| Support | 161,775 | 2995.83 |
| Landlord Contr Misc | (939) | -938.80 |
| Landlord Contr Furnace | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0.00 |
| Client Contr Misc | 0 | 0.00 |
| Client Contr Refi | 0 | 0.00 |
| Warehouse | 0 | 0.00 |
| Unspecified | 0 | 0.00 |

**MICA**
**Calendar Year 2002 Estimates**
**Costs, Fuel, and Demand Impacts for All Measures**

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **138** | **138** | **107** | **43** | **6** | **0** | | | **863,106** | **37.1** | | **49.0** | | **263,987** | **659** | **66,174** | **14,074** | **1,819** | **0** |
| **Shell & Htg. Sys.** | 138 | 138 | 87 | 43 | 6 | 0 | 112 | 133 | 791,799 | 17.2 | 19,648 | 23.7 | 37,821 | 57,469 | 643 | 61,212 | 13,961 | 1,819 | 0 |
| Wall Insul. | 91 | 91 | 63 | 22 | 5 | 0 | 69 | 91 | 172,546 | 0.07 | 65 | 11.10 | 17,753 | 17,818 | 193 | 18,379 | 4,033 | 475 | 0 |
| Ceiling Insul. | 116 | 116 | 75 | 33 | 6 | 0 | 92 | 116 | 171,414 | 16.12 | 18,381 | 6.81 | 10,825 | 29,206 | 101 | 9,633 | 2,940 | 364 | 0 |
| Infil. Reduction | 137 | 112 | 86 | 43 | 6 | 0 | 111 | 2 | 216,268 | 0.70 | 786 | 3.99 | 6,333 | 7,119 | 134 | 12,763 | 3,598 | 267 | 0 |
| Found./Crawl. Insul | 65 | 65 | 42 | 20 | 3 | 0 | 54 | 65 | 52,470 | 0.34 | 416 | 1.29 | 2,061 | 2,477 | 34 | 3,263 | 793 | 119 | 0 |
| Bandjoist Insul. | 79 | 79 | 51 | 22 | 5 | 0 | - | 79 | 19,311 | 0.00 | 0 | 0.54 | 850 | 850 | 7 | 664 | 216 | 32 | 0 |
| Hi-Eff Htg Sys Repl | 53 | 0 | 41 | 9 | 3 | 0 | - | 0 | 153,254 | 0.00 | 0 | 0.00 | 0 | 0 | 163 | 15,567 | 2,381 | 562 | 0 |
| Std-Eff Htg Sys Repl | 3 | 0 | 3 | 0 | 0 | 0 | - | 0 | 6,535 | 0.00 | 0 | 0.00 | 0 | 0 | 10 | 941 | 0 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | **127** | **34** | **89** | **4** | **0** | **0** | **19,805** | **0.0** | **0.6** | **35,897** | **16.0** | **4,962** | **113** | **0** | **0** |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Pipe Insul. | 109 | 30 | 75 | 4 | 0 | 0 | 1,280 | 0.00 | 0.01 | 5,901 | 2.2 | 786 | 31 | 0 | 0 |
| LF Showerheac | 56 | 14 | 41 | 1 | 0 | 0 | 642 | 0.00 | 0.50 | 21,812 | 8.3 | 2,553 | 15 | 0 | 0 |
| Faucet Aerator | 94 | 29 | 61 | 4 | 0 | 0 | 914 | 0.00 | 0.14 | 6,074 | 1.7 | 530 | 21 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 18 | 1 | 16 | 1 | 0 | 0 | 15,565 | 0.00 | 0.00 | 2,110 | 3.1 | 993 | 46 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 1,405 | 0.00 | 0.00 | 0 | 0.6 | 101 | 0 | 0 | 0 |
| **Lighting** | 130 | 130 | | | | | 9,286 | 6.7 | 12.3 | 63,618 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (15W) | 128 | 128 | | | | | 9,217 | 6.63 | 12.25 | 63,168 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (25W) | 2 | 2 | | | | | 69 | 0.05 | 0.09 | 450 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 43 | 43 | | | | | 42,216 | 13.16 | 12.31 | 107,003 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 29 | 29 | | | | | 30,627 | 9.79 | 9.16 | 79,619 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Freezer Exchange | 14 | 14 | | | | | 11,589 | 3.37 | 3.15 | 27,384 | - | - | - | - | - |

| Measure | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **6254.39** | **0.134** | | **0.165** | | **1,913** | **6.156** | **618** | **327** | **303** | - |
| **Shell & Htg. Sys.** | 5737.67 | 0.154 | 175 | 0.178 | 284 | 416 | 7.388 | 704 | 325 | 303 | - |
| Wall Insul. | 1896.11 | 0.001 | 1 | 0.122 | 195 | 196 | 3.060 | 292 | 183 | 95 | - |
| Ceiling Insul. | 1477.71 | 0.175 | 200 | 0.059 | 93 | 252 | 1.348 | 128 | 89 | 61 | - |
| Infil. Reduction | 1578.60 | 0.006 | 7 | 1.995 | 3,167 | 64 | 1.560 | 148 | 84 | 45 | - |
| Found./Crawl. Insul | 807.24 | 0.006 | 8 | 0.020 | 32 | 38 | 0.817 | 78 | 40 | 40 | - |
| Bandjoist Insul. | 244.45 | - | - | 0.007 | 11 | 11 | 0.137 | 13 | 10 | 6 | - |
| Hi-Eff Htg Sys Repl | 2891.59 | - | - | - | - | - | 3.984 | 380 | 265 | 187 | - |
| Std-Eff Htg Sys Repl | 2178.40 | - | - | - | - | - | 3.337 | 314 | - | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 155.94 | 0.000 | 0.019 | 1,056 | 0.179 | 56 | 28 | - | - |
| Temp. Reduct. | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 0.00 | - | - | - | - | - | - | - | - |
| Pipe Insul. | 11.74 | 0.000 | 0.000 | 197 | 0.030 | 10 | 8 | - | - |
| LF Showerheac | 11.46 | 0.000 | 0.035 | 1,558 | 0.202 | 62 | 15 | - | - |
| Faucet Aerator | 9.72 | 0.000 | 0.005 | 209 | 0.028 | 9 | 5 | - | - |
| Std-Eff Wtr Htr Repl. | 864.70 | 0.000 | 0.000 | 2,110 | 0.193 | 62 | 46 | - | - |
| Hi-Eff Wtr Htr Repl. | 1404.98 | - | - | - | 0.619 | 101 | - | - | - |
| **Lighting** | 71.43 | 0.051 | 0.095 | 489 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 72.00 | 0.052 | 0.096 | 494 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (23W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (25W) | 34.46 | 0.024 | 0.044 | 225 | - | - | - | - | - |
| CFL (30W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | - | - | - | - | - | - | - |
| King | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 981.78 | 0.306 | 0.286 | 2,488 | | | | | |
| Refrigerator Remova | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 1056.11 | 0.338 | 0.316 | 2,745 | - | - | - | - | - |
| Freezer Remova | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 827.81 | 0.241 | 0.225 | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 138 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **547,283** | |
| Unspecified Insul | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 108 | 47,156 | 436.63 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 67 | 21,183 | 316.16 |
| Htg. Sys./WH Other | 73 | 26,797 | 367.08 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 5 | 951 | 190.12 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 27 | 2,869 | 106.25 |
| Smoke Detector | 6 | 282 | 47.04 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 138 | 30,689 | 222.38 |
| Exhaust Ventilation | 66 | 9,266 | 140.39 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 39 | 9,273 | 237.76 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 90 | 38,600 | 428.89 |
| Evaluator Labor | 45 | 22,378 | 497.29 |
| Inspector Labor | 45 | 7,915 | 175.89 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 137 | 329,927 | 2408.22 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **1,410,389**

**Grand Total of Expenditures** **1,410,389**

## Mid-Sioux
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **63** | **63** | **46** | **11** | **2** | **0** | | | **342,388** | **32.9** | | **29.4** | | **163,563** | **184** | **18,004** | **2,380** | **332** | **0** | **5434.73** | **0.274** | | **0.245** | | **2,596** | **3.993** | **391** | **216** | **166** | **-** |
| **Shell & Htg. Sys.** | 60 | 59 | 46 | 11 | 2 | 0 | 54 | 54 | 290,898 | 18.7 | 17,983 | 10.5 | 17,239 | 35,223 | 183 | 17,787 | 2,380 | 332 | 0 | 4848.29 | 0.346 | 333 | 0.195 | 319 | 597 | 3.969 | 387 | 216 | 166 | - |
| Wall Insul. | 48 | 48 | 37 | 8 | 1 | 0 | 44 | 47 | 83,401 | 3.52 | 3,502 | 8.65 | 14,161 | 17,663 | 63 | 6,157 | 784 | 109 | 0 | 1737.51 | 0.080 | 80 | 0.184 | 301 | 368 | 1.711 | 166 | 98 | 109 | - |
| Ceiling Insul. | 36 | 36 | 30 | 4 | 1 | 0 | 34 | 35 | 49,554 | 14.48 | 13,833 | 1.10 | 1,793 | 15,626 | 21 | 2,001 | 256 | 28 | 0 | 1376.49 | 0.426 | 407 | 0.031 | 51 | 434 | 0.684 | 67 | 64 | 28 | - |
| Infil. Reduction | 55 | 51 | 42 | 11 | 2 | 0 | 51 | 0 | 17,552 | 1.02 | 1,001 | 0.00 | 0 | 1,001 | 38 | 3,752 | 285 | 28 | 0 | 319.12 | 0.020 | 20 | - | - | 20 | 0.916 | 89 | 26 | 14 | - |
| Found./Crawl. Insul | 16 | 16 | 15 | 0 | 1 | 0 | 16 | 16 | 18,144 | -0.37 | (352) | 0.71 | 1,165 | 813 | 12 | 1,138 | 0 | 166 | 0 | 1134.01 | -0.023 | (22) | 0.045 | 73 | 51 | 0.779 | 76 | - | 166 | - |
| Bandjoist Insul. | 15 | 15 | 15 | 0 | 0 | 0 | - | 15 | 2,431 | 0.00 | 0 | 0.07 | 121 | 121 | 1 | 145 | 0 | 0 | 0 | 162.07 | - | - | 0.005 | 8 | 8 | 0.099 | 10 | - | - | - |
| Hi-Eff Htg Sys Repl | 26 | 0 | 20 | 6 | 0 | 0 | - | 0 | 119,817 | 0.00 | 0 | 0.00 | 0 | 0 | 47 | 4,593 | 1,056 | 0 | 0 | 4608.33 | - | - | - | - | - | 2.354 | 230 | 176 | - | - |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 10 | 4 | 6 | 0 | 0 | 0 | 5,229 | 0.0 | 0.0 | 4,143 | 1.1 | 217 | 0 | 0 | 0 | 522.92 | 0.000 | 0.001 | 1,036 | 0.182 | 36 | - | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 6 | 3 | 3 | 0 | 0 | 0 | 217 | 0.00 | 0.00 | 1,443 | 0.1 | 50 | 0 | 0 | 0 | 36.09 | 0.000 | 0.001 | 481 | 0.048 | 17 | - | - | - |
| Pipe Insul. | 6 | 3 | 3 | 0 | 0 | 0 | 62 | 0.00 | 0.00 | 590 | 0.1 | 24 | 0 | 0 | 0 | 10.29 | 0.000 | 0.000 | 197 | 0.023 | 8 | - | - | - |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 4 | 1 | 3 | 0 | 0 | 0 | 4,001 | 0.00 | 0.00 | 2,110 | 0.9 | 143 | 0 | 0 | 0 | 1000.25 | 0.000 | 0.000 | 2,110 | 0.293 | 48 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| **Lighting** | 62 | 62 | | | | | 13,022 | 6.1 | 11.3 | 58,124 | - | - | - | - | - | 210.03 | 0.098 | 0.182 | 937 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 1 | 1 | | | | | 6 | 0.03 | 0.06 | 330 | - | - | - | - | - | 102.00 | 0.035 | 0.064 | 330 | - | - | - | - | - |
| CFL (23W) | 61 | 61 | | | | | 630 | 4.43 | 8.18 | 42,191 | - | - | - | - | - | 175.57 | 0.073 | 0.134 | 692 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (30W) | 21 | 21 | | | | | 130 | 1.64 | 3.03 | 15,603 | - | - | - | - | - | 105.24 | 0.078 | 0.144 | 743 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 26 | 26 | | | | | 33,239 | 8.13 | 7.60 | 66,073 | - | - | - | - | - | 1278.44 | 0.313 | 0.292 | 2,541 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 18 | 18 | | | | | 42 | 6.20 | 5.80 | 50,425 | - | - | - | - | - | 1440.26 | 0.345 | 0.322 | 2,801 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 8 | 8 | | | | | 16 | 1.92 | 1.80 | 15,648 | - | - | - | - | - | 914.35 | 0.241 | 0.225 | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 65 Total Households with Spending and/or Energy Impacts:**

| | | |
|---|---|---|
| **Total** | | **161,466** |
| Unspecified Insul | 34 | 4,387 |
| Duct Insulation | 0 | 0 |
| Duct Sealing | 19 | 550 |
| Damming Materia | 0 | 0 |
| Htg. Sys. Tune & Clean | 27 | 5,970 |
| Htg. Sys./WH Other | 4 | 2,420 |
| Space Heater Repl | 0 | 0 |
| Air Conditioning Work | 0 | 0 |
| Water Heater Repair | 5 | 1,799 |
| Refrigerator Coil Clear | 0 | 0 |
| Unspecified Utility Meas | 0 | 0 |
| Asbestos Abatement | 0 | 0 |
| CO Detector | 23 | 3,036 |
| Smoke Detector | 5 | 204 |
| Fuses | 0 | 0 |
| Htg Sys Safety Check | 0 | 0 |
| Exhaust Ventilation | 21 | 2,174 |
| Health/Safety Repairs | 0 | 0 |
| Health/Safety Other | 2 | 110 |
| Consumables | 0 | 0 |
| Preservation | 0 | 0 |
| Roof Repairs | 0 | 0 |
| General Repairs | 36 | 9,832 |
| Evaluator Labor | 27 | 9,210 |
| Inspector Labor | 25 | 3,200 |
| Eval/Insp Labor | 0 | 0 |
| Meter Refrig (no action) | 0 | 0 |
| Meter Freezer (no action | 0 | 0 |
| Support | 65 | 118,975 |
| Landlord Contr Misc | 1 | (400) |
| Landlord Contr Furnace | 0 | 0 |
| Landlord Contr DHW | 0 | 0 |
| Client Contr Misc | 0 | 0 |
| Client Contr Refri | 0 | 0 |
| Warehouse | 0 | 0 |
| Unspecified | 0 | 0 |

| | | Average Estimated First Year Measure Cost and Savings: Average per Treated Household |
|---|---|---|
| Unspecified Insul | 4,387 | 129.04 |
| Duct Insulation | 0 | 0.00 |
| Duct Sealing | 550 | 28.92 |
| Damming Materia | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 5,970 | 221.10 |
| Htg. Sys./WH Other | 2,420 | 604.88 |
| Space Heater Repl | 0 | 0.00 |
| Air Conditioning Work | 0 | 0.00 |
| Water Heater Repair | 1,799 | 359.86 |
| Refrigerator Coil Clear | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0.00 |
| Asbestos Abatement | 0 | 0.00 |
| CO Detector | 3,036 | 132.01 |
| Smoke Detector | 204 | 40.72 |
| Fuses | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0.00 |
| Exhaust Ventilation | 2,174 | 103.53 |
| Health/Safety Repairs | 0 | 0.00 |
| Health/Safety Other | 110 | 55.02 |
| Consumables | 0 | 0.00 |
| Preservation | 0 | 0.00 |
| Roof Repairs | 0 | 0.00 |
| General Repairs | 9,832 | 273.10 |
| Evaluator Labor | 9,210 | 341.11 |
| Inspector Labor | 3,200 | 128.00 |
| Eval/Insp Labor | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0.00 |
| Support | 118,975 | 1830.38 |
| Landlord Contr Misc | (400) | -400.00 |
| Landlord Contr Furnace | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0.00 |
| Client Contr Misc | 0 | 0.00 |
| Client Contr Refri | 0 | 0.00 |
| Warehouse | 0 | 0.00 |
| Unspecified | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **503,854**

**Grand Total of Expenditures** **503,854**

## City of Des Moines
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Spending on Materials & Labor ($) | Average per Treated Household: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **124** | **124** | **124** | **0** | **0** | **0** | | | **784,237** | **28.2** | | **22.4** | | **109,239** | **1,030** | **94,463** | **0** | **0** | **0** | **6324.49** | **0.241** | | **0.184** | | **881** | **8.305** | **762** | **-** | **-** | **-** |
| **Shell & Htg. Sys.** | 124 | 124 | 124 | 0 | 0 | 0 | 117 | 122 | 739,686 | 20.7 | 24,974 | 15.4 | 23,362 | 48,336 | 1,016 | 91,753 | 0 | 0 | 0 | 5965.21 | 0.177 | 213 | 0.126 | 191 | 390 | 8.193 | 740 | - | - | - |
| Wall Insul. | 104 | 104 | 104 | 0 | 0 | 0 | 98 | 104 | 243,590 | 8.60 | 10,366 | 9.64 | 14,587 | 24,953 | 424 | 38,259 | 0 | 0 | 0 | 2342.21 | 0.088 | 106 | 0.093 | 140 | 240 | 4.074 | 368 | - | - | - |
| Ceiling Insul. | 119 | 119 | 119 | 0 | 0 | 0 | 112 | 119 | 191,986 | 12.88 | 15,535 | 4.18 | 6,323 | 21,858 | 186 | 16,787 | 0 | 0 | 0 | 1613.33 | 0.115 | 139 | 0.035 | 53 | 184 | 1.562 | 141 | - | - | - |
| Infil. Reduction | 124 | 117 | 123 | 0 | 0 | 0 | 117 | 0 | 137,058 | 1.05 | 1,263 | 0.00 | 0 | 1,263 | 176 | 15,914 | 0 | 0 | 0 | 1105.31 | 0.009 | 11 | - | - | 11 | 1.433 | 129 | - | - | - |
| Found./Crawl. Insul | 54 | 54 | 54 | 0 | 0 | 0 | 51 | 54 | 34,196 | -1.82 | (2,190) | 1.45 | 2,200 | 10 | 70 | 6,285 | 0 | 0 | 0 | 633.26 | -0.036 | (43) | 0.027 | 41 | 0 | 1.289 | 116 | - | - | - |
| Bandjoist Insul. | 44 | 44 | 44 | 0 | 0 | 0 | - | 44 | 9,880 | 0.00 | 0 | 0.17 | 252 | 252 | 7 | 658 | 0 | 0 | 0 | 224.55 | - | - | 0.004 | 6 | 6 | 0.166 | 15 | - | - | - |
| Hi-Eff Htg Sys Repl | 16 | 0 | 16 | 0 | 0 | 0 | - | 0 | 63,040 | 0.00 | 0 | 0.00 | 0 | 0 | 65 | 5,876 | 0 | 0 | 0 | 3940.00 | - | - | - | - | - | 4.067 | 367 | - | - | - |
| Std-Eff Htg Sys Repl | 26 | 0 | 26 | 0 | 0 | 0 | - | 0 | 59,936 | 0.00 | 0 | 0.00 | 0 | 0 | 88 | 7,974 | 0 | 0 | 0 | 2305.23 | - | - | - | - | - | 3.396 | 307 | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 75 | 0 | 75 | 0 | 0 | 0 | 66 | 0 | 66 | 0 | 0 | 0 | 24,775 | 0.0 | 0.0 | 0 | 13.8 | 2,710 | 0 | 0 | 0 | 330.34 | - | - | - | 0.184 | 36 | - | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 2 | 0 | 2 | 0 | 0 | 0 | | | | | | | 280 | 0.00 | 0.00 | 0 | 0.1 | 48 | 0 | 0 | 0 | 140.00 | - | - | - | 0.069 | 24 | - | - | - |
| Pipe Insul. | 54 | 0 | 54 | 0 | 0 | 0 | | | | | | | 2,700 | 0.00 | 0.00 | 0 | 1.8 | 617 | 0 | 0 | 0 | 50.00 | - | - | - | 0.033 | 11 | - | - | - |
| LF Showerheac | 4 | 0 | 4 | 0 | 0 | 0 | 10 | 0 | 10 | 0 | 0 | 0 | 140 | 0.00 | 0.00 | 0 | 0.7 | 212 | 0 | 0 | 0 | 35.00 | - | - | - | 0.172 | 53 | - | - | - |
| Faucet Aerator | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 40 | 0.00 | 0.00 | 0 | 0.0 | 8 | 0 | 0 | 0 | 40.00 | - | - | - | 0.028 | 8 | - | - | - |
| Std-Eff Wtr Htr Repl. | 25 | 0 | 25 | 0 | 0 | 0 | 50 | 0 | 50 | 0 | 0 | 0 | 20,038 | 0.00 | 0.00 | 0 | 10.5 | 1,715 | 0 | 0 | 0 | 801.52 | - | - | - | 0.420 | 69 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1,577 | 0.00 | 0.00 | 0 | 0.7 | 110 | 0 | 0 | 0 | 1577.48 | - | - | - | 0.673 | 110 | - | - | - |
| **Lighting** | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.0 | 0.0 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 23 | 23 | | | | | 48 | 48 | | | | | 19,775 | 7.49 | 7.00 | 60,903 | - | - | - | - | - | 859.79 | 0.326 | 0.305 | 2,648 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 19 | 19 | | | | | 40 | 40 | | | | | 17,651 | 6.53 | 6.10 | 53,079 | - | - | - | - | - | 929.02 | 0.344 | 0.321 | 2,794 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 4 | 4 | | | | | 8 | 8 | | | | | 2,124 | 0.96 | 0.90 | 7,824 | - | - | - | - | - | 530.93 | 0.241 | 0.225 | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 125 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **686,918** | |
| Unspecified Insul | 114 | 50,910 | 446.58 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 101 | 34,920 | 345.74 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 120 | 10,777 | 89.81 |
| Htg. Sys./WH Other | 98 | 53,657 | 547.52 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 22 | 4,912 | 223.29 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 9 | 15,280 | 1697.78 |
| CO Detector | 41 | 4,920 | 120.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 81 | 19,552 | 241.38 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 21 | 9,287 | 442.22 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 118 | 95,280 | 807.46 |
| Evaluator Labor | 26 | 8,001 | 307.73 |
| Inspector Labor | 26 | 8,001 | 307.73 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 125 | 371,301 | 2970.41 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 1 | 120 | 120.00 |

**Total Reported Materials, Labor, and Support Costs** **1,471,154**

**Grand Total of Expenditures** **1,471,154**

## North Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **141** | **141** | **122** | **13** | **3** | **0** | | | **452,130** | **24.5** | | **42.7** | | **166,725** | **468** | **46,301** | **2,560** | **497** | **0** |
| **Shell & Htg. Sys.** | 141 | 141 | 122 | 13 | 3 | 0 | 126 | 138 | 413,141 | 11.9 | 12,668 | 30.2 | 50,541 | 63,209 | 468 | 46,064 | 2,560 | 497 | 0 |
| Wall Insul. | 66 | 66 | 59 | 6 | 1 | 0 | 61 | 66 | 104,684 | 6.95 | 7,512 | 5.06 | 8,350 | 15,862 | 151 | 14,875 | 845 | 91 | 0 |
| Ceiling Insul. | 126 | 126 | 109 | 12 | 3 | 0 | 112 | 126 | 191,240 | 4.41 | 4,645 | 9.86 | 16,449 | 21,094 | 130 | 12,852 | 767 | 87 | 0 |
| Infil. Reduction | 125 | 113 | 108 | 12 | 3 | 0 | 113 | 2 | 41,320 | -0.15 | (159) | 13.70 | 23,074 | 22,916 | 120 | 11,838 | 630 | 199 | 0 |
| Found./Crawl. Insul | 29 | 29 | 22 | 5 | 1 | 0 | 25 | 29 | 14,847 | 0.68 | 669 | 1.01 | 1,680 | 2,350 | 9 | 920 | 285 | 12 | 0 |
| Bandjoist Insul. | 62 | 62 | 56 | 4 | 1 | 0 | - | 62 | 8,600 | 0.00 | 0 | 0.59 | 987 | 987 | 9 | 850 | 34 | 5 | 0 |
| Hi-Eff Htg Sys Repl | 10 | 0 | 9 | 0 | 1 | 0 | - | 0 | 32,915 | 0.00 | 0 | 0.00 | 0 | 0 | 29 | 2,849 | 0 | 103 | 0 |
| Std-Eff Htg Sys Repl | 7 | 0 | 7 | 0 | 0 | 0 | - | 0 | 19,534 | 0.00 | 0 | 0.00 | 0 | 0 | 19 | 1,880 | 0 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 8 | 0 | 8 | 0 | 0 | 0 | 1,034 | 0.0 | 0.0 | 0 | 0.7 | 237 | 0 | 0 | 0 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 8 | 0 | 8 | 0 | 0 | 0 | 248 | 0.00 | 0.00 | 0 | 0.5 | 161 | 0 | 0 | 0 |
| Pipe Insul. | 8 | 0 | 8 | 0 | 0 | 0 | 86 | 0.00 | 0.00 | 0 | 0.2 | 76 | 0 | 0 | 0 |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| **Lighting** | 18 | 18 | | | | | 1,914 | 0.8 | 1.5 | 7,717 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 7 | 7 | | | | | 288 | 0.16 | 0.29 | 1,507 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (15W) | 3 | 3 | | | | | 440 | 0.15 | 0.28 | 1,440 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 9 | 9 | | | | | 466 | 0.16 | 0.30 | 1,539 | - | - | - | - | - |
| CFL (23W) | 8 | 8 | | | | | 692 | 0.32 | 0.60 | 3,081 | - | - | - | - | - |
| CFL (25W) | 1 | 1 | | | | | 28 | 0.02 | 0.03 | 150 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0.0 | 0.0 | | |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 35 | 35 | | | | | 36,042 | 11.78 | 11.02 | 95,799 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 19 | 19 | | | | | 23,486 | 6.53 | 6.10 | 53,079 | - | - | - | - | - |
| Freezer Remova | 1 | 1 | | | | | 60 | 0.68 | 0.64 | 5,556 | - | - | - | - | - |
| Freezer Exchange | 15 | 15 | | | | | 12,496 | 4.57 | 4.27 | 37,164 | - | - | - | - | - |

| Measure | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **3206.59** | **0.170** | | **0.274** | | **1,182** | **3.838** | **380** | **197** | **166** | - |
| **Shell & Htg. Sys.** | 2930.07 | 0.094 | 101 | 0.219 | 366 | 448 | 3.832 | 378 | 197 | 166 | - |
| Wall Insul. | 1586.12 | 0.114 | 123 | 0.077 | 127 | 240 | 2.559 | 252 | 141 | 91 | - |
| Ceiling Insul. | 1517.78 | 0.039 | 41 | 0.078 | 131 | 167 | 1.196 | 118 | 64 | 29 | - |
| Infil. Reduction | 330.56 | -0.001 | (1) | 6.852 | 11,537 | 203 | 1.114 | 110 | 52 | 66 | - |
| Found./Crawl. Insul | 511.97 | 0.027 | 27 | 0.035 | 58 | 81 | 0.423 | 42 | 57 | 12 | - |
| Bandjoist Insul. | 138.71 | - | - | 0.010 | 16 | 16 | 0.154 | 15 | 8 | 5 | - |
| Hi-Eff Htg Sys Repl | 3291.48 | - | - | - | - | - | 3.210 | 317 | - | 103 | - |
| Std-Eff Htg Sys Repl | 2790.59 | - | - | - | - | - | 2.719 | 269 | - | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 129.21 | - | - | - | 0.085 | 30 | - | - | - |
| Temp. Reduct. | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 30.98 | - | - | - | 0.058 | 20 | - | - | - |
| Pipe Insul. | 10.74 | - | - | - | 0.027 | 10 | - | - | - |
| LF Showerheac | 0.00 | - | - | - | - | - | - | - | - |
| Faucet Aerator | 0.00 | - | - | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0.00 | - | - | - | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0.00 | - | - | - | - | - | - | - | - |
| **Lighting** | 106.31 | 0.045 | 0.083 | 429 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 41.09 | 0.023 | 0.042 | 215 | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 146.67 | 0.050 | 0.093 | 480 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 51.78 | 0.018 | 0.033 | 171 | - | - | - | - | - |
| CFL (23W) | 86.56 | 0.040 | 0.075 | 385 | - | - | - | - | - |
| CFL (25W) | 27.50 | 0.016 | 0.029 | 150 | - | - | - | - | - |
| CFL (30W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | - | - | - | - | - | | |
| King | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 1029.77 | 0.337 | 0.315 | 2,737 | | | | | |
| Refrigerator Remova | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 1236.11 | 0.344 | 0.321 | 2,794 | - | - | - | - | - |
| Freezer Remova | 60.00 | 0.683 | 0.639 | 5,556 | - | - | - | - | - |
| Freezer Exchange | 833.07 | 0.305 | 0.285 | 2,478 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 141 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **384,625** | |
| Unspecified Insul | 94 | 18,660 | 198.51 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 38 | 1,825 | 48.02 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 139 | 18,200 | 130.94 |
| Htg. Sys./WH Other | 39 | 8,936 | 229.12 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 37 | 1,499 | 40.51 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 36 | 3,805 | 105.68 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 139 | 10,143 | 72.97 |
| Exhaust Ventilation | 95 | 21,223 | 223.40 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 2 | 572 | 285.89 |
| Consumables | 141 | 5,235 | 37.13 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 112 | 47,420 | 423.39 |
| Evaluator Labor | 46 | 14,613 | 317.66 |
| Inspector Labor | 46 | 7,116 | 154.70 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 141 | 232,512 | 1649.02 |
| Landlord Contr Misc | 9 | (7,134) | -792.70 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **836,754** |
| **Grand Total of Expenditures** | **836,754** |

## NE Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Electricity Summer kWh | Electricity Winter kW | Electricity Winter kWh | Electricity Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | Electricity Summer kWh | Electricity Winter kW | Electricity Winter kWh | Electricity Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **108** | **108** | **68** | **35** | **6** | **0** | | | **647,649** | **37.0** | | **45.6** | | **305,769** | **502** | **50,065** | **9,885** | **1,445** | **0** | **5996.75** | **0.167** | | **0.213** | | **2,831** | **7.387** | **736** | **282** | **241** | - |
| **Shell & Htg. Sys.** | 105 | 103 | 62 | 35 | 6 | 0 | 98 | 91 | 564,426 | 9.8 | 9,984 | 17.1 | 27,985 | 37,968 | 495 | 48,202 | 9,702 | 1,445 | 0 | 5375.48 | 0.100 | 102 | 0.188 | 308 | 369 | 7.990 | 777 | 277 | 241 | - |
| Wall Insul. | 47 | 47 | 32 | 11 | 4 | 0 | 45 | 47 | 83,073 | 4.79 | 4,959 | 3.42 | 5,588 | 10,547 | 134 | 13,050 | 1,674 | 433 | 0 | 1767.51 | 0.106 | 110 | 0.073 | 119 | 224 | 4.190 | 408 | 152 | 108 | - |
| Ceiling Insul. | 74 | 74 | 45 | 22 | 5 | 0 | 70 | 74 | 75,628 | 3.46 | 3,428 | 8.06 | 13,127 | 16,555 | 80 | 7,788 | 1,469 | 177 | 0 | 1022.00 | 0.049 | 49 | 0.109 | 177 | 224 | 1.774 | 173 | 67 | 35 | - |
| Infil. Reduction | 96 | 93 | 58 | 31 | 6 | 0 | 93 | 1 | 70,689 | 1.56 | 1,593 | 4.46 | 7,428 | 9,020 | 90 | 8,768 | 1,523 | 185 | 0 | 736.34 | 0.017 | 17 | 4.465 | 7,428 | 97 | 1.548 | 151 | 49 | 31 | - |
| Found./Crawl. Insul | 25 | 25 | 15 | 10 | 0 | 0 | 23 | 25 | 26,155 | 0.01 | 4 | 0.79 | 1,285 | 1,289 | 22 | 2,100 | 697 | 0 | 0 | 1046.20 | 0.001 | 0 | 0.032 | 51 | 52 | 1.445 | 140 | 70 | - | - |
| Bandjoist Insul. | 17 | 17 | 9 | 6 | 1 | 0 | - | 17 | 4,115 | 0.00 | 0 | 0.34 | 557 | 557 | 2 | 184 | 47 | 6 | 0 | 242.08 | - | - | 0.020 | 33 | 33 | 0.211 | 20 | 8 | 6 | - |
| Hi-Eff Htg Sys Repl | 47 | 0 | 26 | 17 | 4 | 0 | - | 0 | 256,087 | 0.00 | 0 | 0.00 | 0 | 0 | 141 | 13,691 | 3,940 | 567 | 0 | 5448.66 | - | - | - | - | - | 5.423 | 527 | 232 | 142 | - |
| Std-Eff Htg Sys Repl | 9 | 0 | 6 | 2 | 1 | 0 | - | 0 | 48,679 | 0.00 | 0 | 0.00 | 0 | 0 | 27 | 2,621 | 352 | 78 | 0 | 5408.78 | - | - | - | - | - | 4.524 | 437 | 176 | 78 | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 88 | 36 | 47 | 5 | 0 | 0 | 192 | 82 | 84 | 26 | 0 | 0 | 13,579 | 0.0 | | 0.7 | | 43,278 | 6.9 | 1,863 | 183 | 0 | 0 | 154.30 | 0.000 | | 0.020 | | 1,202 | 0.147 | 40 | 37 | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| WH Wrap | 13 | 9 | 3 | 1 | 0 | 0 | | | | | | | 265 | 0.00 | | 0.01 | | 4,330 | 0.3 | 90 | 11 | 0 | 0 | 20.38 | 0.000 | | 0.001 | | 481 | 0.087 | 30 | 11 | - | - |
| Pipe Insul. | 81 | 34 | 44 | 3 | 0 | 0 | | | | | | | 136 | 0.00 | | 0.01 | | 6,688 | 1.8 | 621 | 16 | 0 | 0 | 1.68 | 0.000 | | 0.000 | | 197 | 0.040 | 14 | 5 | - | - |
| LF Showerheac | 22 | 11 | 8 | 3 | 0 | 0 | 44 | 22 | 16 | 6 | 0 | 0 | 83 | 0.00 | | 0.42 | | 18,509 | 1.9 | 597 | 55 | 0 | 0 | 3.78 | 0.000 | | 0.038 | | 1,683 | 0.243 | 75 | 18 | - | - |
| Faucet Aerator | 35 | 15 | 17 | 3 | 0 | 0 | 126 | 52 | 60 | 14 | 0 | 0 | 52 | 0.00 | | 0.07 | | 3,204 | 0.5 | 158 | 5 | 0 | 0 | 1.47 | 0.000 | | 0.005 | | 214 | 0.030 | 9 | 2 | - | - |
| Std-Eff Wtr Htr Repl. | 11 | 5 | 3 | 3 | 0 | 0 | 20 | 8 | 6 | 6 | 0 | 0 | 10,643 | 0.00 | | 0.21 | | 10,548 | 1.6 | 258 | 96 | 0 | 0 | 967.52 | 0.000 | | 0.042 | | 2,110 | 0.527 | 86 | 32 | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 2,400 | 0.00 | | 0.00 | | 0 | 0.8 | 138 | 0 | 0 | 0 | 2400.00 | - | | - | | - | 0.844 | 138 | - | - | - |
| **Lighting** | 87 | 87 | | | | | 330 | 330 | | | | | 3,042 | 2.7 | | 4.9 | | 25,445 | - | - | - | - | - | 34.96 | 0.031 | | 0.057 | | 292 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 50 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 1 | 1 | | | | | 2 | 2 | | | | | 29 | 0.01 | | 0.02 | | 110 | - | - | - | - | - | 29.10 | 0.012 | | 0.021 | | 110 | - | - | - | - | - |
| CFL (23W) | 25 | 25 | | | | | 100 | 100 | | | | | 400 | 0.70 | | 1.30 | | 6,697 | - | - | - | - | - | 16.00 | 0.028 | | 0.052 | | 268 | - | - | - | - | - |
| CFL (25W) | 56 | 56 | | | | | 194 | 194 | | | | | 2,078 | 1.53 | | 2.82 | | 14,557 | - | - | - | - | - | 37.11 | 0.027 | | 0.050 | | 260 | - | - | - | - | - |
| CFL (30W) | 12 | 12 | | | | | 34 | 34 | | | | | 485 | 0.43 | | 0.79 | | 4,081 | - | - | - | - | - | 40.44 | 0.036 | | 0.066 | | 340 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 72 | 72 | | | | | 186 | 186 | | | | | 66,602 | 24.49 | | 22.89 | | 199,078 | - | - | - | - | - | 925.03 | 0.340 | | 0.318 | | 2,765 | | | | | |
| Refrigerator Remova | 5 | 5 | | | | | 10 | 10 | | | | | 270 | 2.45 | | 2.29 | | 19,900 | - | - | - | - | - | 54.00 | 0.490 | | 0.458 | | 3,980 | - | - | - | - | - |
| Refrigerator Exchange | 38 | 38 | | | | | 100 | 100 | | | | | 45,996 | 14.04 | | 13.12 | | 114,121 | - | - | - | - | - | 1210.43 | 0.369 | | 0.345 | | 3,003 | - | - | - | - | - |
| Freezer Remova | 3 | 3 | | | | | 6 | 6 | | | | | 170 | 1.03 | | 0.96 | | 8,334 | - | - | - | - | - | 56.67 | 0.342 | | 0.319 | | 2,778 | - | - | - | - | - |
| Freezer Exchange | 26 | 26 | | | | | 70 | 70 | | | | | 20,166 | 6.98 | | 6.52 | | 56,723 | - | - | - | - | - | 775.62 | 0.268 | | 0.251 | | 2,182 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 108 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **446,192** | |
| Unspecified Insul | 81 | 25,738 | 317.75 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 11 | 5,409 | 491.73 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 42 | 8,796 | 209.43 |
| Htg. Sys./WH Other | 65 | 34,256 | 527.02 |
| Space Heater Repl | 1 | 2,250 | 2249.84 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 4 | 1,555 | 388.66 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 40 | 4,038 | 100.96 |
| Smoke Detector | 6 | 60 | 10.02 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 22 | 3,668 | 166.72 |
| Exhaust Ventilatior | 48 | 14,150 | 294.80 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 7 | 4,281 | 611.57 |
| Consumables | 67 | 2,182 | 32.57 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 69 | 42,656 | 618.20 |
| Evaluator Labor | 12 | 3,171 | 264.25 |
| Inspector Labor | 12 | 2,591 | 215.91 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 108 | 281,349 | 2605.08 |
| Landlord Contr Misc | 1 | (1,000) | -1000.00 |
| Landlord Contr Furnace | 1 | 4,367 | 4366.66 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 8 | 6,607 | 825.93 |
| Client Contr Refi | 2 | 40 | 20.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 1 | 28 | 27.80 |

**Total Reported Materials, Labor, and Support Costs** **1,093,841**

**Grand Total of Expenditures** **1,093,841**

## New View
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **88** | **84** | **75** | **7** | **7** | **1** | | | **474,861** | **40.4** | | **36.2** | | **227,360** | **245** | **23,690** | **1,744** | **907** | **95** | **5396.15** | **0.262** | | **0.222** | | **2,707** | **3.271** | **316** | **249** | **130** | **95** |
| **Shell & Htg. Sys.** | 86 | 79 | 70 | 7 | 7 | 1 | 69 | 78 | 398,713 | 19.5 | 20,674 | 12.8 | 20,340 | 41,015 | 243 | 23,081 | 1,744 | 907 | 95 | 4636.20 | 0.283 | 300 | 0.164 | 261 | 519 | 3.470 | 330 | 249 | 130 | 95 |
| Wall Insul. | 62 | 62 | 52 | 4 | 5 | 1 | 55 | 62 | 69,779 | 9.48 | 10,039 | 4.02 | 6,399 | 16,438 | 76 | 7,255 | 457 | 288 | 33 | 1125.47 | 0.172 | 183 | 0.065 | 103 | 265 | 1.470 | 140 | 114 | 58 | 33 |
| Ceiling Insul. | 71 | 71 | 59 | 4 | 7 | 1 | 63 | 71 | 117,003 | 8.58 | 9,072 | 2.66 | 4,243 | 13,314 | 50 | 4,790 | 287 | 234 | 15 | 1647.92 | 0.136 | 144 | 0.037 | 60 | 188 | 0.855 | 81 | 72 | 33 | 15 |
| Infil. Reduction | 78 | 69 | 62 | 5 | 7 | 1 | 69 | 0 | 22,255 | 0.98 | 1,047 | 0.00 | 0 | 1,047 | 32 | 2,999 | 156 | 73 | 7 | 285.32 | 0.014 | 15 | - | - | 15 | 0.509 | 48 | 31 | 10 | 7 |
| Found./Crawl. Insul | 22 | 22 | 17 | 4 | 0 | 1 | 20 | 22 | 24,273 | 0.48 | 517 | 0.89 | 1,422 | 1,939 | 15 | 1,420 | 322 | 0 | 4 | 1103.31 | 0.024 | 26 | 0.041 | 65 | 88 | 0.879 | 84 | 81 | - | 4 |
| Bandjoist Insul. | 27 | 27 | 23 | 0 | 4 | 0 | - | 27 | 3,499 | 0.00 | 0 | 0.12 | 186 | 186 | 2 | 184 | 0 | 18 | 0 | 129.58 | - | - | 0.004 | 7 | 7 | 0.084 | 8 | - | 4 | - |
| Hi-Eff Htg Sys Repl | 6 | 0 | 5 | 1 | 0 | 0 | - | 0 | 27,810 | 0.00 | 0 | 0.00 | 0 | 0 | 14 | 1,362 | 250 | 0 | 0 | 4635.00 | - | - | - | - | - | 2.857 | 272 | 250 | - | - |
| Std-Eff Htg Sys Repl | 43 | 1 | 34 | 2 | 5 | 1 | - | 1 | 134,095 | 0.00 | 0 | 5.10 | 8,091 | 8,091 | 53 | 5,070 | 273 | 294 | 37 | 3118.49 | - | - | 5.099 | 8,091 | 188 | 1.568 | 149 | 137 | 59 | 37 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | | Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 23 | 8 | 15 | 0 | 0 | 0 | 40 | 10 | 30 | 0 | 0 | 0 | 17,029 | 0.0 | 0.1 | 10,921 | 2.4 | 609 | 0 | 0 | 0 | 740.39 | 0.000 | 0.010 | 1,365 | 0.160 | 41 | - | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 5 | 5 | 0 | 0 | 0 | 0 | | | | | | | 170 | 0.00 | 0.00 | 2,406 | 0.0 | 0 | 0 | 0 | 0 | 34.00 | 0.000 | 0.001 | 481 | - | - | - | - | - |
| Pipe Insul. | 6 | 6 | 0 | 0 | 0 | 0 | | | | | | | 42 | 0.00 | 0.00 | 1,180 | 0.0 | 0 | 0 | 0 | 0 | 7.00 | 0.000 | 0.000 | 197 | - | - | - | - | - |
| LF Showerheac | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 14 | 0.00 | 0.02 | 873 | 0.0 | 0 | 0 | 0 | 0 | 14.00 | 0.000 | 0.020 | 873 | - | - | - | - | - |
| Faucet Aerator | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 5 | 0.00 | 0.00 | 134 | 0.0 | 0 | 0 | 0 | 0 | 5.00 | 0.000 | 0.003 | 134 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 17 | 3 | 14 | 0 | 0 | 0 | 34 | 6 | 28 | 0 | 0 | 0 | 15,218 | 0.00 | 0.05 | 6,329 | 2.4 | 546 | 0 | 0 | 0 | 895.18 | 0.000 | 0.017 | 2,110 | 0.171 | 39 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1,580 | 0.00 | 0.00 | 0 | 0.0 | 62 | 0 | 0 | 0 | 1580.00 | - | - | - | 0.000 | 62 | - | - | - |
| **Lighting** | 77 | 77 | | | | | 664 | 664 | | | | | 11,777 | 4.2 | 7.8 | 40,282 | - | - | - | - | - | 152.95 | 0.055 | 0.101 | 523 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 25 | 25 | | | | | 200 | 200 | | | | | 3,443 | 0.94 | 1.75 | 8,998 | - | - | - | - | - | 137.74 | 0.038 | 0.070 | 360 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 10 | 10 | | | | | 74 | 74 | | | | | 1,397 | 0.43 | 0.79 | 4,069 | - | - | - | - | - | 139.66 | 0.043 | 0.079 | 407 | - | - | - | - | - |
| CFL (23W) | 27 | 27 | | | | | 254 | 254 | | | | | 4,425 | 1.79 | 3.30 | 17,010 | - | - | - | - | - | 163.88 | 0.066 | 0.122 | 630 | - | - | - | - | - |
| CFL (25W) | 16 | 16 | | | | | 136 | 136 | | | | | 2,512 | 1.07 | 1.98 | 10,205 | - | - | - | - | - | 157.03 | 0.067 | 0.124 | 638 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 48 | 48 | | | | | 102 | 102 | | | | | 47,342 | 16.62 | 15.54 | 135,143 | - | - | - | - | - | 986.29 | 0.346 | 0.324 | 2,815 | | | | | |
| Refrigerator Remova | 2 | 2 | | | | | 6 | 6 | | | | | 120 | 1.47 | 1.37 | 11,940 | - | - | - | - | - | 60.00 | 0.734 | 0.687 | 5,970 | - | - | - | - | - |
| Refrigerator Exchange | 40 | 40 | | | | | 84 | 84 | | | | | 44,074 | 13.71 | 12.82 | 111,467 | - | - | - | - | - | 1101.85 | 0.343 | 0.320 | 2,787 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 6 | 6 | | | | | 12 | 12 | | | | | 3,148 | 1.44 | 1.35 | 11,736 | - | - | - | - | - | 524.67 | 0.241 | 0.225 | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 89 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **319,222** | |
| Unspecified Insul | 61 | 17,401 | 285.26 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 49 | 2,877 | 58.72 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 35 | 1,811 | 51.73 |
| Htg. Sys./WH Other | 49 | 60,403 | 1232.72 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 34 | 4,215 | 123.97 |
| Smoke Detector | 6 | 576 | 96.03 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 41 | 6,262 | 152.73 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 12 | 5,341 | 445.12 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 66 | 31,822 | 482.16 |
| Evaluator Labor | 25 | 1,360 | 54.41 |
| Inspector Labor | 22 | 1,407 | 63.95 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 85 | 185,746 | 2185.24 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **794,083**

**Grand Total of Expenditures** **794,083**

## Threshold
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **111** | **111** | **104** | **4** | **1** | **0** | | | **657,917** | **34.5** | | **54.7** | | **230,184** | **722** | **71,417** | **2,225** | **350** | **0** | **5927.18** | **0.206** | | **0.283** | | **2,074** | **6.944** | **687** | **556** | **350** | - |
| **Shell & Htg. Sys.** | 111 | 110 | 103 | 4 | 1 | 0 | 85 | 110 | 581,199 | 16.2 | 16,968 | 33.4 | 54,378 | 71,346 | 712 | 69,228 | 2,225 | 350 | 0 | 5236.03 | 0.190 | 200 | 0.304 | 494 | 649 | 6.916 | 672 | 556 | 350 | - |
| Wall Insul. | 87 | 87 | 80 | 4 | 1 | 0 | 66 | 87 | 184,511 | 11.53 | 12,034 | 20.06 | 32,679 | 44,713 | 261 | 25,373 | 776 | 119 | 0 | 2120.81 | 0.175 | 182 | 0.231 | 376 | 514 | 3.263 | 317 | 194 | 119 | - |
| Ceiling Insul. | 102 | 102 | 96 | 4 | 1 | 0 | 79 | 102 | 126,059 | 3.46 | 3,666 | 6.74 | 10,977 | 14,643 | 108 | 10,474 | 321 | 44 | 0 | 1235.88 | 0.044 | 46 | 0.066 | 108 | 144 | 1.123 | 109 | 80 | 44 | - |
| Infil. Reduction | 111 | 85 | 103 | 3 | 1 | 0 | 85 | 3 | 54,382 | 1.19 | 1,259 | 5.21 | 8,487 | 9,746 | 106 | 10,342 | 401 | 41 | 0 | 489.92 | 0.014 | 15 | 1.738 | 2,829 | 115 | 1.033 | 100 | 134 | 41 | - |
| Found./Crawl. Insul | 25 | 25 | 23 | 2 | 0 | 0 | 18 | 25 | 25,069 | 0.00 | 9 | 0.80 | 1,302 | 1,311 | 28 | 2,755 | 197 | 0 | 0 | 1002.76 | 0.000 | 1 | 0.032 | 52 | 52 | 1.231 | 120 | 99 | - | - |
| Bandjoist Insul. | 63 | 63 | 59 | 2 | 1 | 0 | - | 63 | 11,066 | 0.00 | 0 | 0.57 | 932 | 932 | 10 | 978 | 20 | 6 | 0 | 175.66 | - | - | 0.009 | 15 | 15 | 0.171 | 17 | 10 | 6 | - |
| Hi-Eff Htg Sys Repl | 45 | 0 | 43 | 1 | 1 | 0 | - | 0 | 146,814 | 0.00 | 0 | 0.00 | 0 | 0 | 179 | 17,427 | 315 | 141 | 0 | 3262.53 | - | - | - | - | - | 4.172 | 405 | 315 | 141 | - |
| Std-Eff Htg Sys Repl | 7 | 0 | 6 | 1 | 0 | 0 | - | 0 | 33,298 | 0.00 | 0 | 0.00 | 0 | 0 | 19 | 1,879 | 195 | 0 | 0 | 4756.86 | - | - | - | - | - | 3.223 | 313 | 195 | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 84 | 8 | 76 | 0 | 0 | 0 | 42 | 0 | 42 | 0 | 0 | 0 | 20,754 | 0.0 | | 0.0 | | 2,055 | 10.5 | 2,303 | 0 | 0 | 0 | 247.07 | 0.000 | | 0.001 | | 257 | 0.138 | 30 | - | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| WH Wrap | 1 | 1 | 0 | 0 | 0 | 0 | | | | | | | 34 | 0.00 | | 0.00 | | 481 | 0.0 | 0 | 0 | 0 | 0 | 34.00 | 0.000 | | 0.001 | | 481 | - | - | - | - | - |
| Pipe Insul. | 77 | 8 | 69 | 0 | 0 | 0 | | | | | | | 966 | 0.00 | | 0.00 | | 1,574 | 2.1 | 746 | 0 | 0 | 0 | 12.55 | 0.000 | | 0.000 | | 197 | 0.031 | 11 | - | - | - |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 16 | 0 | 16 | 0 | 0 | 0 | 32 | 0 | 32 | 0 | 0 | 0 | 12,286 | 0.00 | | 0.00 | | 0 | 5.2 | 1,038 | 0 | 0 | 0 | 767.88 | - | | - | | - | 0.323 | 65 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 5 | 0 | 5 | 0 | 0 | 0 | 10 | 0 | 10 | 0 | 0 | 0 | 7,468 | 0.00 | | 0.00 | | 0 | 3.2 | 519 | 0 | 0 | 0 | 1493.60 | - | | - | | - | 0.636 | 104 | - | - | - |
| **Lighting** | 75 | 75 | | | | | 506 | 506 | | | | | 5,084 | 3.2 | | 6.0 | | 30,806 | - | - | - | - | - | 67.79 | 0.043 | | 0.080 | | 411 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 7 | 7 | | | | | 66 | 66 | | | | | 1,122 | 0.20 | | 0.37 | | 1,915 | - | - | - | - | - | 160.29 | 0.029 | | 0.053 | | 274 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 6 | 6 | | | | | 48 | 48 | | | | | 746 | 0.28 | | 0.51 | | 2,639 | - | - | - | - | - | 124.28 | 0.046 | | 0.085 | | 440 | - | - | - | - | - |
| CFL (23W) | 66 | 66 | | | | | 392 | 392 | | | | | 3,217 | 2.76 | | 5.09 | | 26,252 | - | - | - | - | - | 48.74 | 0.042 | | 0.077 | | 398 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 2 | 2 | 2 | 0 | 0 | 0 | 8 | 4 | 4 | 0 | 0 | 0 | 60 | 0.00 | | 1.16 | | 3,065 | -0.7 | -113 | 0.0 | 0.0 | 0.0 | 30.00 | 0.000 | | 0.581 | | 1,533 | -0.344 | -57 | - | | |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 2 | 2 | 2 | 0 | 0 | 0 | 8 | 4 | 4 | 0 | 0 | 0 | 60 | 0.00 | | 1.16 | | 3,065 | -0.7 | -113 | 0.0 | 0.0 | 0.0 | 30.00 | 0.000 | | 0.581 | | 1,533 | -0.344 | -57 | - | - | - |
| **Refrigerator/Freezer** | 49 | 49 | | | | | 106 | 106 | | | | | 50,820 | 15.12 | | 14.13 | | 122,913 | - | - | - | - | - | 1037.14 | 0.309 | | 0.288 | | 2,508 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 30 | 30 | | | | | 68 | 68 | | | | | 37,784 | 10.45 | | 9.77 | | 84,927 | - | - | - | - | - | 1259.47 | 0.348 | | 0.326 | | 2,831 | - | - | - | - | - |
| Freezer Remova | 1 | 1 | | | | | 2 | 2 | | | | | 60 | 0.34 | | 0.32 | | 2,778 | - | - | - | - | - | 60.00 | 0.342 | | 0.319 | | 2,778 | - | - | - | - | - |
| Freezer Exchange | 18 | 18 | | | | | 36 | 36 | | | | | 12,976 | 4.33 | | 4.05 | | 35,208 | - | - | - | - | - | 720.89 | 0.241 | | 0.225 | | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 111 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **491,495** | |
| Unspecified Insul | 99 | 32,635 | 329.65 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 62 | 5,876 | 94.77 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 69 | 15,276 | 221.39 |
| Htg. Sys./WH Other | 42 | 19,457 | 463.27 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 3 | 344 | 114.67 |
| Water Heater Repair | 6 | 876 | 146.05 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 53 | 4,748 | 89.58 |
| Smoke Detector | 3 | 90 | 30.10 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 110 | 24,696 | 224.50 |
| Exhaust Ventilatior | 66 | 22,112 | 335.03 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 21 | 12,862 | 612.46 |
| Consumables | 84 | 3,611 | 42.98 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 95 | 52,196 | 549.43 |
| Evaluator Labor | 31 | 21,284 | 686.57 |
| Inspector Labor | 30 | 8,555 | 285.18 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 111 | 266,933 | 2404.80 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 2 | (54) | -27.17 |

**Total Reported Materials, Labor, and Support Costs** **1,149,412**

**Grand Total of Expenditures** **1,149,412**

**SCICAP**
**Calendar Year 2002 Estimates**
**Costs, Fuel, and Demand Impacts for All Measures**

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **60** | **60** | **38** | **21** | **0** | **0** | | | **343,460** | **27.4** | | **63.7** | | **200,076** | **176** | **15,904** | **5,475** | **0** | **0** | **5724.33** | **0.365** | | **0.624** | | **3,335** | **4.631** | **419** | **261** | **-** | **-** |
| **Shell & Htg. Sys.** | 60 | 60 | 35 | 21 | 0 | 0 | 33 | 60 | 294,131 | 14.6 | 15,102 | 50.4 | 76,148 | 91,250 | 175 | 15,639 | 5,438 | 0 | 0 | 4902.19 | 0.444 | 458 | 0.839 | 1,269 | 1,521 | 5.000 | 447 | 259 | - | - |
| Wall Insul. | 54 | 54 | 34 | 17 | 0 | 0 | 32 | 54 | 45,093 | 7.25 | 7,367 | 12.43 | 18,780 | 26,147 | 58 | 5,222 | 1,440 | 0 | 0 | 835.05 | 0.226 | 230 | 0.230 | 348 | 484 | 1.714 | 154 | 85 | - | - |
| Ceiling Insul. | 52 | 52 | 29 | 19 | 0 | 0 | 29 | 52 | 119,037 | 5.99 | 6,277 | 11.17 | 16,911 | 23,188 | 39 | 3,536 | 1,243 | 0 | 0 | 2289.17 | 0.206 | 216 | 0.215 | 325 | 446 | 1.359 | 122 | 65 | - | - |
| Infil. Reduction | 59 | 35 | 34 | 21 | 0 | 0 | 33 | 4 | 20,270 | 0.94 | 937 | 7.74 | 11,752 | 12,689 | 26 | 2,275 | 1,033 | 0 | 0 | 343.56 | 0.028 | 28 | 1.936 | 2,938 | 363 | 0.751 | 67 | 49 | - | - |
| Found./Crawl. Insul | 33 | 33 | 19 | 11 | 0 | 0 | 21 | 33 | 24,784 | 0.47 | 521 | 9.87 | 14,885 | 15,406 | 18 | 1,578 | 526 | 0 | 0 | 751.03 | 0.022 | 25 | 0.299 | 451 | 467 | 0.931 | 83 | 48 | - | - |
| Bandjoist Insul. | 27 | 27 | 17 | 9 | 0 | 0 | - | 27 | 2,682 | 0.00 | 0 | 0.36 | 540 | 540 | 2 | 212 | 59 | 0 | 0 | 99.34 | - | - | 0.013 | 20 | 20 | 0.139 | 12 | 7 | - | - |
| Hi-Eff Htg Sys Repl | 1 | 0 | 1 | 0 | 0 | 0 | - | 0 | 340 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 339.60 | - | - | - | - | - | 0.000 | 0 | - | - | - |
| Std-Eff Htg Sys Repl | 27 | 2 | 14 | 11 | 0 | 0 | - | 2 | 81,926 | 0.00 | 0 | 8.80 | 13,280 | 13,280 | 32 | 2,815 | 1,137 | 0 | 0 | 3034.31 | - | - | 4.401 | 6,640 | 492 | 2.266 | 201 | 103 | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| **Water Heating** | 20 | 6 | 12 | 2 | 0 | 0 | 18 | 2 | 14 | 2 | 0 | 0 | 2,321 | 0.0 | | 0.1 | | 3,093 | 1.0 | 265 | 37 | 0 | 0 | 116.07 | 0.000 | | 0.009 | | 516 | 0.081 | 22 | 19 | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - | - |
| WH Wrap | 1 | 0 | 1 | 0 | 0 | 0 | | | | 31 | 0.00 | | 0.00 | 0 | 0.1 | 21 | 0 | 0 | 0 | 30.99 | - | | - | | - | 0.061 | 21 | - | - | - |
| Pipe Insul. | 16 | 5 | 10 | 1 | 0 | 0 | | | | 226 | 0.00 | | 0.00 | 984 | 0.3 | 96 | 5 | 0 | 0 | 14.12 | 0.000 | | 0.000 | | 197 | 0.026 | 10 | 5 | - | - |
| LF Showerheac | 2 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 41 | 0.00 | | 0.00 | | 0 | 0.3 | 85 | 0 | 0 | 0 | 20.72 | - | | - | | - | 0.138 | 43 | - | - | - |
| Faucet Aerator | 1 | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 8 | 0 | 0 | 0 | 13 | 0.00 | | 0.00 | | 0 | 0.0 | 3 | 0 | 0 | 0 | 13.02 | - | | - | | - | 0.009 | 3 | - | - | - |
| Std-Eff Wtr Htr Repl. | 3 | 1 | 1 | 1 | 0 | 0 | 6 | 2 | 2 | 2 | 0 | 0 | 2,010 | 0.00 | | 0.05 | | 2,110 | 0.4 | 60 | 32 | 0 | 0 | 670.00 | 0.000 | | 0.052 | | 2,110 | 0.369 | 60 | 32 | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Lighting** | 36 | 36 | | | | | 226 | 226 | | | | | 1,550 | 1.4 | | 2.6 | | 13,542 | - | - | - | - | - | 43.06 | 0.039 | | 0.073 | | 376 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 11 | 11 | | | | | 40 | 40 | | | | | 313 | 0.19 | | 0.35 | | 1,800 | - | - | - | - | - | 28.43 | 0.017 | | 0.032 | | 164 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 25 | 25 | | | | | 88 | 88 | | | | | 503 | 0.51 | | 0.94 | | 4,838 | - | - | - | - | - | 20.11 | 0.020 | | 0.038 | | 194 | - | - | - | - | - |
| CFL (23W) | 23 | 23 | | | | | 78 | 78 | | | | | 438 | 0.55 | | 1.01 | | 5,224 | - | - | - | - | - | 19.04 | 0.024 | | 0.044 | | 227 | - | - | - | - | - |
| CFL (25W) | 3 | 3 | | | | | 16 | 16 | | | | | 241 | 0.13 | | 0.23 | | 1,201 | - | - | - | - | - | 80.42 | 0.042 | | 0.078 | | 400 | - | - | - | - | - |
| CFL (30W) | 1 | 1 | | | | | 4 | 4 | | | | | 56 | 0.05 | | 0.09 | | 480 | - | - | - | - | - | 55.73 | 0.050 | | 0.093 | | 480 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 35 | 35 | | | | | 70 | 70 | | | | | 45,457 | 11.34 | | 10.60 | | 92,191 | - | - | - | - | - | 1298.77 | 0.324 | | 0.303 | | 2,634 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 34 | 34 | | | | | 68 | 68 | | | | | 44,359 | 11.10 | | 10.38 | | 90,235 | - | - | - | - | - | 1304.68 | 0.326 | | 0.305 | | 2,654 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 1 | 1 | | | | | 2 | 2 | | | | | 1,098 | 0.24 | | 0.22 | | 1,956 | - | - | - | - | - | 1098.00 | 0.241 | | 0.225 | | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 60 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **223,238** | |
| Unspecified Insul | 59 | 9,928 | 168.27 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 39 | 5,447 | 139.67 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 42 | 5,294 | 126.05 |
| Htg. Sys./WH Other | 11 | 3,122 | 283.82 |
| Space Heater Repl | 1 | 1,330 | 1330.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 10 | 862 | 86.23 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 16 | 1,484 | 92.73 |
| Smoke Detector | 33 | 499 | 15.12 |
| Fuses | 1 | 35 | 35.20 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 52 | 5,141 | 98.86 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 2 | 442 | 220.89 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 58 | 29,473 | 508.15 |
| Evaluator Labor | 28 | 5,088 | 181.71 |
| Inspector Labor | 27 | 7,954 | 294.58 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 59 | 147,140 | 2493.89 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **566,698**

**Grand Total of Expenditures** **566,698**

## SE Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **87** | **87** | **76** | **7** | **1** | **0** | | | **606,356** | **45.7** | | **65.8** | | **266,601** | **832** | **73,807** | **1,910** | **211** | **0** |
| **Shell & Htg. Sys.** | 87 | 87 | 76 | 7 | 1 | 0 | 82 | 85 | 529,525 | 25.8 | 29,763 | 41.4 | 60,677 | 90,440 | 825 | 72,466 | 1,846 | 211 | 0 |
| Wall Insul. | 72 | 72 | 64 | 5 | 1 | 0 | 68 | 72 | 112,825 | 12.26 | 14,154 | 15.86 | 23,274 | 37,428 | 276 | 24,203 | 712 | 120 | 0 |
| Ceiling Insul. | 82 | 82 | 72 | 6 | 1 | 0 | 78 | 82 | 88,654 | 12.60 | 14,561 | 11.41 | 16,751 | 31,311 | 113 | 9,889 | 370 | 46 | 0 |
| Infil. Reduction | 87 | 82 | 76 | 7 | 1 | 0 | 82 | 3 | 173,241 | 0.23 | 259 | 9.93 | 14,566 | 14,824 | 176 | 15,415 | 255 | 33 | 0 |
| Found./Crawl. Insul | 29 | 29 | 26 | 1 | 1 | 0 | 27 | 29 | 16,113 | 0.69 | 790 | 4.15 | 6,081 | 6,871 | 34 | 2,965 | 45 | 12 | 0 |
| Bandjoist Insul. | 1 | 1 | 1 | 0 | 0 | 0 | - | 1 | 293 | 0.00 | 0 | 0.00 | 5 | 5 | 0 | 15 | 0 | 0 | 0 |
| Hi-Eff Htg Sys Repl | 31 | 0 | 31 | 0 | 0 | 0 | - | 0 | 120,750 | 0.00 | 0 | 0.00 | 0 | 0 | 203 | 17,806 | 0 | 0 | 0 |
| Std-Eff Htg Sys Repl | 9 | 0 | 6 | 3 | 0 | 0 | - | 0 | 17,650 | 0.00 | 0 | 0.00 | 0 | 0 | 25 | 2,173 | 464 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Winter kW | Annual kWh | Gas: Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 26 | 1 | 23 | 2 | 0 | 0 | 21,586 | 0.0 | 0.1 | 2,110 | 9.2 | 1,665 | 64 | 0 | 0 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 1 | 0 | 1 | 0 | 0 | 0 | 15 | 0.00 | 0.00 | 0 | 0.1 | 26 | 0 | 0 | 0 |
| Pipe Insul. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| LF Showerheac | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 25 | 1 | 22 | 2 | 0 | 0 | 21,571 | 0.00 | 0.05 | 2,110 | 9.1 | 1,639 | 64 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| **Lighting** | 74 | 74 | | | | | 4,913 | 3.1 | 5.7 | 29,494 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 10 | 10 | | | | | 654 | 0.20 | 0.37 | 1,918 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 24 | 24 | | | | | 1,180 | 0.54 | 1.00 | 5,163 | - | - | - | - | - |
| CFL (15W) | 49 | 49 | | | | | 1,857 | 1.22 | 2.25 | 11,608 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 20 | 20 | | | | | 556 | 0.43 | 0.79 | 4,069 | - | - | - | - | - |
| CFL (23W) | 1 | 1 | | | | | 15 | 0.01 | 0.03 | 134 | - | - | - | - | - |
| CFL (25W) | 18 | 18 | | | | | 415 | 0.44 | 0.82 | 4,202 | - | - | - | - | - |
| CFL (30W) | 7 | 7 | | | | | 236 | 0.25 | 0.47 | 2,401 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 5 | 5 | 5 | 0 | 0 | 0 | 125 | 0.00 | 2.90 | 7,663 | -2.0 | -325 | 0.0 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 5 | 5 | 5 | 0 | 0 | 0 | 125 | 0.00 | 2.90 | 7,663 | -2.0 | -325 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 54 | 54 | | | | | 50,206 | 16.84 | 15.74 | 136,895 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 42 | 42 | | | | | 41,135 | 13.71 | 12.82 | 111,467 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Freezer Exchange | 12 | 12 | | | | | 9,071 | 3.13 | 2.92 | 25,428 | - | - | - | - | - |

| Measure | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **6969.60** | **0.291** | | **0.411** | | **3,064** | **10.953** | **971** | **273** | **211** | **-** |
| **Shell & Htg. Sys.** | 6086.49 | 0.314 | 363 | 0.486 | 714 | 1,040 | 10.857 | 954 | 264 | 211 | - |
| Wall Insul. | 1567.01 | 0.180 | 208 | 0.220 | 323 | 520 | 4.307 | 378 | 142 | 120 | - |
| Ceiling Insul. | 1081.15 | 0.162 | 187 | 0.139 | 204 | 382 | 1.564 | 137 | 62 | 46 | - |
| Infil. Reduction | 1991.27 | 0.003 | 3 | 3.311 | 4,855 | 181 | 2.310 | 203 | 36 | 33 | - |
| Found./Crawl. Insul | 555.61 | 0.026 | 29 | 0.143 | 210 | 237 | 1.301 | 114 | 45 | 12 | - |
| Bandjoist Insul. | 292.76 | - | - | 0.004 | 5 | 5 | 0.176 | 15 | - | - | - |
| Hi-Eff Htg Sys Repl | 3895.16 | - | - | - | - | - | 6.540 | 574 | - | - | - |
| Std-Eff Htg Sys Repl | 1961.11 | - | - | - | - | - | 4.089 | 362 | 155 | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Gas: Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 830.24 | 0.000 | 0.052 | 2,110 | 0.400 | 72 | 32 | - | - |
| Temp. Reduct. | 0.00 | - | - | - | - | - | - | - | - |
| WH Wrap | 15.42 | - | - | - | 0.075 | 26 | - | - | - |
| Pipe Insul. | 0.00 | - | - | - | - | - | - | - | - |
| LF Showerheac | 0.00 | - | - | - | - | - | - | - | - |
| Faucet Aerator | 0.00 | - | - | - | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 862.83 | 0.000 | 0.052 | 2,110 | 0.415 | 75 | 32 | - | - |
| Hi-Eff Wtr Htr Repl. | 0.00 | - | - | - | - | - | - | - | - |
| **Lighting** | 66.39 | 0.042 | 0.077 | 399 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 65.37 | 0.020 | 0.037 | 192 | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 49.15 | 0.023 | 0.042 | 215 | - | - | - | - | - |
| CFL (15W) | 37.91 | 0.025 | 0.046 | 237 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 27.81 | 0.021 | 0.039 | 203 | - | - | - | - | - |
| CFL (23W) | 14.90 | 0.014 | 0.026 | 134 | - | - | - | - | - |
| CFL (25W) | 23.08 | 0.025 | 0.045 | 233 | - | - | - | - | - |
| CFL (30W) | 33.68 | 0.036 | 0.067 | 343 | - | - | - | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 25.00 | 0.000 | 0.581 | 1,533 | -0.395 | -65 | - | | |
| King | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 25.00 | 0.000 | 0.581 | 1,533 | -0.395 | -65 | - | - | - |
| **Refrigerator/Freezer** | 929.75 | 0.312 | 0.292 | 2,535 | | | | | |
| Refrigerator Remova | 0.00 | - | - | - | - | - | - | - | - |
| Refrigerator Exchange | 979.41 | 0.326 | 0.305 | 2,654 | - | - | - | - | - |
| Freezer Remova | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 755.94 | 0.261 | 0.244 | 2,119 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 87 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **339,934** | |
| Unspecified Insul | 33 | 1,117 | 33.86 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 57 | 8,470 | 148.60 |
| Htg. Sys./WH Other | 12 | 5,105 | 425.38 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 2 | 331 | 165.28 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 65 | 20,334 | 312.83 |
| Consumables | 78 | 1,841 | 23.60 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 81 | 37,915 | 468.09 |
| Evaluator Labor | 19 | 5,934 | 312.32 |
| Inspector Labor | 18 | 3,118 | 173.19 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 87 | 255,771 | 2939.90 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **946,290**

**Grand Total of Expenditures** **946,290**

**SIEDA**
**Calendar Year 2002 Estimates**
**Costs, Fuel, and Demand Impacts for All Measures**

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **111** | **111** | **90** | **17** | **2** | **0** | | | **556,298** | **63.7** | | **58.7** | | **387,888** | **406** | **38,940** | **10,647** | **870** | **0** | **5011.69** | **0.255** | | **0.236** | | **3,494** | **4.509** | **433** | **626** | **435** | - |
| **Shell & Htg. Sys.** | 111 | 110 | 87 | 17 | 2 | 0 | 106 | 105 | 440,699 | 33.5 | 37,459 | 19.4 | 29,348 | 66,808 | 395 | 35,802 | 10,319 | 870 | 0 | 3970.26 | 0.316 | 353 | 0.185 | 280 | 607 | 4.540 | 412 | 607 | 435 | - |
| Wall Insul. | 66 | 66 | 55 | 10 | 1 | 0 | 64 | 66 | 60,749 | 12.08 | 13,544 | 5.04 | 7,616 | 21,160 | 125 | 11,346 | 2,367 | 154 | 0 | 920.43 | 0.189 | 212 | 0.076 | 115 | 321 | 2.278 | 206 | 237 | 154 | - |
| Ceiling Insul. | 97 | 97 | 78 | 15 | 2 | 0 | 93 | 97 | 86,197 | 17.43 | 19,511 | 7.41 | 11,215 | 30,727 | 58 | 5,278 | 1,404 | 141 | 0 | 888.62 | 0.187 | 210 | 0.076 | 116 | 317 | 0.750 | 68 | 94 | 70 | - |
| Infil. Reduction | 107 | 103 | 82 | 17 | 2 | 0 | 102 | 5 | 52,893 | 2.69 | 2,954 | 4.63 | 6,989 | 9,943 | 78 | 7,152 | 3,635 | 142 | 0 | 494.33 | 0.026 | 29 | 0.926 | 1,398 | 97 | 0.957 | 87 | 214 | 71 | - |
| Found./Crawl. Insul | 35 | 35 | 29 | 5 | 0 | 0 | 33 | 35 | 19,593 | 1.26 | 1,450 | 1.16 | 1,748 | 3,198 | 17 | 1,577 | 499 | 0 | 0 | 559.80 | 0.038 | 44 | 0.033 | 50 | 91 | 0.589 | 54 | 100 | - | - |
| Bandjoist Insul. | 82 | 82 | 64 | 14 | 1 | 0 | - | 82 | 10,904 | 0.00 | 0 | 1.17 | 1,780 | 1,780 | 10 | 896 | 293 | 14 | 0 | 132.98 | - | - | 0.014 | 22 | 22 | 0.155 | 14 | 21 | 14 | - |
| Hi-Eff Htg Sys Repl | 19 | 0 | 18 | 0 | 1 | 0 | - | 0 | 87,342 | 0.00 | 0 | 0.00 | 0 | 0 | 59 | 5,218 | 0 | 254 | 0 | 4596.95 | - | - | - | - | - | 3.268 | 290 | - | 254 | - |
| Std-Eff Htg Sys Repl | 35 | 0 | 26 | 8 | 1 | 0 | - | 0 | 123,022 | 0.00 | 0 | 0.00 | 0 | 0 | 47 | 4,335 | 2,122 | 166 | 0 | 3514.91 | - | - | - | - | - | 1.804 | 167 | 265 | 166 | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 110 | 44 | 64 | 2 | 0 | 0 | 606 | 234 | 358 | 14 | 0 | 0 | 26,235 | 0.0 | | 1.0 | | 53,866 | 14.1 | 3,680 | 328 | 0 | 0 | 238.50 | 0.000 | | 0.023 | | 1,224 | 0.221 | 58 | 164 | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| WH Wrap | 4 | 2 | 2 | 0 | 0 | 0 | | | | | | | 125 | 0.00 | | 0.00 | | 962 | 0.1 | 48 | 0 | 0 | 0 | 31.30 | 0.000 | | 0.001 | | 481 | 0.070 | 24 | - | - | - |
| Pipe Insul. | 106 | 41 | 63 | 2 | 0 | 0 | | | | | | | 1,117 | 0.00 | | 0.02 | | 8,065 | 2.1 | 724 | 34 | 0 | 0 | 10.54 | 0.000 | | 0.000 | | 197 | 0.033 | 11 | 17 | - | - |
| LF Showerheac | 61 | 24 | 35 | 2 | 0 | 0 | 132 | 54 | 74 | 4 | 0 | 0 | 825 | 0.00 | | 0.51 | | 22,317 | 4.5 | 1,396 | 169 | 0 | 0 | 13.52 | 0.000 | | 0.021 | | 930 | 0.130 | 40 | 84 | - | - |
| Faucet Aerator | 108 | 43 | 63 | 2 | 0 | 0 | 424 | 164 | 252 | 8 | 0 | 0 | 794 | 0.00 | | 0.13 | | 5,645 | 1.2 | 366 | 25 | 0 | 0 | 7.35 | 0.000 | | 0.003 | | 131 | 0.019 | 6 | 12 | - | - |
| Std-Eff Wtr Htr Repl. | 24 | 8 | 15 | 1 | 0 | 0 | 48 | 16 | 30 | 2 | 0 | 0 | 19,300 | 0.00 | | 0.36 | | 16,877 | 5.5 | 1,035 | 101 | 0 | 0 | 804.17 | 0.000 | | 0.046 | | 2,110 | 0.367 | 69 | 101 | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 4,074 | 0.00 | | 0.00 | | 0 | 0.7 | 110 | 0 | 0 | 0 | 4074.00 | - | | - | | - | 0.677 | 110 | - | - | - |
| **Lighting** | 100 | 100 | | | | | 720 | 720 | | | | | 7,040 | 5.2 | | 9.6 | | 49,470 | - | - | - | - | - | 70.40 | 0.052 | | 0.096 | | 495 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 26 | 26 | | | | | 150 | 150 | | | | | 1,497 | 0.71 | | 1.31 | | 6,749 | - | - | - | - | - | 57.59 | 0.027 | | 0.050 | | 260 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (23W) | 1 | 1 | | | | | 6 | 6 | | | | | 88 | 0.04 | | 0.08 | | 402 | - | - | - | - | - | 87.96 | 0.042 | | 0.078 | | 402 | - | - | - | - | - |
| CFL (25W) | 89 | 89 | | | | | 564 | 564 | | | | | 5,455 | 4.44 | | 8.21 | | 42,320 | - | - | - | - | - | 61.29 | 0.050 | | 0.092 | | 476 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 9 | 9 | 9 | 0 | 0 | 0 | 36 | 18 | 18 | 0 | 0 | 0 | 268 | 0.00 | | 5.23 | | 13,793 | -3.3 | -542 | 0.0 | 0.0 | 0.0 | 29.78 | 0.000 | | 0.581 | | 1,533 | -0.365 | -60 | - | | |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 9 | 9 | 9 | 0 | 0 | 0 | 36 | 18 | 18 | 0 | 0 | 0 | 268 | 0.00 | | 5.23 | | 13,793 | -3.3 | -542 | 0.0 | 0.0 | 0.0 | 29.78 | 0.000 | | 0.581 | | 1,533 | -0.365 | -60 | - | - | - |
| **Refrigerator/Freezer** | 76 | 76 | | | | | 204 | 204 | | | | | 82,056 | 25.09 | | 23.45 | | 203,950 | - | - | - | - | - | 1079.68 | 0.330 | | 0.309 | | 2,684 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 49 | 49 | | | | | 128 | 128 | | | | | 57,814 | 17.63 | | 16.48 | | 143,315 | - | - | - | - | - | 1179.88 | 0.360 | | 0.336 | | 2,925 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 27 | 27 | | | | | 76 | 76 | | | | | 24,242 | 7.46 | | 6.97 | | 60,635 | - | - | - | - | - | 897.85 | 0.276 | | 0.258 | | 2,246 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 111 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **416,067** | |
| Unspecified Insul | 79 | 9,763 | 123.59 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 99 | 3,974 | 40.14 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 55 | 11,220 | 204.00 |
| Htg. Sys./WH Other | 93 | 78,989 | 849.34 |
| Space Heater Repl | 1 | 1,296 | 1296.00 |
| Air Conditioning Work | 5 | 860 | 172.00 |
| Water Heater Repair | 13 | 1,615 | 124.23 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 34 | 3,240 | 95.29 |
| Smoke Detector | 3 | 115 | 38.17 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 3 | 306 | 102.00 |
| Exhaust Ventilation | 25 | 3,248 | 129.90 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 54 | 9,597 | 177.72 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 109 | 67,832 | 622.31 |
| Evaluator Labor | 29 | 2,737 | 94.38 |
| Inspector Labor | 29 | 3,417 | 117.84 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 98 | 217,841 | 2222.87 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 4 | 18 | 4.39 |

**Total Reported Materials, Labor, and Support Costs** **972,365**

**Grand Total of Expenditures** **972,365**

## Upper Des Moines
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **147** | **145** | **140** | **10** | **0** | **0** | | | **1,059,813** | **58.0** | | **47.7** | | **276,734** | **843** | **84,348** | **3,376** | **0** | **0** | **7209.61** | **0.232** | | **0.167** | | **1,909** | **6.020** | **602** | **338** | **-** | **-** |
| **Shell & Htg. Sys.** | 147 | 145 | 136 | 10 | 0 | 0 | 108 | 144 | 932,949 | 34.7 | 33,415 | 17.2 | 28,252 | 61,666 | 827 | 81,226 | 3,292 | 0 | 0 | 6346.59 | 0.321 | 309 | 0.119 | 196 | 425 | 6.081 | 597 | 329 | - | - |
| Wall Insul. | 130 | 130 | 120 | 10 | 0 | 0 | 97 | 130 | 261,500 | 18.08 | 17,420 | 10.89 | 17,907 | 35,326 | 313 | 30,705 | 1,204 | 0 | 0 | 2011.54 | 0.186 | 180 | 0.084 | 138 | 272 | 2.606 | 256 | 120 | - | - |
| Ceiling Insul. | 136 | 136 | 126 | 10 | 0 | 0 | 100 | 136 | 248,314 | 13.88 | 13,409 | 4.85 | 7,986 | 21,395 | 142 | 13,987 | 523 | 0 | 0 | 1825.84 | 0.139 | 134 | 0.036 | 59 | 157 | 1.130 | 111 | 52 | - | - |
| Infil. Reduction | 143 | 107 | 132 | 10 | 0 | 0 | 107 | 1 | 34,748 | 2.18 | 2,092 | 0.14 | 232 | 2,324 | 109 | 10,737 | 427 | 0 | 0 | 242.99 | 0.020 | 20 | 0.142 | 232 | 22 | 0.829 | 81 | 43 | - | - |
| Found./Crawl. Insul | 39 | 39 | 35 | 4 | 0 | 0 | 29 | 39 | 21,792 | 0.54 | 493 | 1.06 | 1,732 | 2,225 | 29 | 2,821 | 115 | 0 | 0 | 558.77 | 0.019 | 17 | 0.027 | 44 | 57 | 0.824 | 81 | 29 | - | - |
| Bandjoist Insul. | 46 | 46 | 44 | 2 | 0 | 0 | - | 46 | 5,624 | 0.00 | 0 | 0.24 | 395 | 395 | 6 | 607 | 13 | 0 | 0 | 122.27 | - | - | 0.005 | 9 | 9 | 0.140 | 14 | 6 | - | - |
| Hi-Eff Htg Sys Repl | 48 | 0 | 43 | 5 | 0 | 0 | - | 0 | 204,757 | 0.00 | 0 | 0.00 | 0 | 0 | 131 | 12,935 | 779 | 0 | 0 | 4265.78 | - | - | - | - | - | 3.048 | 301 | 156 | - | - |
| Std-Eff Htg Sys Repl | 45 | 0 | 43 | 2 | 0 | 0 | - | 0 | 156,214 | 0.00 | 0 | 0.00 | 0 | 0 | 96 | 9,433 | 231 | 0 | 0 | 3471.43 | - | - | - | - | - | 2.242 | 219 | 115 | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 85 | 6 | 76 | 3 | 0 | 0 | 312 | 16 | 284 | 12 | 0 | 0 | 42,409 | 0.0 | | 0.3 | | 12,674 | 15.9 | 3,123 | 84 | 0 | 0 | 498.93 | 0.000 | | 0.051 | | 2,112 | 0.209 | 41 | 28 | - | - |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| WH Wrap | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0 | 0 | 0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Pipe Insul. | 62 | 2 | 59 | 1 | 0 | 0 | | | | | | | 720 | 0.00 | | 0.00 | | 393 | 1.5 | 528 | 4 | 0 | 0 | 11.61 | 0.000 | | 0.000 | | 197 | 0.026 | 9 | 4 | - | - |
| LF Showerheac | 2 | 0 | 2 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 15 | 0.00 | | 0.00 | | 0 | 0.1 | 34 | 0 | 0 | 0 | 7.50 | - | | - | | - | 0.056 | 17 | - | - | - |
| Faucet Aerator | 63 | 2 | 59 | 2 | 0 | 0 | 208 | 6 | 196 | 6 | 0 | 0 | 520 | 0.00 | | 0.01 | | 467 | 0.9 | 272 | 3 | 0 | 0 | 8.25 | 0.000 | | 0.005 | | 234 | 0.015 | 5 | 2 | - | - |
| Std-Eff Wtr Htr Repl. | 40 | 4 | 33 | 3 | 0 | 0 | 80 | 8 | 66 | 6 | 0 | 0 | 34,511 | 0.00 | | 0.21 | | 8,438 | 10.2 | 1,772 | 76 | 0 | 0 | 862.78 | 0.000 | | 0.052 | | 2,110 | 0.309 | 54 | 25 | - | - |
| Hi-Eff Wtr Htr Repl. | 6 | 1 | 5 | 0 | 0 | 0 | 18 | 2 | 16 | 0 | 0 | 0 | 6,642 | 0.00 | | 0.08 | | 3,375 | 3.2 | 516 | 0 | 0 | 0 | 1107.07 | 0.000 | | 0.083 | | 3,375 | 0.632 | 103 | - | - | - |
| **Lighting** | 136 | 136 | | | | | 1,424 | 1,424 | | | | | 24,199 | 9.3 | | 17.1 | | 88,273 | - | - | - | - | - | 177.93 | 0.068 | | 0.126 | | 649 | | | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 1 | 1 | | | | | 4 | 4 | | | | | 68 | 0.01 | | 0.02 | | 116 | - | - | - | - | - | 68.00 | 0.012 | | 0.023 | | 116 | - | - | - | - | - |
| CFL (15W) | 51 | 51 | | | | | 452 | 452 | | | | | 7,684 | 2.14 | | 3.95 | | 20,336 | - | - | - | - | - | 150.67 | 0.042 | | 0.077 | | 399 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 21 | 21 | | | | | 88 | 88 | | | | | 1,496 | 0.51 | | 0.94 | | 4,838 | - | - | - | - | - | 71.24 | 0.024 | | 0.045 | | 230 | - | - | - | - | - |
| CFL (23W) | 51 | 51 | | | | | 378 | 378 | | | | | 6,417 | 2.66 | | 4.91 | | 25,314 | - | - | - | - | - | 125.82 | 0.052 | | 0.096 | | 496 | - | - | - | - | - |
| CFL (25W) | 58 | 58 | | | | | 502 | 502 | | | | | 8,534 | 3.96 | | 7.31 | | 37,668 | - | - | - | - | - | 147.14 | 0.068 | | 0.126 | | 649 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 42 | 42 | | | | | 90 | 90 | | | | | 60,256 | 14.04 | | 13.12 | | 114,121 | - | - | - | - | - | 1434.67 | 0.334 | | 0.312 | | 2,717 | | | | | |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 42 | 42 | | | | | 90 | 90 | | | | | 60,256 | 14.04 | | 13.12 | | 114,121 | - | - | - | - | - | 1434.67 | 0.334 | | 0.312 | | 2,717 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | | 0.00 | | 0 | - | - | - | - | - | 0.00 | - | | - | | - | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 148 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **523,849** | |
| Unspecified Insul | 132 | 22,240 | 168.49 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 75 | 2,259 | 30.11 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 40 | 5,010 | 125.25 |
| Htg. Sys./WH Other | 43 | 26,783 | 622.86 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 3 | 266 | 88.81 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 34 | 5,413 | 159.20 |
| Smoke Detector | 2 | 218 | 108.90 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 1 | 53 | 53.00 |
| Exhaust Ventilation | 53 | 10,496 | 198.04 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 14 | 7,657 | 546.94 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 121 | 48,969 | 404.70 |
| Evaluator Labor | 56 | 10,162 | 181.46 |
| Inspector Labor | 56 | 6,082 | 108.61 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 148 | 379,241 | 2562.44 |
| Landlord Contr Misc | 1 | (1,000) | -1000.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **1,583,662**

**Grand Total of Expenditures** **1,583,662**

## West Central
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **195** | **195** | **171** | **20** | **0** | **0** | | | **1,015,126** | **77.5** | | **70.3** | | **333,125** | **922** | **87,901** | **9,977** | **0** | **0** |
| **Shell & Htg. Sys.** | 195 | 194 | 170 | 19 | 0 | 0 | 178 | 190 | 938,653 | 57.3 | 61,693 | 50.3 | 76,719 | 138,413 | 908 | 83,516 | 9,543 | 0 | 0 |
| Wall Insul. | 162 | 162 | 141 | 17 | 0 | 0 | 147 | 162 | 172,605 | 23.70 | 25,527 | 24.63 | 37,723 | 63,250 | 265 | 24,410 | 3,070 | 0 | 0 |
| Ceiling Insul. | 175 | 175 | 152 | 17 | 0 | 0 | 160 | 175 | 191,691 | 29.39 | 31,751 | 13.02 | 19,922 | 51,673 | 116 | 10,676 | 1,408 | 0 | 0 |
| Infil. Reduction | 193 | 178 | 169 | 18 | 0 | 0 | 178 | 6 | 114,938 | 4.17 | 4,470 | 11.18 | 16,874 | 21,344 | 218 | 20,020 | 1,837 | 0 | 0 |
| Found./Crawl. Insul | 59 | 59 | 51 | 8 | 0 | 0 | 54 | 59 | 19,414 | 0.01 | (55) | 0.94 | 1,434 | 1,379 | 26 | 2,366 | 372 | 0 | 0 |
| Bandjoist Insul. | 55 | 55 | 45 | 9 | 0 | 0 | - | 55 | 5,346 | 0.00 | 0 | 0.50 | 767 | 767 | 7 | 599 | 117 | 0 | 0 |
| Hi-Eff Htg Sys Repl | 7 | 0 | 5 | 2 | 0 | 0 | - | 0 | 26,344 | 0.00 | 0 | 0.00 | 0 | 0 | 12 | 1,122 | 594 | 0 | 0 |
| Std-Eff Htg Sys Repl | 125 | 0 | 115 | 10 | 0 | 0 | - | 0 | 408,316 | 0.00 | 0 | 0.00 | 0 | 0 | 264 | 24,322 | 2,145 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 182 | 38 | 133 | 11 | 0 | 0 | 666 | 144 | 492 | 30 | 0 | 0 | 8,492 | 0.0 | 0.6 | 29,289 | 14.6 | 4,385 | 434 | 0 | 0 |
| Temp. Reduct. | 8 | 0 | 8 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | 0.00 | 0 | 1.2 | 432 | 0 | 0 | 0 |
| WH Wrap | 10 | 1 | 9 | 0 | 0 | 0 | | | | | | | 340 | 0.00 | 0.00 | 481 | 0.6 | 206 | 0 | 0 | 0 |
| Pipe Insul. | 109 | 22 | 81 | 6 | 0 | 0 | | | | | | | 980 | 0.00 | 0.01 | 4,327 | 2.5 | 869 | 64 | 0 | 0 |
| LF Showerheac | 55 | 14 | 37 | 4 | 0 | 0 | 116 | 30 | 78 | 8 | 0 | 0 | 812 | 0.00 | 0.43 | 19,071 | 5.9 | 1,812 | 231 | 0 | 0 |
| Faucet Aerator | 153 | 33 | 111 | 9 | 0 | 0 | 538 | 114 | 404 | 20 | 0 | 0 | 1,213 | 0.00 | 0.12 | 5,409 | 2.4 | 744 | 74 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 6 | 0 | 5 | 1 | 0 | 0 | 12 | 0 | 10 | 2 | 0 | 0 | 5,146 | 0.00 | 0.00 | 0 | 2.0 | 322 | 64 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| **Lighting** | 27 | 27 | | | | | 112 | 112 | | | | | 1,426 | 0.6 | 1.2 | 6,040 | - | - | - | - | - |
| Capsylite (42W) | 1 | 1 | | | | | 4 | 4 | | | | | 20 | 0.01 | 0.02 | 107 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 9 | 9 | | | | | 36 | 36 | | | | | 180 | 0.15 | 0.27 | 1,385 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 3 | 3 | | | | | 10 | 10 | | | | | 172 | 0.03 | 0.06 | 290 | - | - | - | - | - |
| CFL (15W) | 7 | 7 | | | | | 22 | 22 | | | | | 374 | 0.10 | 0.19 | 990 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 1 | 1 | | | | | 4 | 4 | | | | | 68 | 0.02 | 0.04 | 220 | - | - | - | - | - |
| CFL (23W) | 8 | 8 | | | | | 24 | 24 | | | | | 408 | 0.17 | 0.31 | 1,607 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (30W) | 6 | 6 | | | | | 12 | 12 | | | | | 204 | 0.15 | 0.28 | 1,440 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 63 | 63 | | | | | 128 | 128 | | | | | 66,556 | 19.60 | 18.33 | 159,384 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 48 | 48 | | | | | 98 | 98 | | | | | 55,496 | 16.00 | 14.96 | 130,045 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Freezer Exchange | 15 | 15 | | | | | 30 | 30 | | | | | 11,060 | 3.61 | 3.37 | 29,340 | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Electricity Summer kWh | Electricity Winter kW | Electricity Winter kWh | Electricity Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **5205.77** | **0.319** | | **0.276** | | **1,708** | **5.394** | **514** | **499** | **-** | **-** |
| **Shell & Htg. Sys.** | 4813.60 | 0.322 | 347 | 0.265 | 404 | 713 | 5.340 | 491 | 502 | - | - |
| Wall Insul. | 1065.46 | 0.161 | 174 | 0.152 | 233 | 390 | 1.880 | 173 | 181 | - | - |
| Ceiling Insul. | 1095.38 | 0.184 | 198 | 0.074 | 114 | 295 | 0.764 | 70 | 83 | - | - |
| Infil. Reduction | 595.53 | 0.023 | 25 | 1.863 | 2,812 | 120 | 1.288 | 118 | 102 | - | - |
| Found./Crawl. Insul | 329.05 | 0.000 | (1) | 0.016 | 24 | 23 | 0.506 | 46 | 47 | - | - |
| Bandjoist Insul. | 97.19 | - | - | 0.009 | 14 | 14 | 0.146 | 13 | 13 | - | - |
| Hi-Eff Htg Sys Repl | 3763.43 | - | - | - | - | - | 2.458 | 224 | 297 | - | - |
| Std-Eff Htg Sys Repl | 3266.53 | - | - | - | - | - | 2.298 | 211 | 214 | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Electricity Summer kWh | Electricity Winter kW | Electricity Winter kWh | Electricity Annual kWh | Gas Pk-Day therms | Gas Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 46.66 | 0.000 | | 0.015 | | 771 | 0.110 | 33 | 39 | - | - |
| Temp. Reduct. | 0.00 | - | | - | | - | 0.156 | 54 | - | - | - |
| WH Wrap | 34.00 | 0.000 | | 0.001 | | 481 | 0.066 | 23 | - | - | - |
| Pipe Insul. | 8.99 | 0.000 | | 0.000 | | 197 | 0.031 | 11 | 11 | - | - |
| LF Showerheac | 14.76 | 0.000 | | 0.031 | | 1,362 | 0.159 | 49 | 58 | - | - |
| Faucet Aerator | 7.93 | 0.000 | | 0.004 | | 164 | 0.022 | 7 | 8 | - | - |
| Std-Eff Wtr Htr Repl. | 857.67 | - | | - | | - | 0.395 | 64 | 64 | - | - |
| Hi-Eff Wtr Htr Repl. | 0.00 | - | | - | | - | - | - | - | - | - |
| **Lighting** | 52.81 | 0.023 | | 0.043 | | 224 | - | - | - | - | - |
| Capsylite (42W) | 20.00 | 0.011 | | 0.021 | | 107 | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 20.00 | 0.016 | | 0.030 | | 154 | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 57.33 | 0.010 | | 0.019 | | 97 | - | - | - | - | - |
| CFL (15W) | 53.43 | 0.015 | | 0.027 | | 141 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 68.00 | 0.023 | | 0.043 | | 220 | - | - | - | - | - |
| CFL (23W) | 51.00 | 0.021 | | 0.039 | | 201 | - | - | - | - | - |
| CFL (25W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (30W) | 34.00 | 0.025 | | 0.047 | | 240 | - | - | - | - | - |
| CFL, unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 1056.44 | 0.311 | | 0.291 | | 2,530 | | | | | |
| Refrigerator Remova | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 1156.16 | 0.333 | | 0.312 | | 2,709 | - | - | - | - | - |
| Freezer Remova | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 737.33 | 0.241 | | 0.225 | | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 195 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **756,024** | |
| Unspecified Insul | 179 | 41,235 | 230.36 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 140 | 10,927 | 78.05 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 74 | 6,358 | 85.92 |
| Htg. Sys./WH Other | 134 | 73,376 | 547.58 |
| Space Heater Repl | 2 | 4,230 | 2115.00 |
| Air Conditioning Work | 60 | 6,340 | 105.67 |
| Water Heater Repair | 18 | 4,766 | 264.78 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 24 | 1,515 | 63.11 |
| Smoke Detector | 19 | 1,084 | 57.04 |
| Fuses | 2 | 36 | 18.00 |
| Htg Sys Safety Check | 166 | 13,036 | 78.53 |
| Exhaust Ventilation | 98 | 16,380 | 167.14 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 9 | 2,943 | 326.96 |
| Consumables | 1 | 128 | 128.40 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 192 | 138,954 | 723.72 |
| Evaluator Labor | 57 | 12,595 | 220.97 |
| Inspector Labor | 57 | 6,417 | 112.58 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 195 | 415,382 | 2130.16 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 1 | 323 | 322.74 |

**Total Reported Materials, Labor, and Support Costs** **1,771,151**

**Grand Total of Expenditures** **1,771,151**

# Woodbury
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **99** | **99** | **88** | **9** | **1** | **0** | | | **666,634** | **66.7** | | **74.8** | | **358,830** | **869** | **83,221** | **4,449** | **324** | **0** |
| **Shell & Htg. Sys.** | 99 | 97 | 85 | 9 | 1 | 0 | 92 | 96 | 558,966 | 39.8 | 43,304 | 44.1 | 68,900 | 112,204 | 859 | 79,810 | 4,427 | 324 | 0 |
| Wall Insul. | 63 | 63 | 59 | 2 | 1 | 0 | 62 | 63 | 99,176 | 19.73 | 21,748 | 12.69 | 19,827 | 41,575 | 254 | 23,626 | 707 | 124 | 0 |
| Ceiling Insul. | 94 | 94 | 82 | 8 | 1 | 0 | 90 | 94 | 125,076 | 15.54 | 16,823 | 16.47 | 25,741 | 42,563 | 141 | 13,084 | 1,123 | 85 | 0 |
| Infil. Reduction | 90 | 86 | 81 | 6 | 1 | 0 | 86 | 2 | 32,213 | 1.78 | 1,951 | 2.90 | 4,530 | 6,481 | 129 | 12,030 | 441 | 52 | 0 |
| Found./Crawl. Insul | 33 | 33 | 28 | 3 | 1 | 0 | 31 | 33 | 30,305 | 2.72 | 2,783 | 4.56 | 7,122 | 9,905 | 49 | 4,497 | 622 | 64 | 0 |
| Bandjoist Insul. | 35 | 35 | 30 | 4 | 0 | 0 | - | 35 | 4,853 | 0.00 | 0 | 0.35 | 553 | 553 | 5 | 507 | 54 | 0 | 0 |
| Hi-Eff Htg Sys Repl | 42 | 0 | 39 | 3 | 0 | 0 | - | 0 | 217,832 | 0.00 | 0 | 0.00 | 0 | 0 | 239 | 22,188 | 1,479 | 0 | 0 |
| Std-Eff Htg Sys Repl | 9 | 1 | 8 | 0 | 0 | 0 | - | 1 | 49,512 | 0.00 | 0 | 7.12 | 11,128 | 11,128 | 42 | 3,877 | 0 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Winter kW | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 92 | 17 | 73 | 2 | 0 | 0 | 3,769 | 0.0 | 0.2 | 19,883 | 10.6 | 3,411 | 22 | 0 | 0 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| WH Wrap | 52 | 16 | 36 | 0 | 0 | 0 | 1,650 | 0.00 | 0.02 | 7,698 | 3.0 | 1,036 | 0 | 0 | 0 |
| Pipe Insul. | 90 | 16 | 72 | 2 | 0 | 0 | 966 | 0.00 | 0.01 | 3,147 | 2.8 | 985 | 22 | 0 | 0 |
| LF Showerheac | 26 | 8 | 18 | 0 | 0 | 0 | 348 | 0.00 | 0.21 | 9,038 | 4.2 | 1,300 | 0 | 0 | 0 |
| Faucet Aerator | 1 | 0 | 1 | 0 | 0 | 0 | 5 | 0.00 | 0.00 | 0 | 0.0 | 7 | 0 | 0 | 0 |
| Std-Eff Wtr Htr Repl. | 1 | 0 | 1 | 0 | 0 | 0 | 800 | 0.00 | 0.00 | 0 | 0.5 | 82 | 0 | 0 | 0 |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0 | 0 | 0 |
| **Lighting** | 80 | 80 | | | | | 21,496 | 5.8 | 10.7 | 55,346 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| CFL (20W) | 66 | 66 | | | | | 9,331 | 1.92 | 3.54 | 18,254 | - | - | - | - | - |
| CFL (23W) | 59 | 59 | | | | | 9,535 | 2.46 | 4.55 | 23,439 | - | - | - | - | - |
| CFL (25W) | 3 | 3 | | | | | 208 | 0.05 | 0.09 | 450 | - | - | - | - | - |
| CFL (30W) | 43 | 43 | | | | | 2,422 | 1.39 | 2.56 | 13,203 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 |
| **Refrigerator/Freezer** | 66 | 66 | | | | | 82,404 | 21.08 | 19.71 | 171,396 | - | - | - | - | - |
| Refrigerator Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Refrigerator Exchange | 54 | 54 | | | | | 74,410 | 17.95 | 16.79 | 145,969 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - |
| Freezer Exchange | 12 | 12 | | | | | 7,994 | 3.13 | 2.92 | 25,428 | - | - | - | - | - |

**Average Estimated First Year Measure Cost and Savings Average per Treated Household**

| Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **6733.68** | **0.353** | | **0.387** | | **3,625** | **9.879** | **946** | **494** | **324** | **-** |
| **Shell & Htg. Sys.** | 5646.12 | 0.432 | 471 | 0.459 | 718 | 1,157 | 10.103 | 939 | 492 | 324 | - |
| Wall Insul. | 1574.22 | 0.318 | 351 | 0.201 | 315 | 660 | 4.307 | 400 | 354 | 124 | - |
| Ceiling Insul. | 1330.59 | 0.173 | 187 | 0.175 | 274 | 453 | 1.717 | 160 | 140 | 85 | - |
| Infil. Reduction | 357.92 | 0.021 | 23 | 1.448 | 2,265 | 75 | 1.598 | 149 | 73 | 52 | - |
| Found./Crawl. Insul | 918.33 | 0.088 | 90 | 0.138 | 216 | 300 | 1.734 | 161 | 207 | 64 | - |
| Bandjoist Insul. | 138.66 | - | - | 0.010 | 16 | 16 | 0.182 | 17 | 14 | - | - |
| Hi-Eff Htg Sys Repl | 5186.48 | - | - | - | - | - | 6.119 | 569 | 493 | - | - |
| Std-Eff Htg Sys Repl | 5501.28 | - | - | 7.115 | 11,128 | 1,236 | 5.213 | 485 | - | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 40.96 | 0.000 | | 0.013 | | 1,170 | 0.145 | 47 | 11 | - | - |
| Temp. Reduct. | 0.00 | - | | - | | - | - | - | - | - | - |
| WH Wrap | 31.72 | 0.000 | | 0.001 | | 481 | 0.083 | 29 | - | - | - |
| Pipe Insul. | 10.74 | 0.000 | | 0.000 | | 197 | 0.039 | 14 | 11 | - | - |
| LF Showerheac | 13.38 | 0.000 | | 0.026 | | 1,130 | 0.235 | 72 | - | - | - |
| Faucet Aerator | 4.80 | - | | - | | - | 0.023 | 7 | - | - | - |
| Std-Eff Wtr Htr Repl. | 800.00 | - | | - | | - | 0.504 | 82 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0.00 | - | | - | | - | - | - | - | - | - |
| **Lighting** | 268.70 | 0.073 | | 0.134 | | 692 | - | - | - | - | - |
| Capsylite (42W) | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | | - | | - | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (5W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (7W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (9W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (11W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (15W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (18W) | 0.00 | - | | - | | - | - | - | - | - | - |
| CFL (20W) | 141.38 | 0.029 | | 0.054 | | 277 | - | - | - | - | - |
| CFL (23W) | 161.60 | 0.042 | | 0.077 | | 397 | - | - | - | - | - |
| CFL (25W) | 69.30 | 0.016 | | 0.029 | | 150 | - | - | - | - | - |
| CFL (30W) | 56.33 | 0.032 | | 0.060 | | 307 | - | - | - | - | - |
| CFL, unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | | - | | - | - | - | - | - | - |
| King | 0.00 | - | | - | | - | - | - | - | - | - |
| Queen | 0.00 | - | | - | | - | - | - | - | - | - |
| Double | 0.00 | - | | - | | - | - | - | - | - | - |
| Single | 0.00 | - | | - | | - | - | - | - | - | - |
| Unknown | 0.00 | - | | - | | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 1248.55 | 0.319 | | 0.299 | | 2,597 | | | | | |
| Refrigerator Remova | 0.00 | - | | - | | - | - | - | - | - | - |
| Refrigerator Exchange | 1377.96 | 0.332 | | 0.311 | | 2,703 | - | - | - | - | - |
| Freezer Remova | 0.00 | - | | - | | - | - | - | - | - | - |
| Freezer Exchange | 666.17 | 0.261 | | 0.244 | | 2,119 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 99 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **324,763** | |
| Unspecified Insul | 49 | 11,390 | 232.45 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 41 | 3,510 | 85.61 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 46 | 7,202 | 156.57 |
| Htg. Sys./WH Other | 54 | 35,634 | 659.89 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 1 | 580 | 580.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 4 | 167 | 41.64 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 40 | 5,490 | 137.26 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 12 | 2,953 | 246.11 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 70 | 23,661 | 338.02 |
| Evaluator Labor | 31 | 4,601 | 148.43 |
| Inspector Labor | 33 | 4,039 | 122.40 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 99 | 225,797 | 2280.78 |
| Landlord Contr Misc | 1 | (358) | -357.58 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 1 | 95 | 95.42 |

**Total Reported Materials, Labor, and Support Costs** **991,397**

**Grand Total of Expenditures** **991,397**

# Polk County
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for All Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Propane | Fuel Oil | Other | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity Summer kW | kWh | Winter kW | kWh | Annual kWh | Gas Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **74** | **74** | **72** | **1** | **0** | **0** | | | **365,044** | **28.1** | | **20.7** | | **122,757** | **350** | **33,383** | **10** | **0** | **0** | **4933.03** | **0.265** | | **0.199** | | **1,659** | **4.864** | **464** | **10** | **-** | **-** |
| **Shell & Htg. Sys.** | 74 | 74 | 71 | 1 | 0 | 0 | 68 | 66 | 311,060 | 17.3 | 19,016 | 7.1 | 10,843 | 29,859 | 339 | 30,957 | 10 | 0 | 0 | 4203.51 | 0.255 | 280 | 0.108 | 164 | 403 | 4.782 | 436 | 10 | - | - |
| Wall Insul. | 48 | 48 | 46 | 0 | 0 | 0 | 43 | 46 | 106,944 | 4.80 | 5,225 | 4.24 | 6,490 | 11,715 | 117 | 10,703 | 0 | 0 | 0 | 2228.00 | 0.112 | 122 | 0.092 | 141 | 244 | 2.549 | 233 | - | - | - |
| Ceiling Insul. | 57 | 57 | 57 | 0 | 0 | 0 | 52 | 57 | 54,288 | 9.70 | 10,607 | 2.10 | 3,197 | 13,804 | 58 | 5,284 | 0 | 0 | 0 | 952.42 | 0.187 | 204 | 0.037 | 56 | 242 | 1.018 | 93 | - | - | - |
| Infil. Reduction | 72 | 66 | 69 | 1 | 0 | 0 | 66 | 0 | 26,804 | 2.72 | 3,063 | 0.00 | 0 | 3,063 | 64 | 5,877 | 3 | 0 | 0 | 372.28 | 0.041 | 46 | - | - | 46 | 0.934 | 85 | 3 | - | - |
| Found./Crawl. Insul | 19 | 19 | 19 | 0 | 0 | 0 | 15 | 19 | 9,856 | 0.12 | 120 | 0.59 | 897 | 1,018 | 16 | 1,422 | 0 | 0 | 0 | 518.74 | 0.008 | 8 | 0.031 | 47 | 54 | 0.827 | 75 | - | - | - |
| Bandjoist Insul. | 34 | 34 | 33 | 1 | 0 | 0 | - | 34 | 5,462 | 0.00 | 0 | 0.17 | 258 | 258 | 4 | 357 | 7 | 0 | 0 | 160.65 | - | - | 0.005 | 8 | 8 | 0.119 | 11 | 7 | - | - |
| Hi-Eff Htg Sys Repl | 10 | 0 | 10 | 0 | 0 | 0 | - | 0 | 42,436 | 0.00 | 0 | 0.00 | 0 | 0 | 27 | 2,462 | 0 | 0 | 0 | 4243.60 | - | - | - | - | - | 2.686 | 246 | - | - | - |
| Std-Eff Htg Sys Repl | 20 | 0 | 20 | 0 | 0 | 0 | - | 0 | 65,270 | 0.00 | 0 | 0.00 | 0 | 0 | 53 | 4,852 | 0 | 0 | 0 | 3263.50 | - | - | - | - | - | 2.660 | 243 | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | Propane | Fuel Oil | Other | Total | Electric | Gas | Propane | Fuel Oil | Other | | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu | | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Propane gallons | Fuel Oil gallons | Other Mbtu |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 52 | 0 | 52 | 0 | 0 | 0 | 156 | 0 | 156 | 0 | 0 | 0 | 17,941 | 0.0 | 0.0 | 0 | 10.7 | 2,426 | 0 | 0 | 0 | 345.02 | - | - | - | 0.206 | 47 | - | - | - |
| Temp. Reduct. | 1 | 0 | 1 | 0 | 0 | 0 | | | | | | | 0 | 0.00 | 0.00 | 0 | 0.1 | 23 | 0 | 0 | 0 | 0.00 | - | - | - | 0.066 | 23 | - | - | - |
| WH Wrap | 1 | 0 | 1 | 0 | 0 | 0 | | | | | | | 10 | 0.00 | 0.00 | 0 | 0.1 | 18 | 0 | 0 | 0 | 10.00 | - | - | - | 0.051 | 18 | - | - | - |
| Pipe Insul. | 26 | 0 | 26 | 0 | 0 | 0 | | | | | | | 943 | 0.00 | 0.00 | 0 | 0.6 | 219 | 0 | 0 | 0 | 36.25 | - | - | - | 0.024 | 8 | - | - | - |
| LF Showerheac | 27 | 0 | 27 | 0 | 0 | 0 | 54 | 0 | 54 | 0 | 0 | 0 | 370 | 0.00 | 0.00 | 0 | 3.3 | 1,024 | 0 | 0 | 0 | 13.70 | - | - | - | 0.123 | 38 | - | - | - |
| Faucet Aerator | 23 | 0 | 23 | 0 | 0 | 0 | 68 | 0 | 68 | 0 | 0 | 0 | 379 | 0.00 | 0.00 | 0 | 0.4 | 130 | 0 | 0 | 0 | 16.47 | - | - | - | 0.018 | 6 | - | - | - |
| Std-Eff Wtr Htr Repl. | 12 | 0 | 12 | 0 | 0 | 0 | 24 | 0 | 24 | 0 | 0 | 0 | 9,870 | 0.00 | 0.00 | 0 | 3.7 | 607 | 0 | 0 | 0 | 822.50 | - | - | - | 0.310 | 51 | - | - | - |
| Hi-Eff Wtr Htr Repl. | 4 | 0 | 4 | 0 | 0 | 0 | 10 | 0 | 10 | 0 | 0 | 0 | 6,370 | 0.00 | 0.00 | 0 | 2.5 | 405 | 0 | 0 | 0 | 1592.50 | - | - | - | 0.620 | 101 | - | - | - |
| **Lighting** | 38 | 38 | | | | | 672 | 672 | | | | | 8,568 | 3.9 | 7.2 | 37,235 | - | - | - | - | - | 225.47 | 0.103 | 0.190 | 980 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (20W) | 36 | 36 | | | | | 648 | 648 | | | | | 8,160 | 3.74 | 6.91 | 35,628 | - | - | - | - | - | 226.67 | 0.104 | 0.192 | 990 | - | - | - | - | - |
| CFL (23W) | 2 | 2 | | | | | 24 | 24 | | | | | 408 | 0.17 | 0.31 | 1,607 | - | - | - | - | - | 204.00 | 0.084 | 0.156 | 804 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.00 | - | - | - | - | - | - | - | - |
| **Refrigerator/Freezer** | 21 | 21 | | | | | 42 | 42 | | | | | 27,475 | 6.85 | 6.40 | 55,663 | - | - | - | - | - | 1308.33 | 0.326 | 0.305 | 2,651 | | | | | |
| Refrigerator Remova | 1 | 1 | | | | | 2 | 2 | | | | | 20 | 0.49 | 0.46 | 3,980 | - | - | - | - | - | 20.00 | 0.490 | 0.458 | 3,980 | - | - | - | - | - |
| Refrigerator Exchange | 18 | 18 | | | | | 36 | 36 | | | | | 25,623 | 5.88 | 5.49 | 47,772 | - | - | - | - | - | 1423.48 | 0.326 | 0.305 | 2,654 | - | - | - | - | - |
| Freezer Remova | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0.00 | 0.00 | 0 | - | - | - | - | - | 0.00 | - | - | - | - | - | - | - | - |
| Freezer Exchange | 2 | 2 | | | | | 4 | 4 | | | | | 1,832 | 0.48 | 0.45 | 3,912 | - | - | - | - | - | 916.15 | 0.241 | 0.225 | 1,956 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 74 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **260,782** | |
| Unspecified Insul | 49 | 10,200 | 208.16 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 66 | 8,130 | 123.18 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 26 | 4,582 | 176.23 |
| Htg. Sys./WH Other | 25 | 16,876 | 675.03 |
| Space Heater Repl | 1 | 300 | 300.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 4 | 1,270 | 317.50 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 9 | 809 | 89.91 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 20 | 1,760 | 88.00 |
| Exhaust Ventilation | 40 | 3,894 | 97.35 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 14 | 4,748 | 339.17 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 70 | 53,898 | 769.96 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action) | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 74 | 159,643 | 2157.34 |
| Landlord Contr Misc | 14 | (5,228) | -373.41 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 1 | (100) | -100.00 |
| Client Contr Refi | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecified | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **625,826**

**Grand Total of Expenditures** **625,826**

## 6. DETAILED SPENDING AND IMPACT PROFILES BY AGENCY FOR UTILITY EXPENDITURES

This section provides tables of spending and impacts by agency for utility expenditures in 2002.

Note that the same considerations for reporting at the agency level hold for this set of tables as for the ones in the previous section (see the discussion at the beginning of the previous section.) See notes regarding waterbed mattress pad and water heater measure savings on page 33.

## Community Opportunity
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **46** | **33** | **30** | | | **76,338** | **4.5** | | **10.5** | | **25,585** | **75** | **7,168** | **1659.51** | **0.068** | | **0.150** | | **775** | **2.507** | **239** |
| **Shell & Htg. Sys.** | 46 | 33 | 30 | 29 | 32 | 75,279 | 4.0 | 4,817 | 9.5 | 15,066 | 19,883 | 75 | 7,056 | 1636.49 | 0.138 | 166 | 0.298 | 471 | 603 | 2.496 | 235 |
| Wall Insul. | 38 | 27 | 23 | 24 | 10 | 38,832 | 1.30 | 1,572 | 8.07 | 12,744 | 14,316 | 44 | 4,196 | 1021.89 | 0.054 | 65 | 0.807 | 1,274 | 530 | 1.935 | 182 |
| Ceiling Insul | 41 | 31 | 26 | 25 | 11 | 26,248 | 2.52 | 3,034 | 1.43 | 2,259 | 5,293 | 20 | 1,844 | 640.19 | 0.101 | 121 | 0.130 | 205 | 171 | 0.754 | 71 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 17 | 13 | 8 | 13 | 2 | 4,708 | 0.18 | 211 | 0.04 | 58 | 269 | 6 | 581 | 276.96 | 0.013 | 16 | 0.019 | 29 | 21 | 0.768 | 73 |
| Bandjoist Insul. | 8 | 2 | 8 | - | 2 | 546 | 0.00 | 0 | 0.00 | 5 | 5 | 1 | 52 | 68.24 | - | - | 0.001 | 2 | 2 | 0.068 | 7 |
| Hi-Eff Htg Sys Repl | 2 | 0 | 2 | - | 0 | 4,945 | 0.00 | 0 | 0.00 | 0 | 0 | 4 | 383 | 2472.50 | - | - | - | - | - | 2.047 | 191 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| | | | | Number of Measures by Fuel Type: | | | | | | | | | | | | | | | | | |
| | Total | Electric | Gas | Total | Electric | Gas | | Summer kW | | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | | Winter kW | | Annual kWh | Peak-Day therms | Annual therms |
| **Water Heating** | 28 | 8 | 20 | 0 | 0 | 0 | 94 | 0.0 | | 0.0 | 671 | 0.3 | 112 | 3.36 | 0.000 | | 0.000 | | 84 | 0.015 | 6 |
| Temp. Reduct. | 1 | 1 | 0 | | | | 0 | 0.00 | | 0.00 | (116) | 0.0 | 0 | 0.00 | 0.000 | | 0.000 | | (116) | - | - |
| WH Wrap | 1 | 0 | 1 | | | | 10 | 0.00 | | 0.00 | 0 | 0.0 | 11 | 10.15 | - | | - | | - | 0.031 | 11 |
| Pipe Insul. | 28 | 8 | 20 | | | | 84 | 0.00 | | 0.00 | 787 | 0.3 | 101 | 2.99 | 0.000 | | 0.000 | | 98 | 0.014 | 5 |
| LF Showerhead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Lighting** | 30 | 30 | | 66 | 66 | | 965 | 0.5 | | 1.0 | 5,031 | - | - | 32.17 | 0.018 | | 0.033 | | 168 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (23W) | 16 | 16 | | 46 | 46 | | 683 | 0.32 | | 0.60 | 3,081 | - | - | 42.69 | 0.020 | | 0.037 | | 193 | - | - |
| CFL (25W) | 4 | 4 | | 10 | 10 | | 152 | 0.08 | | 0.15 | 750 | - | - | 38.00 | 0.020 | | 0.036 | | 188 | - | - |
| CFL (30W) | 10 | 10 | | 10 | 10 | | 130 | 0.13 | | 0.23 | 1,200 | - | - | 13.00 | 0.013 | | 0.023 | | 120 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Refrigerator/Freezer** | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Refrigerator Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 46 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **13,607** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 41 | 13,607 | 331.87 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **89,944**

**Grand Total of Expenditures** **89,944**

# HACAP
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **164** | **108** | **133** | | | **194,107** | **10.0** | | **19.1** | | **87,172** | **147** | **14,139** | **1183.58** | **0.061** | | **0.083** | | **807** | **1.103** | **106** |
| **Shell & Htg. Sys.** | 138 | 79 | 127 | 62 | 128 | 169,062 | 2.1 | 2,565 | 6.5 | 10,064 | 12,629 | 144 | 13,235 | 1225.09 | 0.034 | 41 | 0.050 | 79 | 160 | 1.133 | 104 |
| Wall Insul. | 67 | 39 | 58 | 31 | 24 | 61,485 | 1.01 | 1,217 | 3.27 | 5,106 | 6,324 | 74 | 6,875 | 917.69 | 0.033 | 39 | 0.136 | 213 | 162 | 1.283 | 119 |
| Ceiling Insul | 84 | 51 | 74 | 41 | 32 | 42,997 | 0.82 | 988 | 1.86 | 2,907 | 3,895 | 33 | 3,028 | 511.87 | 0.020 | 24 | 0.058 | 91 | 76 | 0.444 | 41 |
| Infil. Reduction | 3 | 0 | 3 | 0 | 0 | 394 | 0.00 | 0 | 0.00 | 0 | 0 | 1 | 122 | 131.23 | - | - | - | - | - | 0.433 | 41 |
| Found./Crawl. Insul. | 76 | 46 | 69 | 33 | 33 | 55,781 | 0.30 | 360 | 1.29 | 1,994 | 2,354 | 29 | 2,623 | 733.96 | 0.009 | 11 | 0.039 | 60 | 51 | 0.421 | 38 |
| Bandjoist Insul. | 33 | 14 | 33 | - | 14 | 2,320 | 0.00 | 0 | 0.04 | 56 | 56 | 2 | 182 | 70.31 | - | - | 0.003 | 4 | 4 | 0.060 | 6 |
| Hi-Eff Htg Sys Repl | 3 | 0 | 3 | - | 0 | 6,085 | 0.00 | 0 | 0.00 | 0 | 0 | 4 | 405 | 2028.33 | - | - | - | - | - | 1.455 | 135 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | | | | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 72 | 6 | 66 | 144 | 11 | 133 | 2,038 | 0.0 | 0.0 | 1,451 | 3.0 | 928 | 28.31 | 0.000 | 0.005 | 242 | 0.045 | 14 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Pipe Insul. | 22 | 2 | 20 | | | | 275 | 0.00 | 0.00 | 197 | 0.3 | 89 | 12.51 | 0.000 | 0.000 | 98 | 0.013 | 4 |
| LF Showerhead | 43 | 5 | 38 | 53 | 5 | 48 | 462 | 0.00 | 0.03 | 1,154 | 2.4 | 728 | 10.75 | 0.000 | 0.005 | 231 | 0.062 | 19 |
| Faucet Aerator | 44 | 3 | 41 | 91 | 6 | 85 | 421 | 0.00 | 0.00 | 100 | 0.4 | 111 | 9.57 | 0.000 | 0.001 | 33 | 0.009 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 880 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 97 | 97 | | 829 | 829 | | 13,316 | 4.8 | 8.8 | 45,580 | - | - | 137.28 | 0.049 | 0.091 | 470 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 97 | 97 | | 829 | 829 | | 13,316 | 4.79 | 8.84 | 45,580 | - | - | 137.28 | 0.049 | 0.091 | 470 | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 2 | 2 | 1 | 4 | 3 | 1 | 85 | 0.00 | 0.87 | 2,299 | -0.1 | -23 | 42.63 | 0.000 | 0.436 | 1,149 | -0.141 | -23 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 2 | 2 | 1 | 4 | 3 | 1 | 85 | 0.00 | 0.87 | 2,299 | -0.1 | -23 | 42.63 | 0.000 | 0.436 | 1,149 | -0.141 | -23 |
| **Refrigerator/Freezer** | 19 | 19 | | 19 | 19 | | 9,605 | 3.10 | 2.90 | 25,213 | - | - | 505.53 | 0.163 | 0.153 | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 19 | 19 | | 19 | 19 | | 9,605 | 3.10 | 2.90 | 25,213 | - | - | 505.53 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 166 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **33,143** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 160 | 33,143 | 207.14 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **227,249** |
| **Grand Total of Expenditures** | **227,249** |

# TRAIN
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **130** | **105** | **126** | | | **215,399** | **21.7** | | **10.2** | | **71,633** | **234** | **23,936** | **1656.91** | **0.108** | | **0.044** | | **682** | **1.859** | **190** |
| **Shell & Htg. Sys.** | 130 | 105 | 126 | 91 | 126 | 199,975 | 17.3 | 20,886 | 4.5 | 6,845 | 27,731 | 223 | 20,173 | 1538.27 | 0.190 | 230 | 0.036 | 54 | 264 | 1.769 | 160 |
| Wall Insul. | 89 | 74 | 85 | 58 | 70 | 89,935 | 6.41 | 7,735 | 2.49 | 3,802 | 11,537 | 115 | 10,378 | 1010.50 | 0.111 | 133 | 0.036 | 54 | 156 | 1.349 | 122 |
| Ceiling Insul | 107 | 88 | 104 | 71 | 85 | 52,715 | 10.75 | 12,964 | 1.20 | 1,838 | 14,802 | 52 | 4,677 | 492.67 | 0.151 | 183 | 0.014 | 22 | 168 | 0.497 | 45 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 50 | 40 | 48 | 34 | 38 | 15,495 | 0.15 | 187 | 0.62 | 944 | 1,131 | 25 | 2,222 | 309.89 | 0.005 | 5 | 0.016 | 25 | 28 | 0.514 | 46 |
| Bandjoist Insul. | 90 | 71 | 90 | - | 71 | 9,746 | 0.00 | 0 | 0.17 | 261 | 261 | 7 | 621 | 108.29 | - | - | 0.002 | 4 | 4 | 0.076 | 7 |
| Hi-Eff Htg Sys Repl | 13 | 0 | 13 | - | 0 | 32,085 | 0.00 | 0 | 0.00 | 0 | 0 | 25 | 2,275 | 2468.04 | - | - | - | - | - | 1.927 | 175 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 117 | 9 | 108 | 3,861 | 0.0 | 0.1 | 5,829 | 11.6 | 3,792 | 33.00 | 0.000 | 0.010 | 648 | 0.107 | 35 |
| Temp. Reduct. | 29 | 0 | 29 | 0 | 0.00 | 0.00 | 0 | 2.1 | 715 | 0.00 | - | - | - | 0.071 | 25 |
| WH Wrap | 81 | 6 | 75 | 1,538 | 0.00 | 0.00 | 1,443 | 2.6 | 899 | 18.99 | 0.000 | 0.000 | 241 | 0.034 | 12 |
| Pipe Insul. | 88 | 7 | 81 | 582 | 0.00 | 0.00 | 688 | 1.3 | 454 | 6.61 | 0.000 | 0.000 | 98 | 0.016 | 6 |
| LF Showerhead | 58 | 3 | 55 | 470 | 0.00 | 0.06 | 2,680 | 4.3 | 1,364 | 8.10 | 0.000 | 0.020 | 893 | 0.078 | 25 |
| Faucet Aerator | 87 | 7 | 80 | 471 | 0.00 | 0.02 | 1,017 | 1.0 | 300 | 5.42 | 0.000 | 0.003 | 145 | 0.012 | 4 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 800 | 0.00 | 0.00 | 0 | 0.4 | 61 | 800.00 | - | - | - | 0.373 | 61 |
| **Lighting** | 100 | 100 | | 3,982 | 1.4 | 2.7 | 13,770 | - | - | 39.82 | 0.014 | 0.027 | 138 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 8 | 8 | | 305 | 0.09 | 0.17 | 880 | - | - | 38.08 | 0.012 | 0.021 | 110 | - | - |
| CFL (23W) | 90 | 90 | | 3,601 | 1.32 | 2.44 | 12,590 | - | - | 40.01 | 0.015 | 0.027 | 140 | - | - |
| CFL (25W) | 2 | 2 | | 76 | 0.03 | 0.06 | 300 | - | - | 38.08 | 0.016 | 0.029 | 150 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 1 | 1 | 1 | 17 | 0.00 | 0.29 | 766 | -0.2 | -29 | 16.80 | 0.000 | 0.290 | 766 | -0.179 | -29 |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 1 | 1 | 1 | 17 | 0.00 | 0.29 | 766 | -0.2 | -29 | 16.80 | 0.000 | 0.290 | 766 | -0.179 | -29 |
| **Refrigerator/Freezer** | 18 | 18 | | 7,564 | 2.90 | 2.71 | 23,537 | - | - | 420.21 | 0.161 | 0.150 | 1,308 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 17 | 17 | | 7,297 | 2.77 | 2.59 | 22,559 | - | - | 429.22 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 1 | 1 | | 267 | 0.12 | 0.11 | 978 | - | - | 267.00 | 0.120 | 0.112 | 978 | - | - |

**Costs for Measures Without Energy Impacts Installed in 130 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **15,294** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 44 | 15,294 | 347.59 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **230,693**

**Grand Total of Expenditures** **230,693**

# MATURA
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **30** | **27** | **19** | | | **60,701** | **6.6** | | **4.9** | | **33,251** | **45** | **4,122** | **2023.35** | **0.135** | | **0.113** | | **1,232** | **2.395** | **217** |
| **Shell & Htg. Sys.** | 28 | 25 | 19 | 25 | 19 | 50,381 | 3.3 | 4,033 | 0.9 | 1,290 | 5,323 | 45 | 4,034 | 1799.34 | 0.134 | 161 | 0.045 | 68 | 213 | 2.366 | 212 |
| Wall Insul. | 18 | 16 | 10 | 16 | 8 | 5,104 | 0.90 | 1,090 | 0.36 | 544 | 1,634 | 11 | 975 | 283.55 | 0.056 | 68 | 0.045 | 68 | 102 | 1.086 | 98 |
| Ceiling Insul | 24 | 21 | 16 | 21 | 13 | 9,931 | 1.88 | 2,271 | 0.28 | 417 | 2,689 | 9 | 816 | 413.79 | 0.090 | 108 | 0.021 | 32 | 128 | 0.568 | 51 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 13 | 12 | 10 | 12 | 9 | 3,224 | 0.56 | 672 | 0.20 | 297 | 969 | 5 | 475 | 248.02 | 0.046 | 56 | 0.022 | 33 | 81 | 0.530 | 47 |
| Bandjoist Insul. | 12 | 10 | 12 | - | 10 | 433 | 0.00 | 0 | 0.02 | 32 | 32 | 1 | 63 | 36.06 | - | - | 0.002 | 3 | 3 | 0.059 | 5 |
| Hi-Eff Htg Sys Repl | 15 | 0 | 15 | - | 0 | 31,690 | 0.00 | 0 | 0.00 | 0 | 0 | 19 | 1,705 | 2112.64 | - | - | - | - | - | 1.268 | 114 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Total | Electric | Gas | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 1 | 0 | 1 | 1 | 0 | 1 | 400 | 0.0 | 0.0 | 0 | 0.5 | 87 | 400.00 | - | - | - | 0.535 | 87 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Pipe Insul. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| LF Showerhead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 1 | 0 | 1 | 400 | 0.00 | 0.00 | 0 | 0.5 | 87 | 400.00 | - | - | - | 0.535 | 87 |
| **Lighting** | 24 | 24 | | 191 | 191 | | 3,247 | 1.1 | 2.0 | 10,188 | - | - | 135.29 | 0.045 | 0.082 | 425 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 22 | 22 | | 96 | 96 | | 1,632 | 0.45 | 0.84 | 4,319 | - | - | 74.18 | 0.021 | 0.038 | 196 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 19 | 19 | | 62 | 62 | | 1,054 | 0.36 | 0.66 | 3,409 | - | - | 55.47 | 0.019 | 0.035 | 179 | - | - |
| CFL (23W) | 1 | 1 | | 2 | 2 | | 34 | 0.01 | 0.03 | 134 | - | - | 34.00 | 0.014 | 0.026 | 134 | - | - |
| CFL (25W) | 14 | 14 | | 31 | 31 | | 527 | 0.24 | 0.45 | 2,326 | - | - | 37.64 | 0.017 | 0.032 | 166 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 13 | 13 | | 16 | 16 | | 6,672 | 2.18 | 2.04 | 17,740 | - | - | 513.25 | 0.168 | 0.157 | 1,365 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 9 | 9 | | 10 | 10 | | 5,159 | 1.51 | 1.42 | 12,315 | - | - | 573.25 | 0.168 | 0.157 | 1,368 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 4 | 4 | | 6 | 6 | | 1,513 | 0.67 | 0.62 | 5,425 | - | - | 378.25 | 0.167 | 0.156 | 1,356 | - | - |

**Costs for Measures Without Energy Impacts Installed in 30 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **14,002** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 28 | 14,002 | 500.08 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **74,703**

**Grand Total of Expenditures** **74,703**

# MICA
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **85** | **79** | **53** | | | **113,633** | **9.2** | | **9.3** | | **64,339** | **138** | **13,807** | **1336.86** | **0.061** | | **0.063** | | **814** | **2.601** | **261** |
| **Shell & Htg. Sys.** | 75 | 67 | 52 | 55 | 53 | 101,184 | 4.4 | 5,250 | 2.8 | 4,364 | 9,614 | 135 | 12,865 | 1349.12 | 0.079 | 95 | 0.052 | 82 | 143 | 2.593 | 247 |
| Wall Insul. | 46 | 44 | 34 | 35 | 30 | 31,445 | -0.04 | (53) | 1.09 | 1,744 | 1,691 | 49 | 4,658 | 683.59 | -0.001 | (2) | 0.036 | 58 | 38 | 1.437 | 137 |
| Ceiling Insul | 64 | 59 | 43 | 50 | 37 | 32,118 | 4.35 | 5,244 | 1.25 | 1,975 | 7,220 | 30 | 2,832 | 501.84 | 0.087 | 105 | 0.034 | 53 | 122 | 0.690 | 66 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 34 | 29 | 24 | 23 | 18 | 8,488 | 0.05 | 59 | 0.24 | 380 | 439 | 11 | 1,012 | 249.64 | 0.002 | 3 | 0.013 | 21 | 15 | 0.442 | 42 |
| Bandjoist Insul. | 33 | 27 | 32 | - | 27 | 3,530 | 0.00 | 0 | 0.17 | 264 | 264 | 2 | 209 | 106.96 | - | - | 0.006 | 10 | 10 | 0.068 | 7 |
| Hi-Eff Htg Sys Repl | 22 | 0 | 22 | - | 0 | 25,604 | 0.00 | 0 | 0.00 | 0 | 0 | 43 | 4,154 | 1163.81 | - | - | - | - | - | 1.977 | 189 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 64 | 25 | 39 | 796 | 0.0 | 0.2 | 12,593 | 3.0 | 942 | 12.44 | 0.000 | 0.010 | 504 | 0.077 | 24 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Pipe Insul. | 54 | 22 | 32 | 344 | 0.00 | 0.00 | 2,164 | 0.5 | 168 | 6.38 | 0.000 | 0.000 | 98 | 0.015 | 5 |
| LF Showerhead | 31 | 11 | 20 | 196 | 0.00 | 0.19 | 8,227 | 2.1 | 649 | 6.32 | 0.000 | 0.017 | 748 | 0.106 | 32 |
| Faucet Aerator | 49 | 21 | 28 | 256 | 0.00 | 0.05 | 2,203 | 0.4 | 125 | 5.22 | 0.000 | 0.002 | 105 | 0.014 | 4 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 70 | 70 | | 2,353 | 1.9 | 3.5 | 17,967 | - | - | 33.61 | 0.027 | 0.050 | 257 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 69 | 69 | | 2,333 | 1.87 | 3.46 | 17,817 | - | - | 33.81 | 0.027 | 0.050 | 258 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (25W) | 1 | 1 | | 2 | 0.02 | 0.03 | 150 | - | - | 19.95 | 0.016 | 0.029 | 150 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 19 | 19 | | 9,300 | 2.97 | 2.78 | 24,166 | - | - | 489.46 | 0.156 | 0.146 | 1,272 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 16 | 16 | | 8,140 | 2.61 | 2.44 | 21,232 | - | - | 508.73 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 3 | 3 | | 1,160 | 0.36 | 0.34 | 2,934 | - | - | 386.66 | 0.120 | 0.112 | 978 | - | - |

**Costs for Measures Without Energy Impacts Installed in 85 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **18,760** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 1 | 1,971 | 1971.31 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 80 | 16,788 | 209.85 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **132,392** |
| **Grand Total of Expenditures** | **132,392** |

## Mid-Sioux
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **26** | **22** | **21** | | | **42,581** | **2.3** | | **3.1** | | **11,360** | **24** | **2,311** | **1637.71** | **0.133** | | **0.142** | | **516** | **1.123** | **110** |
| **Shell & Htg. Sys.** | 26 | 22 | 21 | 17 | 22 | 39,531 | 1.6 | 1,949 | 2.5 | 4,102 | 6,052 | 24 | 2,311 | 1520.41 | 0.095 | 115 | 0.114 | 186 | 275 | 1.123 | 110 |
| Wall Insul. | 17 | 15 | 11 | 10 | 5 | 15,659 | 0.31 | 376 | 2.41 | 3,945 | 4,321 | 12 | 1,130 | 921.11 | 0.031 | 38 | 0.481 | 789 | 288 | 1.047 | 103 |
| Ceiling Insul | 16 | 15 | 13 | 11 | 7 | 5,982 | 1.34 | 1,621 | 0.07 | 113 | 1,734 | 3 | 312 | 373.85 | 0.122 | 147 | 0.010 | 16 | 116 | 0.244 | 24 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 4 | 4 | 3 | 4 | 1 | 2,405 | -0.04 | (48) | 0.02 | 40 | (7) | 1 | 122 | 601.20 | -0.010 | (12) | 0.025 | 40 | (2) | 0.414 | 41 |
| Bandjoist Insul. | 6 | 1 | 6 | - | 1 | 407 | 0.00 | 0 | 0.00 | 4 | 4 | 0 | 29 | 67.91 | - | - | 0.003 | 4 | 4 | 0.049 | 5 |
| Hi-Eff Htg Sys Repl | 7 | 0 | 7 | - | 0 | 15,078 | 0.00 | 0 | 0.00 | 0 | 0 | 7 | 719 | 2154.00 | - | - | - | - | - | 1.050 | 103 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 0 | 0 | 0 | 0 | 0 | 0 | 475 | 0.0 | | 0.0 | | 0 | 0 | 0.00 | - | | - | | - | - | - |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| WH Wrap | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Pipe Insul. | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| LF Showerhead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 475 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Lighting** | 0 | 0 | | 0 | 0 | | 0 | 0.0 | | 0.0 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Refrigerator/Freezer** | 4 | 4 | | 5 | 5 | | 2,575 | 0.65 | | 0.61 | | 5,308 | - | - | 643.74 | 0.163 | | 0.153 | | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Refrigerator Exchange | 4 | 4 | | 5 | 5 | | 2,575 | 0.65 | | 0.61 | | 5,308 | - | - | 643.74 | 0.163 | | 0.153 | | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 26 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **8,176** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 26 | 8,176 | 314.48 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **50,757** |
| **Grand Total of Expenditures** | **50,757** |

# City of Des Moines
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **98** | **93** | **98** | | | **142,345** | **5.9** | | **4.7** | | **14,259** | **217** | **19,864** | **1452.50** | **0.070** | | **0.051** | | **153** | **2.211** | **203** |
| **Shell & Htg. Sys.** | 93 | 93 | 93 | 84 | 93 | 140,870 | 5.9 | 7,069 | 4.7 | 7,191 | 14,259 | 215 | 19,455 | 1514.73 | 0.070 | 84 | 0.051 | 77 | 153 | 2.316 | 209 |
| Wall Insul. | 70 | 70 | 70 | 60 | 70 | 72,208 | 2.72 | 3,275 | 2.94 | 4,454 | 7,729 | 132 | 11,926 | 1031.54 | 0.045 | 55 | 0.042 | 64 | 110 | 1.886 | 170 |
| Ceiling Insul | 78 | 78 | 78 | 56 | 78 | 55,311 | 3.87 | 4,662 | 1.32 | 1,997 | 6,658 | 58 | 5,238 | 709.12 | 0.069 | 83 | 0.017 | 26 | 85 | 0.744 | 67 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 34 | 34 | 34 | 31 | 34 | 10,733 | -0.72 | (868) | 0.45 | 676 | (192) | 23 | 2,100 | 315.68 | -0.023 | (28) | 0.013 | 20 | (6) | 0.684 | 62 |
| Bandjoist Insul. | 25 | 25 | 25 | - | 25 | 2,618 | 0.00 | 0 | 0.04 | 64 | 64 | 2 | 191 | 104.72 | - | - | 0.002 | 3 | 3 | 0.085 | 8 |
| Hi-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 50 | 0 | 50 | 1,475 | 0.0 | 0.0 | 0 | 1.2 | 408 | 29.50 | - | - | - | 0.024 | 8 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 2 | 0 | 2 | 140 | 0.00 | 0.00 | 0 | 0.1 | 24 | 70.00 | - | - | - | 0.035 | 12 |
| Pipe Insul. | 48 | 0 | 48 | 1,245 | 0.00 | 0.00 | 0 | 0.8 | 274 | 25.94 | - | - | - | 0.016 | 6 |
| LF Showerhead | 4 | 0 | 4 | 70 | 0.00 | 0.00 | 0 | 0.3 | 106 | 17.50 | - | - | - | 0.086 | 26 |
| Faucet Aerator | 1 | 0 | 1 | 20 | 0.00 | 0.00 | 0 | 0.0 | 4 | 20.00 | - | - | - | 0.014 | 4 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 0 | 0 | | 0 | 0.0 | 0.0 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 98 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **21,015** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 89 | 21,015 | 236.12 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **163,360**

**Grand Total of Expenditures** **163,360**

# North Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **79** | **64** | **71** | | | **90,084** | **5.3** | | **4.9** | | **30,183** | **84** | **8,282** | **1140.30** | **0.070** | | **0.056** | | **472** | **1.178** | **117** |
| **Shell & Htg. Sys.** | 78 | 63 | 71 | 58 | 71 | 81,290 | 2.4 | 2,836 | 1.9 | 3,071 | 5,907 | 83 | 8,208 | 1042.18 | 0.041 | 49 | 0.026 | 43 | 94 | 1.175 | 116 |
| Wall Insul. | 40 | 32 | 38 | 28 | 27 | 26,533 | 1.38 | 1,660 | 0.88 | 1,458 | 3,117 | 39 | 3,841 | 663.33 | 0.049 | 59 | 0.033 | 54 | 97 | 1.028 | 101 |
| Ceiling Insul | 69 | 56 | 62 | 54 | 44 | 42,786 | 0.85 | 1,028 | 0.86 | 1,428 | 2,456 | 34 | 3,307 | 620.08 | 0.016 | 19 | 0.020 | 32 | 44 | 0.541 | 53 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 14 | 11 | 12 | 10 | 6 | 2,443 | 0.12 | 149 | 0.03 | 50 | 199 | 2 | 227 | 174.47 | 0.012 | 15 | 0.005 | 8 | 18 | 0.193 | 19 |
| Bandjoist Insul. | 33 | 28 | 33 | - | 28 | 2,339 | 0.00 | 0 | 0.08 | 135 | 135 | 3 | 250 | 70.88 | - | - | 0.003 | 5 | 5 | 0.077 | 8 |
| Hi-Eff Htg Sys Repl | 5 | 0 | 5 | - | 0 | 7,190 | 0.00 | 0 | 0.00 | 0 | 0 | 6 | 581 | 1437.91 | - | - | - | - | - | 1.192 | 116 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 5 | 0 | 5 | 499 | 0.0 | 0.0 | 0 | 0.2 | 74 | 99.85 | - | - | - | 0.043 | 15 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 5 | 0 | 5 | 109 | 0.00 | 0.00 | 0 | 0.1 | 50 | 21.73 | - | - | - | 0.029 | 10 |
| Pipe Insul. | 5 | 0 | 5 | 41 | 0.00 | 0.00 | 0 | 0.1 | 24 | 8.12 | - | - | - | 0.014 | 5 |
| LF Showerhead | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 350 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 17 | 17 | | 874 | 0.4 | 0.7 | 3,588 | - | - | 51.43 | 0.022 | 0.041 | 211 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 7 | 7 | | 144 | 0.08 | 0.15 | 753 | - | - | 20.55 | 0.011 | 0.021 | 108 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 2 | 2 | | 10 | 0.05 | 0.09 | 450 | - | - | 68.75 | 0.024 | 0.044 | 225 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 9 | 9 | | 14 | 0.08 | 0.15 | 770 | - | - | 25.89 | 0.009 | 0.017 | 86 | - | - |
| CFL (23W) | 8 | 8 | | 23 | 0.16 | 0.30 | 1,540 | - | - | 43.28 | 0.020 | 0.037 | 193 | - | - |
| CFL (25W) | 1 | 1 | | 1 | 0.01 | 0.01 | 75 | - | - | 13.75 | 0.008 | 0.015 | 75 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 15 | 15 | | 19 | 19 | 7,420 | 2.54 | 2.38 | 20,687 | - | - | 494.67 | 0.170 | 0.159 | 1,379 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 8 | 8 | | 8 | 8 | 4,822 | 1.31 | 1.22 | 10,616 | - | - | 602.75 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 7 | 7 | | 11 | 11 | 2,598 | 1.24 | 1.16 | 10,071 | - | - | 371.14 | 0.177 | 0.165 | 1,439 | - | - |

**Costs for Measures Without Energy Impacts Installed in 79 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **14,831** | |
| Unspecified Insul. | 1 | 96 | 95.70 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 72 | 14,735 | 204.65 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **104,914**

**Grand Total of Expenditures** **104,914**

## NE Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Gas Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **74** | **57** | **53** | | | **94,688** | **7.4** | | **9.2** | | **58,919** | **123** | **12,393** |
| **Shell & Htg. Sys.** | 63 | 37 | 48 | 37 | 50 | 77,708 | 1.7 | 2,025 | 3.1 | 4,999 | 7,024 | 121 | 11,794 |
| Wall Insul. | 33 | 21 | 22 | 21 | 0 | 16,905 | 0.99 | 1,200 | 0.00 | 0 | 1,200 | 42 | 4,064 |
| Ceiling Insul | 50 | 32 | 37 | 32 | 2 | 19,202 | 0.68 | 821 | 2.93 | 4,774 | 5,595 | 33 | 3,219 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 |
| Found./Crawl. Insul. | 15 | 12 | 10 | 12 | 0 | 5,305 | 0.00 | 4 | 0.00 | 0 | 4 | 6 | 569 |
| Bandjoist Insul. | 9 | 1 | 8 | - | 1 | 903 | 0.00 | 0 | 0.14 | 225 | 225 | 1 | 82 |
| Hi-Eff Htg Sys Repl | 23 | 0 | 23 | - | 0 | 35,393 | 0.00 | 0 | 0.00 | 0 | 0 | 40 | 3,860 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 49 | 14 | 35 | 1,352 | 0.0 | 0.0 | 4,154 | 2.0 | 599 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| WH Wrap | 6 | 4 | 2 | 73 | 0.00 | 0.00 | 962 | 0.1 | 30 |
| Pipe Insul. | 48 | 14 | 34 | 42 | 0.00 | 0.00 | 1,377 | 0.7 | 239 |
| LF Showerhead | 11 | 5 | 6 | 23 | 0.00 | 0.03 | 1,497 | 0.6 | 194 |
| Faucet Aerator | 21 | 7 | 14 | 15 | 0.00 | 0.01 | 318 | 0.2 | 68 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 1,200 | 0.00 | 0.00 | 0 | 0.4 | 69 |
| **Lighting** | 49 | 49 | | 802 | 0.8 | 1.4 | 7,261 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| CFL (23W) | 15 | 15 | | 120 | 0.21 | 0.39 | 2,009 | - | - |
| CFL (25W) | 30 | 30 | | 545 | 0.43 | 0.79 | 4,052 | - | - |
| CFL (30W) | 6 | 6 | | 137 | 0.13 | 0.23 | 1,200 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 |
| **Refrigerator/Freezer** | 29 | 29 | | 14,825 | 4.98 | 4.66 | 40,480 | - | - |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| Refrigerator Exchange | 20 | 20 | | 11,776 | 3.68 | 3.44 | 29,883 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - |
| Freezer Exchange | 9 | 9 | | 3,049 | 1.30 | 1.22 | 10,597 | - | - |

| Average Estimated First Year Measure Cost and Savings Average per Treated Household: Measure | Spending on Materials & Labor ($) | Electricity Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas Pk-Day therms | Gas Annual therms |
|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **1279.57** | **0.074** | | **0.081** | | **1,034** | **2.320** | **234** |
| **Shell & Htg. Sys.** | 1233.46 | 0.045 | 55 | 0.061 | 100 | 190 | 2.519 | 246 |
| Wall Insul. | 512.28 | 0.047 | 57 | - | - | 57 | 1.895 | 185 |
| Ceiling Insul | 384.05 | 0.021 | 26 | 1.467 | 2,387 | 175 | 0.889 | 87 |
| Infil. Reduction | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 353.67 | 0.000 | 0 | - | - | 0 | 0.589 | 57 |
| Bandjoist Insul. | 100.29 | - | - | 0.135 | 225 | 225 | 0.105 | 10 |
| Hi-Eff Htg Sys Repl | 1538.81 | - | - | - | - | - | 1.720 | 168 |
| Std-Eff Htg Sys Repl | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0.00 | - | - | - | - | - | - | - |

| Measure | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|
| **Water Heating** | 27.60 | 0.000 | 0.003 | 297 | 0.058 | 17 |
| Temp. Reduct. | 0.00 | - | - | - | - | - |
| WH Wrap | 12.08 | 0.000 | 0.000 | 241 | 0.043 | 15 |
| Pipe Insul. | 0.87 | 0.000 | 0.000 | 98 | 0.020 | 7 |
| LF Showerhead | 2.12 | 0.000 | 0.007 | 299 | 0.105 | 32 |
| Faucet Aerator | 0.70 | 0.000 | 0.001 | 45 | 0.016 | 5 |
| Std-Eff Wtr Htr Repl. | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1200.00 | - | - | - | 0.422 | 69 |
| **Lighting** | 16.38 | 0.016 | 0.029 | 148 | - | - |
| Capsylite (42W) | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0.00 | - | - | - | - | - |
| CFL (5W) | 0.00 | - | - | - | - | - |
| CFL (7W) | 0.00 | - | - | - | - | - |
| CFL (9W) | 0.00 | - | - | - | - | - |
| CFL (11W) | 0.00 | - | - | - | - | - |
| CFL (15W) | 0.00 | - | - | - | - | - |
| CFL (18W) | 0.00 | - | - | - | - | - |
| CFL (20W) | 0.00 | - | - | - | - | - |
| CFL (23W) | 8.00 | 0.014 | 0.026 | 134 | - | - |
| CFL (25W) | 18.18 | 0.014 | 0.026 | 135 | - | - |
| CFL (30W) | 22.86 | 0.021 | 0.039 | 200 | - | - |
| CFL, unknown | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0.00 | - | - | - | - | - |
| King | 0.00 | - | - | - | - | - |
| Queen | 0.00 | - | - | - | - | - |
| Double | 0.00 | - | - | - | - | - |
| Single | 0.00 | - | - | - | - | - |
| Unknown | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 511.21 | 0.172 | 0.161 | 1,396 | | |
| Refrigerator Removal | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 588.81 | 0.184 | 0.172 | 1,494 | - | - |
| Freezer Removal | 0.00 | - | - | - | - | - |
| Freezer Exchange | 338.78 | 0.145 | 0.135 | 1,177 | - | - |

**Costs for Measures Without Energy Impacts Installed in 75 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **15,018** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 56 | 15,018 | 268.17 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **109,706**

**Grand Total of Expenditures** **109,706**

## New View
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **65** | **49** | **55** | | | **73,360** | **9.9** | | **7.4** | | **60,513** | **43** | **4,078** | **1128.61** | **0.122** | | **0.073** | | **1,235** | **0.780** | **74** |
| **Shell & Htg. Sys.** | 60 | 34 | 55 | 34 | 55 | 55,208 | 3.2 | 3,888 | 0.0 | 0 | 3,888 | 43 | 4,078 | 920.13 | 0.095 | 114 | 0.000 | 0 | 114 | 0.780 | 74 |
| Wall Insul. | 31 | 17 | 26 | 17 | 0 | 8,541 | 1.36 | 1,635 | 0.00 | 0 | 1,635 | 11 | 1,011 | 275.53 | 0.080 | 96 | - | - | 96 | 0.410 | 39 |
| Ceiling Insul | 52 | 31 | 47 | 31 | 0 | 33,680 | 1.79 | 2,156 | 0.00 | 0 | 2,156 | 17 | 1,657 | 647.69 | 0.058 | 70 | - | - | 70 | 0.370 | 35 |
| Infil. Reduction | 46 | 0 | 46 | 0 | 0 | 4,948 | 0.00 | 0 | 0.00 | 0 | 0 | 10 | 939 | 107.57 | - | - | - | - | - | 0.215 | 20 |
| Found./Crawl. Insul. | 13 | 8 | 7 | 8 | 0 | 2,162 | 0.08 | 97 | 0.00 | 0 | 97 | 1 | 115 | 166.32 | 0.010 | 12 | - | - | 12 | 0.173 | 16 |
| Bandjoist Insul. | 17 | 0 | 17 | - | 0 | 876 | 0.00 | 0 | 0.00 | 0 | 0 | 1 | 67 | 51.54 | - | - | - | - | - | 0.041 | 4 |
| Hi-Eff Htg Sys Repl | 5 | 0 | 5 | - | 0 | 5,000 | 0.00 | 0 | 0.00 | 0 | 0 | 3 | 289 | 1000.00 | - | - | - | - | - | 0.607 | 58 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Total | Electric | Gas | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 2 | 2 | 0 | 0 | 0 | 0 | 40 | 0.0 | 0.0 | 678 | 0.0 | 0 | 20.00 | 0.000 | 0.001 | 339 | - | - |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 2 | 2 | 0 | | | | 34 | 0.00 | 0.00 | 481 | 0.0 | 0 | 17.00 | 0.000 | 0.000 | 241 | - | - |
| Pipe Insul. | 2 | 2 | 0 | | | | 6 | 0.00 | 0.00 | 197 | 0.0 | 0 | 3.00 | 0.000 | 0.000 | 98 | - | - |
| LF Showerhead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 45 | 45 | | 205 | 205 | | 3,661 | 1.3 | 2.4 | 12,193 | - | - | 81.36 | 0.028 | 0.053 | 271 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 17 | 17 | | 70 | 70 | | 1,190 | 0.33 | 0.61 | 3,149 | - | - | 70.00 | 0.019 | 0.036 | 185 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 6 | 6 | | 24 | 24 | | 424 | 0.14 | 0.26 | 1,320 | - | - | 70.65 | 0.023 | 0.043 | 220 | - | - |
| CFL (23W) | 14 | 14 | | 75 | 75 | | 1,328 | 0.53 | 0.97 | 5,023 | - | - | 94.89 | 0.038 | 0.070 | 359 | - | - |
| CFL (25W) | 8 | 8 | | 36 | 36 | | 719 | 0.28 | 0.52 | 2,701 | - | - | 89.85 | 0.035 | 0.066 | 338 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 30 | 30 | | 32 | 32 | | 14,451 | 5.38 | 5.03 | 43,755 | - | - | 481.70 | 0.179 | 0.168 | 1,458 | | |
| Refrigerator Removal | 2 | 2 | | 3 | 3 | | 60 | 0.73 | 0.69 | 5,970 | - | - | 30.00 | 0.367 | 0.343 | 2,985 | - | - |
| Refrigerator Exchange | 26 | 26 | | 27 | 27 | | 13,913 | 4.41 | 4.12 | 35,829 | - | - | 535.12 | 0.169 | 0.158 | 1,378 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 2 | 2 | | 2 | 2 | | 478 | 0.24 | 0.22 | 1,956 | - | - | 239.00 | 0.120 | 0.112 | 978 | - | - |

**Costs for Measures Without Energy Impacts Installed in 65 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **9,178** | |
| Unspecified Insul. | 38 | 2,639 | 69.46 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 1 | 94 | 94.20 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 49 | 6,444 | 131.52 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **82,538** |
| **Grand Total of Expenditures** | **82,538** |

## Threshold
### Calendar Year 2002 Estimates
### Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **44** | **41** | **43** | | | **87,521** | **3.2** | | **9.5** | | **28,673** | **115** | **11,298** | **1989.11** | **0.058** | | **0.129** | | **699** | **2.685** | **263** |
| **Shell & Htg. Sys.** | 44 | 40 | 43 | 25 | 44 | 82,620 | 1.6 | 1,944 | 7.0 | 11,338 | 13,282 | 115 | 11,214 | 1877.74 | 0.064 | 78 | 0.158 | 258 | 332 | 2.683 | 261 |
| Wall Insul. | 34 | 32 | 33 | 18 | 30 | 34,432 | 1.22 | 1,469 | 4.42 | 7,193 | 8,662 | 53 | 5,156 | 1012.71 | 0.068 | 82 | 0.147 | 240 | 271 | 1.608 | 156 |
| Ceiling Insul | 37 | 34 | 36 | 19 | 32 | 16,853 | 0.35 | 424 | 2.36 | 3,838 | 4,262 | 19 | 1,842 | 455.49 | 0.018 | 22 | 0.074 | 120 | 125 | 0.526 | 51 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 6 | 5 | 6 | 4 | 1 | 4,802 | 0.04 | 50 | 0.01 | 13 | 63 | 5 | 496 | 800.37 | 0.010 | 13 | 0.008 | 13 | 13 | 0.846 | 83 |
| Bandjoist Insul. | 20 | 19 | 19 | - | 19 | 937 | 0.00 | 0 | 0.18 | 295 | 295 | 2 | 152 | 46.85 | - | - | 0.010 | 16 | 16 | 0.082 | 8 |
| Hi-Eff Htg Sys Repl | 17 | 0 | 17 | - | 0 | 25,596 | 0.00 | 0 | 0.00 | 0 | 0 | 37 | 3,568 | 1505.66 | - | - | - | - | - | 2.160 | 210 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 28 | 2 | 26 | 512 | 0.0 | 0.0 | 437 | 0.4 | 140 | 18.29 | 0.000 | 0.000 | 219 | 0.016 | 5 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 1 | 1 | 0 | 17 | 0.00 | 0.00 | 241 | 0.0 | 0 | 17.00 | 0.000 | 0.000 | 241 | - | - |
| Pipe Insul. | 28 | 2 | 26 | 171 | 0.00 | 0.00 | 197 | 0.4 | 140 | 6.11 | 0.000 | 0.000 | 98 | 0.016 | 5 |
| LF Showerhead | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 28 | 28 | | 767 | 0.6 | 1.1 | 5,460 | - | - | 27.38 | 0.020 | 0.038 | 195 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 1 | 1 | | 102 | 0.02 | 0.03 | 174 | - | - | 102.00 | 0.018 | 0.034 | 174 | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 2 | 2 | | 102 | 0.03 | 0.06 | 330 | - | - | 51.00 | 0.017 | 0.032 | 165 | - | - |
| CFL (23W) | 25 | 25 | | 563 | 0.52 | 0.96 | 4,956 | - | - | 22.50 | 0.021 | 0.038 | 198 | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 2 | 2 | 2 | 30 | 0.00 | 0.58 | 1,533 | -0.3 | -57 | 15.00 | 0.000 | 0.290 | 766 | -0.172 | -28 |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 2 | 2 | 2 | 30 | 0.00 | 0.58 | 1,533 | -0.3 | -57 | 15.00 | 0.000 | 0.290 | 766 | -0.172 | -28 |
| **Refrigerator/Freezer** | 6 | 6 | | 3,592 | 0.98 | 0.92 | 7,962 | - | - | 598.67 | 0.163 | 0.153 | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 6 | 6 | | 3,592 | 0.98 | 0.92 | 7,962 | - | - | 598.67 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 44 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **6,171** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 42 | 6,171 | 146.92 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **93,692** |
| **Grand Total of Expenditures** | **93,692** |

# SCICAP
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **33** | **25** | **19** | | | **50,995** | **5.0** | | **16.9** | | **49,290** | **32** | **2,892** | **1545.30** | **0.155** | | **0.385** | | **1,972** | **1.692** | **152** |
| **Shell & Htg. Sys.** | 23 | 15 | 19 | 11 | 23 | 39,540 | 1.8 | 2,111 | 13.5 | 20,515 | 22,626 | 32 | 2,857 | 1719.13 | 0.159 | 192 | 0.589 | 892 | 1,508 | 1.687 | 150 |
| Wall Insul. | 18 | 12 | 16 | 9 | 12 | 10,379 | 0.70 | 838 | 4.15 | 6,305 | 7,143 | 16 | 1,397 | 576.63 | 0.077 | 93 | 0.346 | 525 | 595 | 0.979 | 87 |
| Ceiling Insul | 22 | 15 | 18 | 11 | 15 | 23,403 | 0.94 | 1,135 | 4.71 | 7,150 | 8,285 | 11 | 962 | 1063.76 | 0.086 | 103 | 0.314 | 477 | 552 | 0.601 | 53 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 12 | 9 | 9 | 7 | 9 | 5,160 | 0.11 | 138 | 4.55 | 6,864 | 7,001 | 5 | 442 | 430.04 | 0.016 | 20 | 0.505 | 763 | 778 | 0.550 | 49 |
| Bandjoist Insul. | 10 | 7 | 9 | - | 7 | 428 | 0.00 | 0 | 0.13 | 195 | 195 | 1 | 56 | 42.77 | - | - | 0.018 | 28 | 28 | 0.070 | 6 |
| Hi-Eff Htg Sys Repl | 1 | 0 | 1 | - | 0 | 170 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 169.80 | - | - | - | - | - | 0.000 | 0 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 6 | 0 | 6 | 4 | 0 | 4 | 63 | 0.0 | 0.0 | 0 | 0.1 | 35 | 10.57 | - | - | - | 0.015 | 6 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 1 | 0 | 1 | | | | 15 | 0.00 | 0.00 | 0 | 0.0 | 11 | 15.50 | - | - | - | 0.030 | 11 |
| Pipe Insul. | 5 | 0 | 5 | | | | 41 | 0.00 | 0.00 | 0 | 0.1 | 23 | 8.28 | - | - | - | 0.012 | 5 |
| LF Showerhead | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 1 | 0 | 1 | 4 | 0 | 4 | 7 | 0.00 | 0.00 | 0 | 0.0 | 1 | 6.51 | - | - | - | 0.005 | 1 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 21 | 21 | | 69 | 69 | | 455 | 0.4 | 0.8 | 4,106 | - | - | 21.68 | 0.021 | 0.038 | 196 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 7 | 7 | | 13 | 13 | | 104 | 0.06 | 0.11 | 585 | - | - | 14.79 | 0.009 | 0.016 | 84 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 16 | 16 | | 30 | 30 | | 167 | 0.17 | 0.32 | 1,649 | - | - | 10.41 | 0.011 | 0.020 | 103 | - | - |
| CFL (23W) | 12 | 12 | | 21 | 21 | | 113 | 0.15 | 0.27 | 1,406 | - | - | 9.39 | 0.012 | 0.023 | 117 | - | - |
| CFL (25W) | 1 | 1 | | 3 | 3 | | 45 | 0.02 | 0.04 | 225 | - | - | 44.63 | 0.024 | 0.044 | 225 | - | - |
| CFL (30W) | 1 | 1 | | 2 | 2 | | 28 | 0.03 | 0.05 | 240 | - | - | 27.87 | 0.025 | 0.047 | 240 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 17 | 17 | | 17 | 17 | | 10,936 | 2.77 | 2.59 | 22,559 | - | - | 643.29 | 0.163 | 0.153 | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 17 | 17 | | 17 | 17 | | 10,936 | 2.77 | 2.59 | 22,559 | - | - | 643.29 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 33 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **11,952** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 33 | 11,952 | 362.20 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **62,947** |
| **Grand Total of Expenditures** | **62,947** |

# SE Iowa
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **66** | **62** | **51** | | | **107,626** | **9.9** | | **16.2** | | **42,731** | **214** | **18,776** | **1630.70** | **0.089** | | **0.153** | | **689** | **4.194** | **368** |
| **Shell & Htg. Sys.** | 65 | 61 | 51 | 59 | 54 | 105,981 | 8.9 | 10,703 | 13.1 | 19,248 | 29,951 | 214 | 18,828 | 1630.48 | 0.150 | 181 | 0.243 | 356 | 491 | 4.201 | 369 |
| Wall Insul. | 54 | 51 | 43 | 49 | 34 | 35,023 | 4.21 | 5,078 | 6.27 | 9,185 | 14,263 | 92 | 8,050 | 648.57 | 0.086 | 104 | 0.184 | 270 | 280 | 2.131 | 187 |
| Ceiling Insul | 63 | 59 | 49 | 57 | 39 | 27,027 | 4.46 | 5,375 | 5.03 | 7,386 | 12,762 | 39 | 3,423 | 429.00 | 0.078 | 94 | 0.129 | 189 | 216 | 0.795 | 70 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 20 | 18 | 16 | 17 | 10 | 5,024 | 0.21 | 250 | 1.83 | 2,673 | 2,923 | 10 | 896 | 251.22 | 0.012 | 15 | 0.183 | 267 | 162 | 0.639 | 56 |
| Bandjoist Insul. | 1 | 1 | 1 | - | 1 | 146 | 0.00 | 0 | 0.00 | 3 | 3 | 0 | 8 | 146.38 | - | - | 0.002 | 3 | 3 | 0.088 | 8 |
| Hi-Eff Htg Sys Repl | 21 | 0 | 21 | - | 0 | 38,761 | 0.00 | 0 | 0.00 | 0 | 0 | 73 | 6,451 | 1845.75 | - | - | - | - | - | 3.493 | 307 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 1 | 0 | 1 | 8 | 0.0 | 0.0 | 0 | 0.0 | 13 | 7.71 | - | - | - | 0.038 | 13 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 1 | 0 | 1 | 8 | 0.00 | 0.00 | 0 | 0.0 | 13 | 7.71 | - | - | - | 0.038 | 13 |
| Pipe Insul. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| LF Showerhead | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 52 | 52 | | 1,588 | 1.0 | 1.9 | 9,715 | - | - | 30.53 | 0.020 | 0.036 | 187 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 7 | 7 | | 23 | 23 | 145 | 0.05 | 0.09 | 460 | - | - | 20.72 | 0.007 | 0.013 | 66 | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 18 | 18 | | 60 | 60 | 413 | 0.18 | 0.34 | 1,740 | - | - | 22.95 | 0.010 | 0.019 | 97 | - | - |
| CFL (15W) | 34 | 34 | | 93 | 93 | 652 | 0.44 | 0.81 | 4,184 | - | - | 19.19 | 0.013 | 0.024 | 123 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 11 | 11 | | 24 | 24 | 184 | 0.14 | 0.26 | 1,320 | - | - | 16.73 | 0.013 | 0.023 | 120 | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (25W) | 14 | 14 | | 22 | 22 | 160 | 0.17 | 0.32 | 1,651 | - | - | 11.46 | 0.012 | 0.023 | 118 | - | - |
| CFL (30W) | 2 | 2 | | 3 | 3 | 33 | 0.04 | 0.07 | 360 | - | - | 16.34 | 0.019 | 0.035 | 180 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 4 | 4 | 2 | 6 | 4 | 2 | 50 | 0.00 | 1.16 | 3,065 | -0.4 | -65 | 12.50 | 0.000 | 0.290 | 766 | -0.197 | -33 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - | - |
| Unknown | 4 | 4 | 2 | 6 | 4 | 2 | 50 | 0.00 | 1.16 | 3,065 | -0.4 | -65 | 12.50 | 0.000 | 0.290 | 766 | -0.197 | -33 |
| **Refrigerator/Freezer** | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - | - |
| Refrigerator Exchange | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 66 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **21,478** | |
| Unspecified Insul. | 18 | 226 | 12.55 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 56 | 21,252 | 379.50 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **129,104**

**Grand Total of Expenditures** **129,104**

# SIEDA
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **65** | **61** | **53** | | | **98,399** | **15.3** | | **13.3** | | **95,141** | **85** | **8,013** | **1513.83** | **0.126** | | **0.106** | | **1,560** | **1.605** | **151** |
| **Shell & Htg. Sys.** | 58 | 53 | 49 | 47 | 51 | 73,947 | 7.1 | 8,552 | 2.1 | 3,210 | 11,762 | 84 | 7,516 | 1274.95 | 0.151 | 182 | 0.042 | 63 | 222 | 1.711 | 153 |
| Wall Insul. | 37 | 33 | 32 | 32 | 18 | 14,526 | 2.83 | 3,412 | 0.67 | 1,008 | 4,421 | 35 | 3,176 | 392.60 | 0.088 | 107 | 0.037 | 56 | 134 | 1.103 | 99 |
| Ceiling Insul | 52 | 48 | 44 | 46 | 29 | 19,875 | 4.05 | 4,887 | 1.21 | 1,830 | 6,717 | 17 | 1,516 | 382.21 | 0.088 | 106 | 0.042 | 63 | 140 | 0.384 | 34 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 15 | 14 | 14 | 14 | 10 | 3,237 | 0.21 | 253 | 0.06 | 93 | 346 | 3 | 277 | 215.79 | 0.015 | 18 | 0.006 | 9 | 25 | 0.214 | 20 |
| Bandjoist Insul. | 39 | 24 | 38 | - | 24 | 2,535 | 0.00 | 0 | 0.18 | 278 | 278 | 3 | 264 | 65.01 | - | - | 0.008 | 12 | 12 | 0.077 | 7 |
| Hi-Eff Htg Sys Repl | 16 | 0 | 16 | - | 0 | 33,774 | 0.00 | 0 | 0.00 | 0 | 0 | 26 | 2,282 | 2110.88 | - | - | - | - | - | 1.608 | 143 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| | | | | Number of Measures by Fuel Type: | | | | | | | | | | | | | | | | | |
| | Total | Electric | Gas | Total | Electric | Gas | | Summer kW | | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | | Winter kW | | Annual kWh | Peak-Day therms | Annual therms |
| **Water Heating** | 54 | 21 | 33 | 137 | 53 | 84 | 2,276 | 0.0 | | 0.2 | 9,022 | 1.9 | 618 | 42.14 | 0.000 | | 0.008 | | 430 | 0.059 | 19 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| WH Wrap | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Pipe Insul. | 49 | 18 | 31 | | | | 264 | 0.00 | | 0.00 | 1,770 | 0.5 | 178 | 5.39 | 0.000 | | 0.000 | | 98 | 0.017 | 6 |
| LF Showerhead | 30 | 13 | 17 | 34 | 16 | 18 | 214 | 0.00 | | 0.14 | 6,016 | 1.1 | 339 | 7.13 | 0.000 | | 0.011 | | 463 | 0.065 | 20 |
| Faucet Aerator | 53 | 20 | 33 | 103 | 37 | 66 | 197 | 0.00 | | 0.03 | 1,236 | 0.3 | 100 | 3.72 | 0.000 | | 0.001 | | 62 | 0.010 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 1,600 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Lighting** | 54 | 54 | | 185 | 185 | | 1,572 | 1.4 | | 2.5 | 13,040 | - | - | 29.11 | 0.025 | | 0.047 | | 241 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (15W) | 11 | 11 | | 28 | 28 | | 267 | 0.13 | | 0.24 | 1,260 | - | - | 24.24 | 0.012 | | 0.022 | | 115 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (20W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (23W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (25W) | 50 | 50 | | 157 | 157 | | 1,305 | 1.24 | | 2.29 | 11,781 | - | - | 26.11 | 0.025 | | 0.046 | | 236 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| **Waterbed Mattress Pad** | 7 | 7 | 4 | 11 | 7 | 4 | 93 | 0.00 | | 2.03 | 5,364 | -0.7 | -120 | 13.29 | 0.000 | | 0.290 | | 766 | -0.183 | -30 |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Unknown | 7 | 7 | 4 | 11 | 7 | 4 | 93 | 0.00 | | 2.03 | 5,364 | -0.7 | -120 | 13.29 | 0.000 | | 0.290 | | 766 | -0.183 | -30 |
| **Refrigerator/Freezer** | 40 | 40 | | 49 | 49 | | 20,511 | 6.88 | | 6.43 | 55,952 | - | - | 512.78 | 0.172 | | 0.161 | | 1,399 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Refrigerator Exchange | 28 | 28 | | 33 | 33 | | 15,544 | 5.12 | | 4.78 | 41,587 | - | - | 555.14 | 0.183 | | 0.171 | | 1,485 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Freezer Exchange | 12 | 12 | | 16 | 16 | | 4,967 | 1.77 | | 1.65 | 14,365 | - | - | 413.92 | 0.147 | | 0.138 | | 1,197 | - | - |

**Costs for Measures Without Energy Impacts Installed in 65 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **16,040** | |
| Unspecified Insul. | 5 | 214 | 42.77 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 5 | 108 | 21.69 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 64 | 15,709 | 245.45 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 4 | 9 | 2.20 |

**Total Reported Materials, Labor, and Support Costs** **114,439**

**Grand Total of Expenditures** **114,439**

## Upper Des Moines
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **97** | **60** | **87** | | | **154,076** | **6.0** | | **6.5** | | **35,580** | **133** | **13,355** | **1588.41** | **0.065** | | **0.047** | | **593** | **1.534** | **154** |
| **Shell & Htg. Sys.** | 92 | 55 | 85 | 37 | 85 | 142,734 | 3.0 | 3,670 | 2.2 | 3,667 | 7,337 | 132 | 12,994 | 1551.45 | 0.082 | 99 | 0.026 | 43 | 133 | 1.554 | 153 |
| Wall Insul. | 61 | 42 | 56 | 25 | 34 | 53,987 | 1.49 | 1,797 | 1.45 | 2,381 | 4,178 | 71 | 7,005 | 885.04 | 0.060 | 72 | 0.043 | 70 | 99 | 1.272 | 125 |
| Ceiling Insul | 79 | 53 | 71 | 33 | 42 | 57,740 | 1.49 | 1,794 | 0.69 | 1,136 | 2,930 | 38 | 3,711 | 730.89 | 0.045 | 54 | 0.016 | 27 | 55 | 0.533 | 52 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 14 | 7 | 11 | 5 | 4 | 3,059 | 0.07 | 79 | 0.06 | 95 | 174 | 5 | 451 | 218.47 | 0.013 | 16 | 0.015 | 24 | 25 | 0.418 | 41 |
| Bandjoist Insul. | 20 | 12 | 20 | - | 12 | 1,207 | 0.00 | 0 | 0.03 | 55 | 55 | 1 | 132 | 60.36 | - | - | 0.003 | 5 | 5 | 0.066 | 7 |
| Hi-Eff Htg Sys Repl | 15 | 0 | 15 | - | 0 | 26,741 | 0.00 | 0 | 0.00 | 0 | 0 | 17 | 1,694 | 1782.70 | - | - | - | - | - | 1.141 | 113 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| | Number of Measures by Fuel Type: Total | Electric | Gas | | | | | Summer kW | | Winter kW | | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | | Winter kW | | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 43 | 3 | 40 | 70 | 4 | 66 | 1,932 | 0.0 | | 0.0 | | 2,118 | 1.4 | 361 | 44.94 | 0.000 | | 0.016 | | 706 | 0.034 | 9 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| WH Wrap | 0 | 0 | 0 | | | | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Pipe Insul. | 40 | 2 | 38 | | | | 234 | 0.00 | | 0.00 | | 197 | 0.5 | 170 | 5.85 | 0.000 | | 0.000 | | 98 | 0.013 | 4 |
| LF Showerhead | 1 | 0 | 1 | 1 | 0 | 1 | 3 | 0.00 | | 0.00 | | 0 | 0.0 | 9 | 2.50 | - | | - | | - | 0.028 | 9 |
| Faucet Aerator | 39 | 2 | 37 | 64 | 3 | 61 | 160 | 0.00 | | 0.01 | | 234 | 0.3 | 90 | 4.10 | 0.000 | | 0.003 | | 117 | 0.008 | 2 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Hi-Eff Wtr Htr Repl. | 4 | 1 | 3 | 5 | 1 | 4 | 1,536 | 0.00 | | 0.04 | | 1,688 | 0.6 | 92 | 383.98 | 0.000 | | 0.042 | | 1,688 | 0.187 | 31 |
| **Lighting** | 52 | 52 | | 261 | 261 | | 4,432 | 1.7 | | 3.1 | | 15,813 | - | - | 85.24 | 0.032 | | 0.059 | | 304 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (15W) | 20 | 20 | | 86 | 86 | | 1,462 | 0.41 | | 0.75 | | 3,869 | - | - | 73.10 | 0.020 | | 0.038 | | 193 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL (20W) | 10 | 10 | | 21 | 21 | | 357 | 0.12 | | 0.22 | | 1,155 | - | - | 35.70 | 0.012 | | 0.022 | | 115 | - | - |
| CFL (23W) | 25 | 25 | | 95 | 95 | | 1,610 | 0.67 | | 1.23 | | 6,362 | - | - | 64.42 | 0.027 | | 0.049 | | 254 | - | - |
| CFL (25W) | 18 | 18 | | 59 | 59 | | 1,003 | 0.46 | | 0.86 | | 4,427 | - | - | 55.72 | 0.026 | | 0.048 | | 246 | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | | 0.00 | | 0 | 0.0 | 0 | 0.00 | - | | - | | - | - | - |
| **Refrigerator/Freezer** | 7 | 7 | | 8 | 8 | | 4,977 | 1.27 | | 1.19 | | 10,312 | - | - | 711.00 | 0.181 | | 0.169 | | 1,473 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Refrigerator Exchange | 7 | 7 | | 8 | 8 | | 4,977 | 1.27 | | 1.19 | | 10,312 | - | - | 711.00 | 0.181 | | 0.169 | | 1,473 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | | 0.00 | | 0 | - | - | 0.00 | - | | - | | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 97 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **22,977** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 62 | 22,977 | 370.59 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **177,052**

**Grand Total of Expenditures** **177,052**

## West Central
### Calendar Year 2002 Estimates
### Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **160** | **84** | **142** | | | **127,842** | **10.2** | | **4.0** | | **36,502** | **0** | **16,869** | **799.01** | **0.086** | | **0.022** | | **435** | **0.000** | **119** |
| **Shell & Htg. Sys.** | 151 | 78 | 138 | 77 | 142 | 124,909 | 9.6 | 11,567 | 3.1 | 15,043 | 26,611 | 0 | 15,091 | 827.21 | 0.125 | 150 | 0.022 | 106 | 341 | 0.000 | 109 |
| Wall Insul. | 113 | 60 | 101 | 56 | 20 | 50,729 | 3.57 | 4,304 | 0.00 | 10,184 | 14,488 | 0 | 7,966 | 448.93 | 0.064 | 77 | 0.000 | 509 | 241 | 0.000 | 79 |
| Ceiling Insul | 133 | 75 | 120 | 74 | 27 | 57,941 | 6.17 | 7,446 | 3.02 | 4,585 | 12,032 | 0 | 3,902 | 435.65 | 0.083 | 101 | 0.112 | 170 | 160 | 0.000 | 33 |
| Infil. Reduction | 34 | 0 | 34 | 0 | 0 | 5,895 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 2,006 | 173.39 | - | - | - | - | - | 0.000 | 59 |
| Found./Crawl. Insul. | 44 | 23 | 38 | 23 | 4 | 6,337 | -0.15 | (183) | 0.00 | 73 | (110) | 0 | 902 | 144.02 | -0.007 | (8) | 0.000 | 18 | (5) | 0.000 | 24 |
| Bandjoist Insul. | 36 | 8 | 35 | - | 8 | 1,893 | 0.00 | 0 | 0.13 | 201 | 201 | 0 | 226 | 52.59 | - | - | 0.016 | 25 | 25 | 0.000 | 6 |
| Hi-Eff Htg Sys Repl | 1 | 0 | 1 | - | 0 | 2,113 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 89 | 2113.00 | - | - | - | - | - | 0.000 | 89 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| | Number of Measures: Total | Electric | Gas | by Fuel Type: Total | Electric | Gas | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 129 | 15 | 114 | 225 | 31 | 194 | 1,158 | 0.0 | 0.0 | 4,217 | 0.0 | 1,777 | 8.98 | 0.000 | 0.000 | 281 | 0.000 | 16 |
| Temp. Reduct. | 5 | 0 | 5 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 165 | 0.00 | - | - | - | 0.000 | 33 |
| WH Wrap | 6 | 0 | 6 | | | | 102 | 0.00 | 0.00 | 0 | 0.0 | 69 | 17.00 | - | - | - | 0.000 | 11 |
| Pipe Insul. | 75 | 6 | 69 | | | | 340 | 0.00 | 0.00 | 590 | 0.0 | 370 | 4.54 | 0.000 | 0.000 | 98 | 0.000 | 5 |
| LF Showerhead | 38 | 5 | 33 | 40 | 6 | 34 | 280 | 0.00 | 0.00 | 2,867 | 0.0 | 840 | 7.37 | 0.000 | 0.000 | 573 | 0.000 | 25 |
| Faucet Aerator | 112 | 13 | 99 | 185 | 25 | 160 | 436 | 0.00 | 0.00 | 760 | 0.0 | 334 | 3.89 | 0.000 | 0.000 | 58 | 0.000 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 27 | 27 | | 56 | 56 | | 713 | 0.3 | 0.6 | 3,020 | - | - | 26.41 | 0.012 | 0.022 | 112 | - | - |
| Capsylite (42W) | 1 | 1 | | 2 | 2 | | 10 | 0.01 | 0.01 | 54 | - | - | 10.00 | 0.006 | 0.010 | 54 | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 9 | 9 | | 18 | 18 | | 90 | 0.07 | 0.13 | 693 | - | - | 10.00 | 0.008 | 0.015 | 77 | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 3 | 3 | | 5 | 5 | | 86 | 0.02 | 0.03 | 145 | - | - | 28.67 | 0.005 | 0.009 | 48 | - | - |
| CFL (15W) | 7 | 7 | | 11 | 11 | | 187 | 0.05 | 0.10 | 495 | - | - | 26.71 | 0.007 | 0.014 | 71 | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 1 | 1 | | 2 | 2 | | 34 | 0.01 | 0.02 | 110 | - | - | 34.00 | 0.012 | 0.021 | 110 | - | - |
| CFL (23W) | 8 | 8 | | 12 | 12 | | 204 | 0.08 | 0.16 | 804 | - | - | 25.50 | 0.011 | 0.019 | 100 | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 6 | 6 | | 6 | 6 | | 102 | 0.08 | 0.14 | 720 | - | - | 17.00 | 0.013 | 0.023 | 120 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 2 | 2 | | 2 | 2 | | 1,062 | 0.33 | 0.31 | 2,654 | - | - | 530.99 | 0.163 | 0.153 | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 2 | 2 | | 2 | 2 | | 1,062 | 0.33 | 0.31 | 2,654 | - | - | 530.99 | 0.163 | 0.153 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 160 Total Households with Spending and/or Energy Impacts:**

| | Total | Spending ($) | Average per Treated Household: Spending ($) |
|---|---|---|---|
| | **Total** | **14,090** | |
| Unspecified Insul. | 1 | 37 | 36.75 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 20 | 564 | 28.20 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clean | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 124 | 13,489 | 108.78 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **141,932** |
| **Grand Total of Expenditures** | **141,932** |

# Woodbury
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Estimated First-Year Savings: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **34** | **34** | **28** | | | **51,308** | **0.0** | | **0.0** | | **52,072** | **0** | **7,295** | **1509.07** | **0.000** | | **0.000** | | **1,532** | **0.000** | **261** |
| **Shell & Htg. Sys.** | 32 | 32 | 28 | 28 | 31 | 40,868 | 0.0 | 6,457 | 0.0 | 21,535 | 27,992 | 0 | 6,793 | 1277.11 | 0.000 | 231 | 0.000 | 695 | 875 | 0.000 | 243 |
| Wall Insul. | 24 | 24 | 22 | 20 | 23 | 17,341 | 0.00 | 3,943 | 0.00 | 7,476 | 11,420 | 0 | 4,236 | 722.56 | 0.000 | 197 | 0.000 | 325 | 476 | 0.000 | 193 |
| Ceiling Insul | 32 | 32 | 28 | 26 | 31 | 19,635 | 0.00 | 2,290 | 0.00 | 11,255 | 13,545 | 0 | 2,124 | 613.61 | 0.000 | 88 | 0.000 | 363 | 423 | 0.000 | 76 |
| Infil. Reduction | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Found./Crawl. Insul. | 7 | 7 | 6 | 6 | 7 | 2,885 | 0.00 | 224 | 0.00 | 2,772 | 2,995 | 0 | 329 | 412.19 | 0.000 | 37 | 0.000 | 396 | 428 | 0.000 | 55 |
| Bandjoist Insul. | 12 | 12 | 12 | - | 12 | 1,006 | 0.00 | 0 | 0.00 | 32 | 32 | 0 | 105 | 83.79 | - | - | 0.000 | 3 | 3 | 0.000 | 9 |
| Hi-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Total | Electric | Gas | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms | | Summer kW | Winter kW | Annual kWh | Peak-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 33 | 7 | 26 | 8 | 3 | 5 | 607 | 0.0 | 0.0 | 5,395 | 0.0 | 502 | 18.39 | 0.000 | 0.000 | 771 | 0.000 | 19 |
| Temp. Reduct. | 0 | 0 | 0 | | | | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 22 | 7 | 15 | | | | 362 | 0.00 | 0.00 | 1,684 | 0.0 | 216 | 16.45 | 0.000 | 0.000 | 241 | 0.000 | 14 |
| Pipe Insul. | 33 | 7 | 26 | | | | 191 | 0.00 | 0.00 | 688 | 0.0 | 178 | 5.79 | 0.000 | 0.000 | 98 | 0.000 | 7 |
| LF Showerhead | 8 | 3 | 5 | 8 | 3 | 5 | 54 | 0.00 | 0.00 | 3,022 | 0.0 | 108 | 6.72 | 0.000 | 0.000 | 1,007 | 0.000 | 22 |
| Faucet Aerator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Lighting** | 27 | 27 | | 111 | 111 | | 3,906 | 0.0 | 0.0 | 8,069 | - | - | 144.67 | 0.000 | 0.000 | 299 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 21 | 21 | | 45 | 45 | | 1,686 | 0.00 | 0.00 | 2,474 | - | - | 80.30 | 0.000 | 0.000 | 118 | - | - |
| CFL (23W) | 21 | 21 | | 43 | 43 | | 1,708 | 0.00 | 0.00 | 2,880 | - | - | 81.32 | 0.000 | 0.000 | 137 | - | - |
| CFL (25W) | 1 | 1 | | 1 | 1 | | 15 | 0.00 | 0.00 | 75 | - | - | 14.85 | 0.000 | 0.000 | 75 | - | - |
| CFL (30W) | 16 | 16 | | 22 | 22 | | 497 | 0.00 | 0.00 | 2,641 | - | - | 31.07 | 0.000 | 0.000 | 165 | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 8 | 8 | | 8 | 8 | | 5,928 | 0.00 | 0.00 | 10,616 | - | - | 741.00 | 0.000 | 0.000 | 1,327 | | |
| Refrigerator Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Refrigerator Exchange | 8 | 8 | | 8 | 8 | | 5,928 | 0.00 | 0.00 | 10,616 | - | - | 741.00 | 0.000 | 0.000 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 34 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **5,310** | |
| Unspecified Insul. | 0 | 0 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 0 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 0 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 34 | 5,262 | 154.78 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 48 | 0.00 |

**Total Reported Materials, Labor, and Support Costs** **56,619**

**Grand Total of Expenditures** **56,619**

# Polk County
## Calendar Year 2002 Estimates
## Costs, Fuel, and Demand Impacts for Utility-Funded Measures

| Measure | Number of Households with Impacts: Total | Electric | Gas | Count of Households with Electricity Impacts by End-Use: Cooling | Heating | Spending on Materials & Labor ($) | Estimated First-Year Savings: Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms | Average Estimated First Year Measure Cost and Savings: Average per Treated Household: Spending on Materials & Labor ($) | Electricity: Summer kW | Summer kWh | Winter kW | Winter kWh | Annual kWh | Gas: Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OVERALL** | **45** | **37** | **43** | | | **58,917** | **0.0** | | **0.0** | | **31,038** | **0** | **5,238** | **1309.27** | **0.000** | | **0.000** | | **839** | **0.000** | **122** |
| **Shell & Htg. Sys.** | 38 | 31 | 36 | 25 | 36 | 49,027 | 0.0 | 3,104 | 0.0 | 1,674 | 4,778 | 0 | 4,797 | 1290.17 | 0.000 | 124 | 0.000 | 47 | 154 | 0.000 | 133 |
| Wall Insul. | 26 | 20 | 24 | 17 | 16 | 22,209 | 0.00 | 1,110 | 0.00 | 964 | 2,075 | 0 | 2,226 | 854.21 | 0.000 | 65 | 0.000 | 60 | 104 | 0.000 | 93 |
| Ceiling Insul | 28 | 23 | 28 | 19 | 21 | 13,031 | 0.00 | 1,984 | 0.00 | 546 | 2,530 | 0 | 1,447 | 465.40 | 0.000 | 104 | 0.000 | 26 | 110 | 0.000 | 52 |
| Infil. Reduction | 1 | 0 | 1 | 0 | 0 | 20 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 4 | 20.00 | - | - | - | - | - | 0.000 | 4 |
| Found./Crawl. Insul. | 7 | 5 | 7 | 2 | 5 | 1,344 | 0.00 | 9 | 0.00 | 107 | 117 | 0 | 228 | 192.00 | 0.000 | 5 | 0.000 | 21 | 23 | 0.000 | 33 |
| Bandjoist Insul. | 18 | 16 | 18 | - | 16 | 1,454 | 0.00 | 0 | 0.00 | 57 | 57 | 0 | 97 | 80.78 | - | - | 0.000 | 4 | 4 | 0.000 | 5 |
| Hi-Eff Htg Sys Repl | 7 | 0 | 7 | - | 0 | 10,968 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 795 | 1566.86 | - | - | - | - | - | 0.000 | 114 |
| Std-Eff Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Electric Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |
| Other Htg Sys Repl | 0 | 0 | 0 | - | 0 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0.00 | - | - | - | - | - | - | - |

| Measure | Number of Measures by Fuel Type: Total | Electric | Gas | Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms | Average per Treated Household: Spending on Materials & Labor ($) | Summer kW | Winter kW | Annual kWh | Pk-Day therms | Annual therms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water Heating** | 24 | 0 | 24 | 1,581 | 0.0 | 0.0 | 0 | 0.0 | 441 | 65.85 | - | - | - | 0.000 | 18 |
| Temp. Reduct. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| WH Wrap | 1 | 0 | 1 | 5 | 0.00 | 0.00 | 0 | 0.0 | 9 | 5.00 | - | - | - | 0.000 | 9 |
| Pipe Insul. | 13 | 0 | 13 | 181 | 0.00 | 0.00 | 0 | 0.0 | 55 | 13.92 | - | - | - | 0.000 | 4 |
| LF Showerhead | 16 | 0 | 16 | 103 | 0.00 | 0.00 | 0 | 0.0 | 273 | 6.41 | - | - | - | 0.000 | 17 |
| Faucet Aerator | 12 | 0 | 12 | 92 | 0.00 | 0.00 | 0 | 0.0 | 32 | 7.67 | - | - | - | 0.000 | 3 |
| Std-Eff Wtr Htr Repl. | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Hi-Eff Wtr Htr Repl. | 1 | 0 | 1 | 1,200 | 0.00 | 0.00 | 0 | 0.0 | 73 | 1200.00 | - | - | - | 0.000 | 73 |
| **Lighting** | 31 | 31 | | 3,366 | 0.0 | 0.0 | 16,308 | - | - | 108.58 | 0.000 | 0.000 | 526 | - | - |
| Capsylite (42W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (52W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite (72W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Capsylite, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (5W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (7W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (9W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (11W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (15W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (18W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (20W) | 29 | 29 | | 3,162 | 0.00 | 0.00 | 15,505 | - | - | 109.03 | 0.000 | 0.000 | 535 | - | - |
| CFL (23W) | 2 | 2 | | 204 | 0.00 | 0.00 | 804 | - | - | 102.00 | 0.000 | 0.000 | 402 | - | - |
| CFL (25W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL (30W) | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| CFL, unknown | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| **Waterbed Mattress Pad** | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| King | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Queen | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Double | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Single | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| Unknown | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.0 | 0 | 0.00 | - | - | - | - | - |
| **Refrigerator/Freezer** | 7 | 7 | | 4,944 | 0.00 | 0.00 | 9,952 | - | - | 706.29 | 0.000 | 0.000 | 1,422 | | |
| Refrigerator Removal | 1 | 1 | | 10 | 0.00 | 0.00 | 1,990 | - | - | 10.00 | 0.000 | 0.000 | 1,990 | - | - |
| Refrigerator Exchange | 6 | 6 | | 4,934 | 0.00 | 0.00 | 7,962 | - | - | 822.34 | 0.000 | 0.000 | 1,327 | - | - |
| Freezer Removal | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |
| Freezer Exchange | 0 | 0 | | 0 | 0.00 | 0.00 | 0 | - | - | 0.00 | - | - | - | - | - |

**Costs for Measures Without Energy Impacts Installed in 46 Total Households with Spending and/or Energy Impacts:**

| | | | |
|---|---|---|---|
| **Total** | | **7,696** | |
| Unspecified Insul. | 0 | 145 | 0.00 |
| Duct Insulation | 0 | 0 | 0.00 |
| Duct Sealing | 0 | 120 | 0.00 |
| Damming Materia | 0 | 0 | 0.00 |
| Htg. Sys. Tune & Clean | 0 | 0 | 0.00 |
| Htg. Sys./WH Other | 0 | 0 | 0.00 |
| Space Heater Repl | 0 | 0 | 0.00 |
| Air Conditioning Work | 0 | 0 | 0.00 |
| Water Heater Repair | 0 | 350 | 0.00 |
| Refrigerator Coil Clear | 0 | 0 | 0.00 |
| Unspecified Utility Meas | 0 | 0 | 0.00 |
| Asbestos Abatement | 0 | 0 | 0.00 |
| CO Detector | 0 | 0 | 0.00 |
| Smoke Detector | 0 | 0 | 0.00 |
| Fuses | 0 | 0 | 0.00 |
| Htg Sys Safety Check | 0 | 0 | 0.00 |
| Exhaust Ventilation | 0 | 0 | 0.00 |
| Health/Safety Repairs | 0 | 0 | 0.00 |
| Health/Safety Other | 0 | 0 | 0.00 |
| Consumables | 0 | 0 | 0.00 |
| Preservation | 0 | 0 | 0.00 |
| Roof Repairs | 0 | 0 | 0.00 |
| General Repairs | 0 | 0 | 0.00 |
| Evaluator Labor | 0 | 0 | 0.00 |
| Inspector Labor | 0 | 0 | 0.00 |
| Eval/Insp Labor | 0 | 0 | 0.00 |
| Meter Refrig (no action | 0 | 0 | 0.00 |
| Meter Freezer (no action | 0 | 0 | 0.00 |
| Support | 0 | 7,081 | 0.00 |
| Landlord Contr Misc | 0 | 0 | 0.00 |
| Landlord Contr Furnace | 0 | 0 | 0.00 |
| Landlord Contr DHW | 0 | 0 | 0.00 |
| Client Contr Misc | 0 | 0 | 0.00 |
| Client Contr Refr | 0 | 0 | 0.00 |
| Warehouse | 0 | 0 | 0.00 |
| Unspecifed | 0 | 0 | 0.00 |

| | |
|---|---|
| **Total Reported Materials, Labor, and Support Costs** | **66,614** |
| **Grand Total of Expenditures** | **66,614** |

# APPENDIX A -- CLIENT CHARACTERISTICS

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Household characteristics** | | | | | | | | | | | |
| Quarterly gross income | $2,305 | $2,338 | $2,455 | $2,655 | $2,693 | $2,759 | $2,987 | $2,834 | $3,285 | $3,488 | $3,282 |
| Average members | | | 2.9 | 2.8 | 2.7 | 2.7 | 2.7 | 2.5 | 2.5 | 2.6 | 2.6 |
| Percentage of households with: | | | | | | | | | | | |
| Elderly | | 9.5 | 29.2 | 34.8 | 35.8 | 37.2 | 37.9 | 40.7 | 42.0 | 42.4 | 42.5 |
| Handicapped | | 7.2 | 25.7 | 30.6 | 34.0 | 37.1 | 36.8 | 41.6 | 44.0 | 49.6 | 47.6 |
| Young children | | 18.7 | 14.6 | 20.1 | 22.1 | 19.3 | 20.1 | 17.8 | 18.0 | 18.0 | NA |
| **Housing type (%)** | | | | | | | | | | | |
| Single family home | 84.2 | 88.0 | 88.7 | 87.9 | 87.7 | 90.3 | 88.5 | 85.0 | 92.0 | 91.3 | 92.4 |
| Mobile home | 6.3 | 4.7 | 5.3 | 5.4 | 6.6 | 5.6 | 6.9 | 8.4 | 7.0 | 7.4 | 7.4 |
| Duplex | 1.7 | 2.6 | 3.1 | 1.9 | 2.7 | 1.6 | 1.2 | 2.6 | 0.0 | 1.3 | 0.0 |
| Three+ unit apartment | 5.1 | 4.5 | 1.9 | 1.3 | 0.4 | 0.8 | 0.9 | 1.3 | 0.0 | 0.0 | 0.1 |
| Rent a room | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unknown/other | 2.0 | 0.1 | 1.1 | 3.5 | 2.6 | 1.7 | 2.6 | 2.6 | 1.0 | 0.0 | 0.0 |
| **Heating system type (%)** | | | | | | | | | | | |
| Natural gas | 72.4 | 70.7 | 75.0 | 76.1 | 80.0 | 82.4 | 80.7 | 81.1 | 81.0 | 85.2 | 84.5 |
| Propane | 14.5 | 14.3 | 15.4 | 13.7 | 13.4 | 11.8 | 13.6 | 11.9 | 14.0 | 11.2 | 11.8 |
| Fuel oil | 5.3 | 5.8 | 5.1 | 4.3 | 3.3 | 3.8 | 2.1 | 2.1 | 3.0 | 1.9 | 1.4 |
| Electricity | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 2.2 |
| Other | 7.7 | 9.1 | 4.4 | 5.9 | 3.3 | 2.0 | 3.5 | 4.8 | 2.0 | 0.1 | 0.0 |
| **Air conditioning type (%)** | | | | | | | | | | | |
| Central | 25.5 | 23.1 | 21.6 | 24.7 | 27.6 | 30.5 | 32.9 | 31.6 | 39.0 | 40.0 | 41.6 |
| Room | 30.3 | 29.3 | 42.5 | 41.3 | 44.6 | 41.3 | 43.9 | 45.7 | 46.0 | 46.4 | 44.5 |
| None | 44.2 | 47.6 | 34.6 | 34.0 | 27.8 | 28.3 | 23.2 | 22.7 | 16.0 | 13.6 | 13.9 |
| **Blower door readings (average cfm50)** | | | | | | | | | | | |
| Pre | 3,710 | 3,370 | 3,455 | 3,521 | 3,595 | 3,487 | 3,403 | 3,356 | 3,191 | 3,531 | 3,555 |
| Post | 2,174 | 2,164 | 2,296 | 2,296 | 2,334 | 2,337 | 2,261 | 2,377 | 2,443 | 2,302 | 2,341 |

## APPENDIX B – METHODOLOGY FOR ASSESSING SAVINGS FOR WATER HEATER REPLACMENTS AND CHANGES TO DIVERSIFIED DEMAND FACTORS

### Energy savings from replacing water heaters

In past evaluations we did not assess energy savings for water heater replacements. This was due to the fact that the water heaters were replaced for health and safety purposes and utilities provided no funding for these measures. Any savings that did arise from water heater replacements were, in fact, reflected as savings embedded with other natural gas measures for which we did ascribe savings.

In 2002, the utilities recently began funding for increases to the efficiency of the replacement water heaters. This prompted us to consider a more direct assignment of savings for water heater replacements. We see two benefits from assigning direct savings estimates to water heater replacements: 1) the savings for utility-funded boosts to efficiency of the replacement units will be directly quantified, and, 2) we should see lower uncertainty in our estimated savings since the replacement water heater savings will be credited to the specific houses that received new water heaters rather than spreading those savings across all households.

We've developed algorithms for assessing two types of energy savings for water heater replacements:

1) incremental impacts from increasing the efficiency of the replacement units to higher efficiency units,
2) impacts from simply replacing old units with new standard efficiency units.

The savings for these are independent of each other, i.e., the assessment of incremental impacts has no effect on the level of savings for simply replacing old units, and vice versa.

Incremental impacts from increasing the efficiency of replacement units

The incremental impacts of installing higher-efficiency units is a straightforward calculation. In their report Assessment of Energy and Capacity Savings Potential (MidAmerican, Aquila, Alliant, United Cities Gas) , Global Energy Partners provided baseline information on water heater energy usage for low-income housing, pre-1978 construction.

The characterization study estimates a baseline of 240 therms per year for 52% efficiency water heaters. This corresponds to approximately 12.5 MBtu delivered in the heated water (0.52 * 24 MBtu). The incremental savings for any given efficiency level is then calculated as:

$$\text{Incremental savings (Mbtu)} = 12.5 * (1/EF_{std} - 1/Ef_{hi\text{-}eff})$$

DCAA indicates that the agencies typically install water heaters with an energy factor of 0.55. Replacements with utility funding have energy factors of 0.62. Using the above formula, the typical savings from increasing the efficiency is estimated to be 2.6 MBtu.

Energy savings from water heater replacements

In addition to savings for increasing the efficiency of replacement units, savings may be realized by simply replacing the old units.

In its publication Non-Chemical Technologies for Scale and Hardness Control (DOE/EE-0162), DOE reports that scale buildup on the heated surface in water heaters has a significant impact on the burner efficiency. The following table shows the increases in energy consumption for various degrees of scaling.

| Scale Thickness (inches) | Increased Energy Consumption (%) |
|---|---|
| 1/32 | 8.5 |
| 1/16 | 12.4 |
| 1/8 | 25 |
| ¼ | 40 |

Unfortunately, we have no data on the scale thickness typically found in old water heaters in Iowa. A review of the water hardness in various cities in Iowa as well as in the Mississippi and Missouri Rivers indicate that surface as well as subsurface sources of tap water are considered to be 'hard' to 'very hard'. Water supplied by larger municipalities is typically softened during treatment, but often not to a degree that assures little or no scaling of pipes or water heaters will occur. Based upon the review of water hardness in Iowa, we can assume that some scaling is likely to exist on old water heaters.

Given the lack of actual data, we are left with the dubious task of picking a reasonable thickness of scale. Note that any reasonable estimate of savings is probably better than none at all, as in the current algorithms. Furthermore, since we conduct annual billing analyses (of natural gas customers), any error in our estimates are essentially trued-up across the agencies and state. So, we have opted for a middle-of-the-range estimate: we assume an increased consumption due to scale formation slightly greater than 1/16", or 15%. This corresponds to 36 therms (0.15 * 240 therms) per year.

We assigned a baseline first-year savings of 3.6 Mbtu for water heater replacements regardless of the efficiency of the replacement units (note: savings will certainly degrade over the life of the water heater).

The demand factor for natural gas water heating was calculated by summing the winter peak demand factors for proportional-use and stand-by loss demand factors. The final demand factor is 0.00613.

**Diversified Demand Factors for Electricity Measures**

We reassessed the diversified demand factors (DDF) for electricity measures. The DDFs used prior to this year's study were developed as part of the initial SLICE study, Estimated Low-Income Program Impacts in Iowa, June 14, 1993. At that time, seven major investor-owned utilities provided electricity service. As a result of several mergers over the past decade, only two major investor-owned utilities currently serve electricity throughout Iowa, Interstate Power and Light and MidAmerican Energy Co. The revised DDFs are meant to provide values that are representative of the loads on the merged utilities.

Our data consisted of load curves provided by Interstate Power and Light and peak hour data provided by MidAmerican. MidAmerican reported system peak loads occur at 4:00 pm in summer and 6:00 pm in winter. A review of the Interstate Power and Light load curves indicated the system peak period is also 4:00 in summer (in the month of August) and 6:00 p.m. during winter (in the month of December).

Our reference end-use loadshapes were those developed for the Joint Utility Assessment (JUA). These provided 1,152-period loadshapes for various end-uses in the low income sector. Each end-use load shape included four distinct 24-hour series for each month, including weekend, weekday-low, weekday-mid, and weekday-high. The DDF was derived from the consumption for the weekday-high curve at the hour and month of peaks for each utility.

Electric Water Heating savings

We assess two load shapes for water heater measures. The savings for some measures are dependent upon the number of occupants (efficient aerators and showerheads), we refer to these as proportional use measures, or WHP. Others reflect standby losses primarily (water heater blanket, pipe insulation, temperature turndown) -- we refer to these as WHL.

Our revised and original factors are as follows:

| Utility | Load Shape | Season | Revised DDF | Original DDF |
|---|---|---|---|---|
| IPL | WHL | S | 0.0000000 | 0.0001020 |
| IPL | WHL | W | 0.0000020 | 0.0001200 |
| IPL | WHP | S | 0.0000000 | 0.0000670 |
| IPL | WHP | W | 0.0000227 | 0.0001500 |
| MEC | WHL | S | 0.0000000 | 0.0001020 |
| MEC | WHL | W | 0.0000020 | 0.0001200 |
| MEC | WHP | S | 0.0000000 | 0.0000569 |
| MEC | WHP | W | 0.0000227 | 0.0001913 |

Refrigeration Appliances

Our DDFs were revised to reflect changes in the peak hour and to account for seasonality in refrigeration appliance use. Previously we used loadshapes were taken from Residential Measures Technical Characterizations (Vermont Energy Investment Corporation and Wisconsin Energy Conservation Corporation, June 25, 1992).

The JUA did not include loadshapes for refrigeration appliances, so we reassessed the DDFs using the same general shapes as before. These curves provided hourly-variable consumption for each month of the year, but they assumed monthly use remained constant. In fact, summer usage is greater than winter usage due to higher room temperatures and also due to more frequent access for cooled water and beverages. We observed a ±7% variation in measured refrigeration

appliance energy use as a part of the BEEP study (REF). We adjusted the monthly consumption to reflect the observed seasonality in refrigeration use.

We found that the revised DDFs are slightly smaller due primarily to the smaller consumption during the revised peak hour.

| Utility | Season | Revised DDF | Original DDF |
|---|---|---|---|
| IPL | S | 0.0001230 | 0.0001310 |
| IPL | W | 0.0001150 | 0.0001320 |
| MEC | S | 0.0001230 | 0.0001263 |
| MEC | W | 0.0001150 | 0.0001320 |

Lighting

Changes in lighting DDFs reflect changes in peak hours. The revised and original values are as follows:

| Utility | Season | Revised DDF | Original DDF |
|---|---|---|---|
| IPL | S | 0.0001050 | 0.0001000 |
| IPL | W | 0.0001940 | 0.0002600 |
| MEC | S | 0.0001050 | 0.0000848 |
| MEC | W | 0.0001940 | 0.0001309 |

Cooling DDFs

We assumed that distribution of annual cooling energy usage is similar for IPL and MEC, i.e., the *proportion* of annual cooling usage that occurs in any given hour/month is similar for the two utilities.

We found the values of the JUA were lower than for our previous values: 0.0013400 and 0.0013026 for IPL and MEC, respectively. The revised DDF is 0.00082917 for both.

Heating DDFs

Here again our changes were based upon peak hour changes and used the new ones. Usage at peak hour was approximately 32% greater than for the original values. The revised values are shown in the following table:

## Heating Diversified Demand Factors by County

| County | Zone | Revised | Original |
|---|---|---|---|
| Adair | 4 | 0.0006711 | 0.0005080 |
| Adams | 4 | 0.0006473 | 0.0004900 |
| Allamakee | 3 | 0.0006064 | 0.0004590 |
| Appanoose | 8 | 0.0006790 | 0.0005140 |
| Audubon | 4 | 0.0006539 | 0.0004950 |
| Benton | 6 | 0.0006421 | 0.0004860 |
| Black Hawk | 3 | 0.0006143 | 0.0004650 |
| Boone | 5 | 0.0006394 | 0.0004840 |
| Bremer | 3 | 0.0006011 | 0.0004550 |
| Buchanan | 3 | 0.0006103 | 0.0004620 |
| Buena Vista | 1 | 0.0006037 | 0.0004570 |
| Butler | 2 | 0.0006262 | 0.0004740 |
| Calhoun | 4 | 0.0006381 | 0.0004830 |
| Carroll | 4 | 0.0006249 | 0.0004730 |
| Cass | 4 | 0.0006354 | 0.0004810 |
| Cedar | 6 | 0.0006328 | 0.0004790 |
| Cerro Gordo | 2 | 0.0005918 | 0.0004480 |
| Cherokee | 1 | 0.0006064 | 0.0004590 |
| Chickasaw | 2 | 0.0006103 | 0.0004620 |
| Clarke | 7 | 0.0006473 | 0.0004900 |
| Clay | 1 | 0.0005998 | 0.0004540 |
| Clayton | 3 | 0.0006262 | 0.0004740 |
| Clinton | 6 | 0.0006473 | 0.0004900 |
| Crawford | 4 | 0.0006328 | 0.0004790 |
| Dallas | 5 | 0.0006288 | 0.0004760 |
| Davis | 8 | 0.0006896 | 0.0005220 |
| Decatur | 7 | 0.0006685 | 0.0005060 |
| Delaware | 3 | 0.0006051 | 0.0004580 |
| Des Moines | 9 | 0.0006790 | 0.0005140 |
| Dickinson | 1 | 0.0005892 | 0.0004460 |
| Dubuque | 6 | 0.0006302 | 0.0004770 |
| Emmet | 2 | 0.0005826 | 0.0004410 |
| Fayette | 3 | 0.0006103 | 0.0004620 |
| Floyd | 2 | 0.0006156 | 0.0004660 |
| Franklin | 2 | 0.0005985 | 0.0004530 |
| Fremont | 7 | 0.0006751 | 0.0005110 |
| Greene | 4 | 0.0006579 | 0.0004980 |
| Grundy | 2 | 0.0006064 | 0.0004590 |
| Guthrie | 4 | 0.0006394 | 0.0004840 |
| Hamilton | 5 | 0.0006302 | 0.0004770 |
| Hancock | 2 | 0.0006143 | 0.0004650 |
| Hardin | 2 | 0.0006222 | 0.0004710 |
| Harrison | 4 | 0.0006473 | 0.0004900 |
| Henry | 9 | 0.0006658 | 0.0005040 |
| Howard | 2 | 0.0005786 | 0.0004380 |
| Humboldt | 2 | 0.0006236 | 0.0004720 |
| Ida | 4 | 0.0006103 | 0.0004620 |
| Iowa | 6 | 0.0006394 | 0.0004840 |
| Jackson | 6 | 0.0006302 | 0.0004770 |
| Jasper | 5 | 0.0006460 | 0.0004890 |
| Jefferson | 8 | 0.0006830 | 0.0005170 |
| Johnson | 6 | 0.0006751 | 0.0005110 |
| Jones | 6 | 0.0006368 | 0.0004820 |
| Keokuk | 8 | 0.0006592 | 0.0004990 |
| Kossuth | 2 | 0.0006037 | 0.0004570 |
| Lee | 9 | 0.0006830 | 0.0005170 |
| Linn | 6 | 0.0006460 | 0.0004890 |
| Louise | 9 | 0.0006777 | 0.0005130 |
| Lucas | 8 | 0.0006539 | 0.0004950 |
| Lyon | 1 | 0.0005971 | 0.0004520 |
| Madison | 7 | 0.0006579 | 0.0004980 |
| Mahaska | 8 | 0.0006619 | 0.0005010 |
| Marion | 8 | 0.0006658 | 0.0005040 |
| Marshall | 5 | 0.0006262 | 0.0004740 |
| Mills | 7 | 0.0006645 | 0.0005030 |
| Mitchell | 2 | 0.0006064 | 0.0004590 |
| Monona | 4 | 0.0006539 | 0.0004950 |
| Monroe | 8 | 0.0006856 | 0.0005190 |
| Montgomery | 7 | 0.0006777 | 0.0005130 |
| Muscatine | 9 | 0.0006764 | 0.0005120 |
| O'Brien | 1 | 0.0006051 | 0.0004580 |
| Osceola | 1 | 0.0005760 | 0.0004360 |
| Page | 7 | 0.0006658 | 0.0005040 |
| Palo Alto | 1 | 0.0006143 | 0.0004650 |
| Plymouth | 4 | 0.0006117 | 0.0004630 |
| Pocahontas | 1 | 0.0006077 | 0.0004600 |
| Polk-DesMoines | 0 | 0.0006605 | 0.0005000 |
| Pottawattamie | 7 | 0.0006381 | 0.0004830 |
| Poweshiek | 6 | 0.0006209 | 0.0004700 |
| Ringgold | 7 | 0.0006553 | 0.0004960 |
| Sac | 4 | 0.0006143 | 0.0004650 |
| Scott | 9 | 0.0006632 | 0.0005020 |
| Shelby | 4 | 0.0006526 | 0.0004940 |
| Sioux | 1 | 0.0006249 | 0.0004730 |
| Story | 5 | 0.0006183 | 0.0004680 |
| Tama | 6 | 0.0006222 | 0.0004710 |
| Taylor | 7 | 0.0006817 | 0.0005160 |
| Union | 7 | 0.0006658 | 0.0005040 |
| Van Buren | 9 | 0.0006949 | 0.0005260 |
| Wapello | 8 | 0.0006738 | 0.0005100 |
| Warren | 0 | 0.0006553 | 0.0004960 |
| Washington | 8 | 0.0006856 | 0.0005190 |
| Wayne | 8 | 0.0006579 | 0.0004980 |
| Webster | 5 | 0.0006222 | 0.0004710 |
| Winnebago | 2 | 0.0005918 | 0.0004480 |
| Winneshiek | 3 | 0.0006183 | 0.0004680 |
| Woodbury | 4 | 0.0006394 | 0.0004840 |
| Worth | 2 | 0.0005852 | 0.0004430 |
| Wright | 2 | 0.0005985 | 0.0004530 |